

## WESTGATE INDUSTRIAL ESTATE

253-267 ALDINGTON ROAD, KEMPS CREEK, NSW

CONSTRUCTION AIR QUALITY MANAGEMENT PLAN

RWDI # 2105705

10 November 2025

### SUBMITTED TO

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# INTRODUCTION

1 RWDI Australia Pty Ltd (RWDI) has been commissioned by RP Infrastructure on behalf of Icon Oceania Kemps Development Pty Ltd (Icon) to provide a Construction Air Quality Management Plan (CAQMP) which forms part of the Construction Environmental Management Plan (CEMP) developed for the proposed Westgate Industrial Estate development (the Project) at 253-267 Aldington Road, Kemps Creek, NSW 2178 (the Site). The proposed development will involve the design and delivery of four industrial warehouses with all necessary earthworks, services infrastructure, roadworks and construction. The Project is located in Kemps Creek, New South Wales 2178, within the Penrith Local Government Area (LGA).

The Site is known as 253 - 267 Aldington Road, Kemps Creek, and is legally described as Lot 9 in Deposited Plan 253503. The Site is rectangular in shape with an area of approximately 10 hectares. The proposed development (the Proposal) includes four new warehouses, including a temperature-controlled warehouse, to operate as a distribution centre.

This CAQMP identifies the potential sources of emissions of air pollutants associated with the proposed construction activities and provides measures to control each of those potential sources.

As part of the State Significant Development (SSD-23480429) Application, an Air Quality Impact Assessment (AQIA) was performed (RWDI, 2024), which quantitatively assesses the construction activities associated with the Project using the air dispersion model AERMOD. The results of the dispersion modelling indicate that the incremental dust impact from the proposed construction is predicted to comply with the established criteria. The AQIA determined that with the implementation of appropriate controls, the risk of impacts associated with fugitive dust emissions from the construction of the development is likely to be lowered.

This CAQMP addresses the relevant requirements of the Project Approvals, including the Environmental Impact Statement (EIS), Response to Submissions (RtS) and Minister's Conditions of Consent (CoCs), and all applicable guidelines and standards specified to the management of air quality during construction of the Project. The CAQMP has been prepared by RWDI, a specialist air quality consultant with extensive experience in the preparation of emissions inventories, complex dispersion modelling, construction dust assessments, odour assessments, traffic emission assessments, and regional air quality analysis.

## 1.1 Project Overview

The Site is located within the Western Sydney Employment Area (WSEA) and is currently zoned IN1 General Industrial under the WSEA State Environmental Planning Policy (SEPP).

The Project will comprise a state-of-the-art industrial warehouse and logistics estate. The key features of the Project are summarised below:

- Site establishment:
  - Removal of farm dams
  - Remediation as required
  - Bulk earthworks (175,000m<sup>3</sup> of fill) and retaining walls
- Staged construction and operation of an industrial estate within three buildings, including ancillary office spaces, hardstand areas and car parking, with a total gross floor area (GFA) of 34,245m<sup>2</sup>, maximum floor space ratio of 0.34:1, maximum height of 19.7m (inclusive of rooftop plant), split over four warehouses:
  - Stage 1



- i) Warehouse 1A: 7,189m<sup>2</sup> with 318m<sup>2</sup> office space (total GFA – 7,507m<sup>2</sup>)
    - ii) Warehouse 1B: 7,060m<sup>2</sup> with 307m<sup>2</sup> office space (total GFA – 7367m<sup>2</sup>)
    - iii) Warehouse 1C: 6,480m<sup>2</sup> office space (total GFA – 6,787m<sup>2</sup>)
  - o Stage 2
    - i) Warehouse 2 (temperature controlled): 11,959m<sup>2</sup> with total 625m<sup>2</sup> office space (total GFA –12,584m<sup>2</sup>)
- Use of the buildings for warehouse and distribution purposes 24 hours per day 7 days per week
- Ancillary development including:
  - o Signage (a pylon estate sign and individual tenant identification and wayfinding signage)
  - o Undercroft car parking (149 total vehicle spaces)
    - i) Warehouse 1A: 32 spaces
    - ii) Warehouse 1B/1C: 61 spaces
    - iii) Warehouse 2: 56 spaces
- Landscaping
- Utility infrastructure and services connection
- Stormwater management including naturalised open channel drainage as well as below ground on-site detention of stormwater
- Construction of two new industrial roads. This includes an east-west road (Road 1) and north-south road (Road 2). These roads are proposed to be delivered with an interim and ultimate access design:
  - o Interim road design: half-road design for Road 1 and interim cul-de-sac at the northern end of Road 2
  - o Ultimate road design: full road design for Road 1 and connection to the lot to the north (removal of cul-de-sac) for Road 2. The ultimate road design will be delivered in co-ordination with the neighbouring landowners. The ultimate road design will be dedicated to Penrith Council once the Aldington Road Intersections have been completed
- Subdivision of the site into two Torrens title allotments in addition to a road reserve lot for Road 1, Road 2, and area for the Aldington Road widening and intersection upgrade located on the site
- Dedication of land required for the widening of Aldington Road and the part of the Aldington Road intersection upgrade which is located on the site.

