Holcim

Strength. Performance. Passion

Rooty Hill Distribution Centre

Operational Environmental Management Plan

January 2022

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1.0 Introduction

This Operation Environmental Management Plan (OEMP) has been prepared for Rooty Hill Regional Distribution Centre (RHDC) (herein referred to as the site), located off Kellogg Road, Rooty Hill (approximately 5km west of Blacktown) to satisfy Conditions 5.4 and 5.5 of Development Consent 05_0051 issued by the NSW Land and Environment Court in 2006 (Decision Number 10406). Since the project's approval, there have been two modifications to the Development Consent. Modification 2 was approved by the Department of Planning, Industry and Environment (DPIE) on 29 June 2017.

The OEMP outlines management strategies to be implemented to avoid or mitigate the operations impacts on the environment, and is consistent with the Department of Infrastructure, Planning and Natural Resources, *Guideline for the Preparation of Environmental Management Plans (2004)*.

The surrender of Environment Protection Licence (EPL) 20672 for RHDC was approved on 18 June 2020 (**Appendix 3**). The Annual Return was submitted at the end of the last reporting period in compliance with Condition R1 of EPL 20672. Requirements relating to the former EPL 20672 have been removed in this update of this OEMP.

This OEMP draws on the following key documents:

- Development Consent 05_0051 (June 2017 Modification);
- Statement of Commitments (2006);
- Final Statement of Commitments (2011 Modification);
- Environmental Assessment Report (October 2005); and
- Environmental Assessment Report – Rooty Hill Regional Distribution Centre Minor Modification, prepared by Umwelt (February 2017).

1.1 Objectives

This OEMP aims to achieve the following:

- Establish mitigation measures for risks identified, including monitoring, inspection and documentation requirements;
- Establish roles and responsibilities for implementing mitigation measures; and
- Compliance with the relevant conditions of approval applicable for activities being conducted on site.

1.1.1 Holcim's Commitments

Holcim is committed to implementing a high standard of responsible environmental management including (but not limited to):

- Satisfying the applicable legislative requirements relevant to its operations;
- Reducing the risk of environmental impacts through an on-going process of risk assessment, control implementation, monitoring and review;
- Promoting continual improvement; and
- Minimising the potential for disturbance and disruption to surrounding stakeholders, including residents, businesses, and the public.

RHDC is committed to the Holcim Environmental Management System (EMS). The Holcim EMS currently sets the minimum environmental management requirements for all Holcim operations. The management system is consistent with the requirements of ISO 14001 and is comprised of:

- The Holcim Environmental Policy;
- The Holcim Environmental Guiding Principles; and
- The Holcim Environmental Management Directives.

Holcim's Environmental Policy is based on four key fundamentals outlined in **Table 1**.

Table 1: Key Fundamentals of the Holcim Environmental Policy

Holcim Fundamental	Requirement
Management systems	Holcim applies internationally recognised standards, and seeks to comply with domestic environmental laws, regulations and standards applicable to their products and operations. Holcim assesses the environmental policies and practices of suppliers and sub-contractors as part of their selection process. Holcim also translate environmental commitments into actions by setting objectives and targets and monitoring progress against these targets.
Resource utilisation	Holcim promotes reuse, recycling and conservation over their entire value chain, and invests in research for innovative and sustainable products and processes.
Environmental impacts	Holcim assesses and measures environmental impacts to continuously improve processes and promote best practice. Holcim seek to develop management controls on their site to monitor, prevent and minimise the release of pollutants to the environment.
Stakeholder relations	Holcim engage stakeholders and report publicly on compliance, performance, and progress where appropriate.

1.2 Site Description

The Rooty Hill Distribution Centre (RHDC), receives construction materials by rail and distributes these by road to the Sydney market. The construction materials received include single size crushed aggregate, blended crushed aggregates and natural/manufactured sand, typically used for the manufacture of concrete and asphalt as well as a variety of other uses in the civil and construction industries. The site also operates a concrete batching plant which stockpiles its own materials for its operations.

The site is bound by the Main Western Railway Line to the south, the Nurragingy Reserve to the East, the OneSteel Mini Mill to the west, Humes and other industrial facilities to the north (**Figure 1**). Angus Creek, a tributary of the Eastern Creek, flows through the southern portion of the site.

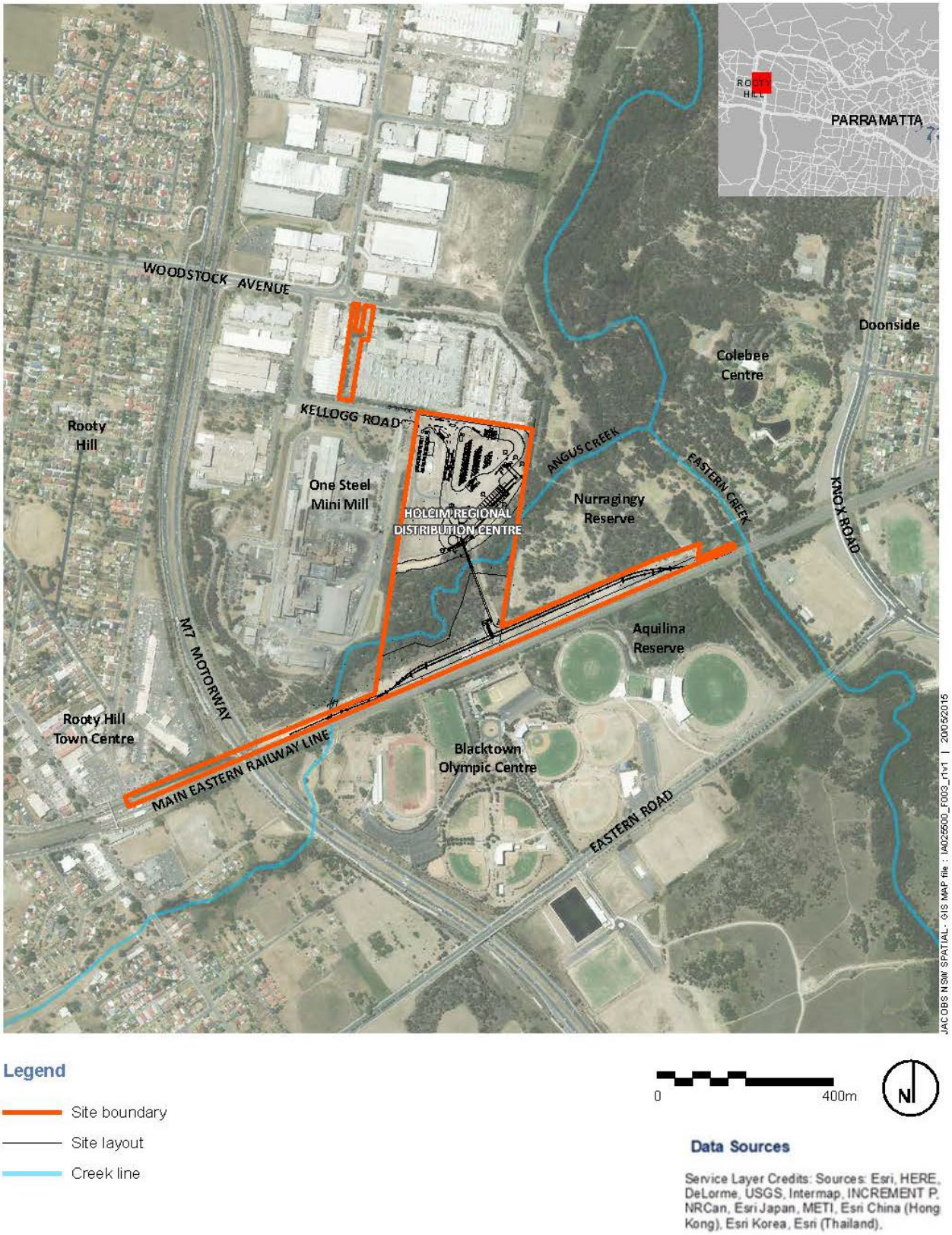

Figure 1: Site Layout and Locality

1.3 Stakeholder Consultation

1.3.1 Consultation Prior to January 2022

DPIE and EPA conducted an inspection of the site on 15 August 2019. This inspection focussed on the area affected by an agitator fire incident in 2019. DPIE and EPA conducted an inspection on 8 November 2019 prior to the surrendering of the EPL. The amendments to the POEO Act have triggered the surrendering of the EPL for the site. EPL 20672 applicable to RHDC was surrendered 18 June 2020, with the letter from the EPA in **Appendix 3**.

During the review and revision of the 2015 OEMP, a draft OEMP was sent to DPIE for approval. Feedback on this Draft OEMP was received 18 June 2021. Feedback has been incorporated into this version of the OEMP as outlined in **Appendix 10**.

1.3.2 Consultation for January 2022 Update

Condition 1.8 of the Development Consent concerns Management Plans and Monitoring Programs, and states:

> *With the approval of the Secretary, the Proponent may prepare and submit any management plan or monitoring program required by this approval on a progressive basis. Where a management plan or monitoring program is required before carrying out the project, or any stage of the project, the plans/programs may be prepared and submitted in relation to either discrete components of the project or for a specified time period.*

Under the Development Consent there is no requirement for RHDC to specifically consult with any other agencies during the development this OEMP. Once approved by DPIE, RHDC will share this OEMP with the Council and EPA in accordance with Condition 5.4 of the Development Consent.

The draft OEMP received feedback from DPIE on 16 November 2021 during their preliminary review. **Appendix 10** outlines this feedback, as well as where and how this has been addressed in this edit of the draft 2022 OEMP.

1.4 Risk Assessment

A register of environmental hazards has been prepared for the site with each hazard being assessed in accordance with the safety health and environment (SHE) Risk Assessment tool.

The Environmental Impact and Hazard Register seen below in **Table 3** has been summarised for RHDC from Section 7.1 of the Pollution Incident Response Management Plan (PIRMP) (2019). The PIRMP is no longer a requirement of RHDC due to the surrender of the EPL 20672, however the risk assessment contained within the PIRMP contains environmental risks still relevant for the site.

Risks and mitigation measures related to clearing have been removed to reflect the status of the site

Table 2 is the Risk Rating Matrix that is used in conjunction with the Environmental Risk Assessment.

Table 2: Risk Rating Matrix

Likelihood	Consequence				
	Disaster	Severe	Serious	Significant	Minor
Certain	High	High	High	Medium	Medium
Likely	High	High	Medium	Medium	Low
Possible	High	Medium	Medium	Low	Low
Unlikely	Medium	Medium	Low	Low	Low
Rare	Medium	Low	Low	Low	Low

Table 3: Environmental Risk Assessment

	Key Environmental Hazards	Risk			Mitigation Measures	Revised Risk		
		L	C	R		L	C	R
Air Quality								
1	Excessive dust emissions	Possible	Serious	Medium	▪ Complete monitoring & assess results quarterly ▪ Review results & monitoring program quarterly ▪ Water carts/spraying ▪ Stop dust generating activities as necessary ▪ Progressively rehabilitate ▪ Modify works during periods of high wind ▪ Dust minimisation training ▪ Maintenance of dust control equipment ▪ Telescopic chute at man sand and other engineering controls	Unlikely	Significant	Low
2	Health issues off site	Rare	Severe	Low	▪ As per (1) ▪ Complaints hot line ▪ Assess monitoring results ▪ Communicate construction activities to neighbours	Rare	Serious	Low
Groundwater								
1	Groundwater contamination	Unlikely	Serious	Low	▪ No dangerous goods are handled on site. The fuel bund is in place and if there is a spill procurement will arrange appropriate vendor who is Damstra approved. No hazardous waste storage is kept on site	Rare	Serious	Low
Surface Water								
1	Discharge of sediment	Possible	Serious	Low	• Implement the Soil and Water Management Plan, including monitoring program. • Review monitoring results annually, as part of the preparation of the Annual Review, to ensure no discharge of sediment from site is occurring.	Unlikely	Significant	Low
2	Discharge of hazardous materials	Rare	Severe	Low	• Ensure storage, handling and transport of dangerous goods are conducted in accordance with relevant Australian Standard • Review monitoring results quarterly & action as necessary • Identify classify, quantify & appropriately store hazardous waste • Develop & implement oil & fuel spillage controls • Implement bunding to appropriate areas	Rare	Serious	Low

Key Environmental Hazards		Risk			Mitigation Measures	Revised Risk		
		L	C	R		L	C	R
					• Ensure adequate spill kits are available on site including adequate training for effective use • Minimise hazardous waste storage quantities on site			
Ecology								
1	Damage to local flora	Possible	Serious	Medium	• Develop & implement Vegetation Management Plan • Monitor & report on site flora health as per consent requirements • Suitable training regarding flora protection • Removal of stock from sensitive areas • Implement bushfire hazard reduction tasks • Removal of feral animals from sensitive areas • Noxious weed control in sensitive areas	Unlikely	Significant	Low
2	Damage to local fauna	Unlikely	Serious	Rare	• As above • Information regarding local WIRES for distressed or injured fauna • Reporting fauna deaths • Monitoring program	Rare	Serious	Low
Land								
1	Spill of liquid fuel, oils, chemicals etc whilst in storage	Possible	Severe	Medium	• Fuels, oils, chemicals etc stored according to Holcim's bunding requirements. • Measures in place to ensure spills do not leave site boundaries ie diverting flow away from boundaries, stormwater drains. • Bunding subject to regular inspection and maintenance	Significant	Unlikely	Low
2	Spill during delivery of fuel to storage tank	Possible	Severe	Medium	• Supplier's fuel transfer procedure is known • Fuel transfer is supervised against suppliers procedure	Unlikely	Significant	Low
3	Land contamination	Likely	Significant	Medium	• Holcim land contamination strategy is known and applied.	Unlikely	Significant	Low

Key Environmental Hazards		Risk			Mitigation Measures	Revised Risk		
		L	C	R		L	C	R
4	Spill due to rail operations	Possible	Severe	Medium	• Emergency spill kits located at loading locations • Spill response equipment is regularly inspected and maintained • Drivers and other loading personnel trained in spill response procedures.	Unlikely	Significant	Low

2.0 Statutory Requirements

The statutory approvals held by RHDC include:

- Ministers Conditions of Approval (05_0051) including the three approved modifications, herein referred to as the Development Consent; and
- Statement of Commitments (2011 Modification).

The EPL 20672 was surrendered on 18 June 2020 and is therefore no longer applicable to the site from this date.

2.1 Development Consent

Table 4 addresses the Development Consent conditions relevant to the OEMP as well as the section in which they are addressed.

Table 4: OEMP Development Consent Compliance Table

Development Consent Condition	Relevant Section
Operation Environmental Management Plan	
Condition 5.4 The Proponent must prepare an Operation Environmental Management Plan to detail an environmental management framework, practices and procedures to be followed during the operation of the project. The Plan must be consistent with the Department's Guideline for the Preparation of Environmental Management Plans (DIPNR 2004), and must include, but not necessarily be limited to:	Entire Document.
i) the complaints handling procedures (conditions 4.2 and condition 4.3 of this approval);	Section 5.2 Complaints Management
ii) the environmental mitigation measures outlined in the Environmental Impact Statement (including those outlined in Table 18-1) and supporting information (as referenced in condition 1.1 of this approval);	Section 1.0 Introduction Section 3.0 Environmental Management Plans Appendix 1 Vegetation Management Plan
iii) the Monitoring Program listed under condition 3.1 of this approval; and	Section 3.0 Environmental Management Plans Section 4.0 Operational Monitoring Plan
iv) the Management Plans listed under condition 5.5 of this approval.	Section 3.2 Noise Management Plan Section 3.3 Traffic Management Plan Section 3.4 Dust Management Plan Section 3.5 Soil and Water Management Plan Appendix 1 Vegetation Management Plan

Development Consent Condition	Relevant Section
The Plan must be submitted for the approval of the Secretary no later than one month prior to the commencement of operation of the project, or within such period otherwise agreed by the Secretary. Operation must not commence until written approval has been received from the Secretary. Upon receipt of the Secretary's approval of the Plan, the Proponent must provide a copy of the Plan to the EPA and Council as soon as practicable. The Proponent must implement the management plan as approved from time to time by the Secretary.	Section 1.3 Stakeholder Consultation Appendix 10 DPIE Consultation
Noise Management Plan	
Condition 5.5 As part of the Operation Environmental Management Plan for the project, required under condition 5.4 of this approval, the Proponent must prepare the following Management Plans:	Section 3.0 Environmental Management Plans
a) a Noise Management Plan to outline monitoring, management procedures and measures to minimise total operational noise emissions from the project. This plan must include operational noise management, traffic noise management and train noise management. This plan must also include, but not necessarily be limited to:	Section 3.2 Noise Management Plan Table 6 Noise Management Plan
i) the Operational Noise Management Protocol, as outlined in condition 2.7 of this approval;	Table 6 Noise Management Plan Section 3.2.1 Noise Monitoring Program Section 4.0 Operational Monitoring Plan
ii) procedures for monitoring the project;	Table 6 Noise Management Plan Section 3.2.1 Noise Monitoring Program Section 4.0 Operational Monitoring Plan
iii) a program for handling and responding to noise complaints.	Table 6 Noise Management Plan Section 5.2 Complaints Management Section 6.4 Corrective Action
Traffic Management Plan	
b) a Traffic Management Plan to outline measures to manage all heavy vehicle traffic movements associated with the project to minimise impacts on the local and regional road network. This must include the Transport Management Strategy, a Transport Code of Conduct for heavy vehicles (including contractors).	Section 3.3 Traffic Management Plan Table 8 Traffic Management Plan Section 4.0 Operational Monitoring Plan
Soil and Water Management Plan	
c) a Soil and Water Management Plan to detail measures to manage and mitigate the impacts of stormwater runoff from and within the site. The Plan must be consistent with the Stormwater Management Plan for the catchment (or the guideline contained in Managing Urban Stormwater: Council Handbook (DECCW) should a plan for the catchment not exist). The Plan should include, but not necessarily be limited to:	Section 3.5 Soil and Water Management Plan
i) details of the monitoring requirements of this approval, specifically the requirements of condition 1.1 of this approval; and	SWMP 5-7, Table 11 Soil and Water Management Plan

Development Consent Condition	Relevant Section
	Section 4.0 Operational Monitoring Plan
ii) details of any contingency measures that would be followed to ensure the protection of groundwater and neighbouring waterways should any non-compliance be detected or during an accident or emergency situation at the site that could result in the contamination of surface water or groundwater; and	SWMP 8, Table 11 Soil and Water Management Plan GS 23, Table 5 General Site Management Plan
iii) evidence of compliance with the targets in Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC & ARMCANZ, 2000) October 2000.	SWMP 5, Table 11 Soil and Water Management Plan Section 4.0 Operational Monitoring Plan
Dust Management Plan	
d) a Dust Management Plan to outline measures to minimise and manage any impacts from the operation of the project on local air quality. The Plan must include, but not necessarily be limited to:	Section 3.4 Dust Management Plan
i) identification of all major sources of dust that may occur as result of the operation of the project;	Section 3.4 Dust Management Plan DMP 1, Table 9 Dust Management Plan
ii) description of the procedures to manage the emission of dust from the sources identified;	DMP 1 – 10, Table 9 Dust Management Plan
iii) identification of the locations where monitoring of dust emissions is to be undertaken;	Figure 4 Section 3.4.1 Ambient Dust Monitoring Program
iv) procedures for the monitoring of dust emissions from the project, in accordance with any requirements of the EPA;	DMP 11 – 14, Table 9 Dust Management Plan
v) protocols for regular maintenance of equipment, conveyor systems and materials handling facilities to minimise the potential for dust emissions; and	DMP 1 & 9, Table 9 Dust Management Plan
vi) a principal requirement to satisfy the goals satisfied under condition 2.8 of this approval at all times, including to the extent that is reasonable and practical, dust suppression considerations in the detailed design of the project;	Table 9 Dust Management Plan Section 3.4.1 Ambient Dust Monitoring Program
vii) a system that allows for periodic assessment and reasonable implementation of Best Management Practice (BMP) and Best Available Technology Economically Achievable (BATEA) to minimise dust impacts over the life of the project;	DMP 14-16, Table 9 Dust Management Plan
viii) a system for regular auditing to ensure the effective implementation and maintenance of mitigation measures required to achieve the air quality goals specified under condition 2.8 of this approval;	DMP 16, Table 9 Dust Management Plan
ix) pro-active and reactive management and response mechanisms for particulate emissions, with specific reference to measures to be implemented and actions to be taken in a timely manner to minimise and prevent reasonably foreseeable elevated air quality impacts on surrounding land uses as a consequence of meteorological conditions or the specific construction works being undertaken at any particular time; and	Proactive mechanisms: DMP 1-13, Table 9 Dust Management Plan Reactive mechanisms: DMP 14-17, Table 9 Dust Management Plan
x) description of procedures to be undertaken if any non-compliance is detected.	DMP 15, Table 9 Dust Management Plan Section 6.1 Incident Reporting

Development Consent Condition	Relevant Section
	Section 6.4 Corrective Actions
Vegetation Management Plan	
e) a Vegetation Management Plan as described in condition 2.24 of this approval. *2.24 Prior to the commencement of any construction activities, the Proponent must prepare to the satisfaction of the DPI Water and OEH, a Vegetation Management Plan in accordance with the DPI Water guidelines How to Prepare a Vegetation Management Plan – Version 4 and Watercourse and Riparian Zone Rehabilitation Requirements as well as OEH Recovering Bushland on the Cumberland Plain. The Plan must include drawings that clearly show vegetation to be retained/removed, plant material to be used for rehabilitation, densities and species mix for areas to be rehabilitated, establishment methods, sequencing of tasks, maintenance and performance monitoring. Site rehabilitation and maintenance is to be carried out in accordance with the Plan, and the DPI Water is to be advised of the person responsible for any seed or vegetative propagation prior to the commencement of that propagation. The Proponent must implement the management plan as approved from time to time by the Secretary.*	Appendix 1 Vegetation Management Plan Section 3.7 Vegetation Management Plan
The Proponent must implement the management plan as approved from time to time by the Secretary.	Noted
Operational Monitoring Plan	
Condition 3.1 Prior to the commencement of operation of the project, the Proponent must prepare an Operational Monitoring Plan for activities associated with the project. The Monitoring Plan must include, but not be necessarily be limited to, the following components:	Section 4.0 Operational Monitoring Plan
Noise Monitoring Program	
a) a Noise Monitoring Program. The program must monitor noise levels during operational activities. The Monitoring Plan must include, but not be necessarily be limited to, the following components:	Section 3.2 Noise Management Plan Section 3.2.1 Noise Monitoring Program
i) identification of noise monitoring locations;	Section 3.2.1 Noise Monitoring Program Figure 2
ii) scheduling of noise monitoring, with reference to day, evening and night-time periods;	NMP 12, Table 6 Noise Management Plan
iii) provisions and procedures for determining LAeq(15 minute), LA90(15 minute) and LA1(1 minute) noise levels;	NMP 13 Table 6 Noise Management Plan
iv) review and assessment mechanisms to establish and address noise impacts on residential receptors;	NMP 19 – 21, Table 6 Noise Management Plan Section 5.2 Complaints Management
v) such monitoring must be undertaken by an appropriate and recognised acoustic engineer, who is independent of, or not associated with, any organisation that has been involved with the acoustic assessment of the application (the subject of this approval), or involved in any supervision or designs associated with the construction of the project.	Section 3.2.1 Noise Monitoring Program NMP 18, Table 6 Noise Management Plan
Ambient Dust Monitoring Program	

Development Consent Condition	Relevant Section
b) an Ambient Dust Monitoring Program. The program must provide for continuous monitoring of ambient dust concentrations (PM_{10}) at no fewer than two locations at and around the site, as approved by the Secretary. The monitoring must employ the sampling and analysis methods specified under *AM-18* or *AS3580.9.8* and results of this monitoring must be recorded in µgm-3 to demonstrate compliance with condition 2.8A.	DMP 11 – 15, Table 9 Dust Management Plan Section 3.4.1 Ambient Dust Monitoring Program
Transport Monitoring Program	
c) a Transport Monitoring Program to monitor traffic movements and driver behaviour of heavy vehicles associated with the project. This program must be applied to all heavy vehicles associated with the project. The Program must include, but not necessarily be limited to:	Section 3.3 Traffic Management Plan
i) details on the monitoring program, such as the frequency and methodology of the monitoring program. This program must include (but not be limited to) the 'spot' auditing of transport movements and driver behaviours at various operational times;	Section 4.0 Operational Monitoring Plan Section 3.3 Traffic Management Plan TMP 18 – 22, Table 8 Traffic Management Plan
ii) a regular internal review of results from the monitoring program to assess the performance of the transport management measures and to ensure compliance with the requirements of this approval; and	TMP 22 – 25, Table 8 Traffic Management Plan
iii) a protocol for implementing contingency measures should any non-compliance be detected.	TMP 23, Table 8 Traffic Management Plan Section 6.1 Incident Reporting
The Operational Monitoring Program must be incorporated into the Operational Environmental Management Plan for the project (refer to condition 5.4 of this approval). The Proponent must implement the management plan as approved from time to time by the Secretary.	Entire Document

3.0 Environmental Management Plans

The following section outlines the management plans that have been prepared to satisfy the requirements of Condition 5.5 of the Development Consent. The following management plans are included in this OEMP:

- General Site Management Plan;
- Noise Management Plan;
- Traffic Management Plan;
- Dust Management Plan; and
- Soil and Water Management Plan.

3.1 General Site Management Plan

Table 5: General Site Management Plan

Mitigation ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference
GS 1	**Site Induction**	All persons undertaking works on site must complete a site-specific induction prior to the commencement of such works. Details of attendance will be recorded and kept at the site office.	Site Manager (SM)	Prior to commencing works.	SHEMS
GS 2	**Distribution Limits**	Must not distribute >4 million tonnes of construction materials (excluding concrete) per year from the Site.	SM	At all times	SoC - Item 1.1 Development Consent (05_0051) - Condition 1.4
GS 3	**Concrete Batching Plant Production**	Production capacity of the concrete batching plant must not exceed 200,000m^3 per year.	SM	At all times	SoC - Item 1.2 05_0051 - Condition 1.5
GS 4	**Building and Infrastructure**	All new buildings and structures, including any alterations or additions to existing buildings and structures, must be constructed in accordance with relevant requirements of the Building Codes of Australia (BCA). Note: all necessary certificates and or approvals must be identified prior to commencement of works and obtained at completion of works.	SM	At all times	05_0051 - Condition 1.13
GS 5	**Lighting**	All external lighting must be mounted, screened and directed to not cause nuisance to the surrounding environment, properties and road.	SM	At all times	05_0051 Condition 2.33
GS 6		Lighting must be the minimum level of illumination necessary and must comply with AS4282(INT) 1997- *Control of Obtrusive Effects of Outdoor Lighting.*	SM	At all times	05_0051 - Condition 2.33
GS 7		The display of any advertisements or the erection of any advertising structures is not permitted on the Site if it can be seen from the nearest public space.	SM	At all times	05_0051 - Condition 2.35

Mitigation ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference
GS 8	**Dangerous Goods and Fire Safety**	All chemicals, fuels and oils must be stored in appropriately bunded areas, with impervious flooring and sufficient capacity to contain 110% of the largest container stored within the bund.	SM & All site personnel	At all times	05_0051 - Condition 2.38 AS 1940:2017 The storage and handling of flammable and combustible liquids
GS 9		The bund(s) must be designed and installed in accordance with the requirements of the EPA's Environmental Protection Manual *Technical Bulletin Bunding and Spill Management*.	SM	At all times	05_0051 - Condition 2.38
GS 10		All operations and activities undertaken on site must be carried out in a manner that prevents and/or minimises the risk of fire.	All site personnel	At all times	05_0051 - Condition 2.39
GS 11		Appropriate fire-fighting equipment including adequate volumes of emergency supplies of water (for firefighting purposes), must be available on Site.	SM	At all times	05_0051 – Condition 2.40
GS 12	**Spill Kits**	Spill kits must be readily available and well stocked. All site personnel should be trained in the correct usage of these spill kits.	All site personnel	At all times	EPA's - Storing and Handling Liquids: Environmental Protection - Participants Manual (May 2007) EPA's - Environmental Compliance

Mitigation ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference
					Report: Liquid Chemical Storage, Handling and Spill Management - Part B Review of Best Practice and Regulation (Nov.2005)
GS 13	**Weather Data**	Weather data is to be collected and must include the following: • Daily air temperature • Solar radiation • Daily rainfall • Daylight hours; and • Continuous wind speed and direction	SM Site Environmental Representative (SER)	Daily	SoC – Item 3.3
GS 14	**Waste**	The Site must not cause, permit or allow any waste generated outside the Site to be received at the Site for storage, treatment, processing, reprocessing or disposal unless permitted by a licence under the *Protection of the Environment Operations Act 1997*.	SM	At all times	05_0051 - Condition 2.36
GS 15		Waste receptacles must be provided at several locations around that Site, so they are easily accessible to site personnel.	SM	At all times	SoC - Item 11.3
GS 16		All Site personnel including contractors must dispose of their waste in the provided waste receptacles. If a waste receptacle can't be found, it is the responsibility of the individual to hold onto the waste and correctly dispose of it when possible.	All site personnel	At all times	SoC - Item 11.3
GS 17		Regular visual inspections of the Site should be undertaken to determine if littering is occurring on Site.	SM & SER	Weekly	SoC - Item 11.3

Mitigation ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference
GS 18	**Complaints**	Must operate a telephone complaints line for receiving any complaints from the public in relation to activities conducted at the Site, or by the vehicle or mobile plant.	SM	During operating hours. Must be responded to within 24 hours.	05_0051 – Condition 5.5.
GS 19		Must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the community knows how to make a complaint.	SM		05_0051 – Condition 4.3, 5.5.
GS 20		All complaints must be recorded in an up-to-date Complaints Register that includes: a) date and time of complaint b) how complaint was made (telephone, email or mail) c) any personal details of the complainant, or if no details were provided than this is to be noted. d) the nature of the complaint e) any action(s) taken in relation to the complaint, including any follow up contact with the complainant; and f) if no action was taken in relation to the complaint, the reason(s) why no action was taken.	SM	At all times	05_0051 - Condition 4.3, 5.5.
GS 21		The Complaints Register must be available for inspection by the Secretary upon request.	SM	At all times	05_0051 - Condition 4.3, 5.5.
GS 22		The record of a complaint will be kept for at least 4 years after the complaint was made.	SM	>4 years	Proactive Measure
GS 23	**Emergency Response**	A site plan outlining evacuation and muster points, location of emergency equipment, location of sensitive receptors, and location of safety data sheets is displayed in the Site Office. The Site Manager will be contacted for all emergency incidents. The Site Environment Representative for all environmental incidents. In the event of a life-threatening event, emergency services should be called immediately on 000.	All personnel	In the event of an emergency	05_0051 - Condition 2.39, Condition 2.40.

3.2 Noise Management Plan

Table 6 below outlines the Noise Management Plan (NMP) for the site in accordance with Condition 5.5 of the Development Consent. This NMP outlines the Operational Noise Management Protocol, required under Condition 2.7 of the Development Consent as below.

> *2.7 Prior to the commencement of operations at the site, the Proponent must prepare and implement an Operational Noise Management Protocol for the project. The Protocol must include, but not necessarily be limited to:*
>
> *a) a principal requirement to satisfy the limits specified in condition 2.3 of this approval at all times, including to the extent that is reasonable and practical, acoustic considerations in the detailed design of the project;*
>
> *b) a system that allows for periodic assessment and reasonable implementation of Best Management Practice (BMP) and Best Available Technology Economically Achievable (BATEA) to minimise noise impacts over the life of the proposal;*
>
> *c) a system of regular auditing to ensure the effective implementation and maintenance of mitigation measures required to achieve the noise limits specified in condition 2.3 of this approval. Acoustic auditing must be conducted by an appropriate and recognised acoustic engineer, who is independent of, or not associated with, any organisation that has been involved with the acoustic assessment of the application (the subject of this approval), or involved in any supervision or designs associated with the construction of the project.*

Table 6: Noise Management Plan

Mitigation ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
NMP 1	**Noise Management Protocol**	The applicable requirements of Condition 2.7 of the Development Consent have been incorporated into this noise management plan.	Noted	At all times	05_0051 - Condition 2.7, 5.5(a)(i)
NMP 2	**Operational Noise - Plant and Equipment**	Plant and equipment operated on the site must be fitted (wherever reasonable and practicable) with efficient silencers, low-noise mufflers (residential standard) and replacement of reversing alarms with alternative measures, such as flashing lights to minimise noise emissions.	SM	At all times	05_0051 - Condition 2.1
NMP 3		Plant and or equipment should be switched off when not in use, or where this is not practicable, throttled down to a minimum to reduce noise emissions.	Operators	When not in use	05_0051 - Condition 5.5(a)
NMP 4		Plant and equipment must be regularly serviced according to the manufacturer's specifications and records of the servicing kept on Site.	SM	As per manufactures servicing requirements	05_0051 - Condition 5.5(a)
NMP 5		Where practicable, the blending plant/Pug Mill should not be operated during the evening and night-time periods	SM SS	Evening Night-time	SoC – Item 3.2
NMP 6	**Concrete Batching Plant**	Where practicable, limit the Concrete Batching Plant to one truck being loaded and one truck slumping at any one time during the evening and night-time period.	SM SS	Evening Night-time	SoC – Item 3.2
NMP 7	**Storage Bins**	Unloading and main storage bins used for aggregate should be lined with material that will minimise noise emissions. These bins should be regularly checked to confirm if the lining is in good order.	SM	As required, determined during Monthly Inspection.	SoC – Item 3.2
NMP 8		Bins should not be loaded from an empty state during the evening, night-time or early morning periods.	SM	At all times	SoC – Item 3.2

<table>
<tr><th>Mitigation ID</th><th>Item</th><th>Management Strategy</th><th>Person Responsible</th><th>Timing/ Frequency</th><th>Reference/ Notes</th></tr>
<tr><td>NMP 9</td><td>Train Noise - Shunting</td><td>In order to minimise sleep disturbance, the Site must operate all shunting to and from the Site by groups of rigidly connected wagons (rakes) or by other appropriate technology, which must be approved by the Secretary prior to its use.</td><td>SM</td><td>During shunting activities</td><td>05_0051 – Condition 2.1A</td></tr>
<tr><td>NMP 10</td><td>Operational Noise - Noise Barriers and Enclosures</td><td>Visual inspections of all constructed noise walls and conveyor enclosures must be undertaken on a regular basis to confirm these attenuation items are in good order.</td><td>SER</td><td>During Monthly Inspection.</td><td>SoC – Item 3.2
05_0051 - Condition 5.5(a)</td></tr>
<tr><td>NMP 11</td><td rowspan="2">Noise Monitoring</td><td>Permitted Noise Levels
Noise levels from activities undertaken on the site must not exceed the maximum allowable noise contributions specified as per Table 1 in Condition 2.3 of the Development Consent.
<table>
<tr><th>Location</th><th>Morning Shoulder 6am – 7am Mon to Sat and 6am – 8am Sun and PH</th><th>Day 7am – 6pm Mon to Sat and 8am – 6pm Sun and PH</th><th>Evening 6pm – 10pm Mon to Sun</th><th colspan="2">Night 10pm – 7am Monday to Saturday and 10pm – 8am Sunday</th></tr>
<tr><td></td><td>LAeq(15 min.) (dB(A))</td><td>LAeq(15 min.) (dB(A))</td><td>LAeq(15 min.) (dB(A))</td><td>LAeq(15 min.) (dB(A))</td><td>LA1(1 min.) (dB(A))</td></tr>
<tr><td>Any residences in Station Street</td><td>39</td><td>44</td><td>44</td><td>39</td><td>53</td></tr>
<tr><td>Any Residences in Crawford Road</td><td>40</td><td>40</td><td>39</td><td>39</td><td>53</td></tr>
<tr><td>Any residences in Mavis Street</td><td>35</td><td>35</td><td>35</td><td>35</td><td>53</td></tr>
<tr><td>Nurragingy Reserve</td><td colspan="5">When the Reserve is in use – L_{Aeq} 50 dB(A)</td></tr>
<tr><td>Colebee Centre</td><td colspan="5">When the Centre is in use – L_{Aeq} 50 dB(A)</td></tr>
<tr><td>Blacktown Olympic Park (active recreation areas)</td><td colspan="5">When active recreational areas of the Park are in use – L_{Aeq} 55 dB(A)</td></tr>
</table></td><td>Noted</td><td>During annual monitoring</td><td>05_0051 - Condition 2.3, Table 1: Noise Criteria</td></tr>
<tr><td>NMP 12</td><td>Scheduling of noise monitoring will be done with reference to day, evening, and night-time periods, the time periods for which are outlined in Table 1 in Condition 2.3 of the Consent. The time periods for these are:</td><td>Contractor and SER</td><td>During annual monitoring</td><td>05_0051 – Condition 3.1(a)(ii)</td></tr>
</table>

Mitigation ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
		<table><tr><th>Schedule Period</th><th>Required Times</th></tr><tr><td>Day</td><td>7am – 6pm Monday to Saturday and 8am – 6pm Sundays and Public Holidays</td></tr><tr><td>Evening</td><td>6pm – 10pm Monday to Sunday</td></tr><tr><td>Night-time</td><td>10pm – 7am Monday to Saturday and 10pm – 8am Sunday</td></tr></table>			
NMP 13		Noise monitoring will use the following methods to determine noise levels; • The LAeq 15-minute noise level for a 15-minute period; • LA90 noise levels; and • LA1-1 minute noise levels. Monitoring will be undertaken in accordance with Australian Standard AS 1055:2018. Calibration of the equipment will be checked prior to each measurement.	Contractor and SER	During annual monitoring	05_0051 - Condition 3.1(a)(iv)
NMP 14		Noise emission limits specified in Condition 2.3, *Table 1: Noise Criteria* applies under the following meteorological conditions: a) wind speed up to 2ms^{-1} at 10m above ground level; or b) temperature inversion conditions of up to 3°C/100m and wind speed up to 2ms^{-1} at 10m above the ground.	Noted	During annual monitoring	05_0051 - Condition 2.6
NMP 15		When noise monitoring is occurring, noise must be: a) measured at the most affected point on or within the residential boundary, or at the most affected point within 30m of the dwelling to determine compliance with noise limits; or b) measured at 1m from the dwelling façade to determine compliance.	SER	Annual	05_0051 - Condition 2.4
NMP 16		Should direct measurement of noise be impractical, an alternative noise assessment method deemed acceptable by EPA's *Industrial Noise Policy* can be used.	Noted	When required	05_0051 - Condition 2.5, Condition 5.5(a)

Mitigation ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
					EPA's *Industrial Noise Policy*, S. 11
NMP 17		The results of any noise auditing or monitoring must be reported in the Annual Review.	SER	Annually	05_0051 - Conditions 2.7, 5.5 and 6.3
NMP 18		Noise monitoring will be conducted by a qualified noise specialist to determine the effectiveness of mitigation measures and identify opportunities to achieve BMP and BATEA during the operation of the project.	SER	Annually	05_0051 – Condition 3.1(a)(iv), 2.7(b), and 2.7(c).
NMP 19	**Corrective Actions**	In the event of a non-compliance, or exceedance, the Site Manager will provide an initial notification to the DPIE for that event as soon as practicable. An investigation into the event will begin including the development of a CAP. Incident details will be documented in the Holcim Incident Management System (INX). The contingency measures taken to rectify or address the event will be recorded. A written report on an incident will be provided to DPIE within seven days of detecting the incident. The written report will include the following information as a minimum: a) the time, date, nature, duration and location of the incident, b) the location of the place where pollution is occurring or is likely to occur, c) the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known, d) the circumstances in which the incident occurred (including the cause of the incident, if known), e) the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known	SM, SER, and all personnel	In the event of non-compliance, or on detection of exceedance or incident	05_0051 – Condition 3.1(a)(iv), Condition 6.1.

