

Air Quality and Greenhouse Gas Management Plan

Badgerys Creek Quarry

Prepared for:

Goodman Property Services (Australia) Pty Ltd

The Hayesbery
1-11 Hayes Road
Rosebery NSW 2018

Version No: V0.2

13 November 2025

DOCUMENT VERIFICATION

Project Title: Badgerys Creek Quarry Air Quality and Greenhouse Gas Management Plan

Project Number: GDM01-003 - V0.2

Project File Name: GDM01-003 Air Quality and Greenhouse Gas Management Plan

Version	Comment	Date	Prepared	Approved
V0.1	2023 AQGHGMP Amended following DPHI review and comments.	21/02/2023	Todoroski Air Sciences	N. Arancibia
V0.2	2025 Update	13/11/2025	A Shearer and T Krause (IEMA)	C Jones (IEMA)

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APENDICES

Appendix A – Consultation



GLOSSARY AND ABBREVIATIONS

The following are commonly used terms and definitions used throughout this document.

Term	Definition
Department	NSW Department of Planning, Housing and Infrastructure.
Development	The development described in the documents listed in condition 3 of Schedule 2 and includes Quarrying Operations, Brickmaking Activities and rehabilitation activities.
EA	Environmental Assessment titled Boral Badgerys Creek Continued Operation of Quarry and Brick Making Facility (Volumes 1 – 3), prepared by AECOM and dated November 2010, and associated Response to Submissions titled Boral Badgerys Creek Continued Operation of Quarry and Brick Making Facility – Submissions Report, prepared by AECOM and dated June 2011.
EA (Mod 1)	Environmental Assessment titled Boral Badgerys Creek Quarry and Brick Making Project, Application Number: 10_0014, prepared by Boral Property Group and dated 5 November 2012.
EA (Mod 2)	Environmental Assessment titled Badgerys Creek Brick Making Facility Modification 2 Environmental Assessment prepared by Element Environment and dated November 2017, the associated the Response to Submissions prepared by Element Environment and dated February 2018, and additional information provided by Element Environment dated 8 March 2018.
EA (Mod 3 and 4)	Environmental Assessment titled CSR Advanced manufacturing hub – Modification 3 Environmental Assessment prepared by Element Environment and dated March 2019, Environmental Assessment titled CSR Advanced manufacturing hub – Modification 4 Environmental Assessment prepared by Element Environment and dated March 2019, the associated Response to Submissions Reports prepared by Element Environment and dated October 2019, and additional information provided by CSR Limited and dated 5 May 2020.
Incident	An occurrence or set of circumstances that: • causes or threatens to cause material harm to the environment; and/or • breaches or exceeds the limits or performance measures/criteria in this consent.
Material harm	Is unauthorised harm that: • involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or • results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment).
Modification 3 and 4	The modifications to the development, as described in EA (Mod 3 and 4).
Modification Report (Mod 5)	The Modification Report titled Badgerys Creek Quarry and Brick Making Project Modification 5 prepared by Element Environment dated October 2021 and further response prepared by CSR Building Products Limited dated December 2021.
Modification Report 6	Modification Report titled “Badgerys Creek Quarry and Brick Making Project Modification 6”, dated 3 September 2024. Prepared by Element Environment and letter dated 7 November 2024.

Term	Definition
Quarrying operations	The extraction, processing, stockpiling and transportation of extractive materials carried out on the site and the associated removal and/or emplacement of vegetation, topsoil and overburden.
Quarry products	Includes all saleable quarry products, including raw materials, but excludes bricks, tailings, other wastes and rehabilitation material for use on the site.
Quarry water	Water that accumulates within active quarrying areas, overburden emplacement areas and infrastructure areas, synonymous with dirty water.
Resources Regulator	NSW Resources Regulator within the Department of Regional NSW.
Secretary	Planning Secretary under the EP&A Act, or nominee.
TfNSW	Transport for New South Wales.
VENM	Virgin Excavated Natural Material, as defined in clause 50 of Schedule 1 of the POEO Act.
Waste Regulation	Protection of the Environment (Waste) Regulation 2014.
WSA	Western Sydney Airport.

ACRONYMS

AQMP	Air Quality Management Plan
AQGHGMP	Air Quality Greenhouse Gas Management Plan
CoC	Conditions of Consent
CSR	CSR Limited
DDG	Depositional Dust Gauge
DPHI	Department of Planning, Housing and Infrastructure
EMS	Environmental Management Strategy
EPL	Environment Protection Licence
HVAS	High Volume Air Sampler
IEA	Independent Environmental Audit
LGA	Local Government Area
NGER Act	National Greenhouse and Energy Reporting Act 2007
PM	Particulate Matter
POEO Act	Protection of the Environment Operations Act 1997
SoC	Statement of Commitment

TARP	Trigger Action Response Plan
TSP	Total Suspended Particles
WSA	Western Sydney Airport

1. INTRODUCTION

1.1. Context

This Air Quality and Greenhouse Gas Management Plan (**AQGHGMP**) forms part of the Environmental Management Strategy (**EMS**) for the Goodman Property Services (Australia) Pty Ltd (**Goodman**) site at 225 – 245 Martin Road, Bradfield New South Wales (**NSW**) (**the Site**). The site was formerly owned and operated by CSR Limited (**CSR**) however was acquired by Goodman on 19 December 2025.

This plan has been prepared following The Department of Planning, Housing and Infrastructure's (**DPHI**) determination of Project Approval (MP10_0014) on 27 September 2011 and more recently Modification 6 on 19 December 2024. This plan is named AQGHGMP to meet both the requirements of MP10_0014 Condition 13, Schedule 3 and the associated Statement of Commitments.

A brief description of each modification is shown below;

- Mod 1: Mothballed the site and allowed minor maintenance requirement.
- Mod 2: Raw material exportation and building products storage (this modification has not been enacted).
- Mod 3: Construct a new brick manufacturing plant incorporating new equipment and a new pit (Pit No. 3).
- Mod 4: Rehabilitation of the site including dewatering of old pits and import of virgin excavated natural material (**VENM**) to fill the pits.
- Mod 5: Importation of excavated natural material (**ENM**).
- Mod 6: Importation and placement of tunnel spoil.

The current Project Approval allowed a series of phases (Phases 1 – 4) that included extraction, brick making and importing of material. Under the current Project Approval, Goodman proposes to undertake the following activities:

- There will be no brick making. The brick manufacturing building has been demolished.
- Importing of fill material will continue as per the Fill Management Plan.
- Onsite overburden will continue to be screened and sized.
- Pit 1 and 2 have recently been dewatered. Filling activities will continue in this pit, with this allowed under the current approval. Filling will occur via the onsite overburden or imported fill. There are small sediment dams within these pits which will change location as the pit is filled with engineered backfill.
- The former Pit 3 has been dewatered and filled with site materials. It should be noted that the footprint of the Pit 3 that was nominated within Figure 1 of MP10_0014 has not been reached. Therefore, works will occur under this current Project Approval within the Quarry Operational Footprint - Pits and Stockpiles boundary. Works around the Pit 3 area will include stripping and landform set up.
- Water management of the existing quarry is being reviewed and there will be small changes to ensure the site continues to operate as per approvals.
- On-site sediment dams (within Quarry Operational Footprint - Pits and Stockpiles boundary) and other farm dams form part of the quarry's water management system and may be used for dust suppression.

Goodman have brought the site to create a fully engineered, stable landform suitable for future industrial and logistics development. Additional approvals would be required undertake these proposed activities.

This management plan covers only approved operations. If there was a change in the approval for the site, this management plan would be updated

This AQGHGMP has been prepared to address the requirements of:

- The Conditions of Consent (**CoC**) MP10_0014;
- The Statement of Commitments (**SoC**); and
- Environment Protection Licence (**EPL**) 648.

1.2. Background

Badgerys Creek Quarry (the Site) is located at 225 - 245 Martin Road, Bradfield NSW, 41 kilometres (kms) southwest of Sydney, within the Liverpool City Council Local Government Area (**LGA**). Primary access to the Site is provided through Martin Road at the north-eastern corner of the Site boundary. This vehicle access currently terminates at the northern site boundary, although the road reservation continues through the Site.

The Site was formerly owned and operated by CSR Limited (**CSR**) however was acquired by Goodman in 2025. The Site comprises of a previous mothballed brick manufacturing building which has now been demolished and exhausted quarry pits which have been filled with water over time. The former Pit 3 has been dewatered and filled with site materials. Pit 2 has also completed dewatering, and works are being undertaken for filling to commence.

The Site, as shown in **Figure 1**, is a consolidation of 5 lots which occupies an area of approximately 200 hectare (ha) located to the south of Elizabeth Drive. The Site is bound to the east by South Creek and to the west by Badgerys Creek. To the south the site adjoins Inghams Property Group site called Inghams & Co. Other commercial and rural residential properties are to the north. The old brickmaking facility was located towards the centre of the Site (the building has now been demolished with the concrete hardstand remaining in place) surrounded by excavated pits and stockpiles.

This management plan covers only approved operations. If there was a change in the approval for the site, this management plan would be updated.

1.3. Purpose and Scope

To achieve regulatory compliance for air quality, this AQGHGMP identifies the relevant regulatory criteria, establishes background air quality, the sources of emissions, a monitoring regime and systems to measure and report the results of this management system. This document includes information regarding the management of greenhouse gas emissions that originate from the operations on site in alignment with Commitment 4 of the SoC.

This document has been restricted in 2025 to ensure consistency with other management plans for the site. The structure of the AQGHGMP is shown in **Table 1**.