The proposed layout of the site is shown in Figure 1-1 and the proposed masterplan is shown in below:



Figure 1-1: Proposed Site Layout

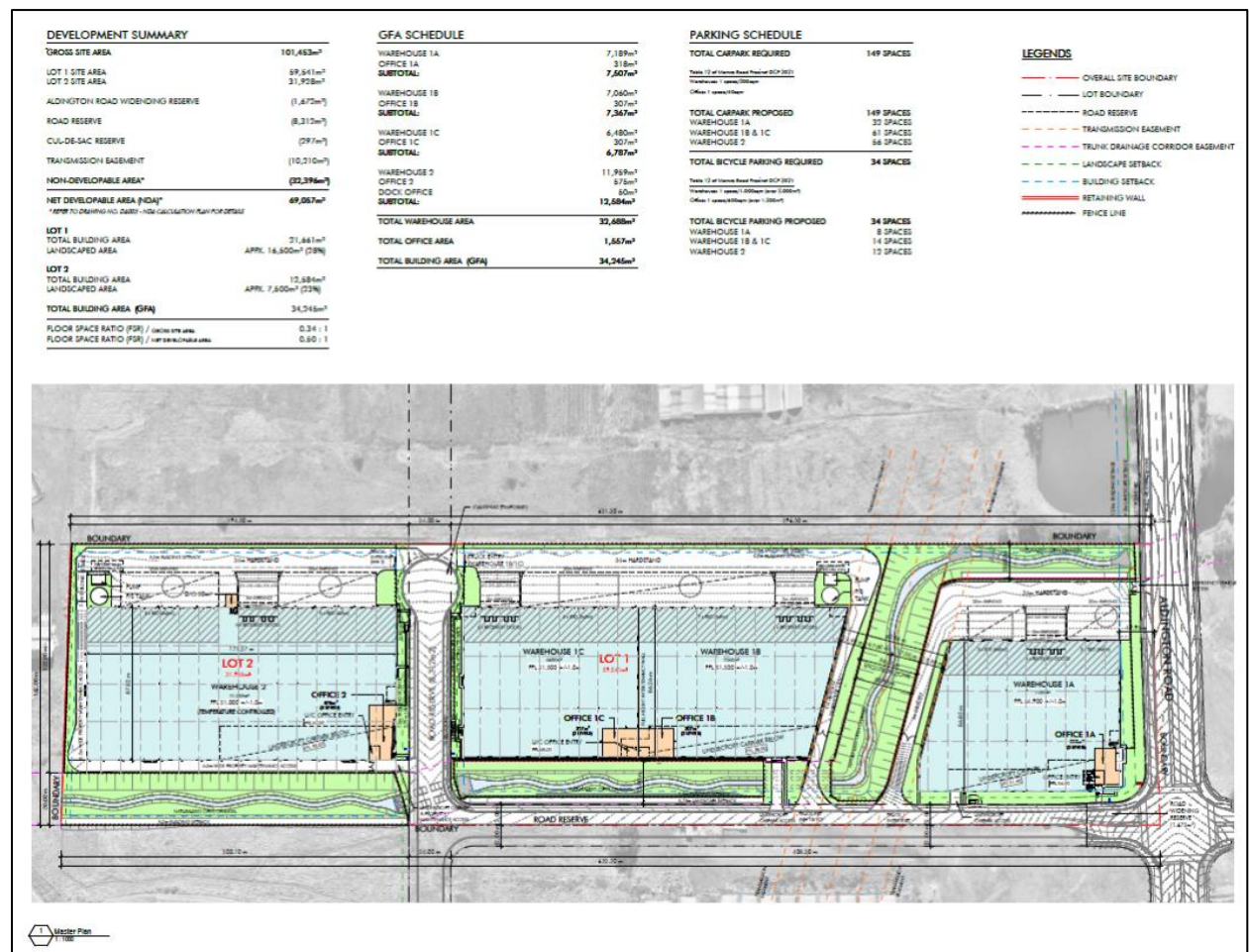


Figure 1-2: Master Plan

## 1.2 Objectives and Target

The main objective of this CAQMP is to minimise emissions of air pollutants during the construction of this Project. This plan provides methods to measure and reduce the air quality impact during the construction of the Project, for all contractor and consultant partners working on this Project.

The following high-level objectives and targets are set for the Project for the management of air quality impacts during construction and are summarised in Table 1-1 below.