Mitigation ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
		All environmental incidents will be reported in the applicable Annual Review. Learnings from incidents will be recorded and incorporated into future programs and plans to ensure continued improvement.			
NMP 20	**Complaints Procedure**	In the event of receiving a complaint, the following details will be collected and entered into the Complaints Register: a) the date and time, where relevant, of the complaint; b) the means by which the complaint was made (telephone, mail or email); c) any personal details of the complainant that were provided, or if no details were provided, a note to that effect; d) the nature of the complaint; e) any action(s) taken by the Proponent in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the Proponent in relation to the complaint, the reason(s) why no action was taken.	SM or SER	In event of Complaint	05_0051 – Condition 5.5(a)(iii)
NMP 21	**Review**	The regular review of the Operational Noise Management Protocol will occur during the Annual Review preparation process. The results of annual noise assessments will be presented in the Annual Review.	SM and SER	Annually	05_0051 – Condition 2.7(c)

3.2.1 Noise Monitoring Program

Noise monitoring will be conducted by a noise specialist to determine the effectiveness of mitigation measures and identify opportunities to achieve BMP and BATEA during the operation of the project.

Current Monitoring Program and Frequency

Monitoring is undertaken by a suitably qualified consultancy in accordance with the requirements of the Development Consent. Quarterly attended noise monitoring is undertaken to determine if noise contributions from operations exceed the maximum allowable noise contributions provided in **Table 7**.

Table 7: Noise Monitoring Criteria from Development Consent 05_0051

Location	Morning Shoulder (6am – 7am Monday to Saturday and 6am – 8am Sundays and Public Holidays	Day 7am – 6pm Monday to Saturday and 8am – 6pm Sundays and Public Holidays	Evening 6pm – 10pm Monday to Sunday	Night 10pm – 7am Monday to Saturday and 10pm – 8am Sunday	
	$L_{Aeq(15\ minute)}$ (dB(A))	$L_{Aeq(15\ minute)}$ (dB(A))	$L_{Aeq(15\ minute)}$ (dB(A))	$L_{Aeq(15\ minute)}$ (dB(A))	$L_{A1(1\ minute)}$ (dB(A))
Any residences in Station Street	39	44	44	39	53
Any Residences in Crawford Road	40	40	39	39	53
Any residences in Mavis Street	35	35	35	35	53
Nurragingy Reserve	When the Reserve is in use – L_{Aeq} 50 dB(A)				
Colebee Centre	When the Centre is in use – L_{Aeq} 50 dB(A)				
Blacktown Olympic Park (active recreation areas)	When active recreational areas of the Park are in use – L_{Aeq} 55 dB(A)				

3.2.1.1 Proposed Monitoring Program and Frequency (2021 Onwards)

Condition 3.2 of the Development Consent states:

> *The Proponent must review the Operational Monitoring Program referred to under condition 3.1 on a six-monthly basis, and may, with the agreement of the Secretary, alter the frequency and/ or scope of monitoring provided:*
>
> *a) pollutant/ parameter monitoring has been undertaken for a period of no less than six months (measured from the commencement of operation of the project);*
> *b) there has been no exceedence of any limit placed on the subject pollutant or parameter, through this consent or any Environment Protection Licence under the Protection of the Environment Operations Act 1997 within the preceding six-month period;*
> *c) there has been no reasonable complaint received from the public in relation to the subject pollutant/ parameter within the preceding six-month period (refer to condition 4.3 of this approval); and*
> *d) the EPA raises no objection to the proposed alteration to the frequency of pollutant/ parameter monitoring.*

Given the surrender of EPL 20672 as well as RHDC recording zero noise exceedances nor complaints during operations, the site will modify the frequency of noise monitoring to an **annual basis** at the monitoring locations seen in **Figure 2**. The change in frequency of noise monitoring considered the advice of noise specialists and is compliant with Conditions 2.3 and 3.1(a) of the Development Consent. Annual noise monitoring commenced February 2021.

Figure 2: Noise Monitoring Points (MAC, February 2021, Annual Noise Monitoring Assessment).

The first annual monitoring cycle extends from July 2020, after the surrender of EPL 20672, to June 2021. From the approval of this OEMP, noise monitoring will be undertaken by a suitably qualified noise consultant in the first quarter of the calendar year.

Noise monitoring will be completed in accordance with relevant standards and procedures and assess RHDC's performance against the noise monitoring criteria specified in the Development Consent (**Table 7**). RHDC will undertake mitigative or anticipatory measures to reduce potential impacts to surrounding land uses or receivers.

3.3 Traffic Management Plan

Table 8 below outlines the Traffic Management Plan requirements for RHDC.

The traffic management strategies aim to manage heavy vehicle traffic movements to minimise local and regional road network impacts. Traffic will primarily move to and from the site via Woodstock Avenue, Kellogg Road, Glendenning Road, and Power Street. The Westlink M7 highway is the main route for most vehicles.

The risk of environmental releases will be managed during unloading, loading, refuelling, and washing of vehicles.

Transport Monitoring Program

In accordance with Condition 3.1, a Transport Monitoring Program is outlined in this OEMP to guide RHDC's traffic movements and driver behaviour. This program is described in the Traffic Management Plan in **Table 8**.

Table 8: Traffic Management Plan

Measure ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
TMP 1	**Traffic Noise Management Strategy and Transport Monitoring Program**	The applicable requirements of Condition 2.21 and Condition 3.1(c) of the Development Consent have been incorporated into this traffic and transport management plan.	Noted		
TMP 2	**Transport Code of Conduct**	The Transport Code of Conduct for Heavy Vehicles will be displayed in the Site Office and will form part of the Site induction which must be attended by all persons undertaking works on the Site. The Code of Conduct is found in **Appendix 4**.	SM & all drivers	At all times	05_0051 – Condition 5.5(b)
TMP 3	**Driver Training and Requirements**	The following information (if applicable) will be provided upon completion of the Site induction: • Drivers licence • Heavy vehicle permit/licence • Certificate of roadworthy (if necessary)	SM & all drivers	At all times	05_0051 – Condition 5.5(b)
TMP 4		All site personnel including contractors are to comply with the following: • Do not use engine brakes on local streets. • Drive in a manner that minimises vehicle noise and emissions. • Follow the nominated routes that link the M7 and the site. • Do not park on public roads. • Drive in a manner and speed appropriate for the changing conditions within the site. • Avoid queuing across intersections and local roads. • Do not throw waste (e.g. cigarette butts) out of vehicle window. • Do not have vehicle radio loud enough that it can be heard outside of vehicle	All persons	At all times	05_0051 – Condition 5.5(b)
TMP 5	**Maintenance**	Vehicles must be well maintained and serviced as per the requirements of the manufacture. A log of servicing should be kept with the vehicle, so it is readily available for inspection by the SM or SER.	All drivers	As per manufactures servicing requirements	05_0051 – Condition 5.5(b)

Measure ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
TMP 6	**Internal Roads and Parking**	Internal roads and parking areas must be sealed in a hard standing material and kept in good order.	SM	At all times	05_0051 – Condition 2.21A
TMP 7		All reasonable measures must be undertaken to prevent heavy vehicles who are accessing the Site, from queuing within the adjacent local road network, including Kellogg Road. If queuing of heavy vehicles on local roads occurs on a regular basis, an assessment of truck movements must be conducted to identify alternative control measures.	SM SER	At all times	05_0051 - Condition 2.11
TMP 8		All reasonable measures must be undertaken to prevent vehicles used for the operation of the site, from parking on local roads near the Site.	SM	At all times	05_0051 - Condition 2.12
TMP 9		Parking areas must be clearly marked for all visitor, disabled, ambulance and service vehicle parking.	SM	At all times	05_0051 - Condition 2.14 SoC – Item 8.5
TMP 10		The number of on-site parking spaces provided must be as follows: a) Truck parking: 50 spaces (truck and dog configuration) b) Car parking: total of 310 spaces (RHDC -121 spaces, office & laboratory – 189 spaces (84 must be allocated to RHDC staff & visitors, 105 must be allocated for existing Hume development staff & visitors). All car parking spaces must be marked as per the allocations above. Visitor parking must be conveniently located to the administrative offices.	SM	At all times	05_0051 – Condition 2.21A
TMP 11	**Site Access**	Access to the Site must be via Kellogg Road and Woodstock Avenue. Access to the Site via North Parade must be for maintenance purposes or emergency access only.	SM & All drivers	At all times	05_0051 - Condition 5.5(b), Condition 2.19
TMP 12	**Vehicle Noise**	All Site vehicles must be regularly serviced and records of the servicing easily accessible by the Site Manager.	SM	As per manufactures servicing requirements	05_0051 – Condition 5.5(b),

Measure ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
					Condition 2.21
TMP 13		All Contractors must be made aware of the requirement to maintain vehicles during the Site induction.	SM	At all times	05_0051 – Condition 5.5(b)
TMP 14	**Speed Limit**	All vehicles must comply with the Sites nominated speed limit of 20km/h.	All drivers	At all times	SoC – Item 8.5
TMP 15	**Traffic Routes**	Traffic routes on Site must be clearly marked and signed. Persons driving on the site must stay on designated traffic routes.	SM	At all times	SoC – Item 8.5
TMP 16	**Sediment Tracking**	Vehicles, including heavy trucks, are not permitted to track sediment onto public roads as they are leaving the site. If drivers notice tracking is occurring, they are to notify the Site Manager immediately.	SM & All drivers	At all times	05_0051 – Condition 5.5(b)
TMP 17	**Street Sweeper**	Internal sealed roads must be regularly swept to minimise the risk of dust generation and sediment tracking.	SM	As required	05_0051 – Condition 5.5(b)
TMP 18	**Traffic and Transport Monitoring**	When exiting the site heavy vehicles will pass over a weigh bridge so tonnage and vehicle movement data can be captured. All drivers will be made aware of this requirement during the initial site induction.	SM and All drivers	At all times	05_0051 – Condition 3
TMP 19		All drivers are required to complete daily pre-start vehicle inspections. All drivers will be made aware of this requirement during the initial site induction.	All drivers	At all times or daily.	05_0051 – Condition 3.1(c)(i)
TMP 20		Spot auditing or 'spot checks' will also be done by the SM to assess the following (at a minimum): • Site speed limit compliance; • Adherence to site traffic routes; • Queuing within adjacent road network; and • Obnoxious behaviour (playing truck radio loud, beeping of horn, incorrect use of airbrakes).	SM	At random	05_0051 – Condition 3.1(c)(i)

Measure ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
		Visual inspections of public roads adjacent to the site will be conducted at random by the SM or SER to determine whether site personnel are parking vehicles in these areas.			
TMP 21		Monthly visual monitoring will be undertaken by the SM to assess dust generation is being minimised by driver behaviour including by complying with speed limit signs on the site, and the vehicles entering and exiting the site have covered loads.	SM	Monthly	05_0051 – 3.1(c), 2.9, &2.10.
TMP 22		Visual monitoring of adjacent road networks will be undertaken by the Site Manager each quarter including at Power Street & Glendenning Road, Woodstock Avenue and Glendenning Road, and Woodstock Avenue and Kellogg Road to determine whether the heavy vehicles accessing the site are queuing on local road networks.	SM	Quarterly	05_0051 – Condition 3.1(c)(i)
TMP 23	**Corrective Actions**	In the event of a non-compliance or exceedance, the Site Manager will provide an initial notification to the DPIE for that event as soon as practicable. An investigation into the event will begin including the development of a CAP. Incident details will be documented in the Holcim Incident Management System (INX). The contingency measures taken to rectify or address the event will be recorded. A written report on an incident will be provided to DPIE within seven days of detecting the incident. The written report will include the following information as a minimum: a) the time, date, nature, duration and location of the incident, b) the location of the place where pollution is occurring or is likely to occur, c) the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known, d) the circumstances in which the incident occurred (including the cause of the incident, if known), e) the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known All environmental incidents will be reported in the Annual Review.	SM, SER, and all personnel	In the event of non-compliance, or on detection of exceedance or incident	05_0051 – Condition 3.1(c)(iii)

Measure ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
		Learnings from incidents will be recorded and incorporated into future programs and plans to ensure continued improvement.			
TMP 24	**Community Complaints**	In the event of receiving a complaint, the following details will be collected and entered into the Complaints Register: g) the date and time, where relevant, of the complaint; h) the means by which the complaint was made (telephone, mail or email); i) any personal details of the complainant that were provided, or if no details were provided, a note to that effect; j) the nature of the complaint; k) any action(s) taken by the Proponent in relation to the complaint, including any follow-up contact with the complainant; and l) if no action was taken by the Proponent in relation to the complaint, the reason(s) why no action was taken. On the receipt of a complaint an investigation into the issue will begin, identifying mitigating measures were applicable. Information and feedback will be provided to the complainant. The complaint and associated feedback will be communicated to senior management and other personnel were relevant.	SM or SER	In the event of a complaint	05_0051 – Condition 5.5(b)
TMP 25	**Review**	Transport records will be monitored on a weekly basis as well as during the preparation of the Annual Review to assess the performance of the management strategies in the Traffic Management Plan.	SM and SER	Weekly and Annually	05_0051 – Condition 3.1(c)(i)

3.4 Dust Management Plan

Table 9 below outlines the site Dust Management Plan.

The major sources of dust that occur as a result of project operations have been assessed in EIS reports from 2005 and 2017. These major sources of dust include:

- Truck movements;
- Wind erosion from stockpiles and exposed areas;
- Load out of material to trucks;
- Trains unloading to unloading station;
- Transfer conveyors; and
- Front End Loaders transferring material between storage bins.

Dust emissions will be assessed through visual inspections on site by all personnel as well as through air quality monitoring conducted by an air specialist. **Figure 2** displays the locations of the Dust monitors. **Section 3.4.1** outlines the Ambient Dust Monitoring Program in detail.

Table 9: Dust Management Plan

Mitigation Measure ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
DMP 1	**General Dust Management**	The site must be operated and maintained in a manner that minimises dust emissions and include the following controls as a minimum: a) all dust control systems for transfer, load out and unloading points, and materials handling must comply with a solid particles emission limit of 20 mgm^{-3} as required by the *Protection of the Environment (Clean Air) Regulation 2002*; b) all storage bins must be enclosed; c) all transfer, load-out and unloading points must be enclosed; d) conveyors must be covered and or enclosed, on at least three sides; e) all trafficable areas must be sealed and maintained; f) water spray systems must be installed to service all stockpiles; g) all paved trafficable areas must be swept as required by a permanently stationed street sweeper to minimise dust; and h) application of Best Management Practice (BMP) and Best Available Technology Economically Achievable (BATEA) to minimise dust impacts.	SM SS SER	At all times	05_0051 - Condition 2.8, Condition 2.9, Condition 5.5(d)(ii), Condition 5.5(d)(v). SoC – Item 4
DMP 2		Visual inspections (for excessive visible dust generation) of the site should be undertaken and, if necessary, controls implemented to minimise or stop dust being generated. These response actions may include ceasing operations during high wind conditions, enforcing reduced speed limits on-site, or increased use of water sprays.	SM SER	Daily	SoC – Item 4.5, 05_0051 - Condition 5.5(d)(xi)
DMP 3	**Concrete Batching Plant**	Loading area at the concrete batching plant should be enclosed or have a dry-dust collection system to minimise the generation of dust from loading activities.	SM SS	During operation	SoC – Item 4.7 05_0051 - Condition 5.5(d)(ii).
DMP 4		Visual inspections must be undertaken of the batching plant to determine if dust is being generated during operation and or loading activities. If necessary, controls must be implemented to minimise or stop dust being generated e.g. ceasing operations during high wind conditions.	Plant Operator	During operation	05_0051 - Condition 5.5(d)(ii).
DMP 5	**Trafficable areas and vehicles**	All trafficable and vehicle areas on the site must be maintained in a condition that will minimise the generation or emission of windblown or traffic generated dust from the Site.	SM	At all times	05_0051 - Condition 2.9 SoC – Item 4.4

<table>
<tr><th>Mitigation Measure ID</th><th>Item</th><th>Management Strategy</th><th>Person Responsible</th><th>Timing/ Frequency</th><th>Reference/ Notes</th></tr>
<tr><td>DMP 6</td><td rowspan="3"></td><td>All loads on heavy vehicles entering and leaving the Site must be covered except during loading and unloading activities.</td><td>Operators</td><td>On entry and exit of site</td><td>SoC – Item 4.7
05_0051 - Condition 2.10</td></tr>
<tr><td>DMP 7</td><td>Designated speed limits on site (20km/hr on-site) must be adhered to at all times.</td><td>All personnel</td><td>At all times</td><td>Pro-active measure</td></tr>
<tr><td>DMP 8</td><td>Visual inspections of trafficable and parking areas must be undertaken to determine if these areas are in good order. The Site Manager must be notified of any maintenance or repair works identified during the inspection.</td><td>SER</td><td>Monthly</td><td>05_0051 – Condition 3.1(c)</td></tr>
<tr><td>DMP 9</td><td>Maintenance</td><td>All fixed and mobile equipment, such as batching plant, conveyor systems, and site vehicles will be well maintained and serviced as per the requirements of the manufacturer to minimise dust emissions and exhaust fumes. A log of servicing should be kept with all vehicles, so it is readily available for inspection by the SM or SER.</td><td>All personnel</td><td>At all times</td><td>SoC – Item 4.4
05_0051 – Condition 5.5(d)(v)</td></tr>
<tr><td>DMP 10</td><td>Street Sweeper</td><td>Internal sealed roads must be regularly swept to minimise the risk of dust generation and sediment tracking.</td><td>SM</td><td>As required</td><td>Pro-active measure</td></tr>
<tr><td>DMP 11</td><td>Air Quality Criteria</td><td>Air quality criteria from activities undertaken on Site must not exceed the limits specified as per Table 2 in Condition 2.8A of the Development Consent.
<table><tr><th>Pollutant</th><th>Averaging Period</th><th>Criterion</th></tr><tr><td>Particulate matter < 10 µm (PM_{10})</td><td>Annual</td><td>25 µg/m3</td></tr><tr><td>Particulate matter < 10 µm (PM_{10})</td><td>24 hour</td><td>50 µg/m^3</td></tr><tr><td>Particulate matter < 2.5 µm (PM2.5)</td><td>Annual</td><td>8 µg/m^3</td></tr><tr><td>Particulate matter < 2.5 µm (PM2.5)</td><td>24 hour</td><td>25 µg/m^3</td></tr><tr><td>Total suspended particulates (TSP)</td><td>Annual</td><td>90 µg/m^3</td></tr></table></td><td>Noted</td><td></td><td>05_0051 - Condition 2.8A, Table 2 Air Quality Criteria</td></tr>
<tr><td>DMP 12</td><td>Dust Monitoring Program</td><td>Continuous monitoring of ambient dust concentrations (PM_{10}) will be undertaken at two locations at a minimum.</td><td>SER</td><td>Daily</td><td>05_0051 – Condition 3.1(b)</td></tr>
</table>

Mitigation Measure ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
DMP 13		The sampling and analysis methods used for monitoring will be in accordance with Australian Standards or justified by an air quality expert.	Noted	-	05_0051 – Condition 3.1(b)
DMP 14		Results from air quality monitoring will be included in the Holcim Environmental Monitoring Portal to ensure complete record-keeping, present trends in results, and timely notification of exceedances. PM10 monitoring system at the site will use a notification system to alert the SM of an exceedance. Meteorological monitoring results collected at RHDC will be reviewed by the SM, inform toolbox talks, and be uploaded to Holcim's Environmental Monitoring Portal.	SM	Daily	05_0051 – Condition 5.5(d)(xi)
DMP 15	**Air Quality Exceedances and Corrective Actions**	In the event of an exceedance in the air quality criteria, the SM will begin an investigation into the exceedance. If it is an exceedance against the annual average criteria, the SM or SER will notify the Department of the non-compliance as soon as practicable. An investigation into the event will begin including the development of a CAP. Incident details will be documented in the Holcim Incident Management System (INX). The contingency measures taken to rectify or address the event will be recorded. For a 24-hour period PM_{10} exceedance, the SM will investigate if Holcim was the source of the exceedance. Condition 2.8A outlines exceedances of short term PM_{10} criteria can occur under: b *Incremental impact (ie increase in concentrations due to the development alone, with zero allowable exceedances of the criteria over the life of the development.* d *Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Secretary.* A written report on the exceedance will be provided to DPIE within seven days of detecting the exceedance. The written report will include the following information as a minimum:	SM & SER	When exceedances occur.	05_0051 – Condition 2.8A, Condition 6.1, Condition 5.5(d)(vii-x).

Mitigation Measure ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
		a) the time, date, nature, duration and location of the incident, b) the location of the place where pollution is occurring or is likely to occur, c) the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known, d) the circumstances in which the incident occurred (including the cause of the incident, if known), e) the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known All environmental incidents will be reported in the applicable Annual Review. Learnings from incidents will be recorded and incorporated into future programs and plans to ensure continued improvement.			
DMP 16	**Community Complaints**	In the event of receiving a complaint, the following details will be collected and entered into the Complaints Register: a) the date and time, where relevant, of the complaint; b) the means by which the complaint was made (telephone, mail or email); c) any personal details of the complainant that were provided, or if no details were provided, a note to that effect; d) the nature of the complaint; e) any action(s) taken by the Proponent in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the Proponent in relation to the complaint, the reason(s) why no action was taken. On the receipt of a complaint an investigation into the issue will begin, identifying mitigating measures were applicable. Information and feedback will be provided to the complainant. The complaint and associated feedback will be communicated to senior management and other personnel were relevant.	SM or SER	In the event of a complaint	05_0051 – Condition 5.5
DMP 17	**Review**	During the preparation of the Annual Review, the site will assess dust management practices, technology, and mitigation measures from the previous year for effectiveness in achieving goals under Condition 2.8 and the Air Quality Criteria.	SM & SER	Annually	05_0051 – Conditions 2.8, 2.8A, 6.3

3.4.1 Ambient Dust Monitoring Program

Subparagraph b) of Condition 3.1 of the Development Consent states the Operational Monitoring Plan must contain:

> *an Ambient Dust Monitoring Program. The program must provide for continuous monitoring of ambient dust concentrations (PM10) at no fewer than two locations at and around the site, as approved by the Secretary. The monitoring must employ the sampling and analysis methods specified under AM-18 or AS3580.9.8 and results of this monitoring must be recorded in µgm-3 to demonstrate compliance with condition 2.8A.*

Dust monitoring results are compared against the air quality criteria outlined in Table 2 of Condition 2.8A of the Development Consent. These criteria are presented in **Table 10**.

Table 10: RHDC Ambient Dust and Air Quality Criteria

Pollutant	Averaging Period	Criterion
Particulate Matter < 10 µm (PM_{10})	Annual	[a, d] 25 µg/m^3
Particulate Matter < 10 µm (PM_{10})	24 hour	[b, d] 50 µg/m^3
Particulate Matter < 2.5 µm ($PM_{2.5}$)	Annual	[a, d] 8 µg/m^3
Particulate Matter < 2.5 µm ($PM_{2.5}$)	24 hour	[b, d] 25 µg/m^3
Total suspended particulates (TSP)	Annual	[a, d] 90 µg/m^3

Note:
"Reasonable and feasible avoidance measures" includes, but is not limited to, the operational requirements in conditions 2.8, 3.1(b) and 5.3(d) to develop and implement an air quality management system that ensures operational responses to the risks of exceedance of the criteria.
a Cumulative impact (ie increase in concentrations due to the development plus background concentrations due to all other sources).
b Incremental impact (ie increase in concentrations due to the development alone, with zero allowable exceedances of the criteria over the life of the development.
c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.
d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Secretary.

The sampling and analysis methods used for monitoring will be in accordance with Australian Standards and results recorded in µg/m^3. Monitoring is conducted as per the methodology outlined in the following:

- AS/NZS 3580.10.1:2003 *Methods for sampling and analysis of ambient air Method 10.1: Determination of particulate matter – Deposited matter – Gravimetric method*
- AS 3580.1.1*: Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment.*
- AS2923-1987 Ambient air – *Guide for measurement of horizontal wind for air quality applications*

Current Monitoring Program and Frequency

The two types of air quality monitoring currently undertaken on site are:

1. PM_{10} monitoring using a high-volume air sampler (HVAS) which samples every six days. This occurs at two locations, the Blacktown Sports Centre and in the active operational area of the site, east of the Administration building.
2. Dust deposition gauges measure depositional dust at three different locations monthly.

Total suspended solids (TSP) are not directly monitored, but calculated from PM_{10} results using the following conversion factor:

PM10 x 2.5 = TSP

In addition to dust monitoring, meteorological conditions are recorded continuously at the meteorological monitoring station to the south of the site**.** Meteorological conditions are monitored for RHDC to minimise or prevent potential air quality impacts, as per Subparagraph d) of Condition 5.5 of the Development Consent.

3.4.1.1 Proposed Monitoring Program and Frequency (2021 Onwards)

From 2021 Holcim will make changes to the Air Quality Monitoring Program at RHDC based on consultation with air quality experts. This section outlines these changes.

Monitor 1

RHDC requires air quality monitoring to occur at two locations as per Condition 3.1 of the Development Consent. Monitor 1 at RHDC will be relocated 60 metres west from its current position to a location adjacent to the RHDC administration building. This relocation is shown in **Figure 3**, which has been taken from the ALS report conducted in 2019 (**Appendix 5**).

In addition to the relocation of Monitor 1, Holcim will replace the existing HVAS unit with a particle counter instrument such as the Aeroqual Dust Sentry Pro as per the recommendations from Ramboll's 2021 Air Quality Monitoring Review (**Appendix 9**). The Dust Sentry instrument has been approved for use at other Holcim sites, including Jandra Quarry. The Aeroqual Dust Sentry instrument will enable continuous monitoring of $PM_{2.5}$ as well as PM_{10} which is a requirement under Condition 2.8A of the Development Consent.

Furthermore, Monitor 1 will be installed with an integrated meteorology station. This monitor will function to provide continuous meteorological and air quality monitoring data.

Monitor 2

The second air quality monitor required under RHDC's development consent, Monitor 2, will be relocated from its location at Blacktown Sports Centre. This relocation is based on the request of Blacktown City Council (**Appendix 7**).

Furthermore, the relocation of the Monitor 2 was identified as an improvement measure, when in 2020 and 2021 access to the Blacktown Sports Centre was prevented due to COVID 19 restrictions. Holcim sought and gained approval from the EPA to remove Monitor 2 from the Blacktown Sports Centre (**Appendix 8**).

Monitor 2 will be relocated to the southern area of the site, adjacent to the Rail Loading Facility (**Figure 4**). This location will be representative for sensitive receivers Blacktown Sports Centre and Nurragingy Reserve.

Monitor 2 is currently a HVAS. The HVAS unit will be replaced by a particle counter instrument, such as the Aeroqual Dust Sentry Pro.

Depositional Dust Gauges

Monthly depositional dust monitoring will be removed from RHDC's air quality monitoring program. RHDC will remove the existing depositional dust gauges (DDG 1, 2, and 3) if this 2021 OEMP is approved by DPIE. Depositional dust monitoring is not required by the current Development Consent. The air quality monitoring program introduced in this OEMP will provide appropriate air quality data to predict and react to environmental conditions.

Figure 3: Map of proposed relocation site for onsite air quality monitor (ALS, 04/12/2019, *Proposal for Relocation of Onsite PM10 at the Holcim Rooty Hill Distribution Centre*).

Figure 4: Proposed air quality monitoring program at Holcim RHDC with surrounding land uses, (Ramboll, 13/10/2021, *Review of Air Quality Monitoring Locations*)

3.5 Soil and Water Management Plan

The RHDC Soil and Water Management Plan (SWMP) is outlined in **Table 11**.

The site is divided into the north and south water catchment areas for the management of stormwater, as well as the prevention of erosion and pollution of surrounding water bodies (**Figure 5**).

The northern catchment area contains ground-level and underground water management features including:

- the truck wash facility;
- settlement pit;
- two detention basins;
- HumeGard Gross Pollutant Trap; and
- RainVault system, which utilised for the storage, treatment, and reuse of stormwater.

The southern water catchment area was designed in accordance with Blacktown City Council's stormwater guidelines at the time and with consultation with Sydney Trains (formerly RailCorp) to prevent impacts to the rail line on the southern boundary of the project.

HumeCeptors (hydrodynamic separators) are utilised on site for the treatment of hydrocarbons and fine suspended solids in stormwater in both catchment areas and prior to discharge offsite to Angus Creek and Eastern Creek.

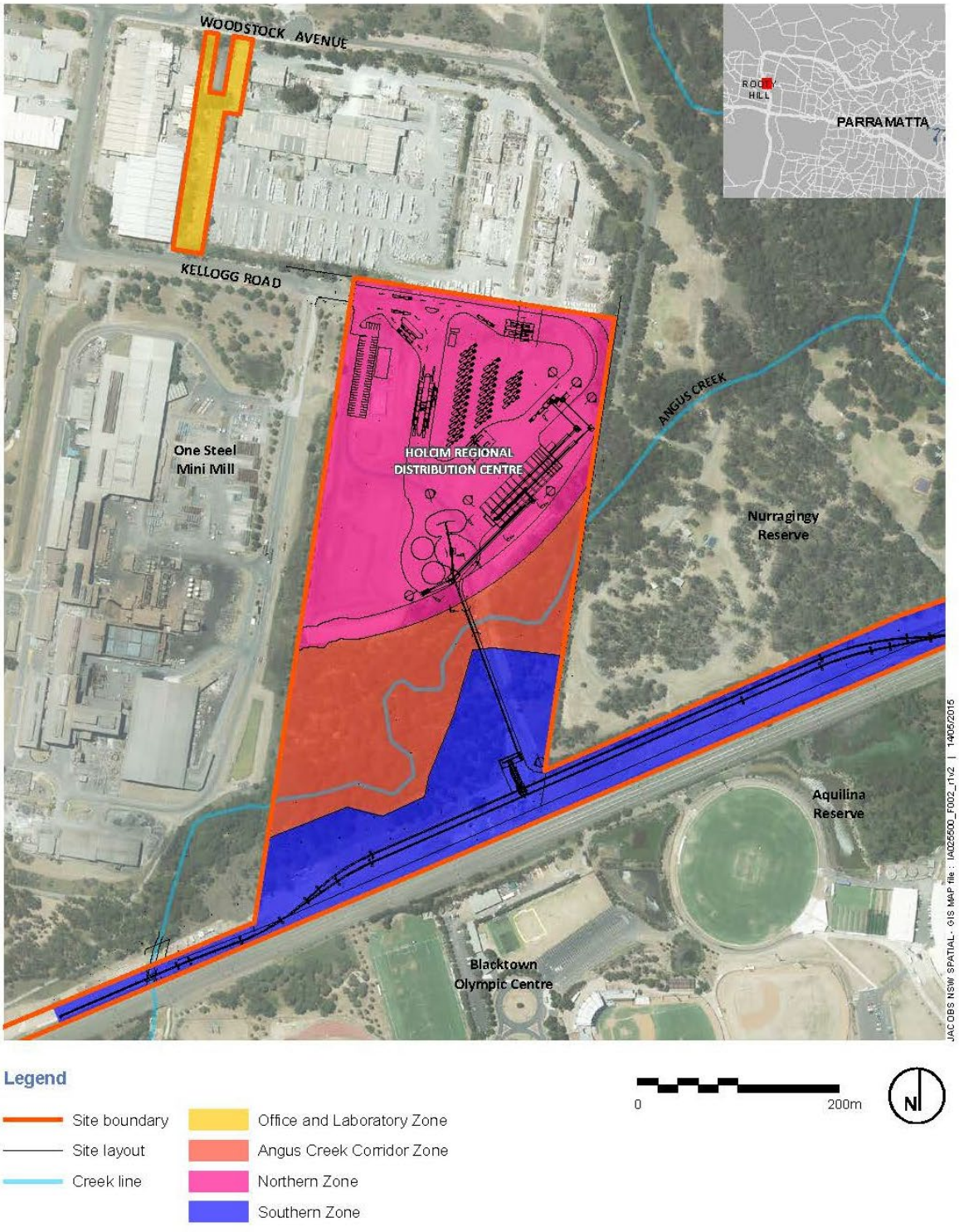

Figure 5: Site Soil and Water Management Zones

Table 11: Soil and Water Management Plan

Mitigation Measure ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
SWMP 1	**Compliance Requirements**	RHDC will comply with Section 120 of the *Protection of the Environment Operations Act 1997 (POEO Act)* which prohibits the pollution of waters. The definition provided in the *POEO Act* for a pollution incident state: *An incident that occurred, is occurring or is likely to occur where there is likely to be a leak, spill or other escape or deposit of a substance.*	SM	At all times	05_0051 - Condition 2.29, Condition 5.5(c)
SWMP 2		All works within or connected to Angus Creek are operated and maintained in compliance with: a) the Department of Primary Industries Water's *Draft Guidelines – Watercourse Crossing Design & Construction* b) NSW Fisheries' *Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (2004)* c) *Policy and Guidelines for Fish Friendly Waterway Crossings (2004)*	SM	At all times	05_0051 - Condition 2.30, Condition 5.5(c)
SWMP 3	**Stormwater**	All stormwater management infrastructure will be maintained, and consideration given to the applicable components of the following: a) restriction of future stormwater flows to existing flow levels or better b) minimising the discharge of sediments and other pollutants from the Site. This must include the use of gross pollutant traps to screen captured stormwater prior to discharge c) prevention of the drainage of stormwater onto neighbouring properties and adjoining roadways d) prevention of overloading Council's stormwater infrastructure by site discharges during heavy rainfall events e) Guidelines: All drainage and sediment controls will be designed and maintained in accordance with: - Council's *On-Site Stormwater Detention Policy (2005)* - Landcom's *Managing Urban Stormwater: Soils and Conservation*, *4TH edition March 2004* - Landcom's *Managing Urban Stormwater Soils and Construction: Volume 2D Main Road Construction 2008*	SM	At all times	05_0051 - Condition 2.31, Condition 5.5(c) SoC – Item 7 (Water Resources)

Mitigation Measure ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
		- Upper Parramatta River Catchment Trust's *Sensitive Urban Design Technical Guidelines for Western Sydney 2004*. - New South Wales Government's *Best Practice Guidelines for Contaminated Water Retention and Treatment Systems 1994* - The Blacktown Development Control Plan (2015) *Water Sensitive Urban Design and Integrated Water Cycle Management*			
SWMP 4	**Recycled Water and Systems**	Where practicable, water management systems should be maintained/serviced and provide: a) separation of the Site's "clean" and "dirty" areas b) a first flush system to ensure "dirty" water is captured in accordance with DEC guidelines c) passing of "clean" stormwater through sediment traps and Humeceptors before entering open drains and swales d) minimised demand for fresh water supply by storing and recycling water collected onsite e) drainage and sediment control for the operation maintained in accordance with the Landcom's *Managing Urban Stormwater: Soils and Conservation*, *4TH edition March 2004, Department of Housing Guidelines (1998)* and *Department of Land and Water Conservation Urban Erosion and Sediment Control Guidelines (1992)*	SM	At all times	SoC – Item 5.2

<table>
<tr><th>Mitigation Measure ID</th><th>Item</th><th>Management Strategy</th><th>Person Responsible</th><th>Timing/ Frequency</th><th>Reference/ Notes</th></tr>
<tr><td>SWMP 5</td><td>Monitoring</td><td>Monitoring results will be compared to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC) 2000 Guidelines to assess the effectiveness of the site’s soil and water management strategies.

The water quality monitoring will be assessed against the ANZECC default trigger levels for lowland streams, as seen below. Monitoring will also record water temperature.