Table 1: AQGHGMP Structure

Section	Description
1	Introduction and background
2	Statutory requirements relating to air quality emissions
3	Consultation relevant to this management plan
4	Air quality impact assessment criteria and other relevant air quality emissions criteria
5	Baseline and existing air quality monitoring results to date
6	Potential particulate matter generation and greenhouse gas sources for which management measures are proposed
7	Air quality monitoring program
8	Air quality management measures employed at site
9	Contingency Plan and Trigger Action Response Plan
10	Complaints handling procedure
11	Reporting and review
12	Training and resource requirements
13	Roles and responsibilities
14	References

1.4. Key Approval / Area Definitions

Table 2 summarises the key areas within site.

Table 2: Key Approval / Area Definitions

Term	Definition
Project Approval Area	- Shown in Figure 1. - This includes the Quarry Pits and Stockpiles Boundary. - There are areas within this boundary that don't fall within the Quarry Pits and Stockpiles Boundary, including the LDP, small tracks, farm dams, older brickworks area (currently flattened area used for storage). - The site environmental management plans cover activities and site management within the entire Project Approval area. Except for the RMP which covers activities only in the mining Lease
EPL	Covers the same area as Project Approval, includes all licensed discharge and monitoring points as per EPL648.

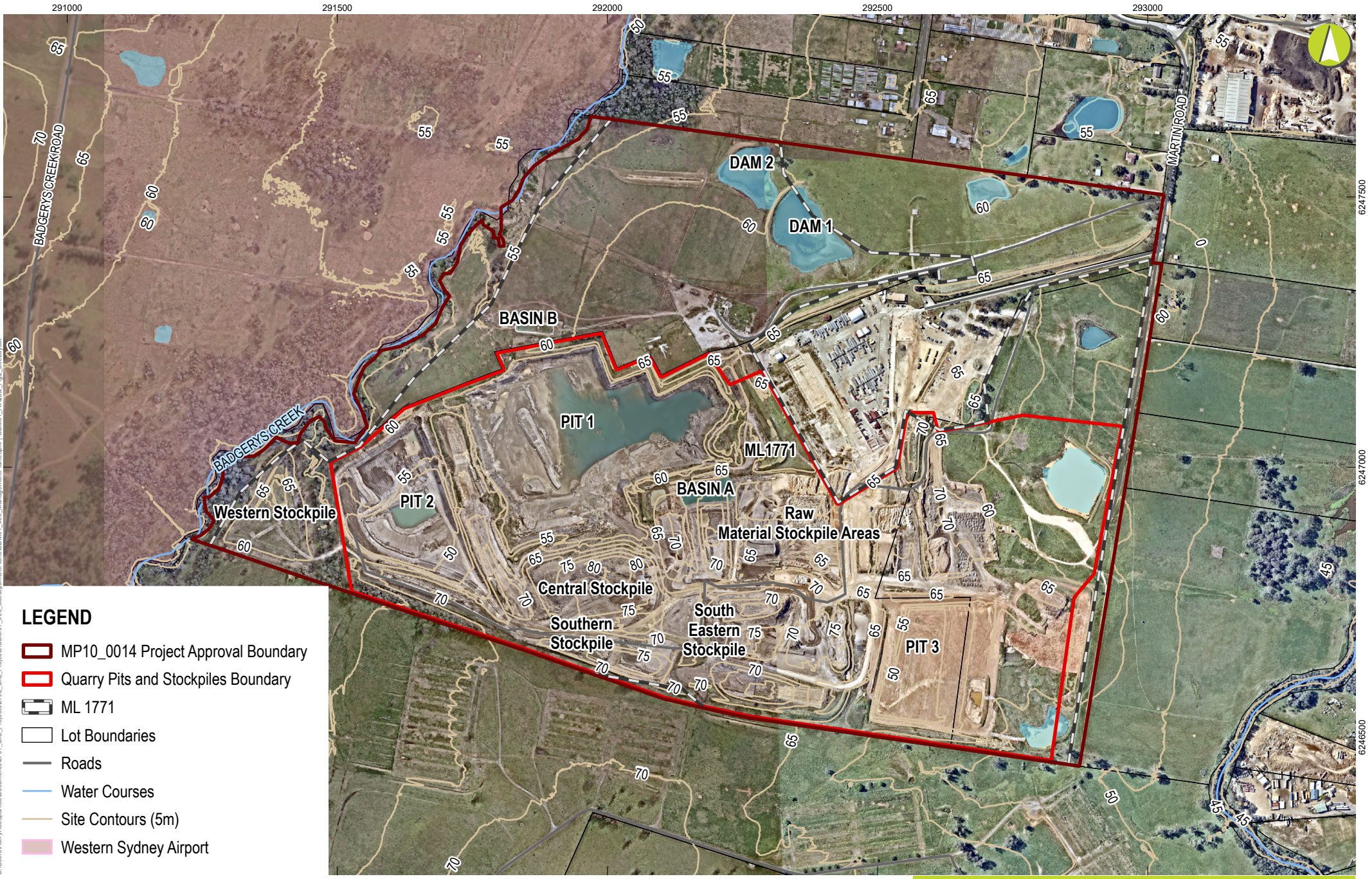
Term	Definition
Mining Lease Area	The Rehabilitation Management Plan (RMP) covers activities within the Mining Lease Area. Note this Mining Lease area is within the Project Approval area. It does not include the former brickworks area. See Figure 2 .
Quarry Pits and Stockpiles Boundary	This is shown in Figure 2 . - This was provided by Goodman in consultation with consultant advice. - It covers the approved mining limits of Pit 1, 2 and 3 (green areas under Development Layout Figure from Project Approval, Figure 2) - It covers the previously disturbed areas such as the stockpile areas that connect the pits. - Noting based on the current approvals, this allows works to occur within the eastern part of the current Project Approval area as this is covered by the footprint of the approved Pit 3 boundary.

1.5. Updates in the 2025 AQGHGMP

Updates for this AQGHGMP included:

- Updated to be put into a Goodman template;
- Restructure of the document to meet Project Approval requirements and ensuring more consistency across all Site management plans;
- Updating figures to include new additional monitoring locations
- Updating the monitoring program to include the installation and use of SiteHive monitors to collect real time data at compliance and guidance monitoring points; and;
- Changes to the air quality monitoring program including adding additional monitoring sites.





LEGEND

- MP10_0014 Project Approval Boundary
- Quarry Pits and Stockpiles Boundary
- ML 1771
- Lot Boundaries
- Roads
- Water Courses
- Site Contours (5m)
- Western Sydney Airport

0 100 200 300 400
Scale: 1:9,000

2. STATUTORY REQUIREMENTS

2.1. Project Approval Conditions (MP10_0014)

MP10_0014 details the requirements for the AQGHGMP. **Table 3** presents each requirement and outlines where they are addressed in this AQGHGMP, including those detailed in the SoC.

Table 3: MP10_0014 Conditions Relevant to AQGHGMP

Condition		Section/Comment
Schedule 3 Condition 9	Air Quality Impact Assessment Criteria The Applicant must ensure that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 4 at any residence on privately-owned land. See Table 6 of this report	Section 4 Section 7
Schedule 3 Condition 10	The Applicant must:	Section 8
	(a) implement best practice management to minimise the dust emissions of the development;	Section 8
	(b) implement all air quality management and mitigation measures that were committed to in the EA (Mod 3 and 4);	Section 8
	(c) implement real-time monitoring of 24-hour average PM ₁₀ and meteorological conditions;	Section 7
	(d) regularly assess meteorological and air quality monitoring data and relocate, modify and/or stop operations on site to ensure compliance with the air quality criteria in this consent;	Section 7 Section 8
	(e) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note d under Table 4);	Section 8
	(f) monitor and report on compliance with the relevant air quality conditions in this consent; and	Section 7
Schedule 3 Condition 10A	(g) minimise the area of surface disturbance and undertake progressive rehabilitation of the site, to the satisfaction of the Secretary.	Section 8
	During Phase 4, the Applicant may request the Secretary's agreement to reduce or waive certain air quality monitoring requirements if the Applicant can demonstrate that they are no longer necessary.	Noted.
Schedule 3 Condition 11	The Applicant must ensure compliance with stack emission limits and gaseous pollutant load limits included in any EPL applicable to the site.	Not applicable based on the brickworks not being operational.
Schedule 3 Condition 12	Within 14 months of commencement of increased production of bricks to 300,000 tonnes per year, or as otherwise required by the EPA, the Applicant must submit an Air Quality Verification Assessment to the EPA, and must provide a copy of this assessment to the Secretary. The Air Quality Verification Assessment must be completed in accordance with the requirements of the EPL for the premises.	Old condition covered previously.