**Table 1-1: Proposed Objectives and Targets for the Management of Air Quality**

Objectives	Target	Timeframe	Responsibility
Ensure impacts from dust emissions during construction are minimised	No visible dust observed to be leaving the site.  Any emissions of visible dust investigated immediately. Review controls applied and increased controls or modify activities.	Entire construction schedule	Site Supervisor or Contractor's Environmental Manager (EM)
Ensure compliance with relevant CoCs, applicable legislation and other requirements	No written warnings or infringement notices	Entire Construction Activities	Site Supervisor or Contractor's Environmental Manager (EM)
Ensure that reasonable mitigation measures are implemented to manage impacts on surrounding residents and commercial Stakeholders	No exceedances of dust and air quality criteria	Entire Construction Activities	Site Supervisor or Contractor's Environmental Manager (EM)
Establish and maintain importance of ensuring that air quality impacts associated with the Project are minimised or where possible, avoided.	All Project and workforce personnel to complete an environmental induction, which will include information on the importance of minimising air quality impacts from construction	Entire Construction Activities	Site Supervisor or Contractor's Environmental Manager (EM)

## ENVIRONMENTAL REQUIREMENTS

The key legislation, guidelines and other relevant documentation as well as the Project Approval Conditions, as they relate to air quality impacts during construction of the development are discussed in the below sections.

### 2

## 2.1 Legislation

Legislation and regulatory requirements for management of air quality for this Project is summarized below in Table 2-1 below:

**Table 2-1: Legislation and Guidelines**

Legislation	Description	Relevance to this CAQMP
<b><i>Environmental Planning and Assessment Act 1979</i></b> (EP&A Act)	The EP&A Act primarily deals with land-use planning and development assessment. Local Councils can regulate the development that is expected to have air quality impacts through appropriate zoning, development standards and development consent conditions.	The CoCs and appropriate obligations can be incorporated into this plan.
<b><i>Protection of the Environment Operations Act 1997</i></b> (POEO Act)	The POEO Act aims (among other things) to achieve the protection, restoration and enhancement of the quality of the environment in New South Wales, regarding the need to maintain ecologically sustainable development. It also enables the making of environmental policies to protect environment.	All plant operation and activities during construction would be undertaken in a proper and efficient manner such that air pollution is prevented.
<b><i>Protection of the Environment Operations Regulation 2022</i></b> (Clean Air)	Includes provisions to regulate emissions to air in NSW including standards for air impurities emitted from activities and plant	Relevant requirements of the Regulations have been incorporated into this plan

## 2.2 Guidelines and Relevant Documents

This CAQMP has been completed with reference to relevant guidelines and policies, namely:

- *National Environment Protection Measures for Ambient Air Quality*, 2021 (NEPC, 2021);
- New South Wales Environmental Protection Authority (NSW EPA) guideline entitled *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (NSW EPA, Approved methods for Modelling 2022);
- NSW EPA guideline entitled *Approved Methods for the sampling and analysis of Air Pollutants in NSW* (NSW EPA, Approved methods for Sampling 2022);

- Institute of Air Quality Management (IAQM) guideline entitled *Guidance on the Assessment of Dust from Demolition and Construction* (IAQM, 2024);
- New South Wales Local Government Air Quality Toolkit entitled *Construction Sites Guidance note* (NSW LGAQ 2024);
- NSW EPA guideline entitled *Assessment and management of odour from stationary sources in NSW* (NSW EPA, 2006);

## 2.3 Project Approval Conditions

This CAQMP forms part of CEMP and the conditions that apply to air quality will be discussed in this section. The CoCs for this Project have been determined as of 1 August 2025, and the conditions related to air quality and odour management have been listed in the below Table 2-2:

**Table 2-2: Project Approval Conditions – Air Quality**

CoC	Consent Condition	Where addressed
Operation of Plant and Equipment <b>A40</b>	All plant and equipment used on site, or to monitor the performance of the development, must be: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Section 6.4
Environmental Representative <b>A48</b>	For the duration of the works until the commencement of operation, or as agreed with the Planning Secretary, the approved ER must: (k) prepare and submit to the Planning Secretary and other relevant regulatory agencies, for information, an Environmental Representative Monthly Report providing the information set out in the Environmental Representative Protocol under the heading “Environmental Representative Monthly Reports.” The Environmental Representative Monthly Report must be submitted within seven calendar days following the end of each month for the duration of the ER’s engagement for the development, or as otherwise agreed with the Planning Secretary.	Not applicable
Environmental Representative <b>A49</b>	The Applicant must provide the ER with all documentation requested by the ER in order for the ER to perform their functions specified in condition A48 (including preparation of the ER monthly report), as well as: (a) the complaints register (to be provided on a daily basis); and (b) a copy of any assessment carried out by the Applicant of whether proposed work is consistent with the consent (which must be provided to the ER before the commencement of the subject work)	Section 7.3 and 7.4
Dust Minimisation <b>B41</b>	The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.	Section 6