Physio-Chemical Criteria:
<table>
<tr><th>Parameter</th><th>Measure</th><th>Default Trigger Level</th></tr>
<tr><td>Electrical Conductivity</td><td>µS/cm</td><td>125 - 2200</td></tr>
<tr><td>Turbidity</td><td>NTU</td><td>6 - 50</td></tr>
<tr><td>pH</td><td>pH</td><td>6.5 - 8</td></tr>
<tr><td>Dissolved Oxygen</td><td>%</td><td>80 - 110</td></tr>
</table>
Nutrient Criteria:
<table>
<tr><th>Parameter</th><th>Measure</th><th>Default Trigger Level</th></tr>
<tr><td>Total Phosphorous</td><td>(mg/L)</td><td>50</td></tr>
<tr><td>Total Nitrogen</td><td>(mg/L)</td><td>500</td></tr>
<tr><td>Nitrogen Oxides</td><td>(mg/L)</td><td>20</td></tr>
</table></td><td>SER and Monitoring Contractors</td><td>Quarterly</td><td>05_0051 – 2.28A(b) SoC – Item 15.3</td></tr>
<tr><td>SWMP 6</td><td></td><td>AUSRIVAS method macroinvertebrate monitoring will be undertaken by a suitably qualified contractor. This monitoring will occur twice annually, in Autumn and Spring.
Macroinvertebrate reporting will record the SIGNAL2 Score and Number of Taxa at each sampling site (AE1 – AE6).</td><td>Monitoring Contractors</td><td>Autumn and Spring</td><td>SOC – Item 7.5</td></tr>
<tr><td>SWMP 7</td><td>Inspections</td><td>Visual inspections to identify potential water or runoff issues over the south and north catchment area.</td><td>SM</td><td>Monthly</td><td>05_0051 – Condition 5.5(c)</td></tr>
<tr><td>SWMP 8</td><td>Corrective Actions</td><td>In the event of a non-compliance, or exceedance, the Site Manager will provide an initial notification to the DPIE for that event as soon as practicable. An investigation into the event will begin including the development of a CAP. Incident details will be documented in the Holcim Incident Management System</td><td>SM or SER</td><td>As soon as practical after the non-compliance,</td><td>05_0051 – 5.5(c)</td></tr>
</table>

Mitigation Measure ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
		(INX). The contingency measures taken to rectify or address the event will be recorded. A written report on an incident will be provided to DPIE within seven days of detecting the incident. The written report will include the following information as a minimum: a) the time, date, nature, duration and location of the incident, b) the location of the place where pollution is occurring or is likely to occur, c) the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known, d) the circumstances in which the incident occurred (including the cause of the incident, if known), e) the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known All environmental incidents will be reported in the applicable Annual Review. Learnings from incidents will be recorded and incorporated into future programs and plans to ensure continued improvement.		incident, or exceedance occurs.	
SWMP 9	**Complaints Procedure**	In the event of receiving a complaint, the following details will be collected and entered into the Complaints Register: a) the date and time, where relevant, of the complaint; b) the means by which the complaint was made (telephone, mail or email); c) any personal details of the complainant that were provided, or if no details were provided, a note to that effect; d) the nature of the complaint; e) any action(s) taken by the Proponent in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the Proponent in relation to the complaint, the reason(s) why no action was taken.	SM & SER	In the event of a complaint	05_0051 – Condition 5.5(c)
SWMP 10	**Review**	During the preparation of the Annual Review, the site will assess water and erosion management practices, technology, and mitigation measures from the	SM & SER	Annually	05_0051 – Conditions

Mitigation Measure ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
		previous year including exceedances or incidents. Any improvement actions will be incorporated into relevant programs or plans.			2.8, 2.8A, 6.3

3.5.1 Aquatic Ecology and Water Quality Monitoring Program

The Development Consent refers to Aquatic Ecology in Condition 2.28A, stating:

> *The Proponent must monitor aquatic ecology in Angus and Eastern Creeks as outlined in the Statement of Commitments, and must expand this monitoring program to:*
> *a) ensure that baseline data is collected, including commencement of sampling not less than six months before commencement of construction and the use of control sites;*
> *b) include monitoring of water quality and aquatic ecology at four locations within Nurragingy Reserve;*
> *c) not include the site sampled on Eastern Creek ("E01" – in Technical Report 4 of the EAR) as a monitoring site, but use at least two other locations; and*
> *d) make provision for monitoring in relation to wet and dry periods.*

RHDC will undertake aquatic ecology and water quality monitoring at six locations across the Nurragingy Reserve, Angus Creek Corridor and Eastern Creek. Monitoring will continue in dry and wet periods with monitoring reports summarising the rainfall prior to sampling events to give context for the interpretation of results.

Water quality monitoring will be done on a quarterly basis by a suitably qualified expert at six locations on Angus Creek and Eastern Creek. The parameters to be tested include:

- pH (units)
- Turbidity (NTU)
- Temperature (°C)
- Dissolved oxygen (DO) (% saturation, mg/L)
- Electrical conductivity (EC) (µS/cm)
- Total nitrogen (TN) (mg/L)
- Total phosphorus (TP) (mg/L)

Monitoring results will be compared to the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality (*ANZECC*) 2000 Guidelines*, with trigger values presented in **Table 11**.

AUSRIVAS macroinvertebrate monitoring will be undertaken in Autumn and Spring of each year.

The monitoring points used for both aquatic ecology and water quality are described in **Table 12** and shown in **Figure 6**.

Table 12: Monitoring Points for Aquatic Ecology, Water Quality, and Riparian Vegetation Monitoring

Monitoring Point	Description
AE1	On Angus Creek. Upstream of site. Located at point where creek flows onto site. Control site.
AE2	On Angus Creek. Downstream of site. Located immediately downstream of site, in Nurragingy Reserve.
AE3	On Angus Creek. Downstream of site. Located immediately before confluence of Eastern and Angus Creek, in Nurragingy Reserve.
AE4	On Eastern Creek. Downstream of site. Located after/downstream of confluence of Eastern and Angus Creek, in Nurragingy Reserve.
AE5	On Eastern Creek. Located upstream of confluence of Eastern and Angus Creek, in Nurragingy Reserve. Control site.
AE6	On Angus Creek. Upstream of rail siding and site. Control site.

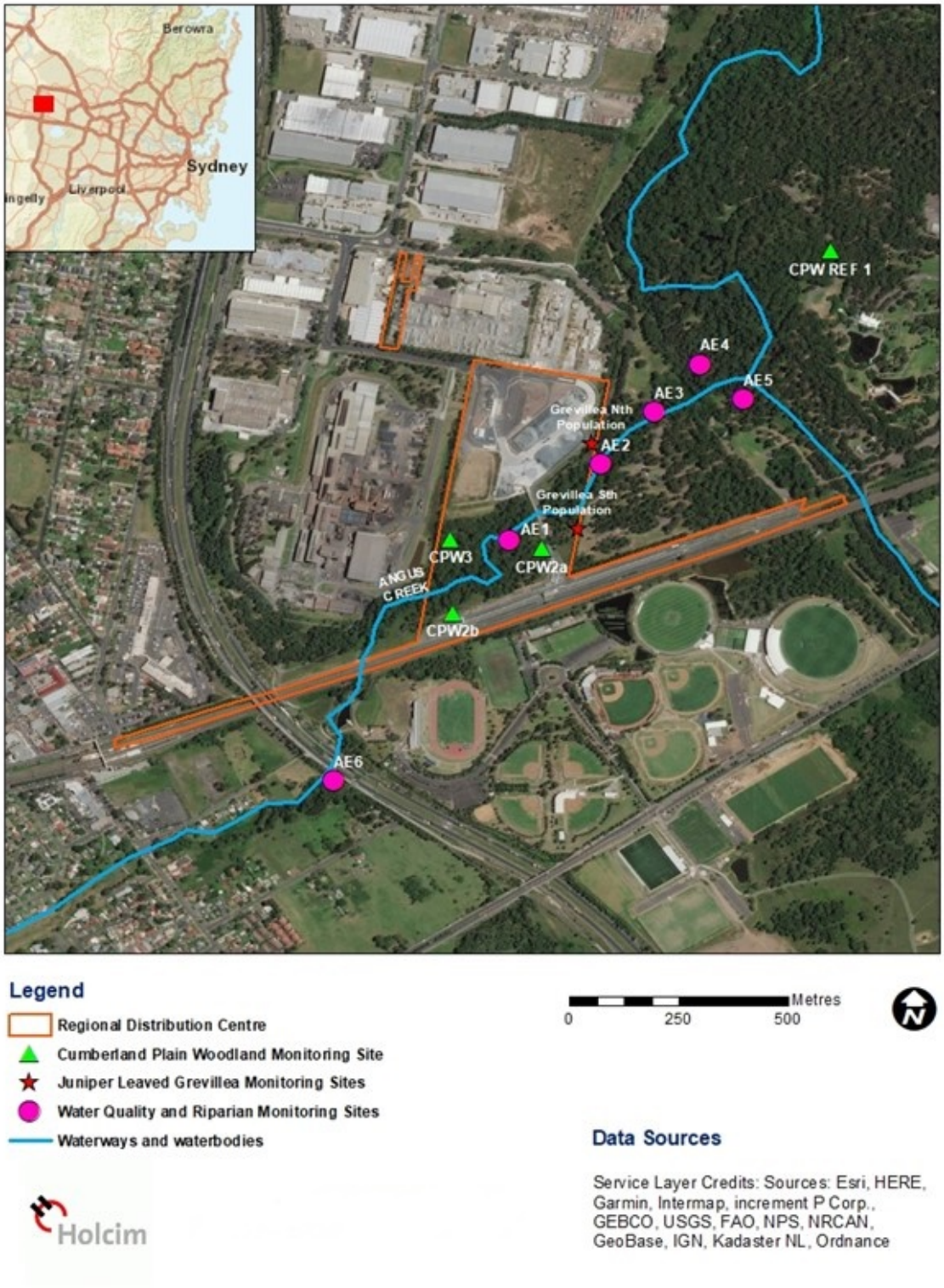

Figure 6: RHDC Monitoring Locations for Aquatic Ecology and Vegetation Monitoring

3.6 Energy Saving Management Plan

Item 8 of the Statement of Commitments (2011 Modification) states the following:

> *Holcim will develop and implement an Energy Saving Management Plan (ESMP) as part of the Operation Environmental Management Plan. The ESMP will review energy usage, identify energy savings opportunities, and based on this, will implement viable energy saving measures.*

The ESMP for RHDC is outlined below in **Table 13**. RHDC will implement the energy-saving measures outlined under the management strategy from the approval of this OEMP.

Review of RHDC Energy Usage

The 2005 Greenhouse Gas Environmental Impact Assessment (GHGEIA) predicted RHDC to produce 168,938 tonnes of carbon dioxide equivalent ($CO_{2\text{-}e}$) during its operation. Some of the operational activities which contribute to the emissions of RHDC include the truck transport of product (Scope 1), consumption of electricity, and associated but indirect activities of cement producers and outsourced transportation (Scope 2). The 2010 GHGEIA predicted that RHDC would consume 127,246 GJ of energy annually.

Energy saving opportunities will be identified over the lifetime of the project through monitoring, inspections, and internal auditing against:

- SHE Guideline 4.4 Energy and resource conservation;
- Holcim Energy Saving Guide – Aggregates and Ready-Mix;
- Holcim Corporate Energy Efficiency Opportunities (EEO);
- *National Greenhouse and Energy Reporting (BGER) Act 2007; and*
- *Clean Energy Act (2011).*

Table 13: Energy Saving Management Plan

Mitigation ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference
ESMP 1	Energy Efficiency Opportunity Program	Include the Rooty Hill RDC in the corporate Energy Efficiency Opportunity (EEO) program.	SER	As soon as possible.	SoC (2011 MOD) – Item 8
ESMP 2	GHGEIA	Investigate the feasibility of substituting diesel fuel for biodiesel in fleet vehicles and plant	SER	Ongoing.	Proactive
ESMP 3		Consider energy efficiency as part of the procurement process in Section 2.6 of GHGEIA.			
ESMP 4	Maintenance	Seal any air leaks in compressed air systems.	SER & SM	At all times.	SHE Guideline 4.4
ESMP 5	Lighting	Implement lighting timers and motion sensors where safe and effective to do so.	SER & SM	At all times.	SHE Guideline 4.4
ESMP 6	Equipment	Implement, where reasonable and feasible, variable speed drives, voltage reduction and power factor correction equipment.	SER & SM	At all times.	SHE Guideline 4.4
ESMP 7	Computers	Use Standby and sleep modes on computer equipment.	SER & SM	At all times.	SHE Guideline 4.4
ESMP 8	Equipment Servicing	Regularly service equipment for combustion efficiency.	SER & SM	At all times.	SHE Guideline 4.4

3.7 Vegetation Management Plan

Condition 5.5 of the Development Consent requires a Vegetation Management Plan (VMP) to be included in the OEMP. Condition 2.24 of the Development Consent requires the Vegetation Management Plan to fulfil the following:

> *Prior to the commencement of any construction activities, the Proponent must prepare to the satisfaction of the DPI Water and OEH, a Vegetation Management Plan in accordance with the DPI Water guidelines* How to Prepare a Vegetation Management Plan – Version 4 *and* Watercourse and Riparian Zone Rehabilitation Requirements *as well as* OEH Recovering Bushland on the Cumberland Plain*. The Plan must include drawings that clearly show vegetation to be retained/removed, plant material to be used for rehabilitation, densities and species mix for areas to be rehabilitated, establishment methods, sequencing of tasks, maintenance and performance monitoring. Site rehabilitation and maintenance is to be carried out in accordance with the Plan, and the DPI Water is to be advised of the person responsible for any seed or vegetative propagation prior to the commencement of that propagation. The Proponent must implement the management plan as approved from time to time by the Secretary.*

Table 14 outlines a summary of the Vegetation Management Plan for RHDC. Refer to **Appendix 1** of this OEMP for the complete Vegetation Management Plan. To fulfil Condition 2.24 of the Development Consent, the VMP has been kept separate from the body of this OEMP due to its length and significance.

The following has been completed at site in relation to the Vegetation Management Plan:

- Clearing of the project site was completed in 2013 and primarily consisted of the northern management zone.
- The project started its operational phase in 2015, with operational vegetation and landscape management activities beginning simultaneously.
- Revegetation activities (planting and seeding) ceased in 2017.

Currently, revegetated areas are maintained with weeding and plant growth and success is monitored. Monitoring will continue to occur for the four Management Zones (as seen in **Figure 7**) at an annual rate.

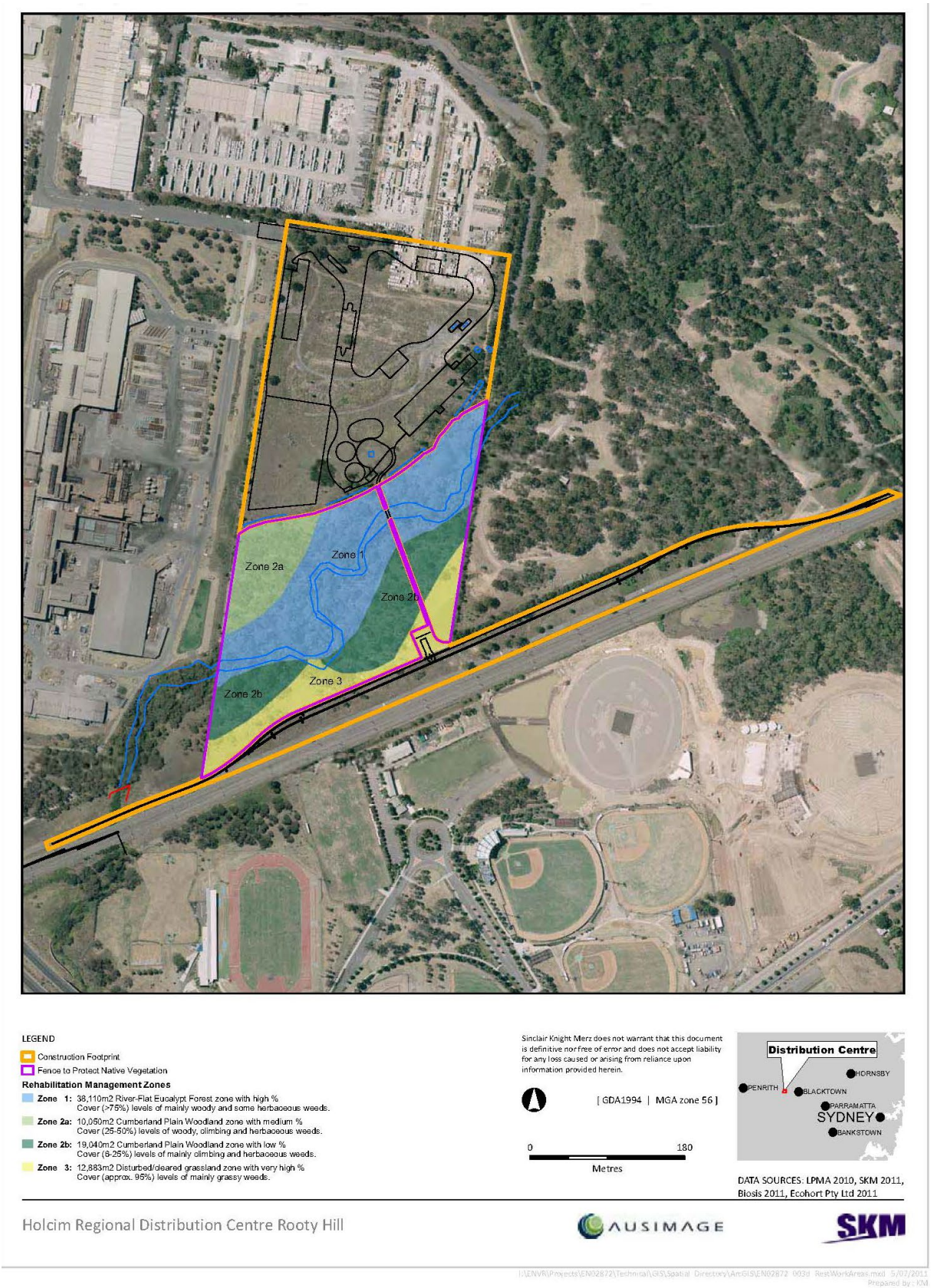

Figure 7: RHDC Rehabilitation and Vegetation Management Zones

Table 14: Vegetation Management Plan Summary

Mitigation Measure ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
VMP 1	**Management Zones**	Prior to the commencement of construction, the site was divided into four management zones: **Zone 1** – River Flat Eucalypt Forest EEC with high density (>75%) of woody and herbaceous herbs (approx 3.8ha) – moderate resilience. This zone also includes the protection of the threatened Juniper-leaved Grevillea. **Zone 2a** – Cumberland Plain Woodland critically endangered ecological community with medium density (25-50%) of woody, climbing and herbaceous weeds (approx 1ha) – moderate resilience **Zone 2b** – Cumberland Plain Woodland critically endangered ecological community with low density (6-25%) of mainly climbing and herbaceous weeds (approx 1.9ha) – high resilience **Zone 3** – Disturbed /cleared grassland zone with very high density (95%) of mainly grassy weeds (approx. 1ha) – low resilience. This is also the site of the Cumberland Plain Woodland Ecological Offset.	Noted	Prior to construction (clearing completed)	
VMP 2		Works, vehicle movement or placing of plant and equipment is not permitted within vegetated zones.	All persons	At all times	Pro-active measure
VMP 3	**Riparian Zone**	A 20-metre core riparian zone (CRZ) for Angus Creek with a vegetated buffer (VB) of at least 10 metres, must be maintained to protect the riparian corridor from degradation.	SM	At all times	
VMP 4	**Rehabilitated and revegetated areas**	All rehabilitated and revegetated areas of the Site must be maintained and monitored for a period of at least 5 years from when plants are of tube stock size and are at densities specified in the approved Vegetation Management Plan.	SM SER	>5 years	05_0051 - Condition 2.25 SoC – Item 7.4
VMP 5	**Maintenance**	An assessment of vegetated zones (including riparian areas) must be undertaken on a quarterly basis to determine if maintenance (repair or replacement) is required. The assessment must include: • Sediment and erosion controls; • watering • weed control • replacement of plant losses • disease and insect control	SER Ecologist	Quarterly	05_0051 - Condition 2.25

Mitigation Measure ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
		• protection from any mowing or slashing on adjacent land • mulching and any other requirements necessary for achieving successful vegetation establishment			
VMP 6	**Seed or vegetation propagation**	Prior to the commencement of any seed or vegetative propagation on Site, the Department of Primary Industries and Water (DPI Water) is to be advised of who is undertaking these activities.	SER	As required	05_0051 - Condition 2.24
VMP 7	**Juniper-leaved Grevillea**	A planting exclusion zone of 10m must be maintained around the Juniper-leaved Grevillea. Works, vehicle movement or placing of plant and equipment is not permitted within these zones.	SM	At all times	Pro-Active Measure
VMP 8		The integrity of the Juniper-leaved Grevillea on site must be monitored on a quarterly basis. Once the population size has remained stable, monitoring can be reduced to 6-monthly.	SER Ecologist	Quarterly	05_0051 - Condition 2.25
VMP 9	**Cumberland Plain Woodland**	The integrity of the Cumberland Plain Woodland on Site must be monitored on a quarterly basis. Once the population size has remained stable, monitoring can be reduced to 6-monthly.	SER Ecologist	Quarterly	05_0051 - Condition 2.25
VMP 11	**Weed Management**	Weed management will be undertaken as per the weed control program in the VMP to prevent the spread of weed species into the vegetated zones.	SM Weed Contractor	Quarterly	SoC – Item 7.4
VMP 12	**Monitoring Report**	A monitoring report outlining the performance of planting that has been undertaken, will be submitted to the Department every year for the duration of the maintenance period (5 years from final planting).	SER Ecologist	Annual	05_0051 - Condition 2.26
VMP 13		With each monitoring report, the person implementing the VMP (SKM) must certify in writing that plantings have been carried out using stock propagated from seed or plant material collected only from native plants from the local botanical provenance.	SER Ecologist	Annual	05_0051 - Condition 2.26
VMP 14	**Corrective Actions**	In the event of a non-compliance, or exceedance, the Site Manager will provide an initial notification to the DPIE for that event as soon as practicable. An investigation into the event will begin including the development of a CAP. Incident details will be documented in the Holcim Incident Management System (INX). The contingency measures taken to rectify or address the event will be recorded.	SM or SER	As soon as practical after the non-compliance, incident, or exceedance occurs.	05_0051 – Condition 2.24

Mitigation Measure ID	Item	Management Strategy	Person Responsible	Timing/ Frequency	Reference/ Notes
		A written report on an incident will be provided to DPIE within seven days of detecting the incident. The written report will include the following information as a minimum: f) the time, date, nature, duration and location of the incident, g) the location of the place where pollution is occurring or is likely to occur, h) the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known, i) the circumstances in which the incident occurred (including the cause of the incident, if known), j) the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known All environmental incidents will be reported in the applicable Annual Review. Learnings from incidents will be recorded and incorporated into future programs and plans to ensure continued improvement.			
VMP 15	**Complaints Procedure**	In the event of receiving a complaint, the following details will be collected and entered into the Complaints Register: g) the date and time, where relevant, of the complaint; h) the means by which the complaint was made (telephone, mail or email); i) any personal details of the complainant that were provided, or if no details were provided, a note to that effect; j) the nature of the complaint; k) any action(s) taken by the Proponent in relation to the complaint, including any follow-up contact with the complainant; and l) if no action was taken by the Proponent in relation to the complaint, the reason(s) why no action was taken.	SM & SER	In the event of a complaint	05_0051 – Condition 2.24
VMP 16	**Review**	During the preparation of the Annual Review, the site will assess water and erosion management practices, technology, and mitigation measures from the previous year including exceedances or incidents. Any improvement actions will be incorporated into relevant programs or plans.	SM & SER	Annually	05_0051 – Condition 2.24

4.0 Operational Monitoring Plan

Condition 3.1 of the Development Consent requires Holcim to prepare an Operational Monitoring Plan which includes a Noise Monitoring Program, Ambient Dust Monitoring Program, and Transport Monitoring Program. This section and the relevant Management Plan sections fulfills this Condition by outlining RHDC's monitoring program for noise, air quality, and transport. Water quality and aquatic ecology are also included in RHDC's Operational Monitoring Plan. A summary of environmental monitoring at the site is provided in **Table 15.**

Table 15: RHDC Monitoring Program Summary

<table>
<tr><th>Element</th><th>Frequency</th><th>Parameters/Limits</th><th>Reference</th></tr>
<tr><td>Local Meteorological Conditions</td><td>Continuous</td><td>Meteorological parameters:
○ Daily air temperature
○ Solar radiation
○ Daylight hours
○ Daily rainfall
○ Daily evaporation
○ Continuous wind speed and direction</td><td>SoC - Items 3.3,15.3
05_0051 – Condition 2.8A</td></tr>
<tr><td rowspan="2">Noise</td><td>In the event of a complaint</td><td>• Must not exceed maximum noise contributions below, drawn from the Development Consent.
<table>
<tr><th rowspan="2">Location</th><th>Morning Shoulder (6am – 7am Monday to Saturday and 6am – 8am Sundays and Public Holidays)</th><th>Day (7am – 6pm Monday to Saturday and 8am – 6pm Sundays and Public Holidays)</th><th>Evening (6pm – 10pm Monday to Sunday)</th><th colspan="2">Night (10pm – 7am Monday to Saturday and 10pm – 8am Sunday)</th></tr>
<tr><th>LAeq(15 minute) (dB(A))</th><th>LAeq(15 minute) (dB(A))</th><th>LAeq(15 minute) (dB(A))</th><th>LAeq(15 minute) (dB(A))</th><th>LA1(1 minute) (dB(A))</th></tr>
<tr><td>Any residences in Station Street</td><td>39</td><td>44</td><td>44</td><td>39</td><td>53</td></tr>
<tr><td>Any Residences in Crawford Road</td><td>40</td><td>40</td><td>39</td><td>39</td><td>53</td></tr>
<tr><td>Nurragingy Reserve</td><td colspan="5">When the Reserve is in use – L_{Aeq} 50 dB(A)</td></tr>
<tr><td>Blacktown Olympic Park (active recreation areas)</td><td colspan="5">When active recreational areas of the Park are in use – L_{Aeq} 55 dB(A)</td></tr>
</table></td><td>05_0051 - Conditions 2.3, 2.4, 2.6, 2.7, 5.5(a).</td></tr>
<tr><td>Annual (forming part of the annual</td><td>• Best Management Practice (BMP) and Best Available Technology Economically Achievable (BATEA).</td><td>05_0051 – Conditions 2.7</td></tr>
</table>

Element	Frequency	Parameters/Limits	Reference
	auditing process)	• Annual noise monitoring proposed from 2021 onwards, given the EPL conditions regarding monitoring do not apply to the site since the EPL's surrender in 2020.	
Dust	Continuous	• Must not exceed maximum particulate matter emissions specified in *Table 13 Air Quality Criteria* • Continuous ambient dust monitoring (PM_{10}). • Ambient dust monitoring must employ methods under AM-18 or AS3580.9.8 • Holcim will also undertake an internal audit in the event of a complaint and during the preparation of the RHDC Annual Review of air quality monitoring results. • Daily visual monitoring of air quality and dust will be undertaken by the SM in order to implement mitigation strategies if required.	05_0051 - 2.8A, 2.10, 3.1b, & 5.5. SoC - Items 4.4, 4.7
Transport	Daily	• Daily pre-start inspections of vehicles are the responsibility of all drivers.	05_0051 – 3.1c
	At random	• "Spot" audits done by the SM at random to assess transport movements and driver behaviour against the Traffic Management Plan and the Driver's Code of Conduct. • SM will inspect the roads adjacent to the site to determine whether site personnel are parking vehicles in the local road network.	05_0051 – 2.11 05_0051 – 3.1c SoC – Item 4
	Weekly	• Transport records will be reviewed by the SM at least weekly to assess transport movements and assess the performance of the site against traffic management measures.	05_0051 – 3.1c SoC – Item 4
	Monthly	• Monthly visual monitoring will be undertaken by the SM to assess Conditions 2.9 and 2.10 of the Development Consent.	05_0051 – 3.1c
	Quarterly	• Quarterly visual monitoring of adjacent road networks including at Power Street & Glendenning Road, Woodstock Avenue and Glendenning Road, and Woodstock Avenue and Kellogg Road.	05_0051 – 2.11 05_0051 – 3.1c
	Annual	• Annual internal review of the results of monitoring during the preparation of the Annual Review to manage compliance with the Development Approval.	05_0051 – 3.1c
Aquatic Ecology	Quarterly	• Visual assessment of habitat condition and aquatic vegetation • Angus Creek Corridor monitored during the rehabilitation stage • Provisions for monitoring in wet and dry periods include the recording of local rainfall prior to sampling. Sampling will be undertaken in wet periods as well as dry periods.	05_0051 - Conditions 2.28A SoC - Items 7.5 & 15.3
	Every Spring and Autumn	• Macroinvertebrate monitoring using the AUSRIVAS method at Angus Creek Corridor monitoring points shown in **Figure 6**.	05_0051 - Conditions 2.28A

<table>
<tr><th>Element</th><th>Frequency</th><th>Parameters/Limits</th><th>Reference</th></tr>
<tr><td></td><td></td><td></td><td>SoC - Items 7.5 & 15.3</td></tr>
<tr><td>Vegetation</td><td>Annual</td><td>• All rehabilitated and revegetated areas of the site must be maintained and monitored for a period of at least 5 years from when plants are of tube stock size and are at densities specified in the Vegetation Management Plan.
• Must submit a monitoring report addressing performance criteria in the Vegetation Management Plan immediately after completion of initial planting/seeding and every year thereafter for the duration of the maintenance period.
• Weed, bush regeneration and erosion management.

Refer to the Holcim Vegetation Management Plan (2021).</td><td>05_0051 - Conditions 2.25, 2.26
SoC - Item 7.4 Vegetation Management Plan (2021)</td></tr>
<tr><td>Water Quality</td><td>Quarterly</td><td>Parameters measured include:
○ pH
○ Dissolved Oxygen
○ Temperature
○ Electrical Conductivity
○ Turbidity
○ Total Nitrogen
○ Total Phosphorus

Monitoring results will be compared to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC) 2000 Guidelines to assess the effectiveness of the site’s soil and water management strategies.

The water quality monitoring will be assessed against the ANZECC default trigger levels for lowland streams, as seen below. Monitoring will also record water temperature.

Physio-Chemical Criteria:
<table>
<tr><th>Parameter</th><th>Measure</th><th>Default Trigger Level</th></tr>
<tr><td>Electrical Conductivity</td><td>µS/cm</td><td>125 - 2200</td></tr>
<tr><td>Turbidity</td><td>NTU</td><td>6 - 50</td></tr>
<tr><td>pH</td><td>pH</td><td>6.5 - 8</td></tr>
<tr><td>Dissolved Oxygen</td><td>%</td><td>80 - 110</td></tr>
</table></td><td>05_0051 – Condition 2.28A b)</td></tr>
</table>

<table>
<tr><th>Element</th><th>Frequency</th><th>Parameters/Limits</th><th>Reference</th></tr>
<tr><td></td><td></td><td>Nutrient Criteria:<table><tr><th>Parameter</th><th>Measure</th><th>Default Trigger Level</th></tr><tr><td>Total Phosphorous</td><td>(mg/L)</td><td>50</td></tr><tr><td>Total Nitrogen</td><td>(mg/L)</td><td>500</td></tr><tr><td>Nitrogen Oxides</td><td>(mg/L)</td><td>20</td></tr></table></td><td></td></tr>
<tr><td></td><td>Always</td><td>• Management of all storm water to minimise discharge of sediments and other pollutants from the site.
• Material harm caused by the pollution of water is prohibited.</td><td>SoC – Item 7
05_0051 - Condition 2.29
05_0051 – Condition 2.31b</td></tr>
</table>

Element	Frequency	Parameters/Limits	Reference
Energy Saving	Ongoing and Annually	Identify, evaluate and implement energy saving opportunities on an annual basis. A procedure for completing the task is as follows: 1. Assess current state using 12 months of energy usage data to identify the existing baseline energy use (conduct energy audit – internal/external). Completed. 2. Involve senior management levels at the outset to gain commitment and understanding (Energy Management Review). 3. Complete a technical review to break down energy usage at the site to determine what equipment and processes are consuming energy. This might include: a) Energy consumption patterns and levels, b) Description of energy use, operating, maintenance and cleaning procedures, c) Working hours, start-up/shutdown procedures. 4. Use the information captured to identify measures to improve efficiency and reduce cost, considering opportunities to: a) improve operating and maintenance procedures, b) utilise alternative energy sources, c) maximise cost-effective energy efficiency improvements within capital upgrades, operating procedures and process changes. 5. Assess cost effectiveness of each savings measure based on, for example, an internal rate of return over 10 years. Savings measures can be grouped depending on the financial assessment: a) Cost effective (exceed hurdle rate of return such as little of no capital cost measures), b) Potentially cost-effective (where access to funding through grants may become cost effective). 6. Measure and verify savings. 7. Review goals and targets.	SoC8 (2011 MOD) SHE Guideline 4.4

5.0 Implementation and Operation

Management of the site's environmental schedules including forms, records, reports or registers will be undertaken in Holcim's Safety Health Environment Management System. Examples of plans that may be used on site include:

- Site Inspection Checklist
- Complaints Report
- Complaints Register
- Environmental Incident Notification
- Training Register
- Monitoring Checklist
- Audit Report

5.1 Environmental Management Structure and Responsibility

Environmental management is the responsibility of all employees and contractors who undertake activities at RHDC. **Table 16** below, provides a summary of the key roles and responsibilities associated with the site, however a more detailed list can be found in Holcim's SHEMS.

Table 16: Roles and Responsibilities

Title	Responsibility
Site Manager (SM)	• Provide adequate resources to ensure effective development, implementation of this OEMP. • Ensure that environmental considerations are incorporated into induction and training programs. • Ensuring site personnel, including contractors, are compliant with the OEMP. • Ensuring all documentation requirements are completed and are easily accessible. • Support the SER in receiving and responding to complaints and inquiries in relation to the environmental performance of operations. • Ensuring the timely and effective implementation of any corrective measures. Site Manager details are provided below: Site Office: (02) 8886 540
Shift Supervisor (SS)	• Implementation of the OEMP. • Ensuring their individual areas of control and associated personnel comply with the requirements of this OEMP. • Ensuring site contractors and staff are compliance with the OEMP. • Reporting environmental incidents to the SER and/or SM. • Undertaking corrective actions, audits, inspections, and other activities as recommended by the SER and/or SM.
Site Environmental Representative (SER)	• Providing the material for the correct induction and training of all employees, contractors, and consultants. • Supporting the Site Supervisors in site operations and contractors comply with all policies and procedures. • Investigating complaints and implementing corrective actions. • Conducting and/or initiating reviews and audits of environmental performance of this OEMP. • Ensuring all environmental monitoring is undertaken as required. • Action amendments to practices, initiating studies and amending plans. • Reporting as required to the authorities.

Title	Responsibility
Employees, Contractors and Consultants	• Conduct their activities in accordance with the requirements of this OEMP. • Follow all environmental procedures. • Participate in training related to environmental awareness. • Report environmental incidents to the SM or delegate and participate in the investigation and corrective action required to reduce environmental harm or the re-occurrence of the incident.

5.2 Complaints Management

The Development Consent states:

> *4.2 Prior to the commencement of construction of the project, the Proponent must ensure that the following are available for community complainants for the life of the project (including construction and operation):*
>
> *a) a telephone number on which complaints about construction and operational activities at the site may be registered;*
> *b) a postal address to which written complaints may be sent; and*
> *c) an email address to which electronic complaints may be transmitted.*
>
> *The telephone number, the postal address and the email address must be displayed on a sign near the entrance to the site, in a position that is clearly visible to the public, and which clearly indicates the purposes of the sign.*
>
> *4.3 The Proponent must record details of all complaints received through the means listed under condition 4.2 of this approval in an up-to-date Complaints Register. The Register must record, but not necessarily be limited to:*
>
> *a) the date and time, where relevant, of the complaint;*
> *b) the means by which the complaint was made (telephone, mail or email);*
> *c) any personal details of the complainant that were provided, or if no details were provided, a note to that effect;*
> *d) the nature of the complaint;*
> *e) any action(s) taken by the Proponent in relation to the complaint, including any follow-up contact with the complainant; and*
> *f) if no action was taken by the Proponent in relation to the complaint, the reason(s) why no action was taken.*
>
> *The Complaints Register must be made available for inspection by the Secretary upon request.*

In accordance with Condition 4.2 of the Development Consent, under Complaints Procedures, RHDC will display signage outlining contact details for community complaints and enquiries at the main entrance to the site. The signage will indicate its purpose for complaints regarding the site and/or its operations and include a telephone number, postal address, and email address.

As per Condition 4.3 and in conjunction with the General Site Management Plan (**Section 3.1**), all complaints will be recorded in a Complaints Register with key information. The Complaints Register will be regularly updated and made publicly available on the Holcim (Rooty Hill) website (below).

https://www.holcim.com.au/about-us/community-link/regional-distribution-centre-rdc-rooty-hill-nsw

5.3 Environmental Training

Specific training will be provided to employees dealing with hazardous materials, operating new or major plant equipment with potential environmental impacts or that have environmental management as part of their role. All employees will be given training relevant to their duties.

Training records will be stored on site and in Holcim online training records database. This data base is the primary online tool for tracking individual staff training records and frequency for training and refresh courses.

All contractors will be required to have training sufficient for their duties. The contractor must ensure they provide sufficient proof of training and accreditation prior to undertaking work.