Condition		Section/Comment
Schedule 3 Condition 13	The Applicant must prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:	This document
	(a) be prepared in consultation with relevant WSA authorities;	Section 3
	(b) be submitted to the Secretary for approval prior to commencing Phase 1, unless otherwise agreed by the Secretary;	Noted.
	(c) describe the proposed air quality management system;	This document
	(d) describe the proposed air quality management system; describe the measures to be implemented to ensure: • compliance with the air quality criteria and operating conditions of this consent; • best practice management is being employed; and • the air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events;	Section 8
	(e) describe measures to ensure that all the commitments in the EA (Mod 3 and 4) in relation to air quality are implemented;	Section 8
	(f) include a program to ensure surface disturbance associated with quarrying operations is minimised;	Covered under the ARRF process. Defined disturbance limits under current approval
	(g) include an air quality monitoring program that: • is capable of evaluating the performance of the development and informing day to day operational decisions; • includes a protocol for determining any exceedances of the relevant conditions of this consent; and • effectively supports the air quality management system; and	Section 7
	(h) include a program to: • notify affected landowners of the potential health-related impacts associated with dust; • respond effectively to enquiries or complaints.	Section 11.5.1
	The Applicant must implement the Air Quality Management Plan as approved by the Secretary.	Noted
Schedule 3 Condition 14	Meteorological Monitoring For the life of the development, the Applicant must ensure that there is a suitable meteorological station operating in the vicinity of the site that complies with the requirements in the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales guideline and is capable of measuring meteorological conditions in accordance with the NSW Noise Policy for Industry (EPA, 2017).	Section 7.1
Schedule 3	Odour The Applicant must ensure that no offensive odours, as defined by the POEO Act, are emitted from the site.	Section 8.2.3

Condition		Section/Comment
Condition 15		
Schedule 3 Condition 16	Greenhouse Gas Emissions The Applicant must implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site.	Section 8.2.2
Schedule 5 Condition 3	Management Plan Requirements The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:	
	(a) a summary of relevant background or baseline data;	Section 5
	(b) a description of: - the relevant statutory requirements (including any relevant approval, licence or lease conditions); - any relevant limits or performance measures/criteria; and - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Section 2 Section 4
	(c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	Section 8
	(d) a program to monitor and report on the: - impacts and environmental performance of the development; and - effectiveness of any management measures (see (c) above);	Section 7 Section 11
	(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 9
	(f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 8.3
	(g) a protocol for managing and reporting any: - incidents; - complaints; and - non-compliances with statutory requirements;	Section 11.4 Section 10 Section 11.5
	(h) a protocol for periodic review of the plan; and	Section 11.7
	(i) a document control table that includes version numbers, dates when the management plan was prepared and reviewed, names and positions of the person/s who prepared and reviewed the management plan, a description of any revisions made and the date of the Secretary's approval.	Document Verification Table
	Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.	Noted
MP10_0014 Statement of Commitment		

Condition		Section/Comment
Appendix 6, SoC 4	The Applicant will prepare an Air Quality and Green House Gas Management Plan (AQGHGMP) for the development to the satisfaction of the Secretary. The AQGHGMP will outline the purpose, methodology and expected outcomes of the dust monitoring, and will include the following content: • Dust fraction to be measured, i.e. TSP, PM10, PM2.5 etc.; • Equipment to be used to measure selected dust fraction; • Frequency of the monitoring, i.e. sample collection schedule; • Duration of the monitoring program; • Location of the monitoring station/s; • Standards/guidelines that are to be followed for location/construction of the monitoring station, equipment calibration, collection of samples and analysis of samples; • Calibration methodology and schedule; • Reporting procedure; • Regulatory guidelines and compliance criteria; • Action levels and contingency measures in the event that pollutant concentrations approach or are likely to exceed the relevant compliance criteria; and • A consultation program that involves nearby agricultural producers and residents, in order to determine if the dust mitigation measures are being effective.	This Plan – several sections
Appendix 6, SoC 5	The AQGHGMP will detail measures to control dust and emissions from the Project Site including the following measures: • Haul roads should be watered using water carts such that the road surface has sufficient moisture to minimise visible on-road dust generation but not so much as to cause pooling and mud/dirt track out to occur • Unloading of trucks containing raw or unusable extracted material to be controlled using water sprays/dust suppression when generating excessive visible dust. • Dust from existing stockpiles of unusable material and open pits to be controlled using water sprays with chemical additives (surfactants); • Completed pits to be revegetated as soon as practicable after completion of quarrying activities. • Disturbed soil surfaces to be revegetated in accordance with the RMP for the Project Site. • Operational practices to be reviewed to ensure 'best practice' techniques are being employed and that operational equipment is working efficiently.	Section 8
Appendix 6, SoC 6	The existing HVAS will be moved to as close to the northern boundary of the property and the closest sensitive receiver as possible.	Noted. We now have SiteHive systems replacing the HVAS.
Appendix 6, SoC 7	The existing deposited dust gauges will be relocated to appropriate positions as close to the property boundaries and nearest sensitive receivers as possible	Noted

Condition		Section/Comment
Appendix 6, SoC 8	If HVAS and deposited dust air quality monitoring identifies ongoing exceedances of the relevant air quality criteria then the reactive dust management program may need to be reinstated at the site.	Noted. Noted. We now have SiteHive systems replacing the HVAS.

2.2. Environment Protection Licence (EPL) 648 Conditions

The Site was granted Environment Protection Licence (EPL) 648 under Section 58(5) of the *Protection of the Environment Operations Act 1997 (POEO Act)*. **Table 4** presents each EPL air quality related requirement and outlines where it is addressed in this AQGHGMP.

Table 4: EPL 648 Air Quality Conditions

EPL 648 Condition		Section
L5.1	No condition in this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997. <i>Note: Section 129 of the Protection of the Environment Operations Act 1997 provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour</i>	Section 8.2.3
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	Section 8
O3.2	All activities occurring in or on the premises must be carried out in a manner that prevents or minimises the emission of dust.	Section 8
O3.3	Trucks entering and leaving the premises that are carrying loads must be covered at all times, except during loading and unloading.	Section 8
O3.4	The licensee must ensure that no material, including sediment, is tracked from the premises.	Section 8
M6.1	The licensee must operate and maintain a minimum of four ambient dust monitors capable of continuously monitoring and recording particulate emissions (including PM ₁₀) from the premises.	Section 7
M6.2	The continuous dust monitors must be placed at locations where they are sufficiently capable of monitoring and recording dust coming onto the premises, and dust being generated at the premises.	Section 7
M6.3	The licensee must monitor and record temperature, humidity, wind direction, wind velocity and rainfall at either the project weather station, or through analysis of equivalent weather information obtained from the Australian Bureau of Meteorology. Monitoring must: a) be representative of each catchment; b) commence prior to any works that may cause sediment or dust to leave the premises; and c) continue to be operated until soil disturbance activities cease at the premises and the site has been stabilised.	Section 7.1

2.3. Other Relevant Legislation

The following legislation is relevant to AQGHGMP:

- *NSW Protection of the Environment Operations Act 1997* (POEO Act);
- *NSW Protection of the Environment (General) Regulation 2022* (POEO General Regulation);
- *NSW Protection of the Environment Operations (Clean Air) Regulation 2022*;
- *(Commonwealth) National Greenhouse and Energy Reporting Act 2007* (NGER Act);
- *Ambient air monitoring guidance note*, (EPA, January 2022);
- *Approved Methods for Modelling and Assessment of Air Pollutants in NSW*, (EPA, August 2022)
- Australian Standards for siting, sampling and testing as detailed in section 7;
- National Environmental Protection Measure for Ambient Air Quality;
- National Greenhouse and Energy Reporting Guidelines; and
- *State Environmental Planning Policy (Western Sydney Aerotropolis) (2020)*.

3. CONSULTATION

This AQGHGMP was prepared in consultation with relevant Western Sydney Airport (**WSA**) authorities in alignment with MP10_0014 Schedule 3, Condition 13(a). Feedback from the relevant authorities is provided in **Appendix A** and outlined in the sections below.

3.1.1. Pre 2025 Consultation

Table 5 summarises the comments received on the AQGHGMP prior to 2025. In accordance with MP10_0014 Schedule 3, Condition 13(a), the relevant WSA authorities were consulted regarding the version of the management plan prepared before 2025. It should be noted that this consultation was undertaken by CSR as they were the owners and operators of the Site prior to 2025.

Table 5: Pre 2025 Consultation

Organisation	Comments
Western Sydney Airport	Email received on 2/2/23 confirmed that WSA had no comments in relation to the Air Quality Management Plan.

3.1.2. 2025 Consultation

The 2025 management plans have been sent to the DPHI for review and approval. The changes mostly align with Goodman taking ownership of the site. There has been no further agency consultation in the update to the 2025 AQGHGMP.

4. AIR QUALITY CRITERIA

As set out in **Section 2**, air quality criteria for regulatory compliance are primarily defined in the Consent and EPL conditions. The Consent and EPL conditions also require the management, monitoring and reporting of particulate matter emissions from the Site.

4.1. MP10_0014 Air Quality Criteria

Table 6 details the annual and 24-hour impact assessment criteria for particulate matter for any residence on privately-owned land as required by Schedule 3, Condition 9 of MP10_0014.

Table 6: MP10_0014 Air Quality Criteria

Pollutant	Averaging Period	Criterion	
Particulate matter < 2.5 µm (PM10)	Annual	a,d 8 µg/m ³	
Particulate matter < 2.5 µm (PM10)	24 hour	b 25 µg/m ³	
Particulate matter < 10 µm (PM10)	Annual	a,d 25 µg/m ³	
Particulate matter < 10 µm (PM10)	24 hour	b 50 µg/m ³	
Total suspended particulates (TSP)	Annual	a,d 90 µg/m ³	
c Deposited dust	Annual	b 2 g/m ² /month	a,d 4 g/m ² /month

Notes to Table:

a Total 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.

4.2. EPL 648 Air Quality Criteria

EPL 648 for site refers to air quality conditions; however, it does not establish any specific performance criteria or measurable thresholds. See **Table 4** for air quality requirements as per EPL 648.

5. BASELINE ENVIRONMENT

This section has been prepared to meet Schedule 5, Condition 3(a) of MP10_0014.