CoC	Consent Condition	Where addressed
Dust Minimisation <b>B42</b>	During construction of the development, the Applicant must ensure that: (a) exposed surfaces and stockpiles are suppressed by regular watering or other alternative suppression method; (b) all trucks entering or leaving the site with loads have their loads covered; (c) trucks associated with the development do not track dirt onto the public road network; (d) public roads used by these trucks are kept clean; and (e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.	Section 6.3
Construction Air Quality Management Plan (CAQMP) <b>B43</b>	Prior to the commencement of earthworks and construction of each warehouse building in the development, the Applicant must prepare a Construction Air Quality Management Plan (CAQMP) to the satisfaction of the Planning Secretary. The CAQMP must form part of the CEMP required by condition C2 and C5 and must:	This CAQMP
	(a) be prepared by a suitably qualified and experienced person(s);	Section 1
	(b) detail and rank all emissions from all sources during construction of the development, including particulate emissions;	Section 3.4
	(c) describe a program that is capable of evaluating the performance of the construction and determining compliance with key criteria, including installation of real-time air quality monitors on the site boundary;	Section 6.1
	(d) identify the control measures that will be implemented for each emission source;	Section 6.3
	(e) nominate the following for each of the proposed controls: (i) key criteria; (ii) monitoring method; (iii) location, frequency and duration of monitoring;	Section 6
	(f) outline procedures that will be implemented in relation to: (i) record keeping; (ii) reporting to the Environmental Representative required under condition A48; (iii) complaints register; (iv) response procedures; and (v) compliance monitoring.	Section 7

CoC	Consent Condition	Where addressed
	<p>(g) include a Trigger Action Response Plan (TARP) that must include:</p> <p>(i) the objectives of the TARP;</p> <p>(ii) triggers for:</p> <ul style="list-style-type: none"> <li>continuously monitored PM<sub>10</sub> concentrations;</li> <li>meteorological conditions;</li> <li>visible dust plumes;</li> <li>on-site activities that have the potential for elevated dust emissions;</li> </ul> <p>(iii) a procedure to identify likely dust-generating sources;</p> <p>(iv) source-specific actions to reduce dust generation rates;</p> <p>(v) a procedure to determine the effectiveness of the implemented actions;</p> <p>(vi) a procedure to implement additional controls if required, to ensure the development complies with the conditions of this consent; and</p> <p>(vii) a procedure to record evidence / observations of the effectiveness of the implemented actions to manage the triggers, and evidence to demonstrate that the objectives of the TARP have been achieved; and</p> <p>(viii) detail contingency measures to be implemented to reduce any exceedances of relevant performance indicators or criteria and include a timetable for implementation.</p>	Section 6.4
Construction Air Quality Management Plan (CAQMP) <b>B44</b>	The Applicant must:	This CAQMP
	(a) not commence earthworks until the CAQMP required by condition B43 is approved by the Planning Secretary; and	
	(b) implement the most recent version of the CAQMP approved by the Planning Secretary for the duration of earthworks and construction;	This CAQMP
<b>Air Quality Discharges B45</b>	The Applicant must install and operate equipment in line with best practice to ensure that the development complies with all load limits, air quality criteria/air emission limits and air quality monitoring requirements as specified in the <i>Protection of the Environment Operations (Clean Air) Regulation 2022</i>	Section 6
<b>Environmental Management- Management Plan Requirements C1</b>	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:	Section 6
	(a) a condition compliance table for that plan;	This Table 2-2
	(b) detailed baseline data;	Section 3.4

CoC	Consent Condition	Where addressed
	(c) details of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures and criteria; and (iii) 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 and 6
	(d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 6
	(e) a program to monitor and report on the: (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to paragraph (d) above;	Section 6.2
	(f) 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 6.2
	(g) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 7
	(h) a protocol for managing and reporting any: (i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); (ii) complaint; (iii) failure to comply with statutory requirements; and	Section 7
	(i) a protocol for periodic review of the plan	Section 7
<b>Construction Environmental Management Plan (CEMP) C2</b>	The Applicant must prepare a Construction Environmental Management Plan (CEMP) for the development in accordance with the requirements of condition C1 and to the satisfaction of the Planning Secretary	Not applicable
Construction Environmental Management Plan (CEMP) C3	As part of the CEMP required under condition C2 of this consent, the Applicant must include the following: (d) Construction Air Quality Management Plan (see condition B43)	This CAQMP

## PROJECT SITE

### 3.1 Site Location

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The Site has a primary frontage along its eastern boundary to Aldington Road of 160 m and a depth of 630 m. The Site is currently occupied by a dwellings, sheds, and agricultural land as shown in the aerial photograph in Figure 3-1 below.

The Site is undulating in parts but longitudinally declines slightly from Aldington Road at an RL 54.00 to the western boundary with an RL 44.00 which equates to an average grade of 1.5% or 1V in 65H. The Site also declines across the Site from north to south at 4.3% or 1V in 23H. The Site is burdened by a 60.96 m wide TransGrid easement known as 'Dapto – Sydney West 330kV Easement' which runs north-south through the Site. Currently, no high voltage transmission line infrastructure is present.