5.3.1 Training Awareness and Competence

Two main forms of training will be provided on site:

- Site induction for all employees and contractors – this includes environmental awareness training; and
- “Toolbox” talks held regularly updating employees on environmental issues and risk.

Records of induction, specific training and toolbox talks will be kept as part of the Holcim safety health and environment (SHE) management system. The records will include the type of training carried out, dates, names and trainer details. Inductees will be required to sign off that they have been informed of the environmental issues.

6.0 Reporting and Review

The site will undertake reporting in accordance with Section 6 - Environmental Reporting of the Development Consent. RHDC is committed to implementing reasonable and feasible best practice and investigating ways to minimise operational impacts and incidents.

6.1 Incident Reporting

Condition 6.1 of the Development Consent relates to incident reporting and states:

> *The Proponent must notify the EPA and the Secretary of any incident with actual or potential significant adverse off-site impacts on people or the biophysical environment as soon as practicable after the occurrence of the incident ("initial notification"). The Proponent must provide written details ("written report") of the incident to the EPA and the Secretary within seven days of the date on which the incident occurred.*

If an incident occurs, the Site Manager will provide an initial notification to the EPA and the DPIE for that incident as soon as practicable.

The Site Manager (SM) or their delegates are responsible for ensuring incidents are entered into Holcim's report management program, INX, as an event. Each event is assigned a risk rating, corrective actions, and timeframe for completion. The SM will review actions regularly to confirm they are completed and closed out appropriately.

A written report on an incident will be provided to DPIE within seven days of detecting the incident. The written report will include the following information as a minimum:

a) the time, date, nature, duration and location of the incident,
b) the location of the place where pollution is occurring or is likely to occur,
c) the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known,
d) the circumstances in which the incident occurred (including the cause of the incident, if known),
e) the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.

6.2 Annual Performance Reporting

Condition 6.3 of the Development Consent states:

> *The Proponent must, throughout the life of the project, prepare and submit to the Secretary, an Annual Review. The Annual Review must review the performance of the project against the Operation Environmental Management Plan (refer to condition 5.4 and condition 5.5 of this approval), the conditions of this approval and other licences and approvals relating to the project. The Annual Review must include, but not necessarily be limited to:*
>
> *a) details of compliance with the conditions of this approval;*
> *b) a copy of the Complaints Register (refer to condition 4.3 of this approval) for the preceding twelve-month period (exclusive of personal details), and details of how theses complaints were address and resolved;*
> *c) a comparison of the environmental impacts and performance of the project against the environmental impacts and performance predicted in those documents listed under condition 1.1 of this approval;*
> *d) results of all environmental monitoring required under this approval and other approvals, including interpretations and discussion by a suitably qualified person; and*
> *e) a list of all occasions in the preceding twelve-month period when environmental performance goals for the project have not been achieved, indicating the reason for failure to meet the goals and the action taken to prevent recurrence of that type of incident.*

As per Condition 6.3 and 6.4 of the Development Consent, an Annual Review of environmental performance of the site against the OEMP must be undertaken and a report submitted to the DPIE. The review must include, but not necessarily be limited to, the required items of the condition as stated above. The Annual Review will be submitted to the DPIE, EPA, and Council within three months of the Annual Review period or by the end of March of the subsequent year.

6.3 Environmental Auditing

6.3.1 Internal Audits

Internal audits at RHDC will be conducted in accordance with Holcim's national audit program. Internal audits will be conducted and coordinated by the SER. Elements to be audited include:

- Compliance with the Development Consent;
- Compliance with site operating documents; and
- Compliance with Holcim Environmental Standards.

These audits will be undertaken on a frequency in accordance with the Holcim National Audit Schedule.

Resolution of corrective actions and/or observations will be documented within the completed Operational EMS Audit Checklist and actioned to the relevant personnel in Holcim's reporting system.

6.3.2 External Audits

This OEMP notes that Condition 3.3 of the Development Consent requires a Noise Audit to be conducted at the beginning of operations. On 22 and 23 February 2016 Golders Associates conducted an independent noise audit of the site, fulfilling this condition. RHDC will continue to review noise management on an annual basis in conjunction with annual noise monitoring.

Condition 3.5A of the Development Consent states:

> *Within a year of the date of the approval of MOD 2, and every three years thereafter, unless the Secretary directs otherwise, the Proponent must commission and commence, and pay the full cost of an Independent Environmental Audit of the development. This audit must:*
>
> *a) be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;*
> *b) include consultation with the relevant agencies;*
> *c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL or necessary water licences for the development (including any assessment, strategy, plan or program required under these approvals);*
> *d) review the adequacy of strategies, plans or programs required under the abovementioned approvals;*
> *e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, strategy, plan or program required under the abovementioned approvals; and*
> *f) be conducted and reported to the satisfaction of the Secretary.*

Within 3 months from the commencement of the audit, an Environmental Audit Report outlining the findings and recommendations of the audit will be submitted to the Secretary and any other NSW agency that requests a copy. Further details of the IEA are given in **Table 17**.

Table 17: External Audit Requirements

Element	Frequency	Parameters/ Limits	Reference
Independent Environmental Audit	Within a year of the date of the approval of MOD 2, and every three years thereafter, unless the Secretary directs otherwise. Within 12 weeks of commencing an audit under condition 3.5A, or as otherwise agreed by the Secretary, the Proponent must submit a copy of the audit report to the Secretary and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of these recommendations as required.	• Be carried out in accordance with *ISO 19011:2002 - Guidelines for Quality and/or Environmental Management Systems Auditing.* • Assess compliance with the requirements of this approval, and other licences and approvals that apply to the project. • Assess the environmental performance of the project against the predictions made and conclusions drawn in the documents referred to under condition 1.1 of approval. • Review the effectiveness of the environmental management of the project, including any environmental impact mitigation works. • Implement the recommendations from the audit report to the satisfaction of the Secretary.	05_0051 - Condition 3.5, 3.5A, & 3.5B.

6.4 Corrective Action

Non-compliances may be identified by several mechanisms at RHDC including:

- Audits;
- Complaints;
- Site inspections by Government authorities;
- Review of monitoring results;
- Preparation of Annual Reviews; and/or
- Incident reports.

Non-compliances are resolved through corrective actions as well as preventative actions.

Once a non-compliance is identified, the contingency actions summarised in

Table 18 will be undertaken. After the detection of the non-compliance, incident or exceedance, corrective actions will be taken as soon as practicable, a Corrective Action Plan (CAP) will be developed, and incident details will be documented in the Holcim Incident Management System (INX). All environmental incidents will be reported annually in the Annual Review.

Table 18: Corrective Actions

Event	Corrective Action
Exceedance of environmental monitoring criteria	Investigation of exceedance, undertaking mitigating measures where applicable. Report exceedance to DPIE and senior management as required (Section 6.1 Incident Reporting).
Community complaint	Investigation of complaint, undertaking mitigating measures were applicable and provide feedback to the complainant. Report complaint to senior management. Provide feedback to site personnel where relevant.

6.5 OEMP Review and Improvement

Condition 5.6 of the Development Consent states:

> *Within 3 months of the submission of an:*
> *a) incident report under condition 6.1 below;*
> *b) Annual Review under condition 6.3 below;*
> *c) Independent Environmental Audit under condition 3.5 or condition 3.5B above; and*
> *d) any modifications to this consent,*
> *the Proponent must review the strategies, plans and programs required under this consent, to the satisfaction of the Secretary. The Proponent must notify the Department in writing of any such review being undertaken. Where this review leads to revisions in any such document, then within 6 weeks of the review the revised document must be submitted for the approval of the Secretary.*

In terms of Condition 5.6(b), the need to update management plans will be assessed during the preparation of each Annual Review. The review will be undertaken by the SR and SER and address the following:

- Any changes to the site operations;
- Updated risk assessment of environmental impacts;
- Revision of the compliance tracking register;
- Performance against objectives and targets;
- Audit findings and recommendations;
- Corrective actions;
- Monitoring results;
- Staff roles and responsibilities;
- Training requirements; and
- Complaints.

It should be noted that although the OEMP will be reviewed, it will not necessarily be updated. If any updates are completed, the OEMP will be resubmitted to DPIE.

The site team will be notified of any changes relevant to their roles following the review and the revised OEMP will be made available to staff, as well as the public, Council or Government authority once approved. The current approved OEMP will be publicly available on the Holcim website.

7.0 Change Information

Version	Date	Change Summary
1	16 September 2015	Original approved document.
2	November 2020	OEMP Draft document created to reflect general changes to site and the 2020 surrender of EPL 20672. Under edit by Holcim staff from November 2020 to June 2021.
3	October 2021	Final 2021 OEMP updated in conjunction with advice from DPIE, streamlined, and made consistent with Holcim document styles. Changes include the removal of outdated procedures, the full Consent Conditions table and reference to EPL 20672. Mitigation measures and Operational Monitoring Program were updated.
3.1	January 2022	Changes made as per preliminary review comments from DPIE in November 2021.
3.2	January 2022	Changes made as per comments from DPIE in January 2022.

Appendix 1 – Vegetation Management Plan (2021)

Strength. Performance. Passion.

Rooty Hill Distribution Centre
Vegetation Management Plan

Holcim Australia
October 2021

Table of Contents

Tables

Figures

Appendix

Document History

This document supersedes the former Vegetation Management Plan by SKM (2011).

Version	Date	Change Summary
1	22/08/2011	Vegetation Management Plan by SKM.
2	28/10/2021	Document streamlined, made consistent with Holcim policy and plan formatting, and updated to suit current project phase.

1. Introduction

1.1 Background

The Rooty Hill Regional Distribution Centre (RHDC) is located at Kellogg Road, Rooty Hill within the Blacktown Local Government Area (LGA). The facility allows Holcim to receive construction material by rail from a quarry located outside of the Sydney Basin, blend the materials to meet customer specifications and distribute the product material by road to the Sydney market. The construction materials received include single size crushed aggregate, blended crushed aggregates and manufactured sand, typically used for the manufacture of concrete and asphalt as well as a variety of other uses in the civil construction industry.

The entire project site comprises 15 hectares and is bound by the Main Western Railway Line to the south, the Nurragingy Reserve to the East, the OneSteel Mini Mill and other industrial developments to the west and industrial land to the North. Angus Creek, a tributary of Eastern Creek, flows through the southern portion of the site. The site was chosen due to the unique access opportunities that include rail (Main Western Railway) and road (M7 Motorway). **Figure 1** depicts the location and layout of the RHDC.

Before construction, the site was comprised of highly modified cleared landscapes north of Angus Creek, with remnants of River-Flat Eucalypt Forest and Cumberland Plain Woodland in the riparian corridor and to the south of the site. These vegetation communities are considered threatened under the Threatened Species Conservation Act 1995. One threatened plant species, the Juniper-leaved Grevillea (*Grevillea juniperina subsp. juniperina*) occurs in two small populations in the River Flat Eucalypt Forest community at the site, and the threatened Cumberland Plain Land Snail (*Meridolum corneovirens*) inhabits the Cumberland Plain Woodland remnants (Biosis, 2005).

The RHDC began operating in October 2015 under the Development Consent 05_0051. The Environment Protection Licence (EPL) 20672 for the site was surrendered on 18 June 2020. Currently, the project operates 24 hours a day, seven (7) days a week and is capable of handling up to four (4) million tonnes per annum of product.

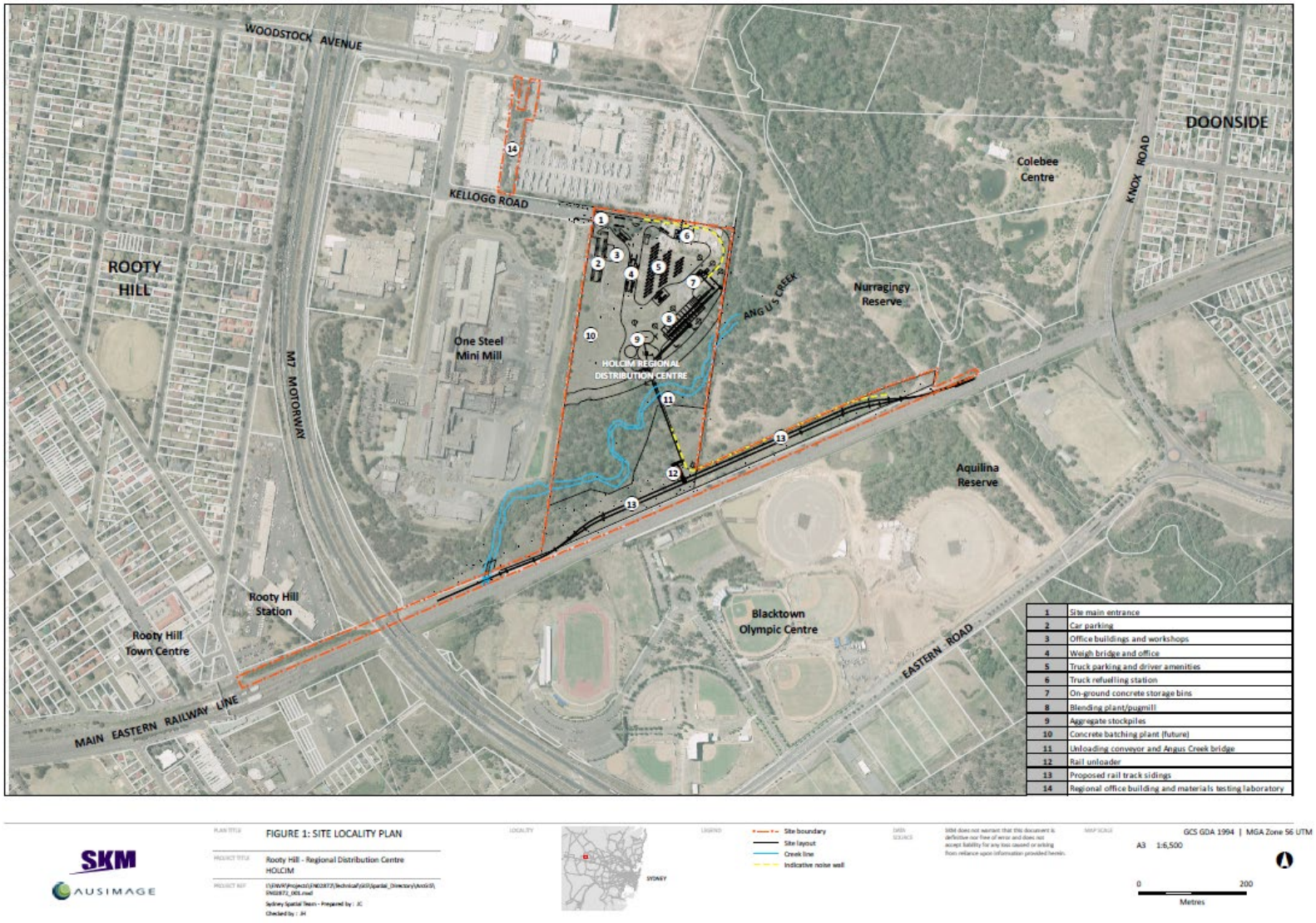

Figure 1 – Site Locality and Layout

1.2 Site Analysis

The site is largely cleared with a history of disturbance which has resulted in modified grasslands comprising both native and exotic species. According to a 2005 Impact Assessment from Biosis, prior to disturbance of the site, remnant vegetation was characteristic of the River-Flat Eucalypt Forest endangered ecological community (EEC) in poor condition (although densely vegetated with a combination of native and exotic species) within the riparian corridor and Cumberland Plain Woodland critically endangered ecological community (CEEC) in moderate condition in areas not directly influenced by the creek. The threatened flora species, Juniper-leaved Grevillea (*Grevillea juniperina subsp. juniperina*) was observed in two locations in the Cumberland Plain Woodland on either side of Angus Creek.

The Department of Environment and Conservation (now DPIE) has previously mapped EECs across the Cumberland Plain and undertaken conservation significance assessments (CSAs) for each of them. DEC used this information to determine that the proposal would remove 0.6 hectares of Core Habitat, 0.25 hectares of Support to Core Habitat and 0.7 hectares of Other Remnant Vegetation from the site (NSW Department of Planning, 2006). They subsequently recommended that no net loss of EECs in the Core Habitat and Support to Core Habitat areas should occur as a result of the proposal.

The site is bounded to the east by Nurragingy Reserve. The land within the reserve and that beyond the rail corridor in the south falls within the auspices of State Environmental Planning Policy (Western Sydney Parklands) 2009. The riparian corridor of Angus Creek provides connectivity to the remnant vegetation conserved in the adjacent Nurragingy Reserve.

Angus Creek traverses the site in a west-east direction as a tributary of Eastern Creek which it joins in Nurragingy Reserve, a sub catchment of the Hawkesbury Nepean. Although relatively intact, the riparian zone is consistent with an incised and disturbed lowland urban creek and heavily influenced by upstream activities resulting in high velocity stormwater flows and rubbish (Biosis, 2005).

Soils at the site are typically shale clay and characteristic of the Wianamatta group that support Cumberland Plain Woodland. The riparian zone contains alluvial deposits typical of floodplain environments. Both profiles appear to be representative of the site's original soil and thus may contain resilient native seed stock capable of natural regeneration when triggered by bushland regeneration techniques.

Vegetation within the riparian zone is dominated by native species in the canopy layer such as Swamp Oak (*Casuarina glauca*), and Eucalyptus and Angophora species. The shrub layer supports a mix of natives and exotics including Blackthorn (*Bursaria spinosa*) and Privets (*Ligustrum species*). Native and exotic species also co-dominate the groundcover including Native Wandering Jew (*Commelina cyanea*) and the exotic Wandering Jew (*Tradescantia fluminensis*). Riparian groundcovers and aquatic vegetation includes Rushes (*Juncus species*), Mat-rush (*Lomandra longifolia*) and aquatic submergent species such as Water Ribbons (*Triglochin species*) and Pondweed (*Potamogeton species*).

The canopy and understorey of the Cumberland Plain Woodland that is in moderate condition at the site was largely intact and dominated by Eucalyptus species in the canopy layer and the shrub layer is dominated by Wattles (*Acacia species*) and Blackthorn. Native groundcover species such as Blue Flax-Lily (*Dianella longifolia*), Weeping Grass (*Microlaena stipoides*), Three-awned Speargrass (*Aristida vagans*), Kangaroo Grass (*Themeda australis*) and Sprawling Bluebell (W*ahlenbergia gracilis*) were present (Biosis, 2005). Dominant exotic species in the woodland were largely confined to weedy grasses including the noxious species African Lovegrass (*Eragrostis curvula*), Kikuyu (*Pennisetum clandestinum*) and Paspalum (*Paspalum dilatatum*).

1.3 Guidelines

The following documents were used for the preparation of this VMP:

- Guidelines for Controlled Activities: Vegetation Management Plans, NSW Office of Water (2010);
- Guidelines for Controlled Activities – Guidelines for Riparian Corridors, NSW Office of Water (2011);
- How to Prepare a Vegetation Management Plan Guideline – Draft, Version 7 NSW DNR (2007);
- Cumberland Plain – Best practice guidelines for the management and restoration of bushland (NSW DECC, 2005);
- Environmental Assessment – Proposed Minor Modification to Holcim Regional Distribution Centre (RDC), Rooty Hill, NSW, Umwelt (2010); and
- Environmental Assessment Report – Rooty Hill Regional Distribution Centre Minor Modification, Umwelt (February 2017).

Calculations for riparian zone, species diversity and planting densities are based on information from the above guidelines.

2. Statutory Requirements

A flora and fauna assessment of the site was undertaken in 2005 which concluded that the proposed development was unlikely to impact upon threatened species, populations, and ecological communities (Biosis, 2005). Amelioration measures to minimise impacts of the development were recommended and were subsequently incorporated into the statutory approvals.

This Vegetation Management Plan (VMP) has been prepared to satisfy the following statutory approvals:

- Minister's Conditions of Approval (05_0051), June 2017 Modification (Development Consent); and
- the associated Statement of Commitments, 2011 Modification (SoCs).

Table 1 provides the statutory requirements relevant to the VMP as well as the section in which they are addressed.

Table 1: RHDC Compliance Table

Condition	Development Consent Requirement	Document Reference
2.22	The Proponent must minimise any clearing of vegetation in carrying out of the project, consistent with a Vegetation Management Plan developed to the satisfaction of the DPI Water and OEH under condition 2.24 of this approval.	Section 4 Section 6
2.23	Prior to the commencement of any earthworks or vegetation clearing at the site, vegetation to be protected is to be fenced off with clearly visible, durable, and appropriately signposted exclusion fencing in accordance with any specific requirements identified in the Vegetation Management Plan prepared under condition 2.24.	Section 6
2.24	Prior to the commencement of any construction activities, the Proponent must prepare to the satisfaction of the DPI Water and OEH, a Vegetation Management Plan in accordance with the DPI Water guidelines *How to Prepare a Vegetation Management Plan – Version 4* and *Watercourse and Riparian Zone Rehabilitation Requirements* as well as OEH *Recovering Bushland on the Cumberland Plain*. The Plan must include drawings that clearly show vegetation to be retained/removed, plant material to be used for rehabilitation, densities and species mix for areas to be rehabilitated, establishment methods, sequencing of tasks, maintenance and performance monitoring. Site rehabilitation and maintenance is to be carried out in accordance with the Plan, and the DPI Water is to be advised of the person responsible for any seed or vegetative propagation prior to the commencement of that propagation. The Proponent must implement the management plan as approved from time to time by the Secretary.	Section 1.3 Figure 2, Table 2, Table 3, Section 6, Section 7 & Section 8.

Condition	Development Consent Requirement	Document Reference
2.25	All rehabilitated and revegetated areas of the site must be maintained and monitored for a period of at least five years after final planting, or where other revegetation methods are used, five years from when plants are of tube stock size and are at the densities specified in the Vegetation Management Plan. Maintenance must include sediment and erosion control, watering, weed control, replacement of plant losses, disease and insect control, protection from any mowing or slashing on adjacent land, mulching and any other requirements necessary for achieving successful vegetation establishment.	Table 2, Section 6, & Section 7.2.1
2.26	Immediately after completion of initial planting/seeding and every year thereafter for the duration of the maintenance period the Proponent must submit to the Department a monitoring report addressing the performance criteria as specified in the Vegetation Management Plan, and comment on the stability and condition of any stream works. With each monitoring report, the person responsible for implementing the Vegetation Management Plan must certify in writing that plantings (including follow-up plantings) have been carried out using stock propagated from seed or plant material collected only from native plants from the local botanical provenance.	Section 7 Section 8
Statement of Commitments (2011)		
5	In addition to the existing commitments the following mitigation measures will be implemented to further reduce the impact of the modified RDC:	
	• prior to any clearing operations being undertaken, the limits of clearing will be clearly marked;	Figure 2 Section 5
	• native logs and bark removed during construction will be retained and reused in areas of Cumberland Plain Woodland, during regeneration and revegetation to provide sheltering habitat for the Cumberland land snail;	Section 5 Section 6
	• sedimentation and erosion control measures will be put in place and maintained during construction and operation to ensure that soil material does not enter surrounding woodland and waterways; and	Section 6 Section 7
	• the post-construction rehabilitation program will use local native plant species and incorporate a weed control program to prevent the spread of weed species into the surrounding woodland landscape.	Section 7 Table 8
6	Holcim will consider the small additional area of Cumberland Plain Woodland to be cleared for the modified RDC when establishing the Ecological Offset for the project as part of the preparation of the Vegetation Management Plan required by Project Approval Condition 2.24.	Section 4.3.3
Statement of Commitments (2006)		
7.2	The VMP will contain management strategies for the vegetation on the site prior to and during the construction and through the operation of the RDC.	Table 2 Section 6 Section 7
7.3	The VMP would be implemented by a suitably qualified bush regenerator and include management of weeds, revegetation, erosion control and monitoring.	Table 2
7.4	The VMP would include the following:	
	• Weed removal and control is to be conducted prior to and during revegetation works. Weed removal and any subsequent revegetation would commence upstream (westwards) and gradually progress downstream (eastwards). This is due to the fact that water acts as a mechanism for distributing weed seeds;	Table 2, Section 4.2, Section 5, Section 6.
	• Bush regeneration work is to commence in areas that are less	Section 6.2

Condition	Development Consent Requirement	Document Reference
	degraded and gradually extend towards areas that are more degraded. Vegetation existing towards the western end of Angus Creek is in general, in better condition in terms of being less degraded;	
	• Bank stabilisation works will take place along Angus Creek after the primary weed removal has been undertaken because slopes of banks would be vulnerable at this time. These bank stabilisation works shall assist in the suppression of weeds and consequently aid in native plant growth;	Table 2
	• Seeds are to be collected from locally native remnant vegetation areas and used in the revegetation works proposed for the Angus Creek Corridor;	Table 2 Table 5
	• Newly established plants are to be monitored for up to two years following planting in order to ensure against fatalities and also to ensure that the plants maintain their health. Plants would be checked regularly for signs of insect attack, disease, lack of water, weed invasion etc;	Section 6, Section 7.
	• Rubbish and debris shall be removed from the Angus Creek Vegetation Corridor so as to improve the visual amenity of the remnant vegetation. If sections of this debris is providing habitat to native fauna then it is to remain untouched until such time as other suitable habitat has been provided (eg – dead timber/logs, rocks, vegetation etc);	Section 7.2.1
	• Revegetation shall be undertaken of Cleared/Disturbed Areas outside the development footprint and areas disturbed by the construction, using locally endemic native species;	Table 3
	• A 20m woodland buffer zone would be established around the *Grevillea juniperina subsp. juniperina* site. Enhancement of the species would be encouraged through propagation of tubestock obtained on site;	Section 5.3
	• Fencing of the native vegetation would be undertaken outside the development footprint to encourage natural vegetation regeneration. A fence would be constructed around Angus Creek Corridor. This would prevent vehicular and human access and ensure that disturbances to these areas are decreased. Consequently, the risk of weed invasion would be reduced and the opportunity for natural regeneration would be increased;	Section 5 Section 6
	• Native hollow bearing trees would be protected; and	Table 2
	• Additional sheltering habitat would be provided for the Cumberland Plain Land Snail in the Cumberland Woodland areas.	Table 2 Section 4.2
7.5	In addition the following measures shall be undertaken to protect the environment of the Angus Creek Corridor: • Except for the two creek crossings and RDC components south of Angus Creek, a riparian buffer of 40 from the banks of Angus Creek will be maintained wherever possible.	Section 4.1.1 Section 6

3. Stakeholder Consultation

The original Vegetation Management Plan was sent to DPI Water and OEH for approval in accordance with Condition 2.22 of RHDC's Development Consent.

A copy of this revised VMP has not been sent to DPI Water or OEH as the 2021 update has mostly related to the restructure of the document and updates to reflect the cessation of clearing. There has been no material change to mitigation measures within the VMP.

4. Site Objectives

The aim of this VMP is to guide vegetation management to improve the quality of remnant vegetation on site. Holcim aims to enhance the threatened ecological communities existing on the project area, the River-Flat Eucalypt Forest and Cumberland Plain Woodland. Additional environmentally sensitive areas comprise the buffer zone for the threatened flora species Juniper-leaved Grevillea (*Grevillea juniperina subsp. juniperina*) and the Cumberland Plain Woodland ecological offset.

In accordance with the Development Consent and SOCs, the specific aims of the VMP are to provide guidance to ensure that:

- Significant remnant vegetation at the site is protected and enhanced through bushland regeneration activities including weed management and revegetation using locally endemic plant species.
- Existing vegetated and rehabilitated areas are adequately maintained and monitored post-construction.

The objectives of the VMP are consistent with DNR (2007) and are as follows:

- Achieve sound naturalised watercourse and long-term riparian area stabilisation and management by the enhancement/emulation of the native vegetation communities of the site.
- Demonstrate naturalised bed and bank stability of the affected watercourses.
- Apply a 'rehabilitation' design philosophy rather than a 'reconstruction' philosophy.
- Demonstrate protection of any remnant local native riparian vegetation and restore any riparian areas disturbed or otherwise affected by the development to a state that is reasonably representative of the natural ecotone.
- Provide guidance to project managers to ensure that projects are planned, designed and implemented by informed and capable contractors in order to minimise environmental risk during construction and to avoid harm to the quality, stability and natural functions of any watercourses and riparian areas (DNR, 2007).

Note, there are no objectives relating to clearing as this initial phase in the development of the distribution centre has been completed.

4.1 Angus Creek and River-Flat Eucalypt

The riparian zone of Angus Creek is dominated by River-Flat Eucalypt Forest and the intent of rehabilitation in this area is to:

- remove weeds competing with endemic species within the riparian zone;
- provide stabilisation to creek batters with native plantings in areas where erosion is evident or likely to occur post-construction;
- provide greater integrity to the riparian corridor to provide habitat, connectivity and ecosystem services; and
- ensure protection and enhancement of the two sites where the threatened flora species Juniper-leaved Grevillea occurs by providing a buffer zone between the species and construction and actively rehabilitating those sites.

4.2 Cumberland Plain Woodland

Vegetated areas across the remainder of the site in Management Zones 2 and 3 conform to the characteristics of Cumberland Plain Woodland. Revegetation and ecosystem enhancement in this area and in the adjacent cleared areas will aim to:

- remove weeds competing with endemic species, particularly in the groundcover;
- remove pest animals likely to affect the survival of juvenile plantings (such as hares and rabbits) in cleared areas where pest activity is evident;
- provide supplementary in-fill plantings within moderate condition Cumberland Plain Woodland south of Angus Creek to bolster ecological function of the remnant.
- undertake broad-scale revegetation of approximately 1 hectare of cleared land south of Angus Creek using an appropriate ratio of canopy, mid-storey and groundcover species. This area will form the Cumberland Plain Woodland ecological offset at the site.
- Increase site resilience by supplementing local provenance plantings with locally harvested native grass seed within the cleared areas.

5. Summary of the Site

5.1 Active Project Area

The active project area of the RHDC as it operates now can be divided into three developed areas:

- the northern management zone, where the main entrance, car parking, Administration office and other buildings, stockpiles, batching plant, weighbridge, and vehicle refuelling station are located;
- unloading conveyor and Angus Creek bridge; and
- rail track siding on the southern boundary of the project approval.

5.1.1 Active Project Area Status

Prior to clearing, the active project area of the site was highly disturbed and largely cleared. As per the 2005 Environmental Assessment Report, the active project area primarily consisted of disturbed grassland prior to clearing with some native and exotic species.

Approximately half of the approval area was cleared in 2013 prior to construction of the facility to establish the active project area, as seen in **Figure 2**. No further clearing of the site footprint has been required since then.

Landscape management undertaken in the active project area since 2015 has primarily consisted of maintenance of erosion controls by Holcim staff and weed management by Bushland Contractors.

Rehabilitation works for the active project area will be assessed once the post maintenance certification has been acquired, as per **Table 2** in **Section 5.2.1**.

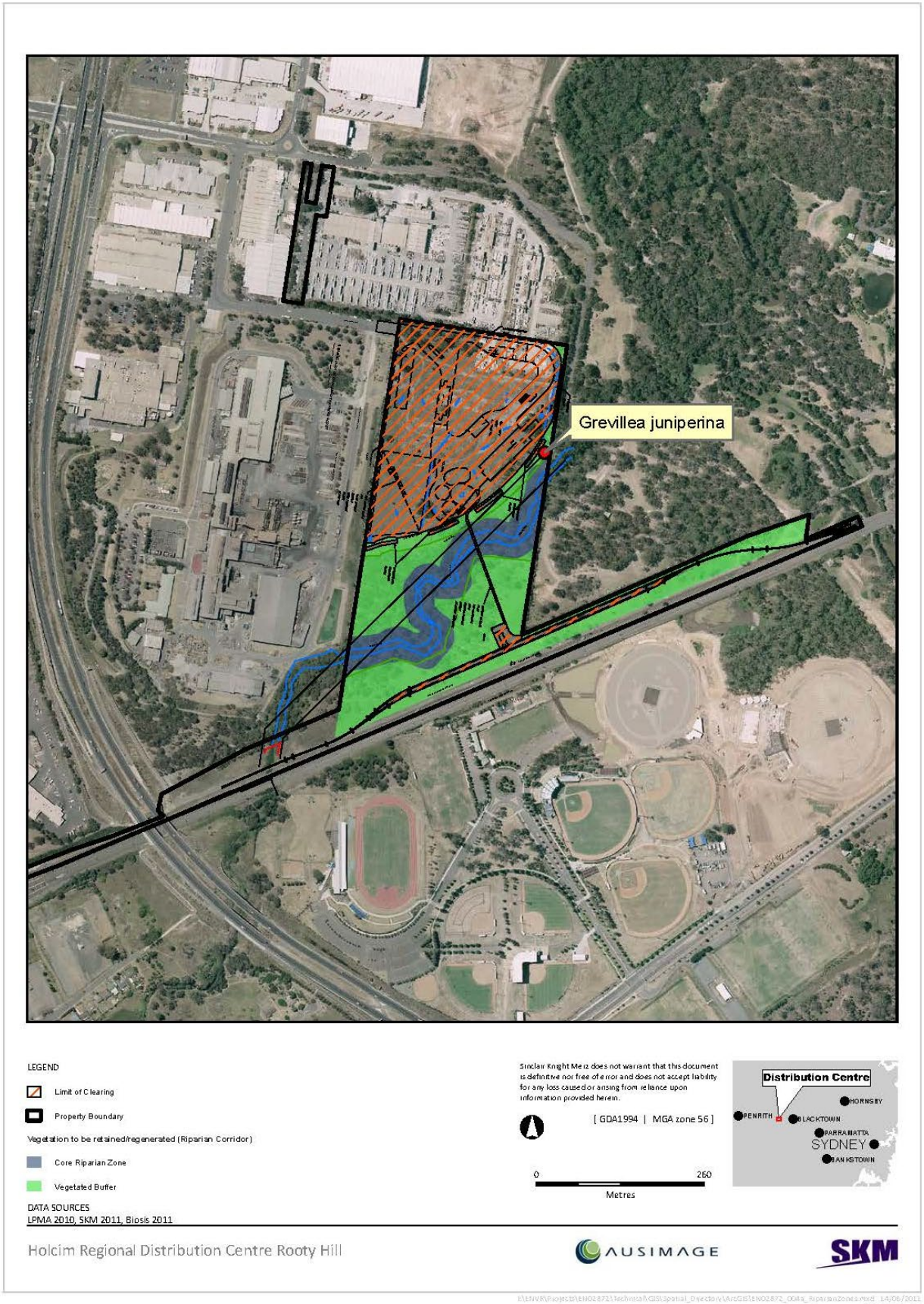

Figure 2: RHDC Cleared Area, Angus Creek Riparian Area, and Vegetated Areas.

5.2 Vegetation Management Zones

Works outlined in this VMP are primarily confined to the southern portion of the site, which is comprised of the core riparian zone and vegetation buffer. This area is covered by four management zones as shown in **Figure 3**, for targeted management measures and strategies. These management zones encompass approximately 7.7 hectares of the site. The management zones are categorized as:

- **Zone 1 – River Flat Eucalypt Forest EEC** with high density (>75%) of woody and herbaceous herbs (approx 3.8ha) – moderate resilience. This zone also includes the protection of the threatened Juniper-leaved Grevillea.
- **Zone 2a – Cumberland Plain Woodland** critically endangered ecological community with medium density (25-50%) of woody, climbing and herbaceous weeds (approx 1ha) – moderate resilience.
- **Zone 2b – Cumberland Plain Woodland** critically endangered ecological community with low density (6- 25%) of mainly climbing and herbaceous weeds (approx 1.9ha) – high resilience
- **Zone 3 – Disturbed/cleared grassland zone** with very high density (95%) of mainly grassy weeds (approx 1ha) – low resilience. This is also the site of the Cumberland Plain Woodland Ecological Offset. (Ecohort, 2011).