Management Plan Requirements

The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:

(a) a summary of relevant background or baseline data;

5.1. Local Climatic Conditions

Long-term climatic data from the closest Bureau of Meteorology (**BoM**) weather station at Badgerys Creek AWS (station no. 67108) was analysed to characterise the local climate in the proximity of the Site. **Table 7** presents a summary of data from the BoM weather station Badgerys Creek AWS Site 67108 collected over a 14-to-30-year period for the various meteorological parameters.

The data indicates that January is the hottest month with a mean max temperature of 30 degrees Celsius (°C) and July is the coldest month with a mean minimum temperature of 4.3 °C.

Rainfall decreases during the cooler months, with the data indicating that March is the wettest month with an average rainfall of 106.7 millimetres (mm) and July is the driest month with an average rainfall of 33.1 mm.

Relative humidity levels exhibit variability over the day and seasonal fluctuations. Mean 9 am relative humidity ranges from 62% in October to 84% in June. Mean 3 pm relative humidity levels range from 44% in both August and September to 56% in June.

Morning wind speeds are generally light to moderate, with calmer conditions in late summer and autumn and stronger winds during late winter and spring. Afternoon winds are consistently stronger, weakest in winter and peaking in spring.

Table 7: Monthly Climate Statistics Summary

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperature												
Mean max temp (°C)	30	28.9	26.9	24.2	20.7	17.8	17.6	19.4	22.7	24.9	26.6	28.6
Mean min. temp. (°C)	17.2	17.1	15.4	11.6	7.7	5.5	4.3	4.9	7.8	10.7	13.6	15.5
Rainfall												
Mean Rainfall (mm)	78.5	106	106.7	52	39.2	56.5	33.1	36.3	34.8	57.2	69.6	55.9
No. of rain days (≥1mm)	7.4	7.4	8.1	5.6	4.2	5.4	4.2	3.4	4.8	5.9	6.7	6.4
9am Conditions												
Mean temp. (°C)	21.8	21.2	19	17.3	13.7	10.5	9.8	11.7	15.5	18.1	19.1	20.9

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean R.H ¹ (%)	73	80	83	76	80	84	81	72	66	62	69	69
Mean W.S ² (km/h)	9.4	8.7	8.4	9.8	9.1	9.6	10.6	11.7	11.8	11.0	9.8	10.0
3pm Conditions												
Mean temp.(°C)	28.1	26.9	25.3	22.4	19.4	16.7	16.1	17.9	21	22.8	24.3	26.5
Mean R.H. (%)	49	55	55	52	53	56	50	44	44	45	50	48
Mean W.S. (km/h)	17.9	15.9	14.5	14.4	13.9	13.7	15.4	17.8	19.2	19.9	18.9	18.5

¹R.H = Relative Humidity

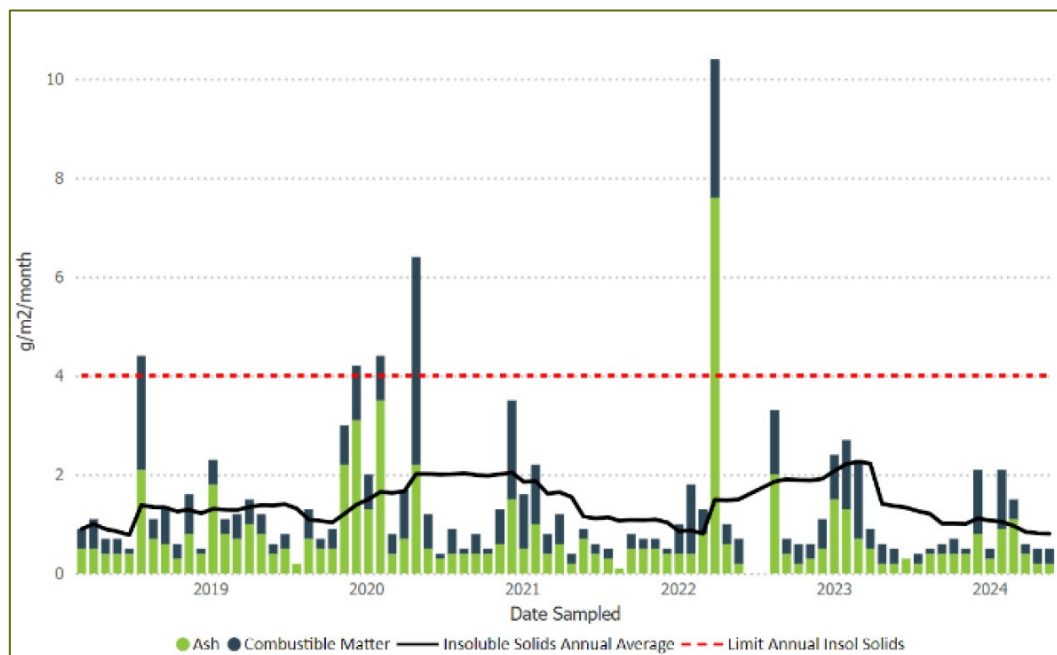
²W.S = Wind Speed

5.2. Local Air Quality Monitoring

5.2.1. Depositional Dust Monitoring Results

Dust Deposition Gauges (**DDGs**) record dust fallout, which can be derived from quarry-related activities, and can be a useful measure of changing air quality. Trends from 2018 – May 2024 for each monitoring location are shown on the following figures.

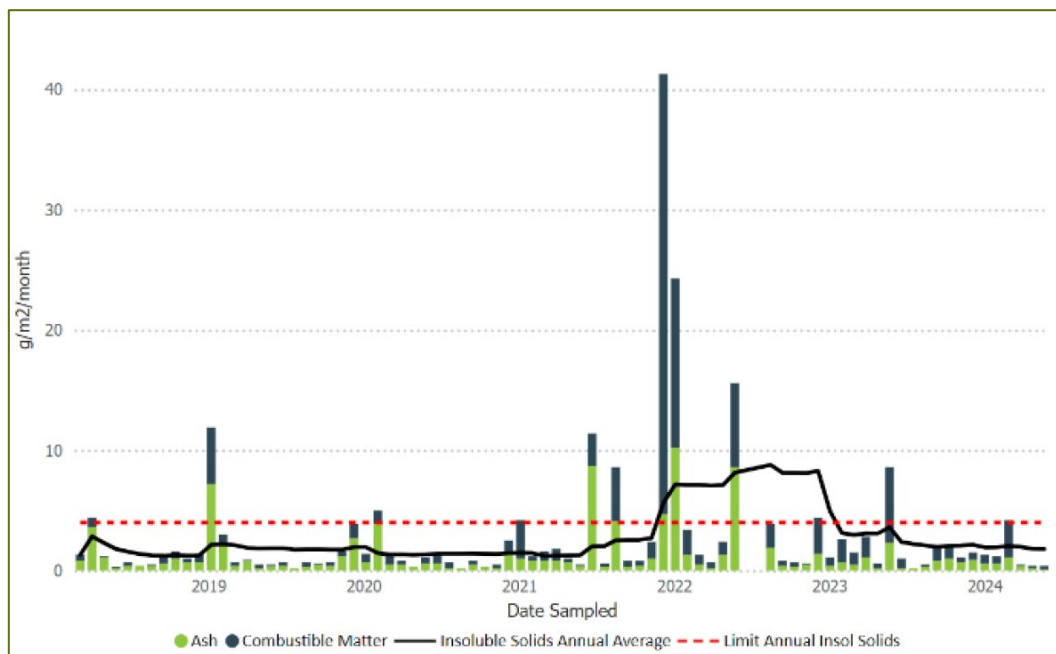
Figure 3: D1 Martin Road Dust Trends (Source: VGT, 2024)



As shown in **Figure 3**, deposition dust levels at D1 fluctuated throughout recent years, with occasional elevated peaks, most notably in 2020 and a pronounced spike in 2022 exceeding 10 g/m²/month. Despite these events, the annual average generally remained below the 4 g/m²/month limit, indicating

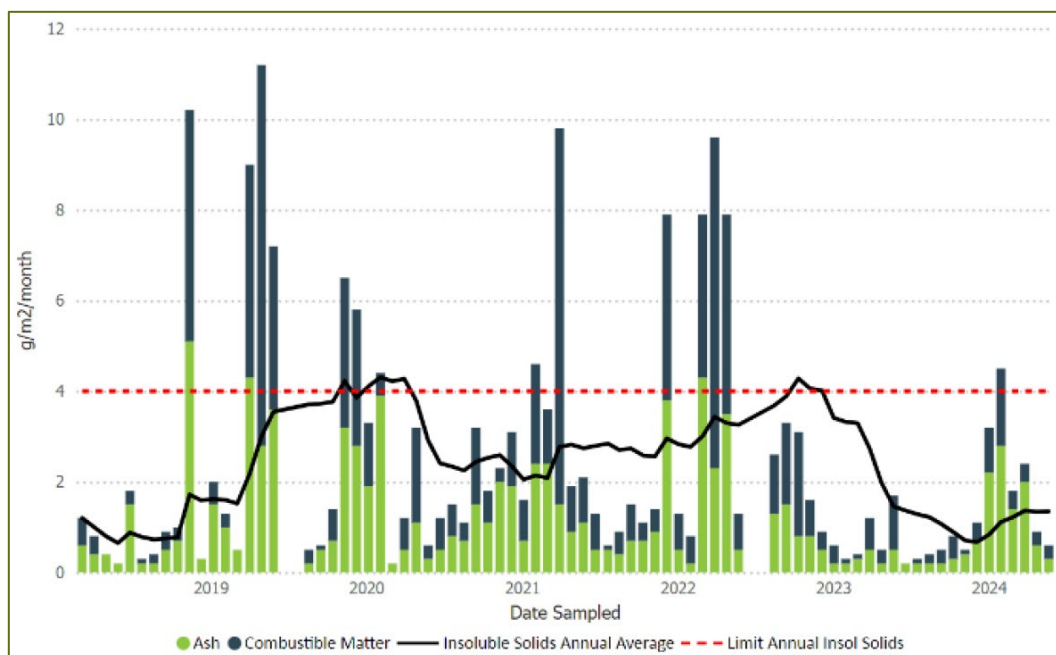
that exceedances were driven by short-term events rather than sustained high deposition. From 2023 onwards, levels stabilised at relatively low values, suggesting improved consistency in air quality conditions at Site D1.