The Site is approximately 5 kilometres (km) north-east of the future Western Sydney International (Nancy-Bird Walton) Airport, 14 km south-east of the suburb of Penrith and 38 km west of the Sydney CBD. The Site is located within the suburb of Kemps Creek, which falls within the City of Penrith Local Government Area (LGA). It is located within the Mamre Road Precinct within the Broader Western Sydney Employment Area and is currently surrounded by rural residential land uses.

Multiple SSDs and Local DAs are currently being progressed for industrial and warehouse development within the Mamre Road Precinct which will substantially change the nature of the surrounding area. The regional context is shown in Figure 3-1 below.



Figure 3-1: Site Location

The surrounding land uses include:

- **North:** Pastoral/farmland extends towards the elevated Bakers Lane. Several properties have been purchased by developers for industrial development.
- **South:** Farm and pastoral lands with rural residential properties scattered within the landscape. The Mamre Road precinct extends further beyond Abbots Road. A locally listed heritage item is located at 282 Aldington Road to the southeast.
- **East:** The Site is bound to the east by Aldington Road. On the opposite side of Aldington Road, several properties have been purchased seeking approval for industrial development. Land inclines towards the east which provides a natural screen to the residential E4 Environmental Living zone beyond.
- **West:** Farm and pastoral lands extend to Mamre Road and beyond. Sites on Mamre Road have been

### 3.2 purchased for industrial use. Hours of Construction

Construction of the development is permitted between the hours of 7.00am and 6.00pm, Monday to Friday, and 8.00am to 1.00pm on Saturdays. No construction activities will be undertaken on Sundays, or on public holidays

### 3.3 Potential Sources of Air Emissions During Construction

Pollutants of concern during construction are likely to be the following:

- Total suspended particulate (TSP);
- Particulate matter of less than 10 micrograms (PM<sub>10</sub>);
- Particulate matter of less than 2.5 micrograms (PM<sub>2.5</sub>),
- Deposited dust, and;
- Odour.

Construction activities that have the potential to emit dust and other air quality pollutants are listed below:

- General earthworks and excavation, particularly during site establishment;
- Vegetation clearing and grubbing;
- Demolition of existing structures and pavements;
- Topsoil/material handling, including stockpiling, material loading and material haulage;
- Wind erosion of exposed areas and temporary stockpiles;
- Movement of plant and heavy vehicles on unpaved areas and haul roads;
- Combustion emissions from vehicles/plant; and,
- Construction of hardstand areas, roads, and warehouses and offices.

The indicative list of plant and equipment to be used during the construction of the Project may include:

- large dozers (D10 and D11s);
- large excavators;
- excavators with hydraulic breaker attachment for the purposes of rock breaking
- vibration compaction rollers;
- sheepsfoot/ padfoot rollers;
- dump trucks
- front loader dumpers;
- onsite rock crushers; and

- electrical generators and water pumps

During the earthworks, which includes moving of material and truck movements along haul roads, there are likely to be short-term periods of elevated dust levels. It is anticipated that the peak traffic volumes will occur during the bulk earthworks phase, which could increase traffic by up to 100 trucks movements per day (or 10 movements per hour).

Project construction activities that could result in odour emissions include:

- toilets / septic systems;
- excavation of organic or contaminated materials;
- dam dewatering;
- sealing works / asphalt; and
- road line marking.

### 3.4 Quantification of Potential Emissions to Atmosphere

Emissions during the construction of the proposal have been estimated in the AQIA prepared by RWDI (RWDI, 2024) using the United States Environmental Protection Agency (USEPA) developed document (USEPA, AP42), section 13.2.3. These factors are appropriate for adoption in Australia and are routinely adopted in the assessment of operations of a similar nature.

Emissions of Total Suspended Particulates (TSP), particulate matter with an aerodynamic diameter of <10 micrograms (PM<sub>10</sub>), and <2.5 micrograms (PM<sub>2.5</sub>) have been calculated without the inclusion of controls. The following Figure 3-2 presents the anticipated uncontrolled maximum emissions per day during several stages of the construction activity.