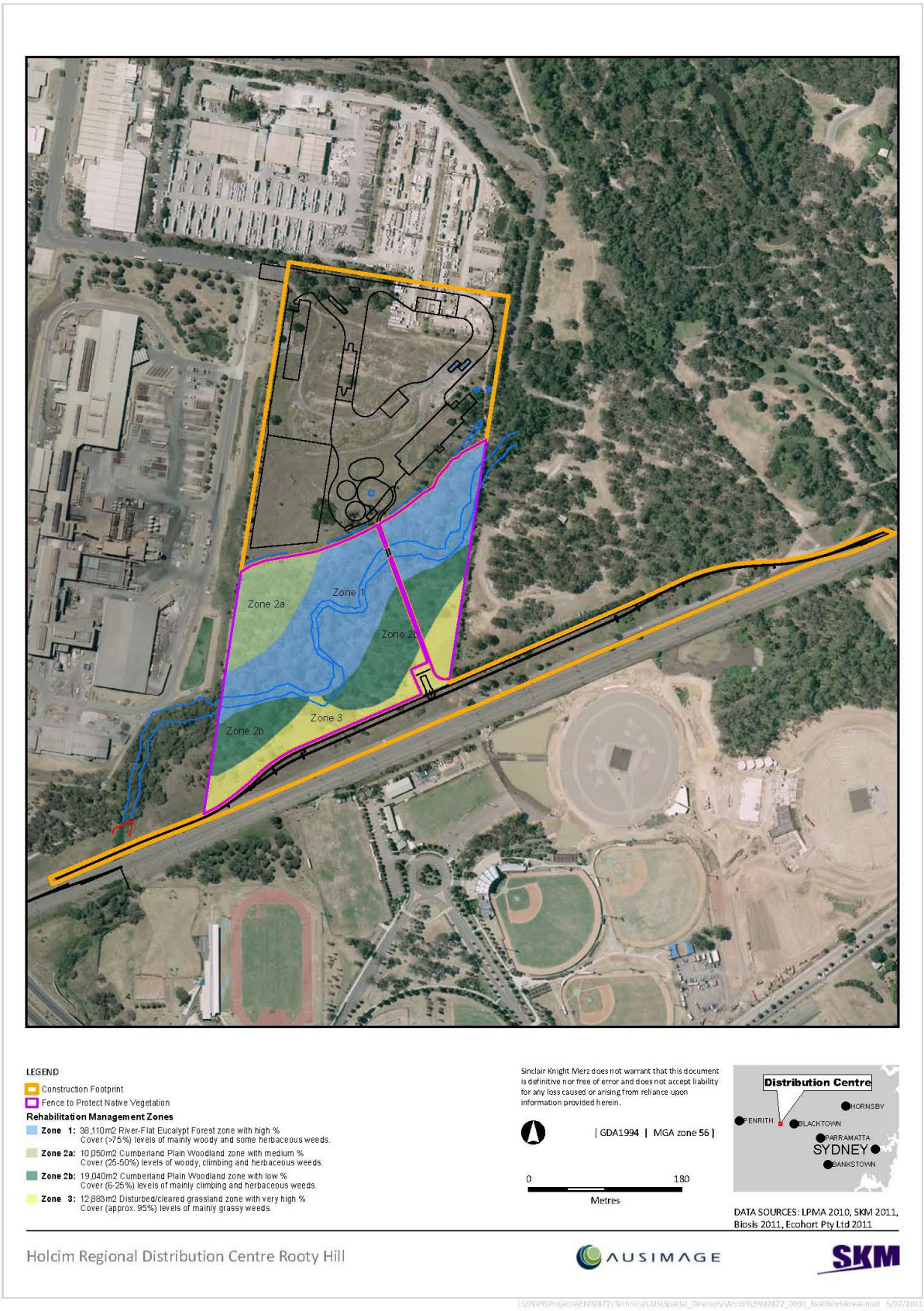

Figure 3: RHDC Vegetation Management Zones

5.2.1 Management Zones Status

At this phase of the project, RHDC is undertaking post-construction and operational management and mitigation measures in the four management zones. Pre-clearing/construction and clearing/construction activities have been completed at the site. This included the installation of exclusion fencing required under Condition 2.23 of the Development Consent. Fencing delineates the active project area and from the vegetation management zones, including both Juniper-leaved Grevillea populations.

All initial revegetation planting and/or seeding was completed in 2017 according to the Toolijooa Bushland Regeneration Report 2018-2020. Some replacement planting has been done since then, particularly in the Angus Creek riparian zone, as outlined in 2019 and 2020 Niche Environment and Heritage monitoring reports. Plant health and growth continues to be monitored to assess the need for additional revegetation. RHDC will continue vegetation management activities as per the sequencing outlined in this VMP.

The area around the sediment basins and vegetation buffers will continue to be monitored for weed encroachment and native regrowth. Stormwater management at the site will continue to be built and maintained as per the guidelines in Condition 2.31 of the Development Consent to minimise changes to the hydrology of the site and therefore impacts to the riparian zone, juniper-leaved Grevillea populations, and vegetation communities.

The protection and rehabilitation of the significant vegetation remnants outside of the active project area has been divided into 3 phases – pre-construction/pre-clearing activities, construction activities and operation activities. A description of the activities required to be undertaken within each of these phases is provided in **Table 2**.

Table 3 outlines the specific revegetation requirements including species, planting densities, and diversity.

Table 2: Summary of Mitigation Activities

Mitigation Measures	Timing			Frequency	Location				Approval Condition	Responsibility
	Pre-Clearing / Pre-Construction	Clearing/ Construction	Operation		Management Zone 1 (including Juniper-leaved Grevillea buffer)	Management Zone 2a	Management Zone 2b	Management Zone 3 (including Cumberland Plain Woodland ecological offset)		
Native vegetation and wildlife management										
Fence off protected vegetation prior to commencement of any earthworks or vegetation clearing All native hollow trees across the site will be protected	x			Once only and then maintained. Completed.	x	x	x	x	Condition 2.23	Contractor
Pre-clearing survey undertaken by qualified ecologist prior to clearing of vegetation. Relocation of wildlife or provision of alternative habitat may be required. This includes relocation of Cumberland Land Snail if found.	x			Before clearing in any zone. Completed.	x	x	x	x	Condition 2.24	Ecologist
Undertake baseline surveys of Juniper-leaved Grevillea	x			Prior to any works on site and during construction as per the Construction EMP. Completed.	x				EAR	Ecologist

Mitigation Measures	Timing			Frequency	Location				Approval Condition	Responsibility
	Pre-Clearing / Pre-Construction	Clearing/ Construction	Operation		Management Zone 1 (including Juniper-leaved Grevillea buffer)	Management Zone 2a	Management Zone 2b	Management Zone 3 (including Cumberland Plain Woodland ecological offset)		
A portion of native logs and bark removed during construction will be retained and reused in areas of Cumberland Plain Woodland at the direction of the Ecologist, during regeneration and revegetation to provide sheltering habitat for the Cumberland Land Snail.		x		Post-clearing. Complete.		x	x	x	SoC - Item 5	Ecologist
Cleared native vegetation surplus to Cumberland Land Snail habitat reinstatement requirements should be mulched and re-used within the management zones on site at the direction of the Ecologist. This mulch should be stockpiled and managed for weeds and should be largely weed free prior to spreading. Woody weed waste may be able to be mulched under the direction of the Ecologist.		x		As clearing occurs. Completed.				x	Condition 2.24	Construction Contractor under guidance of Ecologist

Mitigation Measures	Timing			Frequency	Location				Approval Condition	Responsibility
	Pre-Clearing / Pre-Construction	Clearing/ Construction	Operation		Management Zone 1 (including Juniper-leaved Grevillea buffer)	Management Zone 2a	Management Zone 2b	Management Zone 3 (including Cumberland Plain Woodland ecological offset)		
Approvals and Permits										
From OEH - To collect propagules from EECs (Cumberland Plain Woodland and River Flat Eucalypt Forest) from OEH under S132C of the National Parks and Wildlife Act 1974		x		Once only. Completed.	x	x	x	x	Condition 2.24	Bush Regeneration Contractor
From OEH - To collect Protected Plants as per Schedule 13 of the National Parks and Wildlife Act 1974		x		Once only. Completed.	x	x	x	x	Condition 2.24	Bush Regeneration Contractor
From OEH - To undertake revegetation and bushland regeneration in an EEC under S132C of the National Parks and Wildlife Act 1974		x		Once only. Completed.	x	x	x	x	Condition 2.24	Bush Regeneration Contractor

Mitigation Measures	Timing			Frequency	Location				Approval Condition	Responsibility
	Pre-Clearing / Pre-Construction	Clearing/ Construction	Operation		Management Zone 1 (including Juniper-leaved Grevillea buffer)	Management Zone 2a	Management Zone 2b	Management Zone 3 (including Cumberland Plain Woodland ecological offset)		
Seed Collection, Propagation, Planting and Direct Seeding										
In sites of high resilience, trigger soil seedbank to encourage natural regeneration. Monitor site for recovery and continue weed control as required for a period of 12 months. Planting and direct seeding at these sites (if required) should occur no later than 18 months after completion of primary weeding		x		Once only. Completed.	x	x	x	x	Condition 2.24	Bush Regeneration Contractor
Notify the OEH of the person responsible for seed collection or vegetative propagation prior to commencement of propagation		x		Once only, unless collectors change.	x	x	x	x	Condition 2.24	Holcim
Undertake seed collection at least 12 months prior to the commencement of revegetation		x		Once only. Completed.	x	x	x	x	Condition 2.24	Bush Regeneration Contractor
Begin seed propagation		x		For initial planting and then for replacement planting as required	x	x	x	x	Condition 2.24	Bush Regeneration Contractor

Mitigation Measures	Timing			Frequency	Location				Approval Condition	Responsibility
	Pre-Clearing / Pre-Construction	Clearing/ Construction	Operation		Management Zone 1 (including Juniper-leaved Grevillea buffer)	Management Zone 2a	Management Zone 2b	Management Zone 3 (including Cumberland Plain Woodland ecological offset)		
Planting and direct seeding (no later than six months after completion of primary weeding).			x	Initial Planting and then as required.	x	x	x	x	Condition 2.24	Bush Regeneration Contractor
Certification of supply and installation of local provenance native seed.			x	After initial planting. Completed.	x	x	x	x	Condition 2.25	Bush Regeneration Contractor
Erosion and Sediment Control										
Implement Soil and Water Management Plan as part of the Construction Environment Management Plan (outside scope of VMP). All stormwater basins are to be planted with suitable local native species to minimise impacts on the buffer area	x	x	x	Applied daily	x	x	x	x	Condition 2.25 SoC - Item 5	Construction Contractor and Site Manager
Soil stabilisation for riparian construction works		x	x	Applied daily	x	x	x	x	Condition 2.25 SoC - Item 5	Construction Contractor and Site Manager
Weed Management										
Primary weeding of all zones		x	x	Monthly	x	x	x	x	Condition 2.25 SoC - Item 5	Bush Regeneration Contractor

Mitigation Measures	Timing			Frequency	Location				Approval Condition	Responsibility
	Pre-Clearing / Pre-Construction	Clearing/ Construction	Operation		Management Zone 1 (including Juniper-leaved Grevillea buffer)	Management Zone 2a	Management Zone 2b	Management Zone 3 (including Cumberland Plain Woodland ecological offset)		
Follow-up weed control and inspection		x	x	Quarterly	x	x	x	x	Condition 2.25 SoC - Item 5	Bush Regeneration Contractor
Install 75mm layer weed free mulch to 95% in cleared grassland			x	Once only				x	Condition 2.25 SoC - Item 5	Bush Regeneration Contractor
Maintenance										
Revegetate with planting and direct seeding (no later than six months after completion of primary weeding). Replant preferably in autumn.			x	As required to achieve 80% establishment of each species	x	x	x	x	Condition 2.25 SoC - Item 5	Bush Regeneration Contractor
Maintenance watering			x	Upon planting	x	x	x	x	Condition 2.25 SoC - Item 5	Bush Regeneration Contractor
Maintenance weeding			x	Quarterly	x	x	x	x	Condition 2.25 SoC - Item 5	Bush Regeneration Contractor
Pest and disease monitoring			x	Weekly for first month postplanting, then quarterly	x	x	x	x	Condition 2.25 SoC - Item 5	Bush Regeneration Contractor
Replacement planting (to maintain 80% species establishment)			x	After 6 months of initial planting	x	x	x	x	Condition 2.25 SoC - Item 5	Bush Regeneration Contractor

Mitigation Measures	Timing			Frequency	Location				Approval Condition	Responsibility
	Pre-Clearing / Pre-Construction	Clearing/ Construction	Operation		Management Zone 1 (including Juniper-leaved Grevillea buffer)	Management Zone 2a	Management Zone 2b	Management Zone 3 (including Cumberland Plain Woodland ecological offset)		
Maintenance inspection			x	Weekly for the first month after planting, then quarterly	x	x	x	x	Condition 2.25 SoC - Item 15	Bush Regeneration Contractor
Monitoring and Reporting										
Monitoring and reporting Reporting to DP&I and OEH			x	After initial planting then annually	x	x	x	x	Condition 2.26	Ecologist
Certification of completion of maintenance project by achievement of performance indicators.			x	When site has achieved 80% establishment of each species, maximum 5% weed cover over area and when direct seeding plants are of tubestock size (minimum 5 years after initial planting)	x	x	x	x	Condition 2.26	Ecologist

Mitigation Measures	Timing			Frequency	Location				Approval Condition	Responsibility
	Pre-Clearing / Pre-Construction	Clearing/ Construction	Operation		Management Zone 1 (including Juniper-leaved Grevillea buffer)	Management Zone 2a	Management Zone 2b	Management Zone 3 (including Cumberland Plain Woodland ecological offset)		
Management Plan										
Develop a management plan for the site that reflects the intent of the VMP. It will include measures for controlling long term access and encroachments into the riparian corridor and for ensuring the installation of any boundary fences occur beyond the core riparian zone. It will measure return to health of revegetation zones based on plant diversity, fauna use (particularly woodland birds).			x	Post-maintenance certification.	x	x	x	x	Condition 2.26	Ecologist

Table 3: Species list, densities and diversity for revegetation

Zone 1 **Riparian Forest (River-Flat Eucalypt Forest)** **Approx 3.5 ha**	**Zone 2a** **Cumberland Plain Woodland** **Approx 1ha**	**Zone 2b** **Cumberland Plain Woodland** **Approx 1.8ha**	**Zone 3** **Cleared Modified Grassland Cumberland Plain Woodland Ecological Offset Area** **Approx 1ha**
Replant Density: 1 shrub/tree per 2m^2 to 25% of the more degraded areas Direct seed native grasses in mosaic patches over 50% of the more degraded areas Replant Diversity: Trees – 50% Shrubs – 30% Groundcovers – 70%	Replant Density: 1 shrub/tree per 2m^2 to 25% of the more degraded areas Direct seed native grasses in mosaic patches over 25% of the more degraded areas Replant Diversity: Trees – 80% Shrubs – 30% Groundcovers – 60%	Replant Density: 4 trees + 12 shrubs + 64 groundcover plants per 16m^2, clumping and mosaic Replant Diversity: Trees – 50% Shrubs – 30% Groundcovers – 70%	Replant Density: 1 tree per 16m^2 across entire zone - 1 shrub per 2m^2 to 50% of the zone, 8 groundcover plants per m^2 to 95% of the zone. Replant Diversity: Trees - 80% Shrubs – 30% Groundcovers – 60-80%
Trees			
Acacia parramattensis	*Acacia parramattensis*	*Acacia parramattensis*	*Acacia parramattensis*
Casuarina glauca	*Angophora floribunda*	*Angophora floribunda*	*Angophora floribunda*
Eucalyptus tereticornis	*Eucalyptus moluccana*	*Eucalyptus moluccana*	*Eucalyptus moluccana*
Melaleuca decora	*Eucalyptus tereticornis*	*Eucalyptus tereticornis*	*Eucalyptus tereticornis*
Shrubs			
Bursaria spinosa	*Bursaria spinosa* *Daviesia ulicifolia* *Indigofera australis*	*Bursaria spinosa* *Daviesia ulicifolia* *Indigofera australis*	*Bursaria spinosa* *Daviesia ulicifolia* *Indigofera australis*
Groundcovers			
Cheilanthes sieberi subsp. *sieberi*	*Aristida ramosa*	*Aristida ramosa*	*Aristida ramosa*
Commelina cyanea	*Aristida vagans*	*Aristida vagans*	*Aristida vagans*
Dichondra repens	*Austrodanthonia tenuior*	*Austrodanthonia tenuior*	*Austrodanthonia tenuior*
Glycine clandestina	*Brunoniella australis*	*Brunoniella australis*	*Brunoniella australis*
Lomandra longifolia	*Centella asiatica*	*Centella asiatica*	*Centella asiatica*

Zone 1 **Riparian Forest (River-Flat Eucalypt Forest)** **Approx 3.5 ha**	**Zone 2a** **Cumberland Plain Woodland** **Approx 1ha**	**Zone 2b** **Cumberland Plain Woodland** **Approx 1.8ha**	**Zone 3** **Cleared Modified Grassland Cumberland Plain Woodland Ecological Offset Area** **Approx 1ha**
Microlaena stipoides var. stipoides	*Cheilanthes sieberi subsp. sierberi*	*Cheilanthes sieberi subsp. sierberi*	*Cheilanthes sieberi subsp. sierberi*
Oplismenus aemulus	*Chloris truncata*	*Chloris truncata*	*Chloris truncata*
Oxalis perennans	*Commelina cyanea*	*Commelina cyanea*	*Commelina cyanea*
Pratia purpurascens	*Cymbopogon refractus*	*Cymbopogon refractus*	*Cymbopogon refractus*
Themeda australis	*Cyperus gracilis*	*Cyperus gracilis*	*Cyperus gracilis*
	Dianella longifolia	*Dianella longifolia*	*Dianella longifolia*
	Dichondra repens	*Dichondra repens*	*Dichondra repens*
	Eragrostis leptostachya	*Eragrostis leptostachya*	*Eragrostis leptostachya*
	Glycine clandestina	*Glycine clandestina*	*Glycine clandestina*
	Glycine tabacina	*Glycine tabacina*	*Glycine tabacina*
	Goodenia hederacea subsp. hederacea	*Goodenia hederacea subsp. hederacea*	*Goodenia hederacea subsp. hederacea*
	Microlaena stipoides var. stipoides	*Microlaena stipoides var. stipoides*	*Microlaena stipoides var. stipoides*
	Opercularia diphylla	*Opercularia diphylla*	*Opercularia diphylla*
	Panicum effusum	*Panicum effusum*	*Panicum effusum*
	Paspalidium distans	*Paspalidium distans*	*Paspalidium distans*
	Oxalis perennans	*Oxalis perennans*	*Oxalis perennans*
	Solanum prinophyllum	*Solanum prinophyllum*	*Solanum prinophyllum*
	Sporobolus creber	*Sporobolus creber*	*Sporobolus creber*
	Themeda australis	*Themeda australis*	*Themeda australis*
	Vernonia cinerea var. cinerea	*Vernonia cinerea var. cinerea*	*Vernonia cinerea var. cinerea*
	Wahlenbergia gracilis	*Wahlenbergia gracilis*	*Wahlenbergia gracilis*

5.3 Vegetation Management Zone Targets

5.3.1 Riparian Zone

A 20-metre core riparian zone for Angus Creek is required by DNR with a vegetated buffer (VB) of at least 10 metres to protect the riparian corridor from degradation. Holcim have committed to a riparian buffer of 40 metres where possible, except at the locations of the Angus Creek crossings and areas adjacent to the rail unloading and conveyor system to the south of the creek. The footprints of the Core Riparian Zone and the Vegetated Buffer on the Holcim site are estimated to be 3.8 hectares and 3.9 hectares respectively.

5.3.2 Juniper-leaved Grevillea

The protection, conservation and monitoring of Juniper-leaved Grevillea is a key requirement of the VMP. This species is listed on Schedule 2 of the NSW Threatened Species Conservation Act and occurs within an area bounded by Blacktown, Londonderry, Windsor and Erskine Park (NPWS, 2002a) with the majority of observations of the species recorded from the Blacktown area (Biosis, 2005). A population of the species is known to exist in the adjacent Nurragingy Reserve. The species tends to colonise moist, open, disturbed areas; however, viability of the species is likely to be affected by activities that impact upon this habitat. This includes infrastructure development which may create overshading, alter hydrology, increase soil nutrients and introduce weedy species, and high levels of disturbance may cause dense regrowth of native or exotic plants, reducing suitable habitat conditions for the species (NPWS, 2002).

Juniper-leaved Grevillea has been recorded in very small densities at two locations across the site on either side of Angus Creek, along the eastern boundary within the River-Flat Eucalypt Forest EEC (Management Zone 1). The location of the population on the southern side of Angus Creek is protected by a significant buffer of native vegetation actively managed in this VMP and is unlikely to be impacted by the project works. Management and conservation of the population south of Angus Creek will be consistent with the broader rehabilitation objectives of Management Zone 1, including weed management and potential propagation and replanting of the species to enhance the site population. Disturbance of the eastern boundary south of Angus Creek within 20 metres of the population is not permitted without additional impact assessment. This includes management activities associated with the site post-construction, such as the development of fire or perimeter trails or hazard reduction burns.

The occurrence of Juniper-leaved Grevillea on the northern side of Angus Creek requires greater intervention to ensure its protection. The occurrence of the population in this area is on the edge of the proposed construction footprint, and is downstream from a proposed sediment basin to manage flows from the proposed hardstand areas in the north of the site and the Creek. In this location a buffer area of 10-12 metres is in place to protect the small population.

Specific management actions for Juniper-leaved Grevillea which will be undertaken as part of the implementation of this VMP include:

- Rehabilitation management records for each site should be kept by the Bush Regeneration Contractor undertaking site works. This should include dates and extent of weed management activities undertaken within 20 metres of the locations of the species, details of seed collection from the species (dates, % taken from each plant), details of any planting undertaken and any relevant site observations.

- Frequent (no less than 3 monthly) monitoring of both sites by a qualified ecologist to record status of populations in relation to baseline assessment and provide short reports on the progress of the management of the species (combining monitoring and bush regeneration activities). Monitoring frequency will be reduced to six monthly when plants have maintained or improved their health and population size has remained stable or increased. The reduction in monitoring frequency will not occur before the first six months of site operations.
- The implementation of a planting exclusion zone of 10 metres around the locations of Juniper-leaved Grevillea. This will minimise the risk of overshading and competition by dense native regrowth which can affect the habitat of the species and reduce the potential for seedling recruitment.
- Efforts to bolster the population of the species in the two locations. This will be through in-situ attempts at habitat manipulation via light mechanical disturbance of the soil to encourage seed germination in the topsoil. The original EAR for the project recommended propagation of the species. While the Conditions of Approval for the proposal require implementation of the recommendations outlined in the EAR, OEH does not support the propagation of threatened species, unless it is in accordance with a broader conservation plan (eg a recovery plan) and only when in-situ conservation options have been exhausted.

Baseline data will be considered prior to management actions being undertaken to ensure species count, number of mature and juvenile species, plant vigour and general conditions are consistent with the pre-clearing environment.

At the time of surveys, a total of four individuals of Juniper-leaved Grevillea were observed to occur at the two locations either side of Angus Creek (Biosis, 2005). In 2011, several additional juveniles had successfully recruited the northern location at the site.

Weed management activities will continue to be undertaken adjacent to Juniper-leaved Grevillea populations to improve revegetation outcomes. Contracted Ecologists will continue to monitor the Juniper-leaved Grevillea populations on-site. Future vegetation monitoring reports will include commentary on the status of Juniper-leaved Grevillea populations.

5.3.3 Cumberland Plain Woodland Ecological Offset

In accordance with the Development Consent and SOCs, a compensatory habitat package has been established around two compensatory measures:

- Restoration of approximately 1 hectare of Cumberland Plain Woodland on the site.
- The remainder via financial contribution to a rehabilitation project in the Blacktown Local Government Area.

Restoration of the 1 hectare of Cumberland Plain Woodland on the site will comply with the requirements of this VMP for the rehabilitation of Management Zone 3. This includes control of grassy weeds and broadleaf annuals within the zone to protect extant populations of native grass species, installation of a 75 millimetre layer of weed free mulch, installation of canopy, shrub and groundcover species at a density and diversity sympathetic to the structure of Cumberland Plain Woodland.

Densities will be at:

- 1 tree per 16 metre2 across the entire zone.
- 1 shrub per 2 metre2 to 50% of the zone.
- 8 groundcover plants per 1 metre2 to 95% of the zone.

Plant diversity in the offset area will comprise 80% tree species, 30% shrub species and 60-80% of groundcover species previously observed at the site and outlined in **Table 3**. Density and diversity estimations follow the recommendations outlined in the How to Prepare a Vegetation Management Plan Guideline (DNR, 2007) and have been adjusted to account for the resilience of the site.

However, in sites of high resilience, the soil seedbank will be triggered to encourage natural regeneration prior to replanting. These sites will be monitored for recovery and weed control will continue for a period of 12 months. Planting and direct seeding at these sites will occur no later than 18 months after completion of primary weeding.

5.4 Future Management

Holcim prepared and implemented a VMP prior to construction as per Condition 2.24 of the Development Consent. Holcim has complied with the Development Consent by maintaining and monitoring revegetated areas at least five years after initial planting. In the future, the management areas will continue to be maintained and monitored for at least five years after final planting, including replacement planting (or where other revegetation methods are used, five years from when plants are of tubestock size) and until the densities specified in this VMP are met.

6. Vegetation Management Activities Prior to Operation

Table 4 and **Table 5** describe the activities and mitigation measures undertaken at RHDC during the clearing and construction phases of the project. At the time of writing this VMP RHDC is in its operational phase. However, these pre-construction and construction management strategy summaries have been included to satisfy Item 7.2 of the Statement of Commitments (2006) which states:

> *The VMP will contain management strategies for the vegetation on the site prior to and during the construction and through the operation of the RDC.*

Table 4: Pre-Construction and Pre-Clearing Management Activities (Completed Activities)

Management Measure	Description
Soil and Water Management	Soil and Water Management Plan prepared separately to this plan (SKM, 2011) and implemented as part of the Construction Environment Management Plan. All stormwater basins are to be planted with suitable local native species to minimise impacts on the buffer area
Access Control	Implementation of measures controlling long term access and encroachments (bollards, fences etc) to the riparian corridor (minimum 40 metres from top of creek bank on each side, with the exception of works associated with the two bridge crossings).
	Identification of parking areas, access/egress, stockpiles and materials storage in locations mapped outside the protected vegetation areas
Identification of Threatened Species	Identification and marking of each Grevilliea juniperina subsp. juniperina by an experienced ecologist and erection of clearly visible, durable and appropriately signposted exclusion fencing around a 10-12 metre buffer zone to protect these plants.
Protection of Significant Vegetation	Erection of clearly visible, durable and appropriately signposted exclusion fencing.
Weed control in areas of earthworks	Noxious weed propagules (seeds, roots etc) should be bagged and disposed of in the general waste stream where possible and/or deep burial on site in area to be cleared/excavated.

Table 5: Construction and Clearing Phase Management Activities (Completed Activities)

Management Measure	Description
Soil and Water Management	Soil and Water Management Plan implemented as part of the Construction Environment Management Plan (outside scope of VMP). All stormwater basins are to be planted with suitable local native species to minimise impacts on the buffer area.
Access Control	Barriers controlling long term access and encroachments (bollards, fences etc) to the riparian corridor are intact and adhered to.
Access Control	Parking areas, access/egress, stockpiles and materials storage clearly marked outside of protected and fenced native vegetation.
Protection of Significant Vegetation	Exclusion fencing intact and maintained.
Erection of property boundary fences and construction zone fences	To be located beyond riparian zones and revegetation zones. There is to be no cleared maintenance area along the fence.
Logs and Cumberland land snail habitat	Large trunks and bark removed during construction will be retained and reused in areas of Cumberland Plain Woodland in Management Zones 2b and 3 at the direction of the Bush Regeneration Contractor, during regeneration and revegetation to provide sheltering habitat for the Cumberland Plain Land Snail.
Clearing and Mulching	Cleared native vegetation surplus to Cumberland Plain Land Snail habitat reinstatement requirements should be mulched and re-used within the management zones on site at the direction of the Bush Regeneration Contractor in accordance with this VMP. This mulch should be stockpiled and managed for weeds and should be largely weed free prior to spreading. Woody weed waste may be able to be mulched under the direction of the Bush Regeneration Contractor.
Soil Seedbank	In sites of high resilience, trigger soil seedbank to encourage natural regeneration. Monitor site for recovery and continue weed control as required for a period of 12 months. Planting and direct seeding at these sites (if required) should occur no later than 18 months after completion of primary weeding.
Seed Collection	Seed collection and storage undertaken by an experienced Bush Regeneration Contractor following Florabank Guidelines. Seed collected will allow for an anticipated 20% replant rate. Species mix to follow the list and ratios listed in Section 9.2.
	Sourcing of native grass seed to supplement groundcover revegetation within Cumberland Plain Woodland areas.
	Propagation of seeds following Florabank Guidelines by an experienced horticulturalist in preparation for planting.

Bushland Regeneration	Begin site rehabilitation through primary weeding.
	Complete site preparation for planting, including follow-up weeding, brush matting for creek banks.
	Once cleared of weeds, the creek banks must be protected by topsoil and jute mesh or similar functioning products (not loose mulch) to protect against scour until the vegetation is established.

7. Vegetation Management Activities During Operation

7.1 Active Project Area

Routine landscape monitoring and weed management, especially herbaceous weed control, will continue to be the priority for the active project area due to the disturbed landscape characteristics of this zone. Activities from the Annual Maintenance Program will also be undertaken on the active project area as applicable. While the RHDC is operating Holcim, with conjunction with specialist and stakeholder advice including Bushland Regeneration Contractors and Ecologists, will continue to assess opportunities for revegetation and rehabilitation of the active project area.

7.2 Management Zones

A number of actions are required to achieve the revegetation objectives identified for the management zones at the site and to continue to encourage natural regeneration to enhance the native vegetation communities. Plant establishment and ongoing weed control have been the focus of post-construction activities, as well as undertaking a maintenance program to maximise the success of revegetation activities. Further revegetation activities in the post-construction/operation phase are summarized in **Table 6** and greater detail given in the following subsections.

Table 6: Operation Management Activities

Management Measure	Description
Soil and Water Management	Soil and water management strategies still protecting native vegetation management zones from new construction at site.
Access Control	Barriers continue to control long term access and encroachments (bollards, fences etc) to the riparian corridor
Protection of Significant Vegetation	Exclusion fencing intact and maintained
Erection of property boundary fences	Fences located beyond riparian zones and revegetation zones.
Bushland regeneration	Complete site preparation for planting, including follow-up weeding, brush matting for creek banks.
	Once cleared of weeds and where required, the creek banks must be protected by topsoil and jute mesh or similar functioning products (not loose mulch) to protect against scour until the vegetation is established.
	In sites of high resilience, trigger soil seedbank to encourage natural regeneration. Monitor site for recovery and continue weed control as required for a period of 12 months. Planting and direct seeding at these sites (if required) should occur no later than 18 months after completion of primary weeding
	Undertake revegetation (replanting) in riparian (River-Flat Forest) and woodland (Cumberland Plain) areas.
	Undertake watering according to frequency specified in Section 6.2.

	Undertake maintenance weeding according to frequency in Section 6.2.
	Undertake replacement planting within six months of original revegetation efforts.
Reporting	Immediately after completion of initial planting/seeding submit to the DP&I a monitoring report addressing the performance criteria as specified in the VMP and comment on the stability and condition of any stream works. The person responsible for implementing the VMP must certify in writing that plantings have been carried out using stock propagated from seed or plant material collected only from native plants from the local botanical provenance.

Establishment

Installation of local provenance plants and direct seeding of native grass species has followed standard bush regeneration industry standards and will continue to do so in case of plant replacement. This includes conducting works in such a fashion to maximise regeneration in areas that are less degraded with gradual progression to areas that are less intact. At the site, vegetation in the western portion of the site was generally more intact prior to the construction of the project.

Planting was undertaken by a qualified and experienced Bush Regeneration Contractor. Planting works were carried out post-construction and when weed control was achieved to limit competition with the plantings. Plantings occurred within six months of the completion of primary weeding. Autumn plantings were preferred due to ideal climatic conditions, and will continue to be the preferred replanting period if this is required in the future to achieve the revegetation criteria.

Mechanical site preparation did not occur in any of the management zones. Topsoil was mostly suitable for planting across all management zones and the importation of topsoil was not required. Planting occurred once a final herbicide application at each planting site had taken effect. The application of mulch occurred in Management Zone 3, but was not required in the other zones as revegetation in these areas occurred by in-fill planting in remnants where the soil profile was largely intact.

The intent of revegetation across all the management zones is to emulate the characteristics of the extant native vegetation at the site. As a result, plantings occurred in a mosaic fashion across the landscape with all structural elements of each community represented in clumping formations. Isolated shrubs and a carpet of groundcovers support the mosaic between clumps.

Fertilisers

Fertilisers were not applied to newly planted individuals. Native plants are generally adapted to survive in low nutrient locations. Application of fertiliser to the site is likely to encourage weed growth.

Tree Guards

Each plant were installed with tree guards to retain soil moisture and provide temporary protection from the elements and grazing animals. Tree guards were routinely checked and maintained and have been removed as required.

Watering

If soil was dry at the time of planting, each plant received either 20 Litres of water or 10 Litres of water in a moist soil profile. Watering was done within two hours of planting. Water-retaining granules were

applied with the installation of each plant. Deep watering to encourage deep root systems occurred a couple of times a year in the first twelve months of plant establishment with the need dependent upon climatic conditions.

7.2.1 Maintenance Works

Rehabilitation of each of the management zones at the site requires a minimum 80% survival rate for all planted species at specified densities and a maximum 5% weed cover (DNR, 2007). In accordance with the Development Consent and SOCs, all rehabilitated/revegetated areas are to be maintained and monitored for at least five years after final planting, or where other revegetation methods are used (such as direct seeding), five years from when plants are of tubestock size and are at the densities specified in this VPM. Maintenance periods may need to be extended where losses are greater than 20% or where there are unacceptable weed issues. Any maintenance replanting (replacement planting) greater than 20% of the planted population must be established for at least 12 months before DPIE will endorse completion (DNR, 2007).

In sites of high resilience, the soil seedbank will be triggered to encourage natural regeneration prior to replanting. These sites will be monitored for recovery. Planting and direct seeding at these sites occurred no later than 18 months after the completion of primary weeding.

Ongoing maintenance will improve the resilience of the revegetated communities, thereby reducing the need for replacement plantings. Works associated with the maintenance of the site rehabilitation include ongoing weed control, managing any grazing impact by animals, undertaking deep watering and replacement planting. These works will be carried out by an experienced and qualified Bush Regeneration Contractor. Monitoring and reporting of maintenance works will be carried out by a qualified Ecologist.

Annual maintenance tasks and responsibilities are described in **Table 7**.

Table 7: Annual Maintenance Program

Maintenance Activity	Frequency	Responsibility
Secondary weed control Weed inspection	Quarterly (with consideration to life cycle of weeds) Quarterly	Bush Regeneration Contractor Ecologist
Pests and diseases	Monitored every week for the first month, then quarterly as part of Maintenance Inspections	Bush Regeneration Contractor Quarterly reporting by ecologist
Plant replacement	6 monthly	Bush Regeneration Contractor
Irrigation (Deep Watering)	Within two hours of planting then 3 times in the first year with consideration of rainfall events. More frequently during extended dry periods.	Bush Regeneration Contractor
Rubbish removal (riparian area only)	Quarterly	Bush Regeneration Contractor

Maintenance Activity	Frequency	Responsibility
Adequacy of erosion control solutions in the Construction area within riparian zone	After periods of heavy rain or quarterly – whichever comes first	Bush Regeneration Contractor
Maintenance inspections	Within first week of planting and then quarterly	Ecologist in consultation with Bush Regeneration Contractor

Secondary Weed Removal

Continued weed control post-planting will continue to be required to control both the storage of weed seed in the soil and weed colonisation following the ground disturbance associated with planting. Controlling weeds in their early stages of growth not only reduces effort in the future by preventing seed set and future proliferation of the plant but provides optimum growing conditions for native plants by reducing competition for soil nutrients and water and minimising the chance of native plant fatality or reduced vigor as a result of the weeds 'shading out' juvenile native plants.

Secondary weed control will continue to be undertaken quarterly with consideration given to the life cycle of the species and will follow the requirements as described for primary weeding. **Table 8** describes the treatment and disposal methods for weed control to be undertaken. Weed control effort will increase as growth is accelerated in the warmer seasons. Additionally, as a great deal of weeds in the riparian zone may have been transported by the creek from upstream areas, opportunities to co-ordinate site weed control activities with regional weed control programs will be investigated through contact with Blacktown Council.

Table 8: Weed Removal Recommendations

Weed Type	Primary Control Treatment	Follow-Up Control	Maintenance weeding post-planting (revegetation)	Disposal
Woody weeds	Cut and paint or drill and inject.	Retain dead trunks in or on ground as habitat. Monitored monthly and controlled as required (and within a minimum of three months) and up until the date of final plantings.	Monitored and carried out regularly for a period of five years from the date of final planting.	Chip in-situ if infestations too thick to retain.
Climbing weeds	Scrape and paint.	Scrape and paint. Monitored monthly and controlled as required (and within a minimum of three months) and up until the date of final plantings.	Monitored and carried out regularly for a period of five years from the date of final planting.	Chip in-situ.

Weed Type	Primary Control Treatment	Follow-Up Control	Maintenance weeding post-planting (revegetation)	Disposal
Herbaceous weeds	Spraying using a combination of non- selective and selective herbicides where damage to adjoining native vegetation can be avoided.	Spray or hand pull seedlings. Monitored monthly and controlled as required (and within a minimum of three months) and up until the date of final plantings.	Monitored and carried out regularly for a period of five years from the date of final planting.	Bag and remove from site.
Exotic grasses and broadleaf annuals around populations of native grasses	Low volume spot spraying of broadleaf selective and non-selective herbicides.	Continue spot spraying. Monitored monthly and controlled as required (and within a minimum of three months) and up until the date of final plantings.	Monitored and carried out regularly for a period of five years from the date of final planting.	Slashed in preparation for mulching.
Weeds and seedlings in close proximity to protected native vegetation	Hand weeding.	Spot spray. Monitored monthly and controlled as required (and within a minimum of three months) and up until the date of final plantings.	Monitored and carried out regularly for a period of five years from the date of final planting.	Bag and remove from site.

Pests and Diseases

New plantings (whether initial or replacement plantings) will be monitored for pests and diseases every week for the first month and then quarterly. Plants decimated by pest or disease will be removed immediately and disposed of offsite. Records of the type of species affected, the type of pest or disease affecting the plant and the location for replanting will be recorded. Replacement planting in this instance will occur as part of a bulk plant replacement program every six months, unless local provenance replacement plants are readily available to be planted in a suitable season – preferably autumn.

Plant pests and diseases frequently strike as plagues or under certain climatic conditions. Opportunities to coordinate site pest and disease control programs will be investigated through contact with Blacktown Council and NSW Agriculture.

Plant Replacement

Maintenance planting is to replace plants by the same species, or where that species is not available (or exhibiting high failure rates), with the same growth form (i.e. – a tree with a tree) and must not decrease diversity. Any new species must still be from the same community being emulated, of the same size as originally specified and of local provenance (DNR, 2007). Provenance, planting and establishment requirements are as for initial plantings.

Deep Watering

Deep watering for initial plant establishment was planned to occur quarterly, however was dependent on local climatic conditions.