Figure 4: D2 Hay Shed Dust Trends (Source: VGT, 2024)



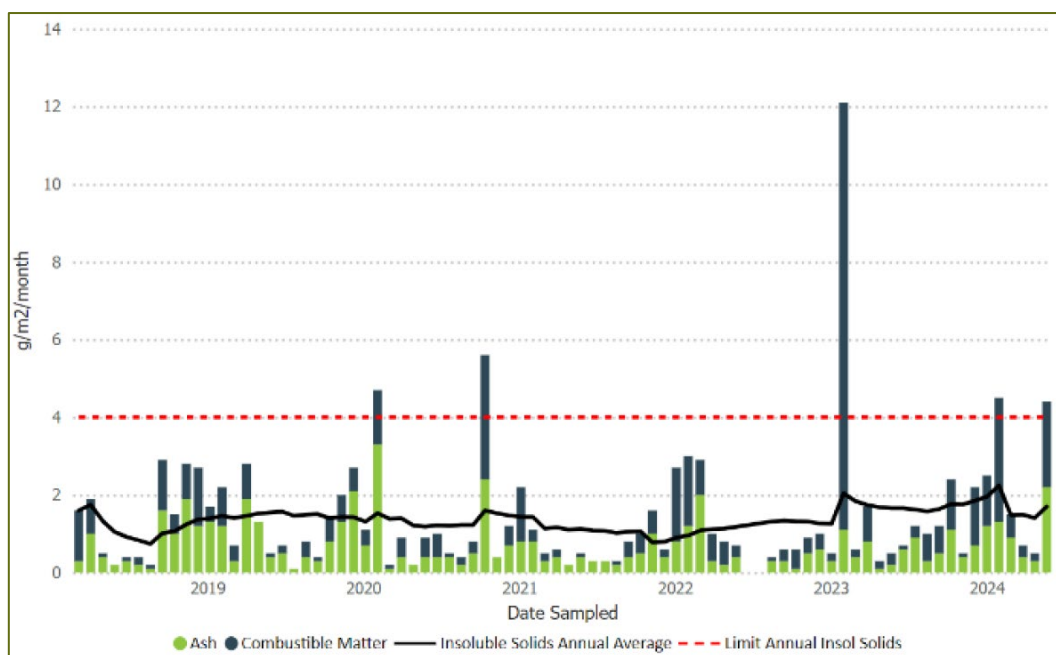
As shown in **Figure 4**, dust deposition at D2 was generally low in recent years, with only occasional minor peaks. A sharp increase occurred in 2022, when several monthly values exceeded 10 g/m²/month and one peak surpassed 40 g/m²/month, driving the annual average well above the 4 g/m²/month limit. Elevated levels continued into early 2023 but declined thereafter, with deposition stabilising at lower values through 2024.

Figure 5: D3 Bundwall Dust Trends (Source: VGT, 2024)



As shown in **Figure 5**, dust deposition was more variable compared with other sites at D3, with frequent elevated monthly values observed throughout the monitoring period. Several peaks above 8–10 g/m²/month occurred between 2019 and 2022, resulting in the annual average exceeding the 4 g/m²/month limit at times. Deposition began to decline from late 2022, with the annual average falling below the limit during 2023 and remaining lower into 2024, although some fluctuations and occasional peaks continued.

Figure 6: D4 Old House Dust Trends (Source: VGT, 2024)



As shown in **Figure 6**, dust deposition remained relatively low for most of the 2018 – 2024 period, with monthly values generally below 4 g/m²/month. A notable spike occurred in 2023, when deposition exceeded 12 g/m²/month, driving a temporary rise in the annual average, though it remained just under the limit. Smaller fluctuations continued into 2024, but overall, the annual average stayed below the 4 g/m²/month guideline.

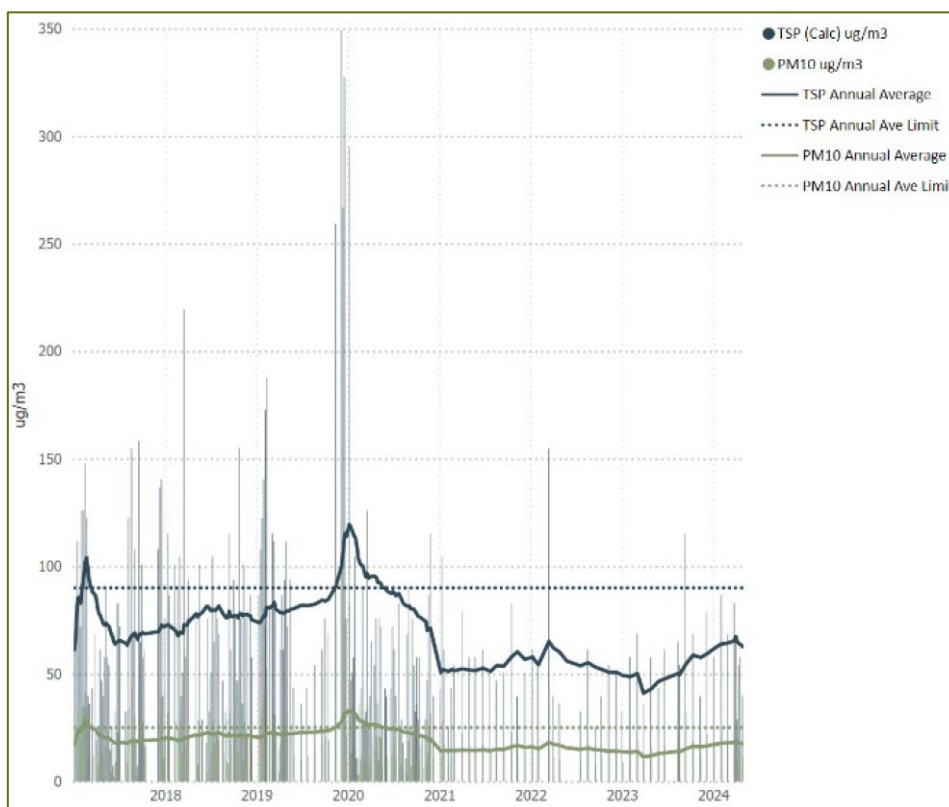
5.2.2. Particulate Matter Monitoring Results

A High Volume Air Sampler (**HVAS**) with a PM₁₀ inlet was installed on the site in December 2016. Total Suspended Particulates (**TSP**) is calculated from the PM₁₀ using the ratio described in **Section 7**. The HVAS will be removed as Goodman will use SiteHive Systems.

Particulate Matter is also measured in “real time” using a SiteHive systems. SiteHive systems enable continuous data collection, advanced analytical assessment and automated reporting to facilitate effective air quality management. Monitoring data is accessible remotely in real time, allowing for timely review and proactive responses to any exceedances or emergency air quality trends across the Site.

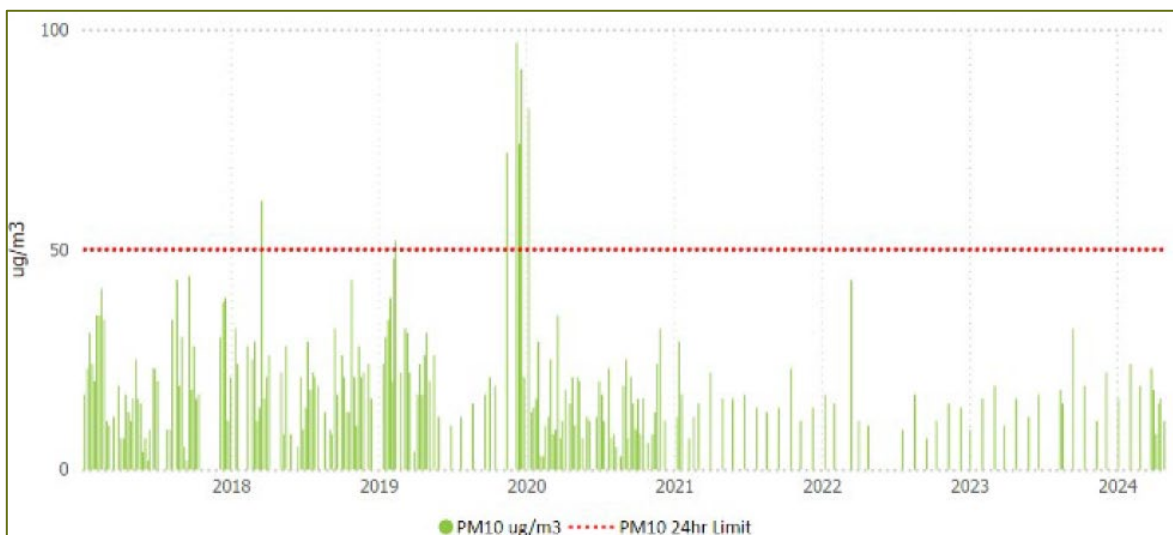
Historic particulate matter trends are shown in **Figure 7** and **Figure 8**.