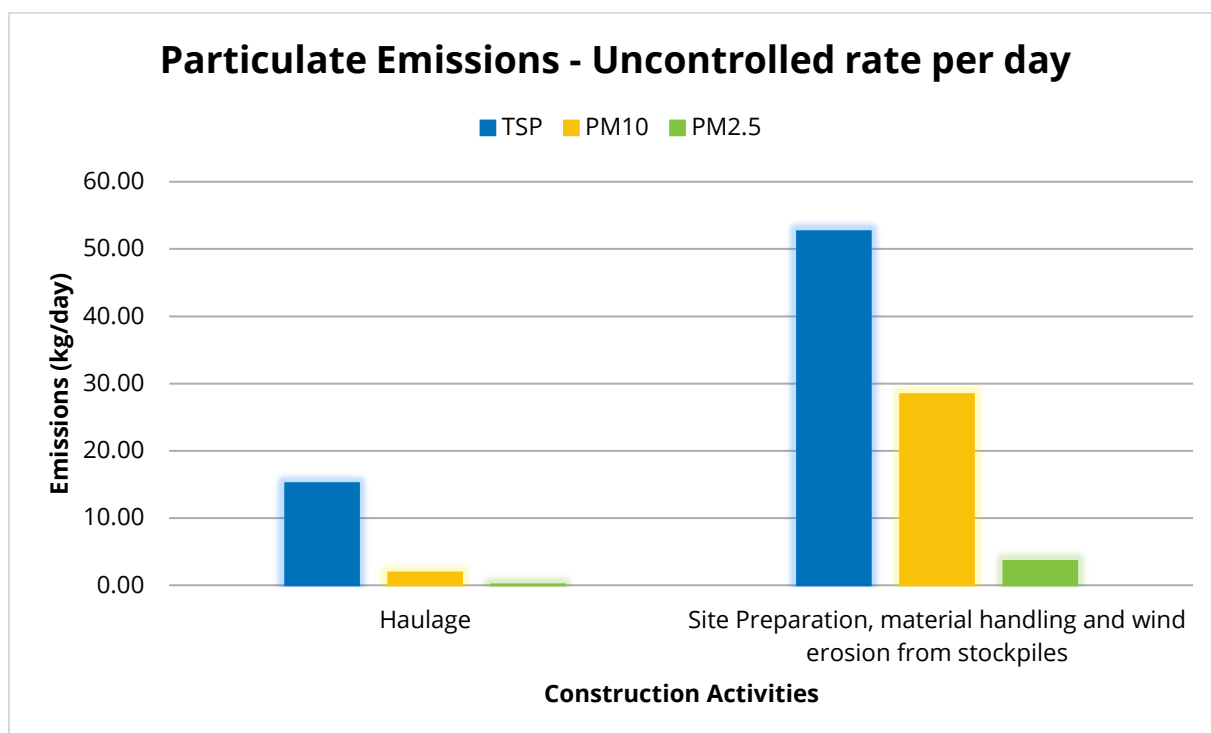


Figure 3-2: Maximum Particulate Emissions per Day During Construction Activities



As seen in Figure 3-2, emissions of particulate matter are dominated by site preparation, materials handling and wind erosion activities, and therefore appropriate controls should be focused on these activities. Emissions from haulage activities should also be controlled throughout the duration of construction.

### 3.5 Factors Affecting Emissions and Impacts

The potential for impacts of construction on dust and odour will depend primarily on:

- the existing air quality environment and location of the receivers
- the nature, extent, and magnitude of the construction activities (and emissions).

Several environmental factors also have the potential to affect the likelihood of dust emissions during construction. These include:

- wind direction – determines whether dust and/or odour are transported off-site in the direction of sensitive receptors;
- wind speed – governs the potential suspension and dispersion of dust and/or odour
- soil type – more erodible soil types have a higher dust emission potential, and different soil types have potential to be odourous
- soil moisture – increased soil moisture reduces soil or dust erosion potential;
- rainfall or dew – rainfall or heavy dew that wets the surface of the soil and reduces the risk of dust generation, but increases the risk of sediment tracking on vehicle tyres, which can lead to increased dust levels if not well managed;
- evaporation – dries out the surface of the soil and leads to increased risk of dust generation; and
- exposed surfaces – during construction non-vegetated surfaces will be exposed prior to revegetation, which is a key factor influencing dust emissions.

## AIR QUALITY CRITERIA

### 4.1 Introduction

The NSW EPA's guideline the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (NSW EPA, 2022) sets out applicable impact assessment criteria for several air pollutants relevant for construction.

### 4.2 Impact Assessment Criteria

Air quality criteria are benchmarks set to protect the general health and amenity of the community in relation to air quality. The criteria presented in the *Approved Methods* (NSW EPA, 2022) are consistent with the *National Environment Protection Council's, National Environment Protection (Ambient Air Quality) Measure* (NEPC, 2021).

Table 4-1 summarises the air quality goals for particulate matter that are relevant to this development. The air quality goals relate to the total concentrations of particulate matter in the air and not just that from the Project. Therefore, some consideration of background levels should be made when using these goals to assess impacts.