Rubbish Removal

The riparian corridor will continue to receive rubbish in high flow events from upstream. Rubbish will be collected quarterly and disposed of appropriately. If debris is considered to be providing fauna habitat then it will remain in-situ until alternative suitable habitat has been provided. This may include dead timber/logs, rocks or vegetation.

Maintenance Inspections

Maintenance inspections are required to gain an overall assessment of how each of the management zones are responding to the suite of rehabilitation works implemented across the site. The intention is to draw together all of the maintenance information recorded by the Bush Regeneration Contractor over a period of six months and compare this to the objectives of the project. Maintenance inspections also involve site inspections and act as a quasi-audit to satisfy both the proponent and regulatory authorities that statutory approval requirements are being met. Maintenance inspections have been reduced from quarterly to every six months as the project has moved into operation.

Table 9 outlines the maintenance program for RHDC.

Table 9: Maintenance Program Summary

Maintenance Area	Description of Maintenance Tasks
Weeds	Assessment of average densities of each weed species within each management zone, observations and treatment recommendations.
Pests and disease	Number and types of species affected, type of pest or disease, % of species affected, observations and treatment recommendations. This includes grazing by feral and native animals and the success or otherwise of any programs to protect regenerating areas from such impact.
Planting	Estimate of initial planting success, trends in unsuccessful establishment of particular species, plant size and spread and evidence of natural regeneration
Erosion	Inspection of rehabilitation and erosion control in riparian areas adjacent to the bridge construction. Photo monitoring points will be established at this site to track change over time.
Deep watering	Assessment of general soil moisture in each management zone and the Juniper-leaved Grevillea buffer and information on observed watering requirements by species.
Mulch	Depth of mulch should be measured and maintained to 75 mm in Management Zone 3. Recommendations to be made regarding mulching of other management zones if required.
Inspection	Inspections which examine health and vigour of individuals (particularly adult plants); number of adult plants and number of juvenile plants, estimate of total area of species, and the percentage (%) of planted species surviving and average height of planted species.

8. Monitoring, Review and Reporting

Monitoring and review of the implementation of the VMP against established performance criteria will be undertaken every six months by a qualified ecologist. Commencement of the monitoring program coincided with commencement of seed collection at the site. Monitoring against the site performance criteria outlined in **Section 8.1** will continue throughout the operations phase of the project.

8.1 Performance Criteria

- Certification that plant stock are of local botanical provenance.
- In sites of high resilience, demonstration of natural regeneration after triggering the soil seedbank prior to replanting.
- Gradual improvement at site of plant establishment with the aim of achieving 80% establishment of each species after five years since initial planting.
- Gradual reduction in weed density to 5% of the total area of each management zone.
- Gradual extension of native plant cover in each management zone through natural regeneration.
- Maintenance or reduction of erosion in the riparian zone.

8.2 Reporting

Monitoring by a qualified ecologist will occur six monthly and will be undertaken in close consultation with the Bush Regeneration Contractor. Statutory reporting to DPIE is required annually to assess the success of the works in accordance with the VMP performance criteria outlined and to determine the condition and stability of any stream works.

Reporting undertaken during maintenance inspections will form the primary data source for development of each monitoring and review report. Site inspections of each management zone, including the Juniper-leaved Grevillea buffer and the Cumberland Plain Woodland ecological offset (in Management Zone 2b) will be undertaken jointly by the site Bush Regeneration Contractor and ecologist at least six monthly. Recommendations made within the report to improve compliance with performance criteria will be acted on and noted accordingly.

Photo-monitoring points continue to be used within the Angus Creek riparian zone, including Management Zone 1, to demonstrate compliance with performance criteria. Use of photo-monitoring points will follow the Land Managers Monitoring Guide – Photopoint Monitoring (Environment and Resource Sciences, 2010).

9. Roles and Responsibilities

Environmental management at RHDC is the responsibility of all employees and contractors, with the RHDC Site Manager having overall responsibility. Environmental roles and responsibilities for project personnel are outlined below (**Table 10**). Environmental responsibilities are included in the position descriptions of all employees.

Table 10: RHDC Roles and Responsibilities

Personnel	Responsibilities
Site Manager (SM)	• Have a working knowledge of Strategy, the Holcim Environmental Policy and the Holcim EMS. • Liaise with the Holcim Support Services Supervisor regarding the preparation of annual environmental programs and their implementation. • Co-ordination of VMP associated conditions with clearing and construction works ensure native vegetation is protected and enhanced through the life of the project. • Completion of site management to ensure ongoing protection of regenerated sites post-maintenance period
Site Environmental Representative (SER)	• Providing the material for the correct induction and training of all employees, contractors, and consultants. • Supporting the Site Supervisors in site operations and contractors comply with all policies and procedures. • Investigating complaints and implementing corrective actions. • Conducting and/or initiating reviews and audits of environmental performance. • Ensuring all environmental monitoring is undertaken as required. • Action amendments to practices, initiating studies and amending plans. • Reporting as required to the authorities.
Ecologist	• Management and implementation of the VMP, including performance indicator monitoring, provision of technical advice and statutory reporting. • Certification of completion of maintenance project by achievement of performance indicators. • Assist in the coordination of incident investigations and reporting as required by legislation and internal standards and guidelines; and • Assist with the review of this Plan.
Bush Regeneration Contractor	• On-ground works associated with the VMP, maintenance inspections and meeting of performance criteria, including the management of pest species contractor, if required. • Certification of supply and installation of local provenance native seed.
All employees and contractors	• Be aware of this strategy and the Holcim Environmental Policy and undertake all works in accordance with these documents. • Be responsible and accountable for the environmental impact of the work they perform. • Immediately report any environmental incidents to their supervisor.

10. Long-Term Site Management Plan

A commitment to the management and enhancement of native vegetation at the RHDC site beyond the life of the VMP is required. All future works within the management zones will be completed as per this VMP.

Prior to closure of the RHDC a more detailed VMP will be developed to include rehabilitation of the Active Project Area.

11. Review and Improvement

This VMP will be reviewed, and revised as necessary, in accordance with the requirements of Schedule 5 Condition 5 of the Development Consent which states:

> *Within 3 months of the submission of an:*
>
> > *(a) incident report under condition 8 below;*
> > *(b) Annual Review under condition 10 below;*
> > *(c) audit report under condition 11 below; and*
> > *(d) any modifications to this consent,*
>
> *the Applicant must review, and if necessary revise, the strategies, plans, and programs required under this consent, to the satisfaction of the Secretary.*

The requirement to review and update management plans will be assessed during the preparation of each Annual Review. The Annual Review will state if management plans require updating.

Updated versions of management plans will be sent to DPIE for review and will be put on the website once approved by DPIE.

12. Estimate of Cost

Table 11 provides a summary of the estimate of cost associated with each year of implementation of the VMP in relation to the services and works provided by a bush regeneration contractor and ecologist. The costs associated with regeneration of the management zones were provided by Ecohort Pty Ltd after a site walkover in May 2011. A more complete outline of costs is included in **Appendix 2**. Cost estimates are based on 2010/2011 rates and are GST exclusive. There have been no changes to the Estimate of Cost (**Table 11**) in this 2021 revision of the OEMP as it continues to represent the cost structure and timeline of landscape management at RHDC.

The construction-related costs that are excluded include:

- the erection of fencing to protect the native vegetation and demarcate the limit of clearing;
- hard engineering solutions associated with riparian protection;
- and the costs of vegetation clearance and mulching.

Table 11: Probable Estimate of Cost Breakdown

Year	Task	Cost
Year 1	Pre-Construction/Pre-Clearing (weed control, seed collection, plant propagation, ecology pre-survey)	$201 000
Year2	Initial planting, maintenance, monitoring and reporting	$427 080
Year 3	Replanting, maintenance, monitoring and reporting	$182 080
Year 4	Maintenance, monitoring and reporting	$138 817
Year 5	Maintenance, monitoring and reporting	$121 006
Year 6	Maintenance, monitoring and reporting	$105 867
Year 7	Maintenance, monitoring and reporting	$88 710
Year 8	Maintenance, monitoring and reporting	$66 240
	If performance indicators achieved, certification and sign off. (Not yet completed).	$10 000
TOTAL		**$1 340 800**

Maintenance will continue as per the Year 8 costs.

Appendix A – Revegetation Plant Species and Seed Collection Times, SKM 2011

Appendix A Revegetation Plant Species and Seed Collection Times

Cumberland Plain Woodland – Critically Endangered Ecological Community

(Source - Greening Australia – referenced in DEC NSW 2005)

Species	Optimum seed collection time
Acacia binervia	November–December
Acacia decurrens	Early to mid-December
Acacia elongata	November
Acacia falcata	Late November–early December
Acacia floribunda	Late November–early December
Acacia parramattensis	Late November–early December
Acacia ulicifolia	October–January
Acmena smithii	May–September
Ajuga australis	Late December–end January
Allocasuarina littoralis	All year round
Angophora bakeri	April–July
Angophora subvelutina	February–June
Backhousia myrtifolia	December–January
Banksia spinulosa	All year
Billardiera scandens	December–March
Bulbine bulbosa	November–early January
Bursaria spinosa	April–May
Callistemon salignus	All year
Carex appressa	December–January
Casuarina cunninghamiana	All year
Casuarina glauca	All year
Clematis glycinoides	November–early December
Danthonia tenuior	December–May
Daviesia genistifolia	November–January
Daviesia ulicifolia	November–January
Dianella caerula	November–February
Dichelachne micrantha	December–January
Dillwynia juniperina/sieberi	November–early January
Dodonaea falcata	November–December
Dodonaea viscosa	October–February
Echinopogon caespitosus	December–early March

Species	Optimum seed collection time
Eleocharis spp.	December–January
Eucalyptus amplifolia	Late July–early March
Eucalyptus crebra	December–May
Eucalyptus eugenioides	June–September
Eucalyptus fibrosa	April–October
Eucalyptus globoidea	March–June
Eucalyptus maculata	January–May
Eucalyptus moluccana	January–March
Eucalyptus parramattensis	November–February
Eucalyptus punctata	October–February
Eucalyptus sideroxylon	August–February
Eucalyptus tereticornis	January–March
Geranium solanderi	December–February
Glycine tabacina	October–June
Hakea sericea	All year
Hardenbergia violacea	November–December
Indigofera australis	November–February
Juncus spp.	December–March
Kunzea ambigua	December–March
Leptospermum spp.	All year
Lomandra longifolia	December–March
Melaleuca decora	All year
Melaleuca linariifolia	All year
Melaleuca styphelioides	All year
Microlaena stipoides	November–February
Ozothamnus diosmifolius	November–January
Poa labillardieri	December–March
Pultenaea microphylla	October–February
Solanum spp.	December–March
Sorghum leiocladum	Beginning of January
Stipa spp.	November–February
Themeda australis	Late December–early January
Wahlenbergia gracilis	December–February
Wahlenbergia stricta	November–February

Appendix B - Estimate of Cost – Bush Regeneration, SKM 2011

Appendix B Estimate of Cost – Bush Regeneration

Ecohort Pty Ltd's cost estimate for proposed Restoration Bushland Restoration Works adjoining Angus Creek at the Readymix Rooty Hill development site. 3 June 2011 version.

Item No	Proposed Activity/Item	Unit	No Units	$ per unit	$ sub-total ex GST
1.0	**Primary Weeding Activities**				
1.1	**Zone 1: primary bush regeneration weeding sweep of the High % Cover (>75%) levels of mainly woody and some herbaceous weeds in the River-Flat Eucalypt Forest - Zone 1a.** Includes: the cut and paint of woody weeds, the drilling and injecting of larger woody weeds; scraping & painting of climbing weeds as encountered; hand weeding around native plants; and the spraying of mainly climbing and herbaceous weeds using a combination of non selective and selective herbicides in situations where damage to adjoining native plants can be avoided. Also includes provision for chipping treated woody weeds, as required.	m^2	38110	$2.90	$110,519.00
1.2	**Zone 2a: primary bush regeneration weeding sweep of Medium % cover (25-50%) levels of woody, climbing and herbaceous weeds in the Northern Cumberland Plain Woodland - Zone 2a.** Includes: the cut and painting of woody weeds, scraping & painting of climbing weed; hand weeding around native plants; and the spraying of climbing, woody and herbaceous weeds with non selective and selective herbicides in situations where damage to adjoining native plants can be avoided.	m^2	10050	$2.50	$25,125.00
1.3	**Zone 2b: primary bush regeneration weeding sweep of the Low % cover (6-25%) levels of mainly climbing and herbaceous weeds within the Southern Cumberland Plain Woodland - Zone 2b.** Includes: hand weeding around native plants and spot spraying of herbaceous weeds with non selective and selective herbicides in situations where damage to adjoining native plants can be avoided.	m^2	19040	$1.30	$24,752.00
1.4	**Zone 3: primary bush regeneration weeding sweep of the Very High % cover (approx. 95%) levels of mainly grassy weeds within the Cleared and Disturb - Zone 3.** Undertake a combination of low volume spot spraying activities using broadleaf selective and non-selective herbicides to spray exotic grasses and broadleaf annuals from around any significant populations of native grass species. Once dead, targeted grass species will be slashed down in preparation	m^2	12883	$1.05	$13,527.15

Item No	Proposed Activity/Item	Unit	No Units	$ per unit	$ sub-total ex GST
	for mulching activities and given a final follow up spot spray.				
	Sub Total cost ex GST for all Primary Weeding Activities				**$173,923.15**
2.0	**Mulching Activities in the Zone 3 Revegetation Area**				
2.1	**Zone 3: Supply and installation of 75mm layer of weed free mulch to 95% of zone 3.** This will suppress weed regrowth, reduce soil water evaporation and provide a soil covering until such time that installed vegetation becomes established.	m^2	12,239	$3.60	$44,059.86
	Sub Total cost ex GST for all Mulching Activities in the Zone 3 Revegetation Area				**$44,059.86**
3.0	**Revegetation Activities**				
3.1	**Collection and processing of local seed material to produce 120,133 plants for use in revegetation activities within the project area.**	Plant	120133	$0.06	$7,207.98
3.2	**Zone 1: Supply and installation of v93 hiko tubestock of RFEF shrub species within zone 1.** Shrubs species are to be installed at an average density of 1 plant per 2m2 (i.e.. 1.4m spacings) to 25% of the more degraded areas of the zone. Cost per unit includes the supply, installation, establishment watering and a supply of water retaining crystals to each plant.	v93	4764	$2.79	$13,291.56
3.3	**Zone 1 direct seed local native RFEF grasses, such as *Microlaena stipoides, Capillipedium parviflorum, Themeda triandra* and *Austrostipa ramosissima* over about 50% of the more degraded and less resilient parts of the 38,110m2 REFEF Zone 1.** Includes: recreating a friable seed bed using hand tools such as rakes; the supply and installation of 10 grams of perennial local native grass mix in mosaic patches over 50% of the more degraded and less resilient parts of the 38,110m2 REFEF Zone 1 (19,055m2). A total of 191 kilograms of native grass seed will be collected from the local Blacktown, Fairfield, Penrith and Hawkesbury areas and sown over the 19,055m2 areas in a mosaic fashion, by hand spreading and raking. Includes provision for supplementary irrigation to establish sow native grasses.	m^2	19055	$5.40	$102,897.00
3.4	**Zone 2a: Supply and installation of v93 hiko tubestock of CPW shrub species within zone 2a.** Shrub species are to be installed at an average density of 1 plant per 2m2 (i.e.. 1.4m spacings) to 25% of the more degraded parts the 10,050m2 Zone 2a. Cost per unit includes the supply, installation, establishment watering and a	v93	1257	$2.79	$3,507.03

Item No	Proposed Activity/Item	Unit	No Units	$ per unit	$ sub-total ex GST
	supply of water retaining crystals to each plant.				
3.5	**Zone 2a direct seed local native CPW grasses, such as *Microlaena stipoides, Capillipedium parviflorum, Themeda triandra* and *Austrostipa ramosissima* over about 25% of the more degraded and less resilient parts of the 10,050m2 CPW Zone 2a.** Includes: recreating a friable seed bed using hand tools such as rakes; the supply and installation of 10 grams of perennial local native grass mix in mosaic patches over 25% of the more degraded and less resilient parts of the 10,050m2 CPW Zone 2a, (2,513m2). A total of 25 kilograms of native grass seed will be collected from the local Blacktown, Fairfield, Penrith and Hawkesbury areas and sown over the 2,513m2 areas in a mosaic fashion, by hand spreading and raking. Includes provision for supplementary irrigation to establish sow native grasses.	m^2	2513	$5.40	$13,570.20
3.6	**Zone 3: Supply and installation of v93 hiko tubestock of RFEF tree species within zone 3**. Tree species are to be installed at an average density of 1 plant per 16m2 to the entire zone, (i.e. at 4-metre spacings. Cost per unit includes the supply, installation, establishment watering and a supply of water retaining crystals to each plant.	v93	806	$2.79	$2,248.74
3.7	**Zone 3: Supply and installation of v93 hiko tubestock of RFEF shrub species within zone 3.** Shrubs species are to be installed at an average density of 1 plant per 2m2 (i.e.. 1.4m spacings) to 50% of the zone. Cost per unit includes the supply, installation, establishment watering and a supply of water retaining crystals to each plant.	v93	4474	$2.79	$12,482.46
3.8	**Zone 3: Supply and installation of v50 hiko tubestock of RFEF grass species within zone 3.** Ground layer species are to be installed at an average density of 8 plants per m2 to 95% of the 12,883m2 zone. Cost per unit includes the supply, installation, establishment watering and a supply of water retaining crystals to each plant.	v50	97911	$2.15	$210,508.22
	Total Number Plants at v50 hikos (note: does not include replacement plants)				97,911
	Total Number Plants at v93 hikos (note: does not include replacement plants)				11,301
	Total Number of Plants (note: does not include replacement plants				109,212
	Sub Total cost ex GST for all Revegetation Activities				**$365,713.19**
4.0	**Maintenance Activities**				
4.1	**Year 1 Maintenance**				

Item No	Proposed Activity/Item	Unit	No Units	$ per unit	$ sub-total ex GST
4.1.1	**Zone 1:** Maintenance weeding within zone 1 for a period of 12 months following the completion of primary works. An increase in maintenance hours will occur throughout the warmer growing months.	m2	38110	$1.95	$74,314.50
4.1.2	**Zone 1:** Replace 10% of all installed shrubs within zone 1. Includes all associated supply, installation and establishment watering costs.	v93	477	$2.79	$1,330.83
4.1.3	**Zone 2a:** Maintenance weeding within zone 2a for a period of 12 months following the completion of primary works. An increase in maintenance hours will occur throughout the warmer growing months.	m2	10050	$1.50	$15,075.00
4.1.4	**Zone 2a:** Replace 10% of all installed shrubs within zone 2a. Includes all associated supply, installation and establishment watering costs.	v93	126	$2.79	$351.54
4.1.5	**Zone 2b:** Maintenance weeding within zone 2b for a period of 12 months following the completion of primary works. An increase in maintenance hours will occur throughout the warmer growing months.	m2	19040	$0.90	$17,136.00
4.1.6	**Zone 3:** Maintenance weeding within zone 3 for a period of 12 months following the completion of primary works. An increase in maintenance hours will occur throughout the warmer growing months.	m2	12883	$1.95	$25,121.85
4.1.7	**Zone 3:** Replace 10% of all installed trees within zone 3. Includes all associated supply, installation and establishment watering costs.	v93	81	$2.79	$225.99
4.1.8	**Zone 3:** Replace 10% of all installed shrubs within zone 3. Includes all associated supply, installation and establishment watering costs.	v93	448	$2.79	$1,249.92
4.1.9	**Zone 3:** Replace 10% of all installed grasses and sedges within zone 3. Includes all associated supply, installation and establishment watering costs.	v50	9792	$2.79	$27,319.68
	Sub Total cost ex GST for all Year 1 Maintenance Activities				**$162,125.31**
4.2	**Year 2 Maintenance**				
4.2.1	**Zone 1:** Year 2 maintenance weeding within zone 1. An increase in maintenance hours will occur throughout the warmer growing months.	m2	38110	$1.76	$67,073.60
4.2.2	**Zone 2a:** Year 2 maintenance weeding within zone 2a. An increase in maintenance hours will occur throughout the warmer growing months.	m2	10050	$1.35	$13,567.50
4.2.3	**Zone 2b:** Year 2 maintenance weeding within zone 2b. An increase in maintenance hours will occur throughout the warmer growing months.	m2	19040	$0.81	$15,422.40
4.2.4	**Zone 3:** Year 2 maintenance weeding within zone 3. An increase in maintenance hours will occur throughout the warmer growing months.	m2	12883	$1.76	$22,674.08
	Sub Total cost ex GST for all Year 2 Maintenance Activities				**$118,737.58**

Item No	Proposed Activity/Item	Unit	No Units	$ per unit	$ sub-total ex GST
4.3	**Year 3 Maintenance**				
4.3.1	**Zone 1:** Year 3 maintenance weeding within zone 1. An increase in maintenance hours will occur throughout the warmer growing months.	m2	38110	$1.50	$57,012.56
4.3.2	**Zone 2a:** Year 3 maintenance weeding within zone 2a. An increase in maintenance hours will occur throughout the warmer growing months.	m2	10050	$1.15	$11,532.38
4.3.3	**Zone 2b:** Year 3 maintenance weeding within zone 2b. An increase in maintenance hours will occur throughout the warmer growing months.	m2	19040	$0.69	$13,109.04
4.3.4	**Zone 3:** Year 3 maintenance weeding within zone 3. An increase in maintenance hours will occur throughout the warmer growing months.	m2	12883	$1.50	$19,272.97
	Sub Total cost ex GST for all Year 3 Maintenance Activities				**$100,926.94**
4.4	**Year 4 Maintenance**				
4.4.1	**Zone 1:** Year 4 maintenance weeding within zone 1. An increase in maintenance hours will occur throughout the warmer growing months.	m2	38110	$1.27	$48,460.68
4.4.2	**Zone 2a:** Year 4 maintenance weeding within zone 2a. An increase in maintenance hours will occur throughout the warmer growing months.	m2	10050	$0.98	$9,802.52
4.4.3	**Zone 2b:** Year 4 maintenance weeding within zone 2b. An increase in maintenance hours will occur throughout the warmer growing months.	m2	19040	$0.59	$11,142.68
4.4.4	**Zone 3:** Year 4 maintenance weeding within zone 3. An increase in maintenance hours will occur throughout the warmer growing months.	m2	12883	$1.27	$16,382.02
	Sub Total cost ex GST for all Year 4 Maintenance Activities				**$85,787.90**
4.5	**Year 5 Maintenance**				
4.5.1	**Zone 1:** Year 5 maintenance weeding within zone 1. An increase in maintenance hours will occur throughout the warmer growing months.	m2	38110	$1.02	$38,768.54
4.5.2	**Zone 2a:** Year 5 maintenance weeding within zone 2a. An increase in maintenance hours will occur throughout the warmer growing months.	m2	10050	$0.78	$7,842.02
4.5.3	**Zone 2b:** Year 5 maintenance weeding within zone 2b. An increase in maintenance hours will occur throughout the warmer growing months.	m2	19040	$0.47	$8,914.15
4.5.4	**Zone 3:** Year 5 maintenance weeding within zone 3. An increase in maintenance hours will occur throughout the warmer growing months.	m2	12883	$1.02	$13,105.62
	Sub Total cost ex GST for all Year 5 Maintenance Activities				**$68,630.32**

Item No	Proposed Activity/Item	Unit	No Units	$ per unit	$ sub-total ex GST
				Sub Total cost ex GST for all Maintenance Activities	**$536,208.06**
5.0	**Licensing**				
5.1	Administrative costs associated with obtaining a NPWS section 91 scientific license to undertake restoration works within an Endangered Ecological Community listed under Schedule 1 of the NSW Threatened Species Conservation Act 1995.	Item	1	$444.00	$444.00
				Sub Total cost ex GST for Licensing	**$444.00**
				Total Doonside VMP Works (ex GST)	**$1,120,348.26**
				10% GST	**$112,034.83**
				Total Doonside VMP Works (inc GST)	**$1,232,383.08**
				M2 RATE for all 80,083m2 areas over the total project period.	**$13.99**


Holcim

Appendix 2 – Holcim Environmental Policy (2019)

Strength. Performance. Passion.

Policy

Environment Policy

June 2019

1. Framework

The Holcim Australia & New Zealand (HANZ) Environment policy is an integral part of the HANZ policy landscape. This policy should be read in close conjunction with the policies and directives listed in Annex 2.

The environment policy comprises:

- Scope
- Policy Principles
- Annex 1: Responsibilities
- Annex 2: LafargeHolcim policies and directives related to the HANZ Environment Policy
- Annex 3: Recommendations related to the policies
- Annex 4: Definitions and Abbreviations

2. Scope

2.0 Applicability

The scope of the Environment Policy covers the management of all Holcim operations (active and inactive) throughout Australia and New Zealand including its subsidiaries and agents.

In associated companies or joint ventures where Holcim does not exercise equity or management control, the responsible Executive Committee Member will establish that the associated company or joint venture is aware of the HANZ Environment Policy and will encourage its adoption or at least essentially equivalent standards by such associated company or joint venture.

2.1 Content in scope

This Policy addresses the impacts associated with the interaction between our operations and the environment in terms of their nature, their source and their consequences. The management of specific environmental aspects are defined in more detail in the policies and directives listed in Annex 2.

3. Policy Principles

HANZ is committed to providing positive contributions to the community, the environment and our business by continuously improving environmental performance and focusing on sustainable development.

Our Environmental Policy contains four main pillars, under which we have assigned principles to guide our business, so that our day to day activities are carried out in a manner which minimises and improves our impact on the environment.

3.0 Management Systems

- All operations shall use an effective Environmental Management System (EMS) that aligns with the requirements of ISO14001 to manage overall environmental responsibilities and performance.
- All operations shall comply with all applicable environmental laws, regulations, standards and voluntary agreements applicable to our products and operations.
- We promote our commitment through training and integrate the consideration of environmental issues into business decision-making.
- We engage with customers to develop sound environmental practices and expect our contractors and suppliers to respect and comply with our environmental policies and procedures.
- We set corporate objectives and targets and undertake regular audits of environmental performance to monitor our progress.

3.1 Environmental Impacts

- **Process Improvement:** We assess and measure our environmental impacts, continuously improve processes, tools and capabilities and promote best practices in our industry. We encourage analysis of impacts through the life cycle of our products and solutions.
- **Release of pollutants:** We identify, develop and implement effective controls to monitor, minimize or prevent the release of pollutants to the environment (air, water, and soil) from our operations.
- **Climate Change:** We strive to reduce our impact on climate change through the development, manufacture or promotion of innovative and sustainable products and solutions, optimizing the use of energy, and where appropriate the use of renewable energy sources.
- **Water:** We minimise our impact on water resources by limiting water withdrawal through the use of recycling, the promotion of water efficient practices and a responsible management of water discharges.
- **Quarry Rehabilitation:** We develop a rehabilitation plan for all quarry sites that takes into account the needs and expectations of our stakeholders and, where feasible and relevant, fosters wildlife habitat creation and contribution to the conservation of species.

- **Biodiversity:** We implement biodiversity management plans for all relevant extraction sites and work to protect important areas or habitats and facilitate the conservation of heritage artifacts discovered during site development and quarry operations.

- **Local impacts:** We assess, and appropriately mitigate, our impacts on surrounding communities in regards to fugitive dust, noise, vibrations, and traffic.

3.2 Resource Utilisation

- We promote eco-efficiency, conservation of non-renewable resources and recycling of secondary materials.
- We pursue the optimal utilisation of resources and the reduction of waste.

3.3 Stakeholder Relations, Monitoring & Reporting

- We are open, honest, and accountable to our stakeholders.
- We effectively engage and communicate with stakeholders in relation to environmental matters.

George Agriogiannis
Chief Executive Officer

Original dated: May 2016	Revision Dates: June 2019
Version dated: June 2019	
Responsible Group Executive Committee Member – George Agriogiannis / CEO HANZ Responsible Person – Garry Pirie / Environmental Lead – Holcim Australia	

Annex 1: Responsibilities

1.1 Australia & New Zealand CEO

- The CEO is ultimately responsible for the company's compliance with this Policy.
- The CEO delegates responsibilities for specific tasks to the different organisational units.

1.2 Environmental Function

- Proposes amendments to this Policy where and when necessary.
- Assists Holcim Australia and New Zealand Business Units in understanding and applying the Environmental Policy and Directives.
- Supports training on the Environmental Policy and Directives in the Holcim Australia and New Zealand Business Units.
- Share good practices within their region and promote environmental success stories at Group level.
- Assists in solving serious environmental compliance issues and other significant environmental issues.
- Collects feedback from Holcim Australian and New Zealand business units with regard to amendments of the Environmental Policy and Directives.

1.3 Other Central Functions

- Implementing the Environmental Policy requires cooperation with the following central functions in particular: Legal/Compliance, Procurement, Strategy, Finance, Project Management and Engineering, Communications.

Annex 2a: LafargeHolcim Policies related to HANZ Environmental Policy

Link with Policy	Definition / Description	Responsibility
Environment Policy	LafargeHolcim is committed to continuously improve its environmental performance and to make a positive contribution to nature and society.	Planning & Environment

Annex 2b: LafargeHolcim Directives related to HANZ Environment policy

Link to HR Policy	Directive	Definition / Description	Responsibility	Reference
Biodiversity Directive	Management of Biodiversity in our Aggregate operations.	The Biodiversity Directive provides an integrated approach to maintaining and safeguarding biodiversity and the resulting ecosystems and ecosystem services in all the company's operations.	Planning & Environment	Section 2.2

Link to HR Policy	Directive	Definition / Description	Responsibility	Reference
Water Directive	Management of Water Resources.	The Water Directive provides the rules to manage water in a responsible manner, ensuring we are aware of water related risks and that we manage our water usage optimally. The Water Directive also sets the framework for appropriate actions to minimize our impacts on water resources.	Planning & Environment	Section 2.2
Rehabilitation Directive	Management of Quarry Rehabilitation.	The objective of this Rehabilitation Directive is to provide mandatory rules for the preparation and closure of quarries (or any part thereof) in a safe, environmentally and socially responsible manner.	Planning & Environment	Section 2.2

Annex 3: LafargeHolcim recommendations related to the policy

Recommendation	Definition / Description	Reference
Nil		

Annex 4: Definitions and Abbreviations

CEO	Chief Executive Officer
EMS	Environmental Management System
HANZ	Holcim Australia & New Zealand

Appendix 3 – Approval for Surrender of License, EPA (2020)

Approval of the Surrender of a Licence

Licence - 20672

HOLCIM (AUSTRALIA) PTY LTD
LOCKED BAG 5007
BAULKHAM HILLS NSW 1755

Attention: Ms Shilpa Shashidharan

Notice Number	1594803
File Number	EF15/13669
Date	18-Jun-2020

APPROVAL OF THE SURRENDER OF LICENCE NO. 20672

BACKGROUND

The following licensee(s):

HOLCIM (AUSTRALIA) PTY LTD

applied to the Environment Protection Authority (EPA) to surrender Environment Protection Licence No. 20672 (the licence) issued under the Protection of the Environment Operations Act 1997 (the Act). The licence authorises the carrying out of activities at 21 Kellogg Road, ROOTY HILL, NSW, 2766.

A. As a result of a recent amendments to Schedule 1 of the Act, the storage of extracted materials is no longer considered a scheduled activity under Clause 19, Schedule 1 of the Act (i.e. Extractive Industries). The EPA understands that the extractive activity undertaken at the premises solely involves the storage of extracted materials.

B. The EPA undertook a premises inspection on 8 November 2019 to discuss changes to Schedule 1 of the Act. The EPA recommended that the licensee consider surrendering the licence in response to the changes. At this inspection, the EPA did not observe any areas of environmental concern or potential environmental legacy issues.

C. The EPA received an application to surrender the licence from the licensee on 12-May-2020.

D. The EPA emailed a draft copy of the approval for the surrender of licence No. 20672 on 3 June 2020 to confirm all details were correct prior to issuing the approval. The licensee responded on 10 June 2020 to confirm all details were correct.

E. The EPA has considered s45 of the Act and approved the surrender of the licence.

F. The EPA notes that a concrete batch plant is present on the premises. Under Section 92 of the Protection of the Environment Operations (General) Regulation, the EPA remains the appropriate regulatory authority of this concrete batch plant as it has the capacity to produce more than 30,000 tonnes a per year of concrete.

Approval of the Surrender of a Licence

APPROVAL OF THE SURRENDER OF A LICENCE

1. The surrender of the licence is approved.
2. The approval of the surrender is subject to the following conditions:
   a) The licensee must provide the EPA with an Annual Return in relation to compliance with the conditions of the licence during the period beginning on the last licence anniversary date and ending on the date that the surrender of the licence takes effect as set out in point 3 below.
   b) The Annual Return must be supplied to the EPA within 60 days of the date from which this notice operates (see note at the end of this notice).
   c) The content and form of the Annual Return must be in accordance with the applicable reporting conditions in the licence before it was surrendered.
   d) The Annual Return must be signed in accordance with the applicable reporting conditions in the licence before it was surrendered
3. Except as provided by section 84(2) of the Act, the approval of the surrender of the licence by this notice operates from the date of this notice.

.....

James Boyle

A/ Unit Head

Metropolitan - Sydney Industry

(by Delegation)

INFORMATION ABOUT THIS NOTICE

- On the date that the surrender of your licence takes effect the current licence fee period comes to an end. However, the surrender of your licence does not affect your liability to pay fees owing to the EPA for that licence fee period or for any earlier licence fee period.
- If you have not already paid the administrative fee for the licence fee period which has just come to an end on the surrender of your licence you must still do so. The administrative fee for a licence fee period must be paid no later than 60 days after the beginning of that licence fee period (clause 36(1) of the *Protection of the Environment Operations (General) Regulation 2009*).
- Any load-based fees payable in relation to the licence fee period ending on the surrender of the licence must be paid no later than 90 days after the surrender of the licence takes effect (clause 37(1) of the *Protection of the Environment Operations (General) Regulation 2009*).

Approval of the Surrender of a Licence

- Details provided in this notice will be available on the EPA's Public Register in accordance with section 308 of the Act.
- The reporting period on your Annual Return must be filled in to reflect the appropriate dates beginning on the last licence anniversary date and ending on the date that the surrender of the licence takes effect.
- The completed Annual Return must be sent by Registered Post no later than 60 days from the end of the reporting period to:

  Regulatory and Compliance Support Unit

  Environment Protection Authority (EPA)

  PO Box A290

  SYDNEY SOUTH NSW 1232

- This notice is issued under section 80(1) of the Act.

Appeals against this decision

- You can appeal to the Land and Environment Court against this decision. The deadline for lodging the appeal is 21 days after you were given notice of this decision.

When this notice begins to operate

- The surrender of the licence specified in this notice begins to operate immediately from the date of this notice, unless another date is specified in this notice.
- If an appeal is made against this decision to approve the surrender of the licence and the Land and Environment Court directs that the decision is stayed the decision does not operate until the stay ceases to have effect or the Land and Environment Court confirms the decision or the appeal is withdrawn (whichever occurs first).

Appendix 4 – Transport Code of Conduct

Holcim

Important Information
For
Drivers Visiting Holcim RHDC

- Upon entering the site, contact the Weighbridge Operator on **UHF Channel 56.** Let the operator know **'Who you are driving for, your registration number/Holcim Fleet Number, what product you are picking up, and where you are taking the product.**

- Before entering the site, both truck and trailer bodies must be uncovered for inspection.

- When the Weighbridge Operator has responded, the Boom Gates will open. If the Driver has not contacted the weighbridge operator the boom gates will remain closed. This is a matter of safety as Holcim is responsible for all personnel on site at all times in the case of an emergency. Also we need to know if there are any issues with non-scheduled orders prior to trucks getting loaded.

- If you are unsure that the truck you are driving has or has not been to our site before, please let the Weighbridge Operator know before passing through the Boom Gates as truck information will have to be validated in our computer system and the truck will have to be re-tared in some cases.

- Once through the Boom Gates and there are no issues regarding truck information, contact the Front End Loader Operators on **UHF Channel 57** and inform them of your approach to the Stockpile Area and what product you are to be loaded with. Drivers are to stop at the white line situated at the entrance to the stockpile area and wait for further instructions from the Loader Operators. The Loader Operators will then direct you to the appropriate loading point.

- Once loaded and the Loader Operator has given you the **'all clear'**, contact the Weighbridge Operator on **UHF Channel 56** and again state your registration number, product you are carrying, and where you are delivering to on approach to the Weighbridge.

- Once you are on the weighbridge and your axle weights are correct you will be given the **'all clear'** to leave your truck and sign the delivery docket. At RHDC we use a cash tube system to deliver the docket to the driver. If necessary, the Weighbridge Operator will explain the docket process to you. Do not leave your truck without contacting the Weighbridge Operator. All communication between Driver and Operators is through UHF radio.

- It is the Driver's responsibility to check that all information on the delivery docket is correct prior to leaving the weighbridge. No credits will be issued for incorrect delivery information and an administration fee will be charged to the company you're driving for in the event of post-delivery corrections.

- If your load needs adjusting, you will be asked to drive around the back of the weighbridge office to shift the material forwards or tip the material back. If the load exceeds your truck's Max Gross limit you will be asked to return to the Stockpile Area to tip off the excess, or be re-loaded. If this occurs, leave the Weighbridge, head directly to the same Boom Gates as you entered upon first entering the site, and contact the Loader Operators on **UHF Channel 57.**

Holcim

- On the matter of Safety, it is a Holcim rule that in the action of adjusting a load, tipping off, or washing out, only one body can be elevated at one time and the truck cannot be in motion whilst doing so.

- Only trucks that deliver Lynwood products exclusively to Holcim concrete plants or Holcim projects are permitted to use the Rooty Hill Washout Area.