Figure 7: Particulate Matter (High Vol) Annual Trends (Source: VGT, 2024)



As shown in **Figure 7**, TSP concentrations were variable with frequent exceedances prior to 2020, including a significant peak that year, but declined and stabilised from 2021, generally remaining below the annual limit with occasional spikes. PM₁₀ levels showed only minor variation, remained much lower throughout, and consistently stayed well within regulatory guidelines.

Figure 8: Particulate Matter (High Vol) 24 Hour Trends (Source: VGT, 2024)



As shown in **Figure 8** above, PM₁₀ concentrations fluctuated throughout the period 2017 - 2024, with occasional exceedances of the 24-hour limit, particularly in 2019–2020 when several elevated peaks were recorded. Since 2021, exceedances have been rare, and most daily concentrations remained well below the guideline threshold.

6. SOURCES OF EMISSIONS

The operations at site will generate some amount of dust and greenhouse emissions as described in **Table 8**. The processes and materials handled at the project do not have potential to generate offensive odours.

Table 8: Air Quality Aspects and Impacts

Air Quality Aspect	Potential Environmental Impacts
Dust from earthworks associated with backfilling pits with VENM.	• Health and amenity impact on neighbouring residential dwellings. • Dust settling on private property. • Generation of greenhouse gas emissions.
Wheel generated dust from access roads and haul roads.	
Exhaust emissions from earth moving equipment.	

7. AIR QUALITY MONITORING PROGRAM

This section has been updated in 2025 to clarify proposed compliance monitoring locations compared to internal monitoring locations for guidance.

This section outlines the air quality monitoring program established for the site in accordance with MP10_0014 Schedule 3, Condition 13(g). The program has been designed to provide a systematic and reliable framework for assessing the performance of the development in relation to air quality impacts. Monitoring locations are shown on **Figure 9**.

7.1. Overview of Air Quality Monitoring Program

The air quality monitoring network includes 4 DDGs, 5 SiteHive systems, and a meteorological station. The SiteHive systems undertake continuous real time monitoring of PM₁₀ and PM_{2.5}. DDGs are sampled in accordance with AS3580.10.1, which is every 30 ± 2 days.

The ratio of PM₁₀ / TSP is determined from the relationship of the Ambient Air Quality Criteria for PM₁₀ of 25µg/m³ and TSP of 90µg/m³ calculated to be 3.6 (90/25). This ratio will be used to calculate TSP impacts during operations.

The following locations shown in **Table 9** are noted for air quality monitoring:

Table 9: Air Quality Monitoring Locations

Dust Monitors	Location	Comment
D1 and SH1	Martin Road near resident	- D1 is an existing location. - SH1 is a new site and replaces the HVAS Air Sampler and Dust Trak system onsite. - These are for compliance against criteria (Schedule 3 Condition 9) as well as for internal guidance.
D2 and SH2	Hay shed	- D2 is an existing location. - SH2 is a new site and replaces the Dust Trak system onsite. - These are for compliance against criteria (Schedule 3 Condition 9) as well as for internal guidance.
D3 and SH3	Bundwall	- D3 is an existing location. - SH3 is a new site. These are for internal guidance. See Section 7.3 for more details.
D4 and SH4	Old House	- D3 is an existing location. - SH4 is a new site. These are for internal guidance. See Section 7.3.
SH5	In the vicinity of the existing groundwater site BW2a.	These are for internal guidance. See Section 7.3

7.2. Air Quality Monitoring (for Compliance)

Air quality monitoring for compliance and reporting will be undertaken at D1 and D2 for depositional dust, and at SH 1 and SH2 for PM₁₀, PM_{2.5} and TSP. These monitoring points have been selected due to their proximity to nearby residences on privately owned land. Locations of these receivers are shown in **Figure 9**. These locations meet the requirement within Schedule 3, Condition 9 that;

The Applicant must ensure that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 4 at any residence on privately-owned land.

In accordance with Schedule 3, Condition 9 it is a requirement that particulate matter emissions generated by the development does not exceed the criteria as shown in **Table 6** in **Section 4.1** and shown below in **Table 10**. Any exceedances or non-compliances at these receivers must be reported to the relevant authorities in alignment with the procedures outlined in **Section 11** of this AQGHGMP. **Table 10** lists the details surrounding particulate matter monitoring at site. These sites have been chosen to assess against the Schedule 3, Condition 9 condition wording of:

Table 10: Dust Monitoring Locations – for Compliance

Compliance Monitor Locations	Pollutant	Averaging Period	Method	Criterion
SH1 and SH2	Total Suspended Particulates (TSP)	Annual	Ratio calculated from PM ₁₀	^{a,d} 90 µg/m ³
	Particulate Matter < 2.5 µm (PM _{2.5})	Annual	SiteHive	^{a,d} 8 µg/m ³
	Particulate Matter < 2.5 µm (PM _{2.5})	24 hours	SiteHive	^b 25 µg/m ³
	Particulate Matter < 10 µm (PM ₁₀)	Annual	SiteHive	^{a,d} 25 µg/m ³
	Particulate Matter < 10 µm (PM ₁₀)	24 hours	SiteHive	^b 50 µg/m ³
D1, D2,	Deposited Dust (Insoluble Solids)	Annual	Depositional dust gauges	^b 2 g/m ² /month ^{a,d} 4 g/m ² /month

a Total 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.

7.2.1. About the SiteHive System

Four SiteHive monitoring locations are established at the existing DDG points on site. An additional SiteHive location is located near the airport interface. The monitoring locations are shown on **Figure 9**. These systems will provide continuous, real-time monitoring of both noise and air quality – including PM₁₀, PM_{2.5} and TSP which will be calculated by conversion. The collected data will be used to support compliance requirements as well as to facilitate proactive, real-time environmental management across the site.

7.3. Internal Air Quality Monitoring Locations (for Guidance)

Additional air quality monitoring for guidance only will be undertaken at:

- D3 and D4 for depositional dust, and
- SH3, SH4 and SH5 for PM₁₀, PM_{2.5} and TSP.

These receivers will be used for internal guidance and not located at receivers. SH5 will be located along the boundary closest to the WSA. The HVA system will remain for a brief period for calibration testing against the SiteHive systems however has been removed from the 2025 monitoring figure update.

As these are for guidance the system may be amended based on the operational requirements of the site. We do not plan to make updates to the AQGHGMP if there are changes to the guidance locations.

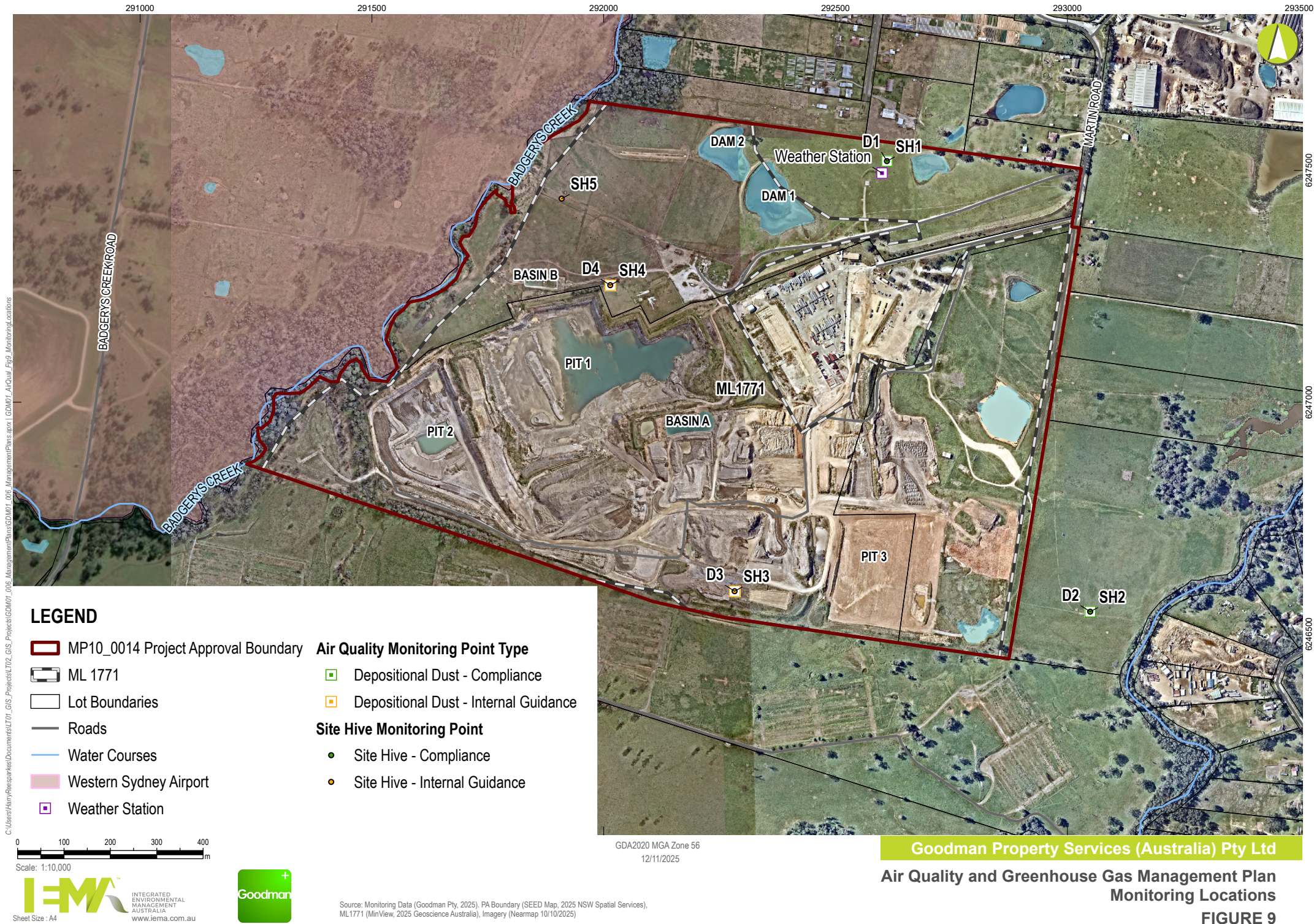
7.4. Meteorology

In alignment with Schedule 3, Condition 14 of MP10_0014 a meteorological station is present on site. The station measures wind speed, direction, sigma theta, temperature at 10 m and 2 m, relative humidity and rainfall and is capable of sending relevant alarms. The weather station is compliant with the requirements in the Ambient air monitoring guidance note (NSW EPA, 2022) and is capable of measuring meteorological conditions in accordance with the *NSW Noise Policy for Industry* (EPA, 2017).