**Table 4-1: Impact assessment criteria – Particulate Matter**

Pollutant	Averaging period	Impact Criteria
Total suspended particulates (TSP)	Annual	90 µg/m <sup>3</sup>
Particulate matter ≤10 µm (PM <sub>10</sub> )	Annual	25 µg/m <sup>3</sup>
	24-hour	50 µg/m <sup>3</sup>
Particulate matter ≤2.5 µm (PM <sub>2.5</sub> )	Annual	8 µg/m <sup>3</sup>
	24-hour	25 µg/m <sup>3</sup>
Deposited dust	Annual average (Incremental)	2 g/m <sup>2</sup> /month
	Annual average (Cumulative)	4 g/m <sup>2</sup> /month

## EXISTING ENVIRONMENT

### 5.1 Local Meteorology

Meteorological conditions strongly influence air quality. Most significantly, wind speed, wind direction, temperature, relative humidity and rainfall affect the dispersion of air pollutants. The following sub-sections discuss the local meteorology near the Project Site.

#### Long-Term Climate

Long term meteorological data for the area surrounding the Site is available from the Horsley Park Equestrian Centre AWS operated by the Bureau of Meteorology (BoM). The Horsley Park Equestrian Centre AWS is located approximately 5.69 km east of the Site and records observations of meteorological data including wind speed, wind direction, temperature, humidity and rainfall.

Long-term climate statistics are presented in Table 5-1. Temperature data recorded at the Horsley Park Equestrian Centre AWS indicates that January is the hottest month of the year, with a mean daily maximum temperature of 29.9°C. July is the coolest month with a mean daily minimum temperature of 5.9°C. February is the wettest month with an average rainfall of 123 mm falling over 8 days. There are, on average, 77 rain days per year, delivering 780 mm of rain.

**Table 5-1: Climate Averages for Horsley Park Equestrian Centre AWS**

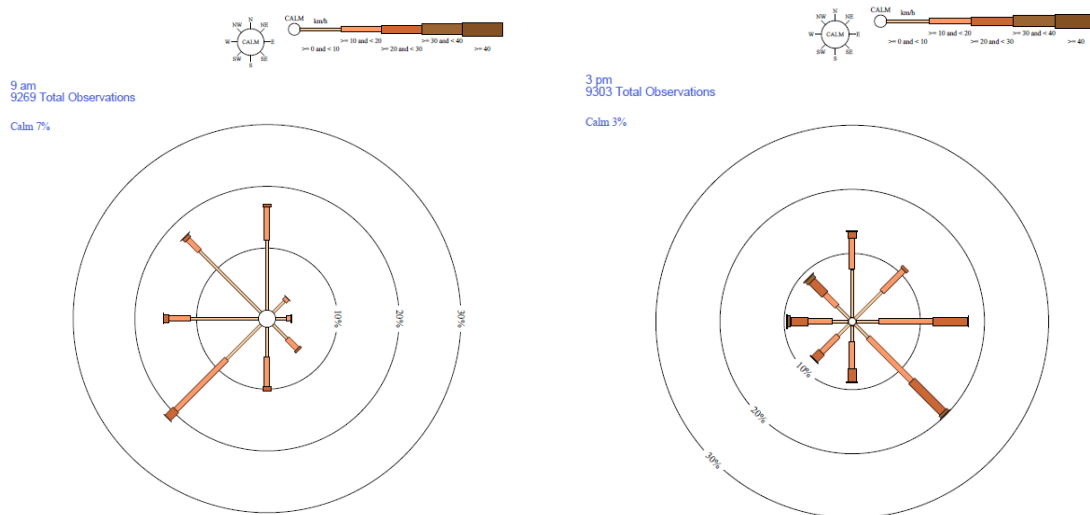
Obs.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
<b>9 am Mean Observations</b>													
Temp (°C)	22.0	21.5	19.4	17.5	13.8	11.1	10.3	12.0	15.6	18.1	19.2	20.9	16.8
Hum (%)	73	77	81	76	77	80	78	70	65	61	70	71	73
<b>3 pm Mean Observations</b>													
Temp (°C)	28.2	27.1	25.3	22.2	19.2	16.6	16.1	17.8	20.8	22.5	24.2	26.5	22.2
Hum (%)	49	53	54	53	52	55	50	42	42	45	50	48	49
<b>Daily Minimum and Maximum Temperatures</b>													
Min (°C)	17.9	17.8	16.1	12.9	9.1	7.1	5.9	6.4	9.3	11.9	14.3	16.1	12.1
Max (°C)	29.9	28.6	26.7	23.9	20.6	17.6	17.4	19.1	22.3	24.7	26.3	28.3	23.8
<b>Rainfall</b>													
Rain (mm)	75.2	123.2	94.5	69.2	44.7	68.6	53.0	38.0	38.3	64.3	77.4	64.2	780.3
Rain (days)	7.9	7.5	8.9	6.7	5.2	6.1	5.5	4.0	5.0	6.1	7.0	7.1	77.0

## Wind

The dispersion of dust emissions is primarily influenced by the wind speed and direction.

Figure 5-1 presents the annual wind roses for 9am and 3pm from the Horsley Park Equestrian Centre AWS (from 1997 to 2023). The wind-rose diagram indicates a notable emphasis of north, north-westerly, westerly, and south-westerly winds at 9am and easterly and south-easterly winds at 3pm.