- Full PPE must be worn at RHDC or any Holcim site or job i.e. Long sleeve hi-vis shirt, long pants, hard hat, etc. Drivers will be turned away if they are found to be dressed inappropriately and won't be able to return to site until they are properly attired.

- Please adhere to all signs and traffic markers for traffic flow, instructions, and approaching hazards.

- The Speed Limit at RHDC is 20kms from entering to leaving and 10kms on and approaching the Weighbridge as stated on signs throughout the site.

- If you are visiting RHDC for a delivery to Rooty Hill Concrete Plant, contact the Concrete Production Supervisor or Loader Operator on **UHF Channel 59** after leaving the Weighbridge. The Concrete Plant is situated in the Southwest corner of the RHDC site. Ask Weighbridge for directions if you are unsure or unfamiliar with the site.

- All trucks entering RHDC must have all instruments and lights fully functioning. This includes the UHF radio. If any of these items are faulty, trucks will be asked to leave the site and will not be loaded or return to site until they are fixed.

- Drivers will be reminded by the Weighbridge Operator to re-tare their trucks on the next visit to RHDC in the event that a 'notification to re-tare' appears in Holcim's computer system. If a Driver does not re-tare upon their next visit and has loaded already he or she will be asked to tip off their load and be re-tared before being reloaded, weighed, and receive their docket.

- All Drivers visiting RHDC must be site inducted before being loaded. Drivers who are not inducted must inform the Weighbridge Operator upon entry to the site. Drivers will be asked by the Weighbridge Operator to 'park up' and wait for further instructions.

- If you have been sent to RHDC for a load and are still waiting for your order after you have arrived or you are scheduled for a rest before loading, there is parking situated opposite the Weighbridge with access to the Driver's Crib Room and Amenities. **Drivers are not to park anywhere along Kellogg Rd and will be fined up to $250 if found doing so.**

- To access the Truck Parking Area, take an immediate right after coming through the Site Entrance Gate. Follow this road around and pass the Fuel Cell. Turn left to park opposite the Weighbridge Office. Contact the Weighbridge on **UHF 56** upon entering the site to let the Operator know you are 'parking up'.

Holcim

RHDC SAFETY RULES

1. Visitors must sign in via the Damstra terminal on arrival and departure.

2. It is Holcim Policy that there is no alcohol or illicit drug use on site. A designated Smoking Area is located at the farthest end of the light vehicle carpark.

3. Visitors must be escorted by a Holcim Employee whilst outside the site office area.

4. Visitors must wear full PPE clothing to access any areas outside the site office. Visitors must also carry safety gloves, a Take 5 book, and Hazard Reporting book whilst on site.

5. All persons in light vehicles or mobile equipment must wear a seatbelt. Light vehicles must have a flag and flashing beacon when used beyond the Admin. Parking Area.

6. The aggregate materials stockpiled at RHDC contain crystalline silica. Please keep windows up whilst on site. Silica Dust, if ingested, may cause silica-related illnesses.

7. Children are not permitted on site. In special circumstances, children permitted on site must be accompanied by parent/legal guardian at all times.

8. Mobile phones are not to be used on site with the exception of Safe Areas used by Site Leaders. Visitors may use mobile phones in the Site Office and Drivers Room areas.

9. All incidents that may occur or hazards identified must be reported to the site office immediately.

10. All vehicles are to be reverse-parked in marked vehicle parking areas.

11. First Aid personnel can be identified by posters located around the site and can be contacted on UHF channels 56 and 57. Look for the First Aid Cross.

12. Follow all directions issued by an emergency warden. The site's emergency assembly areas are located at the Front Main Gate – near the Steel Mill entrance and the South West end of the train line near the M7 Overpass. These locations are detailed within the site map.

Holcim

13. It is mandatory to have two way radio communications if entering operational areas of the site - UHF Channel 56 & 57 are used.

14. Due to surrounding bushland, snakes have been sighted. Be cautious when travelling by foot around this site. Report all sightings to the site office. All contractors are to carry Snake Bite First Aid Kits whilst on site.

PLEASE NOTE: This policy is endorsed for the safety of everyone on site. If any of these rules are not adhered to, you will be IMMEDIATELY escorted off site.

Holcim

RHDC Site Induction Form

(For Employees, Visitors, Drivers, Contractors, and Train Crews)

Acknowledge that you have received the following information:	**Inductee To Initial**
Site-specific Rules and information received.	
Site Map with Traffic Management, Amenities, and Emergency Assembly Areas marked.	
Driving on site for all vehicles: Seatbelts, Speed, Parking, etc.	
Personal Protective Equipment (PPE) requirements.	
Holcim's Zero Drug & Alcohol Policy and Random Testing.	
Location of First Aid equipment and identification of First Aiders.	
Incident-Reporting Process explained.	
Communication Requirements and Mobile Phone Policy explained.	
Train Unloader Operating procedure explained (for Train Crews and Employees)	
Environmental Regulations (including Flora & Fauna awareness) and Incident Management procedures explained.	

I acknowledge that I have received an induction and have an adequate understanding of the above mentioned and will comply with all reasonable Safety, Health & Environment (SHE) instruction given by RHDC management or their representative.

Name:	**Date of Induction:**
Position:	**Site:** Rooty Hill Distribution Centre
Company Name:	**Inductor's Name:**
Signature:	**Inductor's Signature:**

Appendix 5 - Proposal for Relocation of Onsite PM10 at the Holcim Rooty Hill Distribution Centre, ALS (2019)

PROPOSAL FOR RELOCATION OF ONSITE PM10 AT THE HOLIM ROOTY HILL DISTRIBUTION CENTRE 4-12-2019.

Summary

After consideration of future site usage, onsite wind patterns, changes to onsite safety with respect to personal dust protection practices including the use of PPE and vehicle dust exclusion systems and a desire to better gauge the effectiveness of current dust control systems, it has been suggested that the current onsite PM10 be moved 60m west of its current location to a position immediately North and adjacent to the main entry of the administration building as indicated on Appendix 1 as the Proposed relocation site for onsite PM10.

The relocation would require but would require the removal of some vegetation to establish a clear area to site the PM10 sampler and also to ensure that the dust levels at the sampler are not impacted by surrounding vegetation.

The move would also have the added benefit of providing a safer location for maintenance staff and service technicians when they attend the site to perform routine maintenance including loading and unloading of papers.

Discussion

ALS was approached by Holcim to recommend and alternative site to relocate its current PM10 analyser. The relocation site identified within this document was determined with consideration to the following.

1. Future site usage
2. Onsite wind patterns
3. Availability of services
4. Sample representivity
5. Safe location for maintenance and servicing

Points 1-5 are discussed in more detail below.

Future Site Usage

Currently the onsite PM10 unit is located on a vacant parcel of land and is surrounded by the pug mill which lies some 50m east, the stockpile area which commences adjacent to the pug mill and stretches some 150m south and the concrete plant which is centred some 250m in a south westerly direction. Increased demand for raw materials supplies from the Rooty Hill Distribution Centre is driving the need to increase onsite holding capacity. To service this demand Holcim will be expanding its current stockpile area into the vacant parcel of land currently occupied by its onsite PM10 analyser. Once the expansion is complete the additional loader movements, heavy vehicle traffic, increased stockpile and loading operations will render the current site unsuitable in terms of operator safety and the closer proximity to the stockpile operations will produce analytical results that are unrepresentative of the PM10 levels experienced at the Admin buildings or potentially leaving the site.

Onsite wind Patterns

It is envisioned that the lack of barriers and buildings between the current PM10 location and the proposed new PM10 location coupled with the relatively short distance between the two sites at only 60m will not significantly impact on the wind direction or velocity experienced on the site at any time during the year and as such is not significant.

Changes to Onsite Dust protection systems.

As the Rooty Hill Distribution Centre has continued to grow Holcim has been continually working to improve onsite dust management practices. As well as the improved discipline around PPE usage regular water cart movements around the sites all loader vehicles have been fitted with dust exclusion systems and parking facilities exist for all heavy vehicles adjacent to the weighbridge and some 60m west of the immediate stockpile areas. These area allows a safe area in which drivers can go about the task of covering their loads prior to dispatch ensuring minimal dust generation during transportation.

Availability of Services

PM10 samplers require a STD 240VAC 10amp power outlet. No additional services are required. Power is available at the proposed relocation site via the existing site lighting.

Sample Representivity

Although initially the relocated sampler is expected to produce a reduced sample loading it is envisaged that the result would be more analogous to the dust levels around the immediate offices and also of the PM10 dust emissions leaving site.

Post the expansion of the stockpile area the distance from the start of the stockpile to the relocated PM10 unit is expected to be around the 60m mark, some 20m greater than distance in its current location however with the improved dust management practices and increase focus on worker safety the ability to monitor PM10 emissions closer to the immediate office area and site boundary is seen as more desirable.

Since the distance from the concrete plant to the new location is approximately equidistant to that of its current location it is expected that the contribution from these operation will remain constant post the relocation.

Although in its current location the PM10 unit is central to most onsite truck movements with the exclusion of concrete plant traffic and office vehicle traffic, all vehicles including office and concrete plant traffic will pass by the unit in its relocated position.

Safe location for maintenance and servicing.

Of prime importance is the ability to provide a safe working environment to all workers and visitors attending the Holcim Rooty Hill Distribution Centre. In its current location the PM10 unit is accessed via marked walkways that require workers to cross heavy vehicle roadways, potentially interacting with watercarts, loaders and other heavy vehicles engaged in bulk transport operations. If specialised equipment is required than the service technician will need to drive onto the site and drive through the stockpile area to access the PM10 unit. This brings into play a series of radio calls and a series of light vehicle to heavy vehicle interactions. Comparatively the suggested relocation site is easily accessible, has plenty of convenient vehicular parking via the office carpark, eliminates the need to use the heavy vehicle roads and enter the stockpile area thereby eliminating heavy vehicle interactions.

Conclusion.

For the reasons outlined in the discussion above the recommended relocation site for the onsite PM10 is to the grassy area adjacent to and immediately north of the administration building as indicated in Appendices 1 through 4 attached.

Appendix 1 – Map of proposed relocation site for onsite PM10.

Appendix 2 – Photo 1: Grass area North of Admin building

Appendix 3 – Photo 2: Grass area North of Admin building

Appendix 4 – Photo 3: Grass area North of Admin building

Appendix 6 – Fire Investigation Report (2019)

Holcim (Australia) Pty Ltd
Tower B, Level 8
799 Pacific Hwy
Chatswood 2067
Australia

ABN 87 099 732 297
Phone +61 2 9412 6600
Fax +61 2 9412 6601
www.holcim.com.au

20.09.2019

Response - Rooty Hill Distribution Centre - Fire

Reference R3.3 of EPA

A) The date and time of the complaint

Timeline on 12.08.2019

Time	Event
00:40	Police called Rochelle Flack
00:50	Rochelle arrived on site
01:40	Rochelle allowed access to site and assessed damage
01:45	Activated Emergency Response protocol
04:15	Transport Manager Fred Adams came onsite
05:00	Asked for Video Footage from Onesteel
05:11	Allocation Centre - Delivery Load answered
07:00	Concrete Site Manager Leigh Schiller arrived
07:40	GM Aggregates Steve Mossie answered
	Emergency response protocol followed

B) The method by which the complaint was made.

The site adjacent to Holcim Rooty Hill Distribution Centre called the police to inform them about the fire that was witnessed in the Holcim site facility. The police officer then contacted the Site Manager Rochelle Flack to inform her about the fire. The call details were available at the front gate.

C) any personal details of the complainant which were provided by the complainant or if no such details were provided, a note to that effect;

Holcim (Australia) Pty Ltd
Tower B, Level 8
799 Pacific Hwy
Chatswood 2067
Australia

ABN 87 099 732 297
Phone +61 2 9412 6600
Fax +61 2 9412 6601
www.holcim.com.au

Series of event on the day
Police Reference No. (Event No.) E 71811317
Fire Crew
Security footage captured the arson attack.
Arson Squad
Forensic Team
Fire brigade to extinguish the flame
Detectives
ALS - Environmental soil testing
Insurance team
Pickles Auction
Towing trucks

D) The nature of the complaint

On 12.08.2019

Targeted arson attack at 00:35

7 concrete agitators set ablaze

Police arrived

Photos taken and video footage coverage

E) the action taken by the licensee in relation to the complaint, including any follow up contact with the complainant and

EPA and DPIE were contacted by P and E team. Both the departments responded on 12.08.2019.

Investigation underway.

Internal incident system entry on the Holcim Intranet for escalation and communication with the business.

PIRMP Activation

Respond to the Department. - Advised by EPA to respond by 13 September 2019. Extension granted to 20 September 2019, awaiting test results. Post clean up results under investigation.

Holcim (Australia) Pty Ltd
Tower B, Level 8
799 Pacific Hwy
Chatswood 2067
Australia

ABN 87 099 732 297
Phone +61 2 9412 6600
Fax +61 2 9412 6601
www.holcim.com.au

From 13.08.2019 onwards

- ALS environmental came onsite conducted testing. Points from A - R were sampled. See attached map. 2 samples were taken from each point. (1 is a backup, and 1 is tested).
- The samples will be tested for heavy metals, fuels, chemicals and benzene tests
- Fuel tanks were empty and intact post the fire.
- Presence of melted metal, ash, plastics, fibre glass, glass, truck parts, copper wire and charcoal.
- Post the tow away of the trucks, the area will be cleaned out.
- Fiberglass and plastic were bagged and sent to waste recycling company (Veolia).
- Metal scraps were placed in the metal bins
- Post removal of the burnt remnants, excavated soils will be removed to the waste facility
- ALS to redo testing at the same sampled points to verify if deemed clear and free from contaminants.
- 15.08.2019 (10:00 - 11:30) - DPIE visitors inspected the area.
- Site visited by Insurance crew for investigation. Post analysis approval to start excavation.
- Insurance investigation and establishing the waste facility for contaminated soil
- Excavation completed on 20.09.2019. The contaminated soil was sent to Veolia.
- Awaiting ALS final test results of the area post clean up.
- Entered all relevant matter on Internal Reporting System. Linked all the attachments and correspondence to the primary Internal Reporting System entry.
- Record of the complaint will be kept for at least 4 years after the complaint was made.
- The records are files and will be available to be produced to any authorized officer of the EPA who asks to see them.
- PIRPM Mock scenario revisit as per EPA guidelines post an incident.

Holcim (Australia) Pty Ltd
Tower B, Level 8
799 Pacific Hwy
Chatswood 2067
Australia

ABN 87 099 732 297
Phone +61 2 9412 6600
Fax +61 2 9412 6601
www.holcim.com.au

F) if no action was taken by the licensee, the reasons why no action was taken.

N/A

Site on 12.08.2019. Area cordoned off for investigation

Post removal of trucks and clean out of the fiberglass from burnt cabins

Holcim (Australia) Pty Ltd
Tower B, Level 8
799 Pacific Hwy
Chatswood 2067
Australia

ABN 87 099 732 297
Phone +61 2 9412 6600
Fax +61 2 9412 6601
www.holcim.com.au

Sample points where test samples were collected pre and post the cleanup

Excavation of the area prior to sampling. (20.09.2019)

Holcim (Australia) Pty Ltd
Tower B, Level 8
799 Pacific Hwy
Chatswood 2067
Australia

ABN 87 099 732 297
Phone +61 2 9412 6600
Fax +61 2 9412 6601
www.holcim.com.au

Excavation of the area complete (20.09.2019)

If you require further information, please don't hesitate to call myself on 0427 859 852.

Regards,

Shilpa Shashi

Planning and Environmental Coordinator

Holcim (Australia)

Appendix 7 - Blacktown Sports Centre Relocation of Air Quality Monitor Correspondence (2021)

LEGEND - MASTERPLAN PLAN

- EXISTING BLACKTOWN INTERNATIONAL SPORTS PARK
- SCOPE OF WORKS
- WORKS FUNDED FROM A BISP BUDGET

01	INTERNATIONAL CENTRE FOR TRAINING EXCELLENCE
02	ACADEMY ACCOMMODATION
03	MAINTENANCE FACILITIES
e	'ANYTHING PREFIXED WITH e DENOTES EXISTING'
C.O.S	CONFIRM ON SITE
TBC	TO BE CONFIRMED
RL	REDUCED OR RELATIVE LEVEL
AFFL	ABOVE FINISHED FLOOR LEVEL
eSFL 3.700	EXISTING STRUCTURAL FLOOR LEVEL
eFFL 3.700	EXISTING FINISHED FLOOR LEVEL
SFL 3.700	STRUCTURAL FLOOR LEVEL
FFL 3.700	FINISHED FLOOR LEVEL

NOTE: REFER TO 02-A1010 FOR ACADEMY ACCOMMODATION SITE PLAN

NOTE: REFER TO A1100 SERIES FOR ICTE AND ACADEMY ACCOMMODATION BUILDING PLANS

NOTE: REFER TO LANDSCAPE DOCUMENTATION FOR EXTERNAL WORKS

NOTES

ALL DIMENSIONS ARE IN MILLIMETERS. DO NOT SCALE DRAWINGS.
CHECK DRAWING IS TO SCALE BY MEASURING SCALE BAR BELOW.
VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING ANY WORK, SHOP DRAWINGS, OR ORDERING ANY MATERIALS.

REV	REASON FOR ISSUE	DATE
T1	ISSUE FOR TENDER	17/12/20
T1F	TENDER INTERIM ISSUE FROZEN	01/04/21
T2	ISSUE FOR TENDER	29/04/21

0 10 20 30 40 50 60 70 80 90 100 mm
MILLIMETRES ON ORIGINAL

A1 1000 x 707

KEY

Drawings Prefixed With **00-A#####** = 'GENERAL' (COMMON TO BOTH BUILDINGS)
Drawings Prefixed With **01-A#####** = 'ICTE BUILDING'
Drawings Prefixed With **02-A#####** = 'AA BUILDING'
Drawings Prefixed With **03-A#####** = 'SHED BUILDING'

ARM ARCHITECTURE
LEVEL 6 / 46-54 FOSTER STREET SURRY HILLS NSW 2010 AUS
t/ 02 9057 4300
e/ mail@armarchitecture.com.au w/ armarchitecture.com.au
ABN 22 476 949 399
NSW Nominated Architect: Amber Stewart 10531

CLIENT: **BLACKTOWN CITY COUNCIL**

62 Flushcombe Road, Blacktown NSW 2148

PROJECT: **BLACKTOWN ICTE**

Blacktown International Sports Park

TITLE: **Masterplan**

DATE	29/04/21
DRAWN	TF
T.LEADER	AS
SCALE ON B1	1:1000
JOB NO.	1156
DRAWING NO.	00-A1000
REV	T2

FOR TENDER

29/04/2021 7:07:20 PM
00-A1000 [T2]- Masterplan.pdf
BIM 360://1156_Blacktown ICTE/1156_AR_BLACKTOWN ICTE_BASE BUILDING_MASTER.rvt

---

---------- Forwarded message ---------
From: **Matthew Cairns** <Matthew.Cairns@blacktown.nsw.gov.au>
Date: Tue, Aug 10, 2021 at 11:25 AM
Subject: FW: PM10 Dust Monitor
To: Rochelle Flack <rochelle.flack@holcim.com>

Hi Rochelle

Please see below comment for the Project Director and attached plan for the construction works

Hope this helps

Regards
Matt

Blacktown Key Venues

Matthew Cairns
Grounds and Operations Coordinator
Blacktown International Sportspark

9839 6594
0416 149 998
Matthew.Cairns@blacktown.nsw.gov.au
PO Box 63 Blacktown NSW 2148
blacktownsportspark.com.au

Follow us on social media

From: Grant Bambach <gbambach@savills.com.au>
Sent: Tuesday, 10 August 2021 11:19 AM
To: Matthew Cairns <Matthew.Cairns@blacktown.nsw.gov.au>; Neil Gibson <Neil.Gibson@blacktown.nsw.gov.au>
Cc: Bryce Alley <Bryce.Alley@blacktown.nsw.gov.au>
Subject: RE: PM10 Dust Monitor

Matt, the current ICTE project construction will run from July 2021 until Q1 2023 and I have attached the masterplan highlighting the construction zone (green). As the EPA monitor sits within the site we require the unit to be removed. Hope this provides the clarity required. Any further questions just let me know.

Kind Regards,

Grant Bambach
Project Director
Project Management
Savills Australia

Mobile No: +61 411 530 850

From: Matthew Cairns <Matthew.Cairns@blacktown.nsw.gov.au>
Sent: Tuesday, 10 August 2021 10:15 AM
To: Neil Gibson <Neil.Gibson@blacktown.nsw.gov.au>; Grant Bambach <gbambach@savills.com.au>
Cc: Bryce Alley <Bryce.Alley@blacktown.nsw.gov.au>
Subject: FW: PM10 Dust Monitor

Morning Neil/Grant

I was able to catch up with the supervisor that attends site to change the filters and do the readings this morning

He has referred our request to remove the unit to his supervisor Rochelle Flack

Could you please provide some information and plans to assist with the removal of the unit from site.

Happy to chat through if required.

Regards
Matt

Blacktown Key Venues

Matthew Cairns
Grounds and Operations Coordinator
Blacktown International Sportspark

9839 6594
0416 149 998
Matthew.Cairns@blacktown.nsw.gov.au
PO Box 63 Blacktown NSW 2148
blacktownsportspark.com.au

Follow us on social media

From: Rochelle Flack <rochelle.flack@holcim.com>
Sent: Tuesday, 10 August 2021 10:00 AM
To: Matthew Cairns <Matthew.Cairns@blacktown.nsw.gov.au>
Subject: PM10 Dust Monitor

Hi Matt,

Thanks for your time on the phone this morning regarding my monitor on your site.

I understand you require it to be removed for your construction that is currently in place.

Could you please give me some further detail about the construction so I can edit the online request we have sitting with the EPA to remove this device.

Thank you in advance for your assistance.

Regards,

Rochelle Flack

Site Manager - Rooty Hill

Holcim (Australia) Pty Ltd

PO Box 597, Plumpton NSW 2761

Phone +61 2 8886 5402

Mobile +61 447 138 181

www.holcim.com.au

Appendix 8 – EPA Consultation - Air Quality Monitoring (2021)

PM10 Device Relocation - Rooty Hill Distribution Centre

12 messages

Shilpa Shashi <shilpa.shashi@lafargeholcim.com> Mon, Dec 9, 2019 at 12:35 PM
To: Jessie.Evans@planning.nsw.gov.au
Cc: Rochelle Flack <rochelle.flack@lafargeholcim.com>, Alfarid Hussain <Alfarid.Hussain@planning.nsw.gov.au>
Bcc: Luke Edminson <luke.edminson@lafargeholcim.com>

Dear Jessie,

RE: Relocation of the Dust Monitoring device – Rooty Hill

Holcim has an established environmental monitoring network at its Rooty Hill Distribution Centre to enable compliance with the consent conditions for the site to be assessed on a regular basis. I am writing to inform that Holcim Ltd. would like to relocate one of the PM10 gauge units which is located in the middle of where the stock piles are placed.

Upon delving into this deeper and after consideration of future site usage, onsite wind patterns, changes to onsite safety with respect to personal dust protection practices including the use of PPE and vehicle dust exclusion systems and a desire to better gauge the effectiveness of current dust control systems, it has been suggested by ALS consultants and the Local management that the current onsite PM10 be moved 60m west of its current location to a position immediately north and adjacent to the main entry of the administration building as indicated on Appendix 1 of the Proposed relocation site for onsite PM10.

The relocation would also have the added benefit of providing a safer location for maintenance staff and service technicians when they attend the site to perform routine maintenance including loading and unloading of papers.

Holcim plans to remove this gauge and relocate this to an appropriate location, which has been established. Please see attached the proposed plan. Holcim is aware of this process to be undertaken through a Licence variation option. The proposal and the changes have been captured on the Operational Environmental Management Plans (December 2019).

Please do not hesitate to contact myself, should you have any questions or require further information.

Kind Regards,

Shilpa Shashi
Planning and Environment Coordinator NSW / ACT

Holcim (Australia) Pty Ltd
Level 7 Tower B - 799 Pacific Highway Chatswood NSW 2067
M +61 (0)427 859 852

E shilpa.shashi@lafargeholcim.com, www.holcim.com.au

Rooty Hill PM10 relocation 4-12-19.pdf
695K

Shilpa Shashi <shilpa.shashi@lafargeholcim.com> Mon, Dec 9, 2019 at 12:50 PM
To: "matthew.sprott@planning.nsw.gov.au" <matthew.sprott@planning.nsw.gov.au>
Cc: Rochelle Flack <rochelle.flack@lafargeholcim.com>

Hello Matthew,

Trust all is well. Just got an automated message from Jessie Evan's inbox. I was advised to send this report and letter to Jessie regarding the PM10 relocation.. Obtained your contacts via the response.

Please see attached a report for the PM10 device relocation for Rooty Hill Distribution Centre. FYI - Holcim is looking at surrendering the EPA licence as the site no longer requires this. Alfarid Hussain from DPIE had conducted an inspection on 8 November 2019.

Please feel free to contact myself or Rochelle Flack.

Many thanks,

Shilpa Shashi
Planning and Environment Coordinator NSW / ACT

Holcim (Australia) Pty Ltd
Level 7 Tower B - 799 Pacific Highway Chatswood NSW 2067
M +61 (0)427 859 852

E shilpa.shashi@lafargeholcim.com, www.holcim.com.au

[Quoted text hidden]

Rooty Hill PM10 relocation 4-12-19.pdf
695K

Shilpa Shashi <shilpa.shashi@lafargeholcim.com> Wed, Jan 8, 2020 at 3:28 PM
To: "matthew.sprott@planning.nsw.gov.au" <matthew.sprott@planning.nsw.gov.au>
Cc: Rochelle Flack <rochelle.flack@lafargeholcim.com>

Hi Matthew,

Happy New Year.

I am just writing to cross check if you have received my earlier email (see attached) sent on Dec 9th. Please when you get an opportunity, please see the proposal attached regarding PM10 relocation.

Regards,

Shilpa Shashi
Planning and Environment Coordinator NSW / ACT

Holcim (Australia) Pty Ltd
Level 7 Tower B - 799 Pacific Highway Chatswood NSW 2067
M +61 (0)427 859 852

E shilpa.shashi@lafargeholcim.com, www.holcim.com.au

[Quoted text hidden]

Shilpa Shashi <shilpa.shashi@lafargeholcim.com> Mon, Feb 24, 2020 at 3:59 PM
To: "matthew.sprott@planning.nsw.gov.au" <matthew.sprott@planning.nsw.gov.au>, Alfarid Hussain <Alfarid.Hussain@planning.nsw.gov.au>
Cc: Rochelle Flack <rochelle.flack@lafargeholcim.com>

Hello Matthew,

Trust all is well. Just following up on my earlier email in Dec 9th about Rooty Hill relocation of the PM10 device and removal of the 2nd PM10 unit.

Please could you revert...
[Quoted text hidden]

Matthew Sprott <Matthew.Sprott@planning.nsw.gov.au> Wed, Feb 26, 2020 at 3:29 PM
To: Shilpa Shashi <shilpa.shashi@lafargeholcim.com>, Alfarid Hussain <Alfarid.Hussain@planning.nsw.gov.au>
Cc: Rochelle Flack <rochelle.flack@lafargeholcim.com>

Hi Shilpa,

My apologies for the delay in actioning this request. It has been allocated within my Branch and I will seek to get back to you with a response next week.

Kind regards

Matthew

Matthew Sprott

Director Resource Assessments

Department of Planning, Industry & Environment

P 02 8217 2054 | **E** matthew.sprott@planning.nsw.gov.au

www.dpie.nsw.gov.au

[Quoted text hidden]

Shilpa Shashi <shilpa.shashi@lafargeholcim.com> Tue, Mar 31, 2020 at 3:03 PM
To: Matthew Sprott <Matthew.Sprott@planning.nsw.gov.au>
Cc: Alfarid Hussain <Alfarid.Hussain@planning.nsw.gov.au>, Rochelle Flack <rochelle.flack@lafargeholcim.com>

Hi Matthew,

Trust all is well. Just following up on previous email request. Just wondering if you had an update for us. We were also looking to surrendering our EPA licence. I have also reached out to EPA point of contact for this site.

Many thanks,

Shilpa Shashi
Planning and Environment Coordinator NSW / ACT

Holcim (Australia) Pty Ltd
Level 7 Tower B - 799 Pacific Highway Chatswood NSW 2067
M +61 (0)427 859 852

E shilpa.shashi@lafargeholcim.com, www.holcim.com.au

[Quoted text hidden]

Shilpa Shashi <shilpa.shashi@lafargeholcim.com> Thu, Oct 8, 2020 at 6:36 PM
To: Matthew Sprott <Matthew.Sprott@planning.nsw.gov.au>
Cc: Alfarid Hussain <Alfarid.Hussain@planning.nsw.gov.au>

Hi Matthew,

Trust you are well. Please could you provide an update on the PM10 relocation. Additionally seeking advice on the PM10 device at the sports centre. EPL surrender for Rooty Hill DC was processed this year.

Many thanks,

Shilpa Shashi
Planning and Environment Coordinator NSW / ACT

Holcim (Australia) Pty Ltd
Level 7 Tower B - 799 Pacific Highway Chatswood NSW 2067
M +61 (0)427 859 852

E shilpa.shashi@lafargeholcim.com, www.holcim.com.au

Please note that I do not work on Fridays

[Quoted text hidden]

Shilpa Shashi <shilpa.shashi@lafargeholcim.com> Wed, Jan 27, 2021 at 11:12 AM
To: Matthew Sprott <Matthew.Sprott@planning.nsw.gov.au>
Cc: Alfarid Hussain <Alfarid.Hussain@planning.nsw.gov.au>, Rochelle Flack <rochelle.flack@lafargeholcim.com>

Hi Matthew and Alfarid,

Happy New Year..

Trust you are well. Please could you provide an update on the PM10 relocation. Additionally seeking advice on the PM10 device at the sports centre. EPL surrender for Rooty Hill DC was processed last year.

I haven't received any update.

Please could you advise.

Many thanks,

Shilpa Shashi
Planning and Environment Coordinator NSW / ACT

Holcim (Australia) Pty Ltd
Level 7 Tower B - 799 Pacific Highway Chatswood NSW 2067
M +61 (0)427 859 852

E shilpa.shashi@lafargeholcim.com

[Quoted text hidden]

Robert Hodgkins <Robert.Hodgkins@planning.nsw.gov.au> Thu, Feb 18, 2021 at 9:10 AM
To: "shilpa.shashi@lafargeholcim.com" <shilpa.shashi@lafargeholcim.com>

Hi Shilpa,

Matt has forwarded this matter to me and asked that I deal with it – I'll give you a call today to discuss.

Regards

Robert

[Quoted text hidden]

Shilpa Shashi <shilpa.shashi@lafargeholcim.com> Thu, Feb 18, 2021 at 10:23 AM
To: Robert Hodgkins <Robert.Hodgkins@planning.nsw.gov.au>

Noted with thanks. Is 14:00 a good time ?

Many thanks,
[Quoted text hidden]

image001.jpg
7K

Shilpa Shashi <shilpa.shashi@lafargeholcim.com> Tue, Mar 16, 2021 at 4:32 PM
To: Robert Hodgkins <Robert.Hodgkins@planning.nsw.gov.au>
Bcc: Rochelle Flack <rochelle.flack@lafargeholcim.com>

Hi Robert,

Trust you are well. Just wondering if you had an opportunity to discuss this. Any updates for me?

Many thanks,

Shilpa Shashi
Planning and Environment Coordinator NSW / ACT

Holcim (Australia) Pty Ltd

Level 7 Tower B - 799 Pacific Highway Chatswood NSW 2067
M +61 (0)427 859 852

E shilpa.shashi@lafargeholcim.com

[Quoted text hidden]

Nagindar Singh <Nagindar.Singh@planning.nsw.gov.au> Mon, Mar 29, 2021 at 5:35 PM
To: Shilpa Shashi <shilpa.shashi@lafargeholcim.com>

Hi Shilpa

As discussed, the Department had engaged with the EPA in December 2019 to obtain their feedback on the proposed relocation of the PM10 meter. See email trail below .

The Department's engagement and the EPA's site visit (with the Compliance Branch) should be included in your updated OEMP as evidence of consultation with the EPA as required by your consent conditions.

Please upload a finalised updated OEMP through the portal when ready. The Department will require a track change version as well to see what changes have been made to the currently approved OEMP.

As also discussed on the phone, you should contact Alfarid to seek advice on the reporting protocol for the air quality monitoring data.

Nagindar

--

Nagindar Singh

Senior Environmental Assessment Officer

Resource Assessments | Planning and Assessment

4 Parramatta Square, 12 Darcy Street | Parramatta, NSW 2150
T 02 8289 6873 E nagindar.singh@planning.nsw.gov.au

www.dpie.nsw.gov.au

Our Vision: Together, we create thriving environments, communities and economies.

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

From: Alfarid Hussain <Alfarid.Hussain@planning.nsw.gov.au>
Sent: Tuesday, 23 March 2021 3:35 PM
To: Nagindar Singh <Nagindar.Singh@planning.nsw.gov.au>
Subject: FW: PM10 Device Relocation - Rooty Hill Distribution Centre

From: James Boyle <James.Boyle@epa.nsw.gov.au>
Sent: Tuesday, 17 December 2019 11:48 AM
To: Anthony Barnes <Anthony.Barnes@planning.nsw.gov.au>
Cc: Alfarid Hussain <Alfarid.Hussain@planning.nsw.gov.au>
Subject: RE: PM10 Device Relocation - Rooty Hill Distribution Centre

Hi Anthony

Based on the information provided by Holcim, and as discussed during the site inspection that Alfarid and I attended, the EPA does not have any concerns regarding movement of the PM10 meter further west. Historically, there have been dust issues at the premises to the west of Holcim (i.e. Infrabuild/Onesteel). Moving the PM10 sampler closer to Holcim's western boundary would better capture 'background' dust deposition from Infrabuild during westerly winds that can be prevalent in the summer months. Alfarid and I will continue to work with Infrabuild to reduce the potential for dust generation.

FYI due to recent legislative changes to the POEO Act, the activity carried out by Holcim at the Rooty Hill distribution centre may no longer be considered a scheduled activity. I've sent an email to Holcim (attached) informing them of these changes and requesting that Holcim consider if a licence surrender would be applicable. Note that regardless of the status of the licence, the EPA would remain the appropriate regulatory authority for the concrete batch plant, as per the POEO Regulation.

Please give me a call if you wish to discuss further.

Kind Regards

James Boyle

Senior Operations Officer – Sydney Industry

EPA Representative - Parramatta River Catchment Group

www.parramattariver.org.au

Metropolitan Branch, NSW Environment Protection Authority

+61 2 9995 6128

james.boyle@epa.nsw.gov.au www.epa.nsw.gov.au @EPA_NSW

From: Shilpa Shashi <shilpa.shashi@lafargeholcim.com>
Sent: Monday, 9 December 2019 12:51 PM
To: Matthew Sprott <Matthew.Sprott@planning.nsw.gov.au>
Cc: Rochelle Flack <rochelle.flack@lafargeholcim.com>

[Quoted text hidden]

[Quoted text hidden]

---------- Forwarded message ----------
From: James Boyle <James.Boyle@epa.nsw.gov.au>
To: Shilpa Shashi <shilpa.shashi@lafargeholcim.com>
Cc: Rochelle Flack <rochelle.flack@lafargeholcim.com>
Bcc:
Date: Wed, 11 Sep 2019 06:15:26 +0000
Subject: HPE CM: RE: Rooty Hill - Dust Monitoring device relocation

Hi Shilpa

R3 Report

As discussed, the EPA proposes delaying the R3 report response by Holcim (re: arson fire) to Friday 20 Sept 2019 to allow Holcim to attach sampling results to the response.

Amendments to POEO Act

Amendments have recently been made to the definition of extractive activities as set out in clause 19, Schedule 1 of the *Protection of the Environment Operations Act 1997*. The changes include:

- removing the distinction between land-based and water-based extractive activities for licensing purposes,
- removing the requirement to determine storage capacity, the scale of the activity will be based only on the amount of material extracted or processed, in tonnes
- extractive activities require a licence if the extraction or processing of extractive materials is for the primary purpose of **sale** of the extractive material (but not for re-use),
- the amount of material transported from a premises can be used to determine the amount of extraction at a premises.

For more information about the amendments please visit the EPA's website at https://www.epa.nsw.gov.au/licensing-and-regulation/licensing/environment-protection-licences/amendment-regulation-for-scheduled-activities.

As you currently hold an environment protection licence for land-based extractive activity you will need to either apply to vary or surrender your licence. To do this, you will need to:

1. Determine if your activity meets the revised definition of extractive activity and if your licence authorises water based extractive activity check whether the threshold of extracting 30,000 tonnes of extractive material in a year (rather than 30,000 cubic metres) is met or exceeded.
2. Determine the annual extraction or processing amount and check if your licence authorises operating at that scale of activity.

If you no longer require a licence, you will find information about how to surrender your licence in the Guide to licensing (https://www.epa.nsw.gov.au/licensing-and-regulation/licensing/environment-protection-licences/guide-to-licensing); it also provides information about how to apply for a licence variation.

Any licence variation should include your relevant scale of operation in tonnes per annum (that is consistent with the current planning consent for the premises).

The quickest way to vary or surrender your licence is by completing an application via eConnect EPA at https://www.epa.nsw.gov.au/licensing-and-regulation/licensing/econnect-epa. If you have not already registered to use eConnect EPA please contact us at econnect.epa@epa.nsw.gov.au to request access, providing your name, email address, company (if applicable) and licence number.