7.5. Greenhouse Gases

Greenhouse gas monitoring practices at site include:

- Monitoring the consumption of fuel and regularly maintaining diesel and petrol powered equipment to ensure operational efficiency; and,
- Monitoring the total site electricity consumption and investigating avenues to minimise electricity use.



8. AIR QUALITY MANAGEMENT MEASURES

8.1. Strategic Framework for Environmental Management

In addition to meeting the specific performance measures and criteria established under the project approval, Goodman will implement all reasonable and feasible measures to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction or operation of the project, and any rehabilitation required under the approval. This included minimising the air quality impacts of the development during adverse meteorological conditions and extraordinary events.

8.2. Management Measures

Goodman will manage air quality impacts to ensure that particulate matter emissions from the Project do not cause exceedances of the criteria in **Section 4** at any residence on privately owned land. As part of the 2025 update to this AQGHGMP it was identified that several measures were addressed in different sections of the plan. As a result, new management measures have been assigned to the Site.

8.2.1. Air Quality Mitigation Measures

The air quality management measures (**Table 11**) will be implemented on Site.

Table 11: General Air Quality Measures

ID	Action	Source of commitment	Responsibility	When
AQ1	Haul roads should be watered using water carts such that the road surface has sufficient moisture to minimise visible on-road dust generation but not so much as to cause pooling and mud/dirt track out to occur	Statement of Commitments / EA	Contractors	During dry weather
AQ2	Unloading of trucks containing raw or unusable extracted material to be controlled using water sprays/dust suppression when generating excessive visible dust.	Statement of Commitments / EA	Contractors	During unloading
AQ3	Dust from existing stockpiles of unusable material and open pits to be controlled using water sprays with chemical additives (surfactants)	Statement of Commitments / EA	Contractors	Ongoing
AQ4	Dust from raw material stockpiles to be controlled using water sprays	EA	Contractors	Ongoing
AQ5	Completed pits to be revegetated as soon as practicable after completion of quarrying activities.	Statement of Commitments / EA	Contractors	Completion of quarrying activities
AQ6	Operational practices to be reviewed to ensure 'best practice' techniques are being employed and that operational equipment is working efficiently.	Statement of Commitments	Contractors	At all times
AQ7	Disturb only the minimum area necessary for on-site activities;	Best practice	Contractors	Ongoing

ID	Action	Source of commitment	Responsibility	When
AQ8	Perform regular inspections of weather conditions to identify conditions which would be unfavourable in terms of dust levels at nearest sensitive locations blowing in the direction of sensitive receptors) and implement remedial measures if required	Best practice	Contractors	Ongoing
AQ9	All trafficable areas and vehicle manoeuvring areas in or on the premises will be maintained, at all times, in a condition that will minimise the emission of dust to the air, or emission from the premises of wind-blown or traffic generated dust	Best practice	Contractors	Ongoing
AQ10	Trucks entering and leaving the premises that are carrying loads of dust generating materials will have their loads covered at all times, except during loading and unloading	Best practice	Contractors	Ongoing
AQ11	All plant and equipment to be installed at the site to be maintained and operated in a proper and efficient condition, in accordance with manufacturer's instructions and POEO Act and Regulations	Best practice	All personnel	Ongoing

8.2.2. Greenhouse Gas Mitigation Measures

Goodman implements reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site. Greenhouse gas emissions from the operations are calculated annually and used to identify trends in greenhouse gas emissions and energy use and identify areas to improve/reduce its emissions. Greenhouse gas mitigation and management practices include:

- Regular reviews and investigate ways to reduce energy consumption during project planning phases and reviewing energy efficient alternatives; and
- Carefully planning and managing site operations to minimise the distance travelled by all vehicles on site.

8.2.3. Odour Mitigation Measures

In alignment with Schedule 3, Condition 15 Goodman will ensure that no offensive odours, as defined by the POEO Act, are emitted from the site.

8.3. Continuous Improvement

Goodman will continuously seek to further air quality management by way of improving existing controls and investigating new and emerging technologies, implementing new controls where required, and thoroughly investigating any exceedance and noncompliance events.

9. CONTINGENCY PLAN

This section was included in the 2025 version of this AQGHGMP to comply with Schedule 5, Condition 3(e) of MP10_0014, which requires management plans to include a *contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible*.

Unpredicted air quality impacts may include:

- Bushfires, hazard reduction burns, and dust storm events;
- Abrupt changes in weather conditions that result in the possibility for high dust impact events; and,
- Nearby operations that may increase dust impacts in the surrounding area.

Where unpredicted impacts are identified, mitigation measures would be implemented to mitigate any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible. These management measures are included in **Section 8**.

9.1. Trigger Action Response Plan

The trigger action response plan (**TARP**) defines the minimum set of corrective actions that Goodman must implement in response to unpredicted impacts or abnormal conditions (triggers). The trigger levels are determined based on regulatory requirements, previous monitoring and best practice management. The TARP is displayed in **Table 12**.

Table 12: Trigger Action Response Plan

Key Element	Trigger/Response	Condition Green	Condition Orange	Condition Red
Above 1-hour Goal SiteHive System	Trigger	1-hour average PM ₁₀ <50 µg/m ³ where monitor is downwind of activity. 1-hour average PM _{2.5} <25 µg/m ³ where monitor is downwind of activity. <i>Triggers are through the SiteHive system.</i>	1-hour average PM ₁₀ between 50 and 150 µg/m ³ where monitor is downwind of activity. 1-hour average PM _{2.5} between 25 and 75 µg/m ³ where monitor is downwind of activity. <i>Triggers are through the SiteHive system.</i>	1-hour average PM ₁₀ >150 µg/m ³ for 3 consecutive hours and where monitor is downwind of activity 1-hour average PM _{2.5} >75 µg/m ³ for 3 consecutive hours and where monitor is downwind of activity. <i>Triggers are through the SiteHive system.</i>
	Response	- Check forecast for that day; - Identify potential operational risk areas; and - Notify onsite managers to be on alert	- Increase dust suppression; - Where possible relocate dust generating activities away from downwind residential receptors; - Visual observation of dusty activity, apply additional dust control as necessary; and - Keep assessing via the SiteHive system.	Cease some or all dust generating activities when the elevated dust concentrations are not caused by an external regional pollution event such as bushfires, prescribed burning, dust storms or fire incidents and cannot be overcome by level 1 and 2 actions.
24-hour Air Quality Criteria exceeded SiteHive System	Trigger	PM ₁₀ result is <40 ug/m ³ Or: PM _{2.5} result is <20 ug/m ³	PM ₁₀ result is >40 ug/m ³ but <50 ug/m ³ Or: PM _{2.5} result is >20 ug/m ³ but <25 ug/m ³	PM ₁₀ >50µg/m ³ Or: PM _{2.5} >25µg/m ³
	Response	No response required. Continue monitoring program.	Review and investigate operational activities and respective control measures. Implement additional remedial measures, such as: Deployment of additional water sprays; and Relocation or	- Notify relevant parties (11.4); and - Investigate circumstances (including prevailing meteorological conditions, site operations, background concentrations),

Key Element	Trigger/Response	Condition Green	Condition Orange	Condition Red
			modification of dust-generating sources.	- Ensure dust mitigation measures (8) have been followed, and - Implement additional dust mitigation measures that target the main source of dust identified through investigation of site operations.
Annual average Air Quality Criteria exceeded	Trigger	Below annual criteria for depositional dust, PM ₁₀ , PM _{2.5} and TSP.	Within 20% of annual criteria for depositional dust, PM ₁₀ , PM _{2.5} and TSP.	Above annual criteria for depositional dust, PM ₁₀ , PM _{2.5} and TSP.
	Response	No response required. Continue monitoring program.	Review and investigate operational activities and respective control measures. Implement additional remedial measures as per Section 5 if possible.	- Notify relevant parties (11.4); and - Investigate circumstances (including prevailing meteorological conditions, site operations, background concentrations), - Ensure dust mitigation measures (8) have been followed, and - Implement additional dust mitigation measures that target the main source of dust identified through investigation of site operations.
Haul road dust	Trigger	No dust is seen coming from transport along haul roads	A moderate amount of dust is seen coming from haul roads.	Excessive dust is seen coming from transport along haul roads. Dust is leaving site.
	Response	Continue implementation. AQGHGMP	- Additional water carts / water sprays; - Monitor weather conditions; - Review operational activities; and - Additional use of dust suppression agents	- Stop haulage; - Additional water carts; - Monitor weather conditions; - Review operational activities; and

Key Element	Trigger/Response	Condition Green	Condition Orange	Condition Red
				Only recommence activities if mitigation measures have been reviewed and are effective.