Kind Regards

James Boyle

Senior Operations Officer – Sydney Industry

EPA Representative - Parramatta River Catchment Group

www.parramattariver.org.au

Metropolitan Branch, NSW Environment Protection Authority

+61 2 9995 6128

james.boyle@epa.nsw.gov.au www.epa.nsw.gov.au @EPA_NSW

Report pollution and environmental incidents 131 555 (NSW only) or +61 2 9995 5555

From: Shilpa Shashi <shilpa.shashi@lafargeholcim.com>
Sent: Wednesday, 11 September 2019 2:51 PM
To: James Boyle <James.Boyle@epa.nsw.gov.au>
Cc: Rochelle Flack <rochelle.flack@lafargeholcim.com>
Subject: Rooty Hill - Dust Monitoring device relocation

Good Afternoon James,

Trust you are well. James, I tried calling you earlier today , just to discuss about Rooty Hill Distribution Centre. This email is regarding the Dust monitor relocation at the Rooty Hill Distribution Centre.

Please find attached documents for your perusal.

Many thanks,

Shilpa Shashi

Planning and Environment Coordinator NSW / ACT

Holcim (Australia) Pty Ltd

Level 7 Tower B - 799 Pacific Highway Chatswood NSW 2067

M +61 (0)427 859 852

E shilpa.shashi@lafargeholcim.com, www.holcim.com.au

HPE CM: RE: Rooty Hill - Dust Monitoring device relocation.eml
83K

From: Shilpa Shashi
To: Olivia Oshannessy; Chris Jones
Subject: Fwd: PM10 device removal from Sports Centre
Date: Tuesday, 7 September 2021 2:05:19 PM
Attachments: image001.png

FYI

Shilpa Shashi
Planning and Environment Coordinator NSW / ACT

Holcim (Australia) Pty Ltd
Level 7 Tower B - 799 Pacific Highway Chatswood NSW 2067
M +61 427 859 852
E shilpa.shashi@holcim.com

www.holcim.com.au

---------- Forwarded message ---------
From: **Christine Mitchell** <Christine.Mitchell@epa.nsw.gov.au>
Date: Mon, Sep 6, 2021 at 4:44 PM
Subject: RE: PM10 device removal from Sports Centre
To: Shilpa Shashi <shilpa.shashi@holcim.com>

Hi Shilpa

Thank you for taking my call this morning.

As Holcim no longer holds an environment protection licence for the facility located at Rooty Hill, Holcim is no longer required to undertake any reporting that was required under the now surrendered Environment Protection Licence and notes that the PM10 device can be removed.

Regards

Christine Mitchell
A/Unit Head
Regulatory Operations Metro, NSW Environment Protection Authority
+61 2 9995 5732

NSW EPA logo

www.epa.nsw.gov.au @NSW_EPA

The EPA acknowledges the traditional custodians of the land and waters where we work. As part of the world's oldest surviving culture, we pay our respect to Aboriginal elders past, present and emerging.

Report pollution and environmental incidents 131 555 or +61 2 9995 5555

I acknowledge and respect the Traditional Custodians of the land on which I work and live.

From: Shilpa Shashi <shilpa.shashi@holcim.com>
Sent: Thursday, 12 August 2021 1:30 PM
To: EPA CSB Regulatory & Compliance Support Unit Mailbox <compliance.services@epa.nsw.gov.au>
Cc: Rochelle Flack <rochelle.flack@holcim.com>
Subject: PM10 device removal from Sports Centre

Hi,

Please note this email is regarding the removal of a PM10 monitoring device for Holcim's Rooty Hill Distribution Centre (21 Kellogg Road, Rooty Hill, NSW 2766).

The PM10 in question is in the Sports Centre. Upon direction from the Blacktown Council and ICTE project construction, Holcim (Rooty Hill) is requested to remove the PM10 monitoring device. Please see email correspondence attached.

The EPL for this site has been surrendered. Please see attached approval of the EPL surrender for context.

Please could you advise asap on your permission to remove the PM10 device. I have informed DPIE.

Many thanks,

Shilpa Shashi

Planning and Environment Coordinator NSW / ACT

Holcim (Australia) Pty Ltd

Level 7 Tower B - 799 Pacific Highway Chatswood NSW 2067

M +61 427 859 852

www.holcim.com.au

E shilpa.shashi@holcim.com

Appendix 9 – Review of Air Quality Monitoring Locations, Ramboll (2021)

RAMBOLL

ENVIRONMENT
& HEALTH

REVIEW OF AIR QUALITY MONITORING LOCATIONS
HOLCIM ROOTY HILL REGIONAL DISTRIBUTION CENTRE

Project name	**NSW Environmental Monitoring Program**
Project no.	**318000911**
Recipient	**Rochelle Flack, Shilpa Shashi, Holcim**
Document type	**Review Report**
Version	**2**
Date	**13 October 2021**
Prepared by	**Greer Laing**
Checked by	**Martin Parsons**
Approved by	**Fiona Robinson**
Description	**Review of air quality approval conditions and monitoring program at Rooty Hill Regional Distribution Centre to advise on an appropriate program**

Date: 13 October 2021

CONTENTS

Ramboll
Level 2, Suite 18 Eastpoint
50 Glebe Road
PO Box 435
The Junction
NSW 2291
Australia

T +61 2 4962 5444
https://ramboll.com

1 Overview

Holcim Australia Pty Ltd (Holcim) operate a Regional Distribution Centre in Rooty Hill, NSW (RHDC). Aggregates and sands from a regional quarry are delivered by rail, dropped to hoppers, and fed to stockpiles on site by conveyor. Trucks are loaded by front-end loaders at the stockpiles and materials are transported by road around the Sydney region. A concrete batching plant is maintained and operated on site.

The RHDC operation is required to comply with the Development Consent (PA 05_0051 as modified June 2017) and Operational Environmental Management Plan (OEMP; Holcim, 2019), including air quality and meteorological monitoring. NSW EPA approved surrender of the RHDC Environmental Protection Licence (EPL 20672) on 18 June 2020.

The current air quality and meteorology monitoring program maintains a high-volume air sampler (HVAS) for PM_{10}, a dust deposition gauge and a meteorology station at the nearest sensitive receptor, the Blacktown International Sports Park (BISP) opposite the rail line to the south. BISP is

Ramboll Australia Pty Ltd.
ACN 095 437 442
ABN 49 095 437 442

currently undergoing construction, with the monitoring location directly impacted. The landowner has requested RHDC to remove the monitoring equipment from BISP.

Holcim has commissioned Ramboll to provide air quality advice on an appropriate air quality and meteorological program to meet the approval obligations without requiring access to BISP. Specifically RHDC must remove the instrumentation from BISP and is seeking more appropriate locations and techniques for monitoring on site to meet the objectives of the air quality monitoring program. This report has been prepared to recommend a scientifically robust and cost-effective approach to proactive management of air quality impacts at RHDC.

2 Approval obligations

The RHDC Development Consent requires specific controls for air quality impact mitigation (Condition 2.8, 2.9 and 2.10) with air quality criteria (Condition 2.8A) that are consistent with NSW and NEPM criteria (reproduced in Table 2-1). Exceedances of the criteria exclude extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or other activity agreed by the Secretary.

It is noted that the table notes in the Development Consent refer to a "Table 3" with commentary on dust deposition, but this table is no longer presented in the document.

Table 2-1: RHDC Air Quality Criteria (from PA 05-0051, Condition 2.8A)

Pollutant	Averaging Period	Criterion
Particulate matter < 10 μm (PM_{10})	Annual	25 μg/m³
Particulate matter < 10 μm (PM_{10})	24-hour	50 μg/m³
Particulate matter < 2.5 μm ($PM_{2.5}$)	Annual	8 μg/m³
Particulate matter < 2.5 μm ($PM_{2.5}$)	24-hour	25 μg/m³
Total suspended particulates (TSP)	Annual	90 μg/m³

Condition 5.5(d) of the Development Consent requires a Dust Management Plan be prepared, with the principal requirement to satisfy goals specified under Condition 2.8 and 2.8A (i.e. the criteria presented above; Condition 5.5(d)(vi)). The Dust Management Plan is also required to include proactive and reactive management and response techniques for particulate matter to minimise elevated air quality impacts on surrounding land uses as a consequence of meteorological conditions or specific site works (Condition 5.5. (d)(ix)).

Holcim has outlined the Air/Dust Management Plan in the RHDC OEMP (Section 4.3.3). The dust section of the OEMP specifies compliance against the criteria from the Development Consent (Table 2-1; i.e. without dust deposition) and continuous ambient monitoring of PM_{10} at a minimum of two locations around the site. The monitoring technique referenced in the OEMP is *AS 3580.9.8: Method for sampling and analysis of ambient air – Determination of suspended particulate matter – PM_{10} continuous direct mass method using a tapered element oscillating microbalance analyser*, which is not consistent with the existing monitoring program.

There are no air quality compliance requirements issued by NSW EPA for RHDC, following approval to surrender the licence on 18 June 2020.

3 Air Quality & Meteorology Monitoring at RHDC

3.1 Current Monitoring Program

The current air quality monitoring program at consists of the instruments, parameters and techniques summarised in Figure 3-1.

Table 3-1: Existing Air Quality Monitoring Program at RHDC

ID	Parameter	Monitoring technique	Location
DDG1	Dust deposition as insoluble solids	Dust deposition gauge	North-east corner of site, behind noise wall
DDG2	Dust deposition as insoluble solids	Dust deposition gauge	BISP
DDG3	Dust deposition as insoluble solids	Dust deposition gauge	Near RHDC rail loading facility
HVAS Site Office	PM_{10} 24-hour average every 1 day in 6	High-volume air sampler with PM_{10} size selective inlet	Middle of RHDC site, near stockpiles
HVAS BSC	PM_{10} 24-hour average every 1 day in 6	High-volume air sampler with PM_{10} size selective inlet	BISP
Met BSC	Wind speed and direction, temperature, humidity, rainfall	Cup and vane, resistor, capacitive, tipping bucket	BISP (currently not operational from damage/age)

The monitoring locations and surrounding land uses are presented in Figure 3-1.The nearest sensitive receptors to RHDC were identified as:

- Nurragingy Reserve, bordering the site to the east, north-east and to the south of the stockpiles.
- BISP, bordering the site to the south of the rail corridor.
- Industrial facilities including Humes and InfraBuild Steel Mill to the north and west. Receptors of these types are typically considered less sensitive than other land uses.
- Residential communities of Doonside to the east of Nurragingy Reserve and Rooty Hill to the west of the industrial facilities and M7 Freeway to the West.

Nurragingy Reserve and BISP and considered the highest priority receptors to minimise air quality impacts, given their proximity to the site.

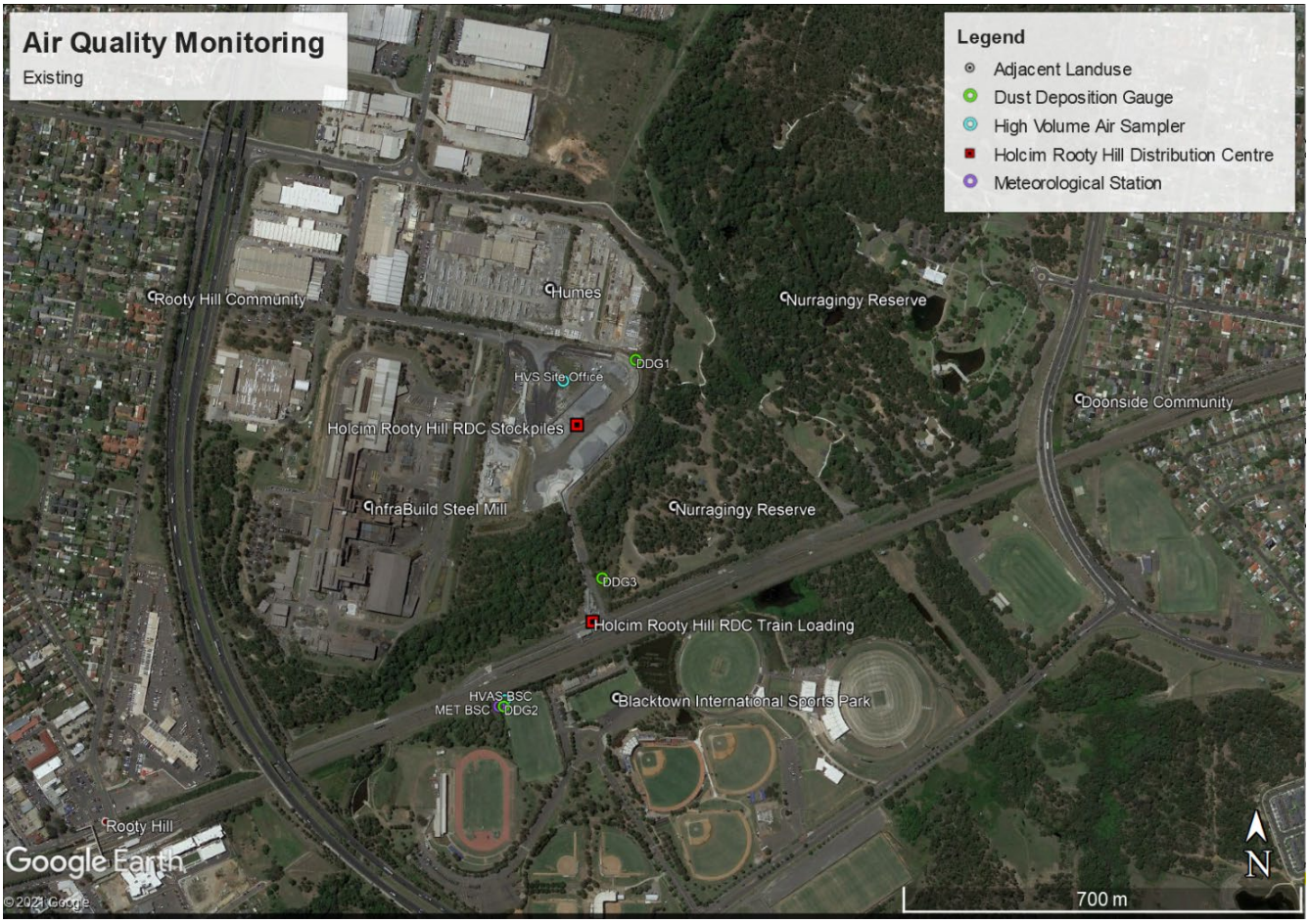

Figure 3-1: Existing air quality monitoring program at Holcim Rooty Hill RDC with surrounding land uses (Google Earth, 2021)

3.2 Prevailing wind conditions at RHDC

The existing meteorological station owned by RHDC, currently located at BISP, is currently in a state of disrepair, so no recent meteorology conditions were available for review. Wind conditions from the nearest BoM Station at Horsley Park, approximately 8.5 km to the south, and the nearest Department of Planning, Industry and Environment (DPIE) air quality monitoring station with meteorological data at Prospect, approximately 7.5 km to the south-east, were reviewed. Wind measurements made by BoM and DPIE are generally collected at height (i.e. 10 m), and so have fewer obstructions that then RHDC data, so these are considered higher accuracy and representative of regional conditions.

Windroses show winds from the direction they originate, so provide an indication of the potential for air quality impacts to be transported and dispersed toward sensitive receptors in the opposite direction. Windroses for average seasonal conditions from 2018 to 2020 measured at Horsley Park and Prospect are presented in Figure 3-2 and Figure 3-3 respectively. Both locations show similar wind patterns, where during autumn and winter, winds were more likely to prevail from the north-western and south-western quadrants. Average summer conditions show winds dominating from the south-eastern quadrant in both locations. There were low discernible dominant directions measured during spring at Horsley Park, but a more dominant north-easterly and south-easterly pattern evident in the Prospect data.

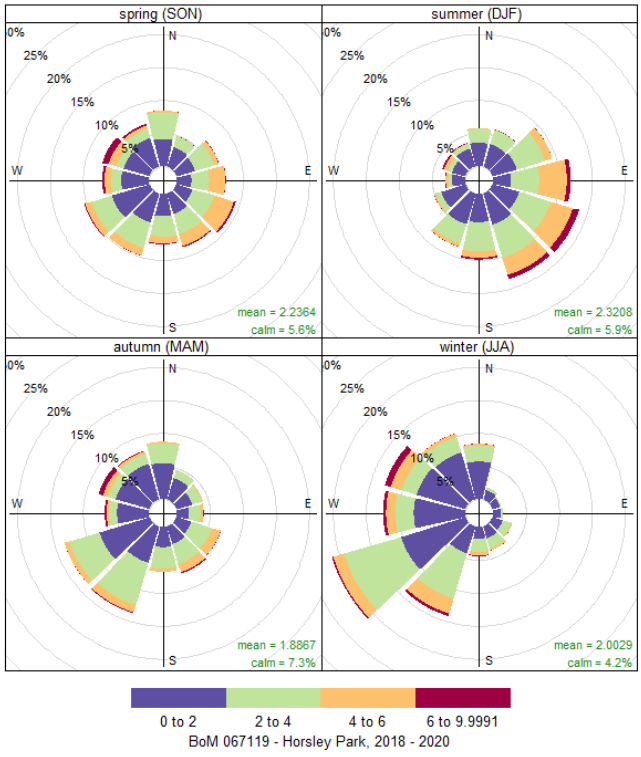

Figure 3-2: Seasonal windroses from Horsley Park (BoM), 2018 - 2020

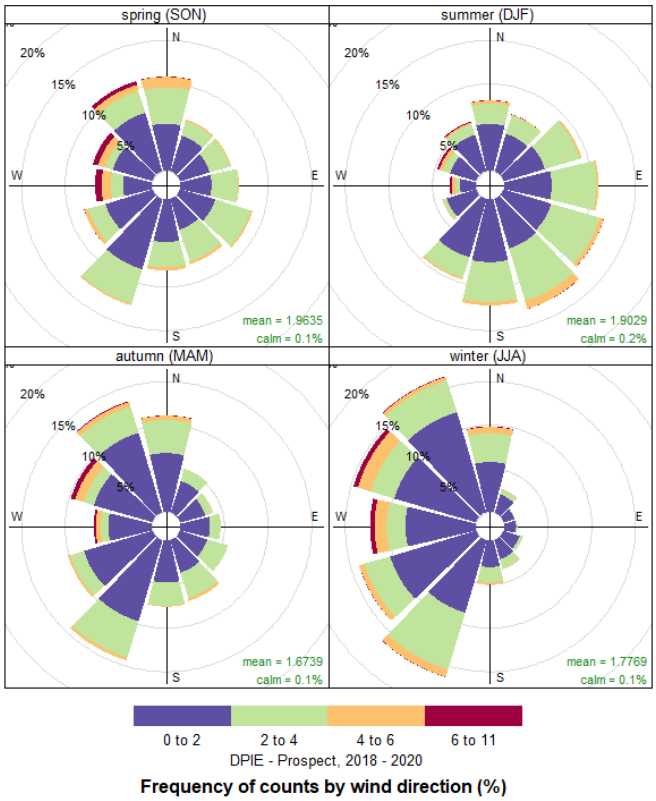

Figure 3-3: Seasonal windroses from Prospect (DPIE), 2018 - 2020

4 Discussion

4.1 Approval obligations

The reference to "Table 3" and footnotes associated with dust deposition in the Development Consent creates some confusion about whether dust deposition should be measured. It is assumed that these references are relics to a previous iteration of the Development Consent and have since dropped out as key environmental considerations for RHDC. It is recommended that this point is raised with DPIE to clarify that the dust deposition criteria was intentionally removed from the Development Consent.

The Holcim OEMP incorrectly references an Australian Standard for measurement of particulate matter using a taper element oscillating microbalance (TEOM), where high-volume air samplers (HVAS) are currently installed. The outcomes of this review report do not recommend either monitoring technique at RHDC, where the HVAS provides limited data at high servicing cost and the TEOM is highly complex, expensive, and prone to breakdowns, so it is recommended that this reference is removed from the OEMP.

4.2 Monitoring techniques and locations

The current air quality and meteorology monitoring program does not adequately assess the air quality parameters listed in the Development Consent, that is, particulate matter as TSP, PM_{10} and $PM_{2.5}$. The HVAS units installed include size selective inlets for PM_{10} so no measurement of TSP or $PM_{2.5}$ is possible. While the current dust deposition monitoring network at the site was appropriate against previous iterations of the Development Consent, against the currently listed limits, these monitoring locations are surplus to minimum requirements.

The location of the Site Office HVAS is not considered suitable to compare against the air quality criteria. Siting in the middle of the site adjacent to the stockpiling area would be considered a 'peak' site and not appropriate to directly compare to the air quality criteria which apply at the nearest sensitive receptors. The instruments should be sited near or within adjacent private and public lands e.g. residential properties, parks, sports centers etc.

The monitoring instruments maintained at BISP, including a dust deposition gauge, high volume air sampler and meteorology station, must be removed following request from the landowner. It is also noted that the location has become less suitable over time against the intent of the monitoring program, as trees that were initially small have grown around the location to create obstructions to allow representative monitoring of air quality and meteorology.

Siting of instruments should be completed, as far as practicable, in accordance with the recommendations of *AS 3580.1.1: Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment*. Recommendations of relevance to RHDC include:

- Clear sky angle 120º.
- Unrestricted airflow of 270º around the sampling inlet.
- 10 m from any object with a height exceeding 2m below the height of the sampling inlet.
- No extraneous sources nearby.
- 50 m from road.

4.3 Proposed approach

A common technique used to measure contemporaneous particles continuously is an aerosol particle counter or photometer . Instruments are available that can measure each fraction specified in the Development Consent air quality criteria (i.e. TSP, PM_{10} and $PM_{2.5}$). The following benefits and disadvantages are identified for RHDC:

Benefits

- Capable of measuring all particle sizes and averaging periods in the Development Consent.
- Capable of integrating meteorology sensors to inform adverse dust generating conditions and likely sources of elevated dust concentrations.
- Capable of providing SMS and email alerts to Holcim managers and operators to proactively manage dust impacts at the site.
- Lower servicing costs when compared to the current monitoring program, where no laboratory analysis is required. Data is available through an online platform.
- Fast provision and understanding of results through alerts, online data access and negating the need for laboratory analysis (~ 2 weeks turnaround).

Disadvantages

- Particle counters and photometers are not reference methods in the NSW Approved Methods nor are they currently maintained in accordance with Australian Standards. The instruments can be maintained in accordance with the manufacturer's specifications and best practice, but the data is currently considered 'indicative' against data produced by a reference grade instrument.
- Capital expenditure required where the current monitoring network is owned by the site.

There is no explicit reference in the Development Consent requiring Approved Methods for monitoring, and for this application the benefits of proactive provision of data for each particle size of concern, the benefits outweigh the disadvantages.

It is proposed two instruments are commissioned at RHDC. One to the west of the Site Office with an integrated meteorology station. This location is at distance from the peak sources on site including stockpiles and batching plant and is the location most likely to comply with the recommendations of *AS 3580.1.1*. It is recommended a second instrument is located near the rail loading facility to the south of the site. This location is nearest to the key sensitive receptors of Nurragingy Reserve and BISP. The instrument can also be used to compare data between the instruments to determine if elevated concentrations are likely generated from site, nearby industrial sites or extraordinary events (excluded from compliance obligations).

The instruments recommended for consideration for this program are:

- Aeroqual Dust Sentry Pro.
- Air-Met ER DX (configured for additional TSP measurement).
- Thomson Environmental System Dust Master Pro with heated inlet.

Procurement should specify:

- Heated inlets.
- Capable of TSP measurement (generally not standard).
- Tripods for mounting unless pole mounting is available at each location.
- Mains power supply. Solar power is available for all recommended options but is much less reliable.
- Integrated meteorology sensors in one unit to reduce duplication of data loggers.
- Modem and communications with trigger alerts capability.

Recommended monitoring locations are shown in Figure 4-1.

Figure 4-1: Proposed air quality monitoring program at Holcim RHDC with surrounding land uses (Google Earth, 2021)

5 Recommendations

Approval documents

1. Update the Rooty Hill OEMP Section 4.3.3 to remove all dust deposition monitoring, high-volume air sampler monitoring and replace with two particle counters, one near the Site Office and a second near the rail loading facility. Include meteorology measurements as part of the Site Office instrument.
2. Clarify the intent of Table 2 with DPIE, with the aim to acknowledge Table 3 and footnotes associated with dust deposition (i.e. footnotes a, b and c) are intentionally removed.

Monitoring techniques and locations

3. Once OEMP approved, decommission all instruments at BISP as request by the landowner.
4. Provide power at the two monitoring locations. Locations to be selected with consideration of the recommendations of *AS 3580.1.1*.
5. Commission the supply, installation, and maintenance of two particle counters, including one with integrated meteorological station.
6. Decommission the remaining HVAS and two DDG on site once the replacement monitoring network is in place.

Proposed approach

7. Maintain servicing of the particle counters monthly for an initial 6-month period, consistent with the manufacturer's recommendations. Review the data and servicing regime following 6 months of monitoring to determine whether the service visits can be reduced to 2-monthly, depending on particle loading and conditions on site.

Appendix 10 – DPIE Consultation

Appendix 10 is per DPIE's comments on the submitted draft OEMP, dated 18 June 2021, and preliminary comments on the October 2021 draft OEMP, dated 16 November 2021. Table A and Table B outline this feedback. Note, the OEMP has been re-structured, therefore sections referred to within the original comments will differ from the relevant section in the revised versions of the 2021 OEMP.

Feedback on the OEMP was also received from DPIE on 18 January 2022. These comments were minor and continued on from those displayed in Table B and therefore are not presented as a table.

Table A: June 2021 DPIE Feedback

DPIE Comment	Relevant OEMP Section	Holcim Comment
(i) The Department's name was changed from 'Department of Planning and Environment' (DP&E) to 'Department of Planning, Industry and Environment' (DPIE) a few years ago. Please update the entire document to reflect this change.	Entire Document	All references changed to DPIE.
(ii) You need to review the document again and remove mentions of the EPA and discussions relating to submissions of annual returns to the EPA. See for example Section 2.2.2.	Entire Document	EPL references removed unless relevant or referring to the surrender of EPL.
(iii) Review the entire document and replace words such as "should", "could", "must", "would" and "may" etc when referring to auditable actions to be undertaken to "will" referring to actions that will be undertaken. The Department requires firm commitments on auditable actions that will be undertaken to mitigate and manage environmental impacts of developments. All recommendations of tasks that could be undertaken should be translated into firm actions that will be undertaken by using "will".	Entire Document	Commitments throughout body of OEMP corrected to firm commitments through using certain language e.g. "will".
(iv) Please note consent conditions use "must" and when reproducing the conditions in the OEMP "must" not be changed, however, if the condition is being paraphrased to describe actions that will be undertaken to meet the consent condition then the "must" should be changed to "will". Exceptions may apply so review comments and descriptions very carefully.	Entire Document	Conditions of the Development Consent are referenced and in *italics*.
(v) Section 5.1.1 – why is quarterly noise monitoring being changed to annual? What is the justification for this? Also, is this section still referring to noise monitoring that was being undertaken as part of the EPL requirements?	Section 3.2.1	Justification provided.

(vi) Please go through the entire document and remove all references to monitoring that used to be undertaken as part of the EPL requirements. If the monitoring is to be retained then references to consent conditions should be included. Use a consultant if required to review the OEMP to address this issue prior to submission to the Department through the portal, otherwise it may not be accepted for a detailed review.	Entire document	EPL commitments removed.
(vii) Section 5.1.2 – Instead of requesting removal of the PM10 device 2 monitor through the management plan process you need to state it will be removed and justify why it will be removed. Need to ask an air quality expert to justify that having one PM10 device 1 the new location will be spatially adequate to monitor PM10 emissions from all significant sources at the site during operations. Attach the letter from the air quality expert to the OEMP as an appendix. DPIE Compliance Branch will have to be satisfied that one PM10 monitor will be adequate for the site.	Table 9 Section 3.4.1 Appendix 9	Justification provided in this revised OEMP.
(viii) If consultation on the removal of the PM10 Sports Centre was undertaken with the EPA and the Compliance Branch then this should be discussed in the main document and evidence of consultation included as an appendix.	Section 1.3 and Appendix 8	Consultation with EPA and Compliance Branch requested.

Table B: November 2021 DPIE Feedback

DPIE Comment	Development Consent Condition	Relevant Section of OEMP	Description of Change
1. Table 2 needs to be updated as some of the cross references are incorrect.	N/A	Table 2: OEMP Development Consent Compliance Table	Table 2 updated with correct references. Main changes occurred for later subsections, in Sections 3.
2. Condition 5.5(a)(i) – does not adequately address Condition 2.7	i) the Operational Noise Management Protocol, as outlined in condition 2.7 of this approval;	Section 3.2	Noise monitoring program incorporated into the Noise Management Plan. Noise Management Plan is now a stand-alone section.
3. Condition 5.5(b) – does not include Transport Code of Conduct or Transport	b) a Traffic Management Plan to outline measures to manage all heavy vehicle traffic movements associated with the project to minimise impacts on the local and regional road network. This must include	Section 3.3 Appendix 4	Traffic Management Plan incorporates the traffic control measures, monitoring program, and refers to the Code of Conduct. Traffic Management Plan is a stand-alone document.

DPIE Comment	Development Consent Condition	Relevant Section of OEMP	Description of Change
Management Strategy	the Transport Management Strategy, a Transport Code of Conduct for heavy vehicles (including contractors).		
4. Condition 5.5(c)(iii) – not addressed	iii) evidence of compliance with the targets in Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC & ARMCANZ, 2000) October 2000.	SWMP 5 of Table 11, Section 3.5	Trigger levels from ANZECC Guidelines outlined in the Soil and Water Management Plan.
5. Condition 5.5(d)(i) – not addressed	i) identification of all major sources of dust that may occur as result of the operation of the project;	Section 3.4 Dust Management Plan DMP 1, Table 9	Major sources of dust identified in Section 3.4 and addressed in DMP 1.
6. Condition 5.5(d)(ii) – not addressed due to issues with Condition 5.5(d)(i)	ii) description of the procedures to manage the emission of dust from the sources identified;	DMP 1, Table 9	Specific measures to address major sources of dust are addressed in DMP 1 of Table 9.
7. Condition 5.5(d)(vii) – not addressed	vii) a system that allows for periodic assessment and reasonable implementation of Best Management Practice (BMP) and Best Available Technology Economically Achievable (BATEA) to minimise dust impacts over the life of the project;	DMP 1, 15, 17 of Table 9.	Reference to BMP and BATEA made in the Dust Management Plan, including procedure to review annually.
8. Condition 5.5(d)(xi) – not addressed	ix) pro-active and reactive management and response mechanisms for particulate emissions, with specific reference to measures to be implemented and actions to be taken in a timely manner to minimise and prevent reasonably foreseeable elevated air quality impacts	DMP 14, 15 & 17 of Table 9.	Dust Management Plan describes the proactive and reactive measures for air quality impacts.

DPIE Comment	Development Consent Condition	Relevant Section of OEMP	Description of Change
	on surrounding land uses as a consequence of meteorological conditions or the specific construction works being undertaken at any particular time; and		
9. Condition 2.24 – not adequately addressed	Condition 2.24.	Appendix 1 – RHDC Vegetation Management Plan Section 3.7	Through further consultation with DPIE, it was decided changes were not needed to the Vegetation Management Plan.
10. Condition 3.1(a)(ii) – not addressed	ii) scheduling of noise monitoring, with reference to day, evening and night-time periods;	NMP 12 Table 11	Specific noise monitoring outlined in terms of day, evening, and night time periods.
11. Condition 3.1(a)(iii) – not addressed	iii) provisions and procedures for determining LAeq(15 minute), LA90(15 minute) and LA1(1 minute) noise levels;	NMP 13 Table 11	Provisions for monitoring noise described.
12. Condition 3.1(a)(iv) – not addressed	iv) review and assessment mechanisms to establish and address noise impacts on residential receptors;	NMP 18, 19, 20, and 21 Table 11. Section 5.2 Complaints Management	Review procedures outlined to address impacts to residential receivers.
13. Condition 3.1(c)(i) – not addressed (frequency)	i) details on the monitoring program, such as the frequency and methodology of the monitoring program. This program must include (but not be limited to) the 'spot' auditing of transport movements and driver behaviours at various operational times;	TMP 20 of Table 8	Spot auditing outlined in the Traffic Management Plan.
14. Condition 3.1(c)(iii) – not addressed	iii) a protocol for implementing contingency measures should any non-compliance be detected.	TMP 23 of Table 8	Contingency measures described in the Traffic Management Plan.

From:	Shilpa Shashi
To:	Olivia Oshannessy; Chris Jones
Subject:	Fwd: MP05_0051-PA-6 OEMP
Date:	Thursday, 2 December 2021 12:29:38 PM

FYI

Shilpa Shashi
Planning and Environment Coordinator NSW / ACT

Holcim (Australia) Pty Ltd
Level 8 Tower B - 799 Pacific Highway Chatswood NSW 2067
M +61 427 859 852
E shilpa.shashi@holcim.com

www.holcim.com.au

---------- Forwarded message ---------
From: **David Koppers** <David.Koppers@planning.nsw.gov.au>
Date: Thu, Dec 2, 2021 at 12:26 PM
Subject: RE: MP05_0051-PA-6 OEMP
To: Shilpa Shashi <shilpa.shashi@holcim.com>

Hi Shilpa

I have reviewed the VMP and am satisfied it achieves the intention of the relevant conditions. Could you please pass this on to the team at IEMA?

Regards

David

From: Shilpa Shashi <shilpa.shashi@holcim.com>
Sent: Tuesday, 30 November 2021 9:10 AM
To: David Koppers <David.Koppers@planning.nsw.gov.au>
Subject: Re: MP05_0051-PA-6 OEMP

Hi David,

Thank you for your email. Wednesday 14:00 would be great. I would also like to invite the consultant working on the document for this meeting. Are you happy to send through the Teams invite.

Many thanks,

Shilpa Shashi

Planning and Environment Coordinator NSW / ACT

Holcim (Australia) Pty Ltd

Level 7 Tower B - 799 Pacific Highway Chatswood NSW 2067

M +61 427 859 852

E shilpa.shashi@holcim.com

www.holcim.com.au

On Mon, Nov 29, 2021 at 10:33 AM David Koppers <David.Koppers@planning.nsw.gov.au> wrote:

> Hi Shilpa
>
> I can do the following times:
>
> 1. Today – between 1430 – 1530
> 2. Tuesday – before 1100 or between 1330 – 1530
> 3. Wednesday – before 1000 or between 1400 – 1530
> 4. Thursday - before 1000 or between 1330 – 1530.

Happy for you to send me a Teams invite.

Regards

David

From: Shilpa Shashi <shilpa.shashi@holcim.com>
Sent: Monday, 29 November 2021 9:36 AM
To: David Koppers <David.Koppers@planning.nsw.gov.au>
Subject: Re: MP05_0051-PA-6 OEMP

Hi David,

Trust you are well. Will you be available for a quick meeting this week to go through the changes? I have attached brief notes in the attachment.

Many thanks,

Shilpa Shashi

Planning and Environment Coordinator NSW / ACT

Holcim (Australia) Pty Ltd

Level 7 Tower B - 799 Pacific Highway Chatswood NSW 2067

M +61 427 859 852

E shilpa.shashi@holcim.com

www.holcim.com.au

On Mon, Nov 29, 2021 at 8:56 AM David Koppers <David.Koppers@planning.nsw.gov.au> wrote:

> Hi Shilpa
>
> Are you able to provide an estimate of when the revised OEMP will be completed?
>
> Regards
>
> David
>
> ---
>
> **From:** David Koppers
> **Sent:** Tuesday, 16 November 2021 3:26 PM
> **To:** 'shilpa.shashi@lafargeholcim.com' <shilpa.shashi@lafargeholcim.com>
> **Subject:** RE: MP05_0051-PA-6 OEMP
>
> Hi Shilpa
>
> The Department has undertaken a preliminary review of your submitted OEMP and there are a number of condition requirements that do not appear to be met, were not readily apparent or are not sufficient in addressing the requirements of the condition.
>
> The following items require further consideration:
>
> 1. Table 2 needs to be updated as some of the cross references are incorrect
> 2. Condition 5.5(a)(i) – does not adequately address Condition 2.7
> 3. Condition 5.5(b) – does not include Transport Code of Conduct or Transport

Management Strategy
4. Condition 5.5(c)(iii) – not addressed
5. Condition 5.5(d)(i) – not addressed
6. Condition 5.5(d)(ii) – not addressed due to issues with Condition 5.5(d)(i)
7. Condition 5.5(d)(vii) – not addressed
8. Condition 5.5(d)(xi) – not addressed
9. Condition 2.24 – not adequately addressed
10. Condition 3.1(a)(ii) – not addressed
11. Condition 3.1(a)(iii) – not addressed
12. Condition 3.1(a)(iv) – not addressed
13. Condition 3.1(c)(i) – not addressed (frequency)
14. Condition 3.1(c)(iii) – not addressed

I am more than happy to arrange a time to work through these with you if you require any additional clarification.

Regards

David

From: David Koppers
Sent: Monday, 15 November 2021 3:34 PM
To: shilpa.shashi@lafargeholcim.com
Subject: MP05_0051-PA-6 OEMP

Hi Shilpa

I am currently undertaking a review of the OEMP you have recently submitted to the Department and was hoping you could provide a bit of background on what has prompted this to occur just so I fully understand?

Also – are you able to confirm the dates of any previous OEMP approvals issued by the Department?

Please give me a call if you would like to discuss further.

Regards

David Koppers

Senior Environmental Assessment Officer

Industry Assessments | Department of Planning, Industry and Environment
T 02 9373 2869 | **E** david.koppers@planning.nsw.gov.au
4 Parramatta Square, 12 Darcy Street | Locked Bag 5022 | Parramatta NSW 2124
www.dpie.nsw.gov.au

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.