10. COMPLAINTS HANDLING PROCEDURE

This section has been added in accordance with Schedule 3, Condition 13 (h) of MP10_0014. In the event of a third-party environmental complaint the Goodman policy within in the Environmental Management Strategy will be followed which involves:

- Assessing whether it threatens the environment or not;
- Follows the implement pollution incident management plan and commences notification protocol;
- As well as commence verbal notifications to relevant external authorities;
- Investigates and verifies complaints, and assesses if excessive off-site impacts have occurred;
- Implements corrective measures including modification of execution methods and operational techniques to avoid recurrence or minimise ongoing adverse impacts;
- Completes monitoring/ additional investigations to verify the adequacy of the recommendations, as required;
- Notifies the complainant of actions taken; and
- Continues to monitor activity, if required.

10.1. Responsibility

The Community Liaison Manager is responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of an environmental complaint. The induction and toolbox talks will be used to ensure all site employees are aware of and understand their obligations for complaints response.

All employees who take receipt of a complaint, either verbal or written, are to immediately notify the Site Manager.

11. REPORTING AND REVIEW

11.1. Regular Reporting

11.1.1. Information Required on the Website

In alignment with Schedule 5, Condition 11 of MP10_0014 Goodman will provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

11.2. Annual Review

Goodman is required to prepare an Annual Review each year in accordance with Schedule 5, Condition 12 of MP10_0014 which states:

Prior to recommencing quarrying operations or Fill import, and annually thereafter, the Applicant must submit a review to the Department reviewing the environmental performance of the development to the satisfaction of the Secretary. This review must:

- (a) describe the development (including any progressive rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;*
- (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against the:*
 - relevant statutory requirements, limits or performance measures/criteria;*
 - requirements of any plan or program required under this consent;*
 - monitoring results of previous years; and*
 - relevant predictions in the documents listed in condition 3 of Schedule 2;*
- (c) evaluate and report on:*
 - the effectiveness of the air quality and noise management systems; and*
 - compliance with the performance measures, criteria and operating conditions in this consent.*
- (d) identify any non-compliance over the past calendar year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;*
- (e) identify any trends in the monitoring data over the life of the development;*
- (f) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and*
- (g) describe what measures will be implemented over the current calendar year to improve the environmental performance of the development.*

The Applicant must ensure that copies of the Annual Review are submitted to Council and are available to the Community Consultative Committee (see condition 8 of Schedule 5) and any interested person upon request.

11.3. Annual Return

Goodman must also submit an Annual Return in accordance with Condition R1.1 of EPL 684 which states:

The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

- 1. a Statement of Compliance,*
- 2. a Monitoring and Complaints Summary,*
- 3. a Statement of Compliance - Licence Conditions,*
- 4. a Statement of Compliance - Load based Fee,*
- 5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,*
- 6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and*
- 7. a Statement of Compliance - Environmental Management Systems and Practices.*

At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.

11.4. Incident Notification and Reporting

An incident is defined in MP10_0014 as:

Incident

An occurrence or set of circumstances that:

- causes or threatens to cause material harm to the environment; and/or*
- breaches or exceeds the limits or performance measures/criteria in this*

Material harm is defined in MP10_0014 as:

Material harm is unauthorised harm that:

- involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*
- results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)*

In the event of an incident occurring on site, Goodman will in compliance with MP10_0014 Condition 9:

Incident Notification

9. The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be made in writing through the Department's Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident.

11.5. Non-Compliance Notification and Reporting

MP10_0014 does not provide a specific definition of 'non-compliance'. In the event of an incident occurring on site, it will be managed in accordance with Section 11.4. Other instances of non-compliance (e.g. exceedances of the 24-hour criteria) will be addressed in line with Schedule 5, Condition 10, which states:

Non-Compliance Notification

10. Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be made in writing through the Department's Major Projects website and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the noncompliance.

Note: A non-compliance which has been notified as an incident does not need to also be notified as a noncompliance.

11.5.1. Landowner Notification

As soon as possible after Goodman becomes aware of a non-compliance against any of the conditions of approval, or any other incident, notification will be made via phone and/or email in accordance with the protocol detailed in the above sections.

As soon as practicable, and no longer than 7 days, after obtaining monitoring results showing:

- a. an exceedance of any criteria in Table 7, Goodman will notify the affected landowners in writing of the exceedance, and provide regular monitoring results, at least every 3 months, to each affected landowner until the project is again complying with the relevant criteria; and
- b. an exceedance of any air quality criteria in Table 7, Goodman will send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and current tenants of the land (including the tenants of land which is not privately-owned).

11.6. Independent Environmental Audits

An Independent Environmental Audit (IEA) will be conducted at Site in accordance with Schedule 5, Condition 13 of MP10_0014 which states:

Within 12 months of the commencement of Phase 1, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission, 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 and the CCC;*
- (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;*
- (f) and be conducted and reported to the satisfaction of the Secretary.*

11.7. Plan and Program Revision

Revisions of plans and programs will be completed in alignment with Schedule 5, Condition 5 of MP10_0014 which states:

Within 3 months of:

- (a) the submission of an incident report under condition 10 below;*
- (b) the submission of an Annual Review under condition 12 below;*
- (c) the submission of an Independent Environmental Audit report under condition 14 below; and*
- (d) the approval any modifications to this consent,*

the Applicant must review the suitability of all strategies, plans and programs required under this consent, to the satisfaction of the Secretary. 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.

Notes:

- The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the development.*
- In the event of an inconsistency between condition 5(d) above and any condition in Schedule 3 of this consent, the latter prevails.*

12. TRAINING AND RESOURCE REQUIREMENTS

12.1. Training

The induction for all site personnel and contractors working on site (as described in detail in Section 5.2 of the EMS) will cover air quality and greenhouse gas management procedures, in particular the control of dust and emissions. The following specialised training will be required for the stated plant personnel as part of the effective implementation of the AQGHGMP:

- Operation and maintenance of the on-site meteorological station – nominated environmental representative;
- Operation and maintenance of the real-time dust monitor – nominated environmental representative; and
- Any new reporting requirements under the NGERS scheme – nominated environmental representative.

12.2. Resource Requirements

Goodman will engage specialised, and where relevant NATA accredited, technical service providers for the following tasks:

- Deployment and calibration of dust monitoring equipment; and
- Sampling and testing of dust deposition gauges.

13. ROLES AND RESPONSIBILITIES

This section was added in 2025 to avoid any confusion between the roles of Goodman and the onsite contractor regarding compliance. The roles and responsibilities in relation to this AQGHGMP are listed in **Table 13**.

Table 13: Roles and Responsibilities

Position	Accountable Tasks
Goodman	• Oversee overall compliance and performance of activities • Conduct regular inspections to ensure standards are met • Assist contractor in managing complaints • Provide support in responding to and managing incidents
Contractor	• Manage day-to-day site operations • Authorised to make operational changes (e.g., plant, water trucks, equipment)
All Personnel	• All personnel shall undergo air quality and greenhouse gas management awareness training through the induction and re-induction process.

14. REFERENCES

AECOM (2010), *Environmental Assessment - Continued Operation of Quarry and Brick Making Facility*.

DPHI (2024), *Consolidated Consent: Badgerys Creek Quarry and Brick Making Project (Mod 6), Application No. 10_0014*.

NSW EPA (2022a) *Ambient air monitoring guidance note*.

NSW EPA (2022b), *Approved Methods for Modelling and Assessment of Air Pollutants in NSW*.

NSW EPA (2025), *Environment Protection Licence – Licence 684: PGH Bricks & Pavers Pty Ltd. Licence version date: 15 April 2025*.

VGT (2024), *Annual Review for Badgery Creek Clay Mine 2024*.

APPENDIX A. CONSULTATION

From: [Tim Smith](#)
To: [Elbarbary, Monique](#)
Cc: [Arancibia, Nelma](#); [Planning and Safeguarding](#); [Kirk Osborne](#)
Subject: [SEC=OFFICIAL] RE: Major Projects - Badgerys Creek Quarry & Brickworks - Traffic Management Plan (MP10_0014-PA-27) (WSA)
Date: Thursday, 2 February 2023 9:07:13 AM

[EXTERNAL]

OFFICIAL

Hi Monique,

Confirming that WSA has no comments in relation to the below Air Quality Management Plan.

Kind regards,

Tim

Tim Smith
Planning Manager
Airport Planning and Design

+61 429 008 963
tsmith@wsaco.com.au
PO Box 397 Liverpool NSW 1871



OFFICIAL

From: Elbarbary, Monique <MELBARBARY@csr.com.au>
Sent: Wednesday, 1 February 2023 1:18 PM
To: Tim Smith <tsmith@wsaco.com.au>; Kirk Osborne <kosborne@wsaco.com.au>
Cc: Arancibia, Nelma <NARANCIBIA@csr.com.au>; Planning and Safeguarding <planning@wsaco.com.au>
Subject: RE: Major Projects - Badgerys Creek Quarry & Brickworks - Traffic Management Plan (MP10_0014-PA-27) (WSA)

Good afternoon Tim and Kirk,

The attached is the Air Quality Management Plan that has been developed to comply with MP10_0014 Badgerys Creek Quarry & Brickworks Schedule 3, Condition of Consent 13.

This plan is submitted to Western Sydney Airport (WSA) for the purpose of consultation.

Please provide a response by Friday 28th February 2023.

Regards,

Monique Elbarbary | Development Manager

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