### 5.1.2



**Figure 5-1: Horsley Park Equestrian Centre AWS 9am and 3pm Annual Wind Roses – Wind Speed in km/h (04 Sep 1997 to 10 Aug 2023)**

Observations of wind speed and direction from the Office of Environment and Heritage (OEH) air quality monitoring station (AQMS) at St. Mary's have also been observed to represent typical wind patterns in the area surrounding the Site. The St. Mary's AQMS is located approximately 5.45 kilometres north-west from the centre of the Site and is located on residential property off Mamre Road. It is situated in the centre of the Hawkesbury basin in a semi-rural area.

Based on the representative data averaged for the period 2019 to 2023, Figure 5-2 present annual and seasonal wind roses for the St. Mary's AQMS. As can be seen, winds from the south-southwest and north-northwest are most common in the annual wind roses.

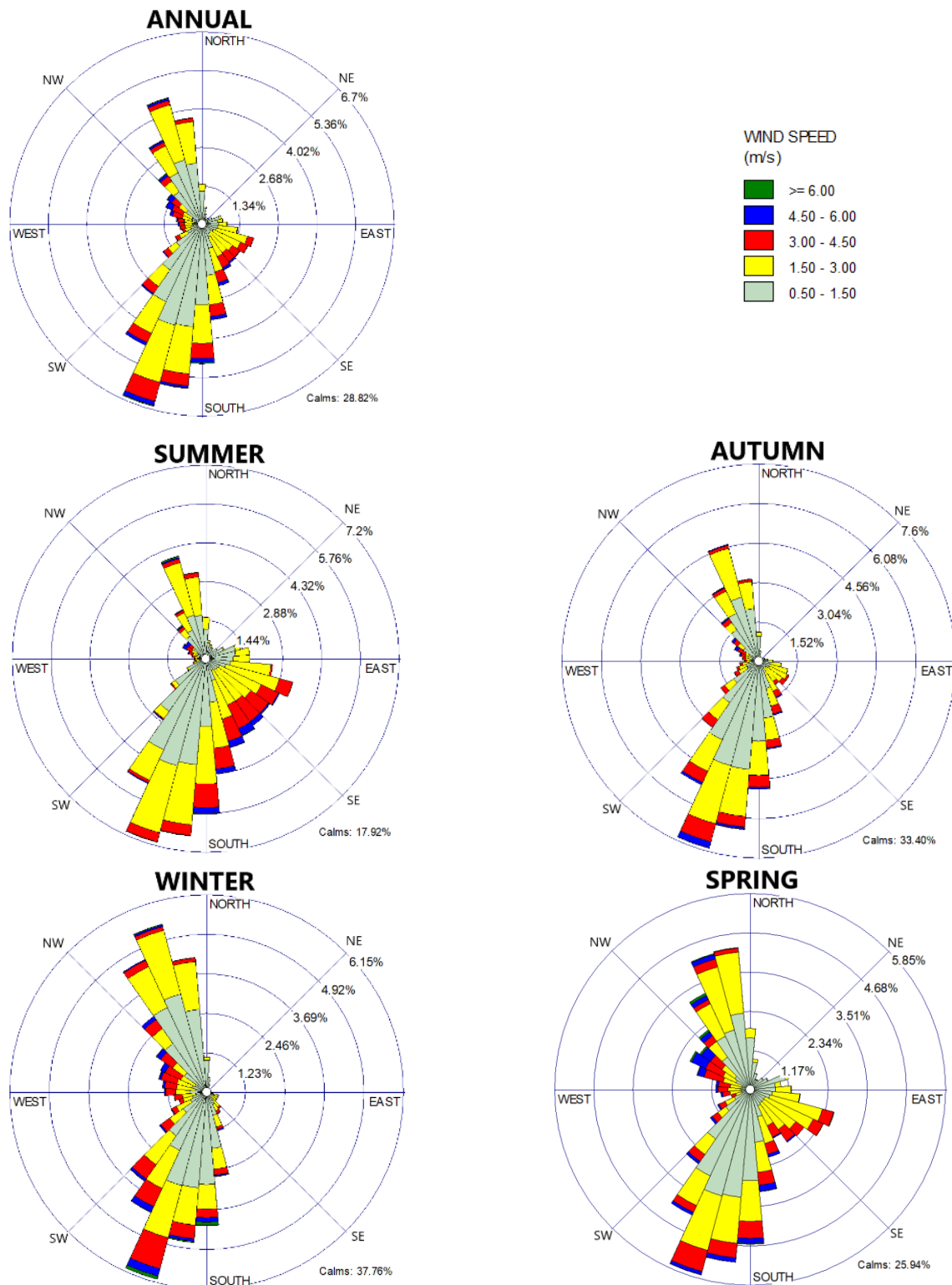
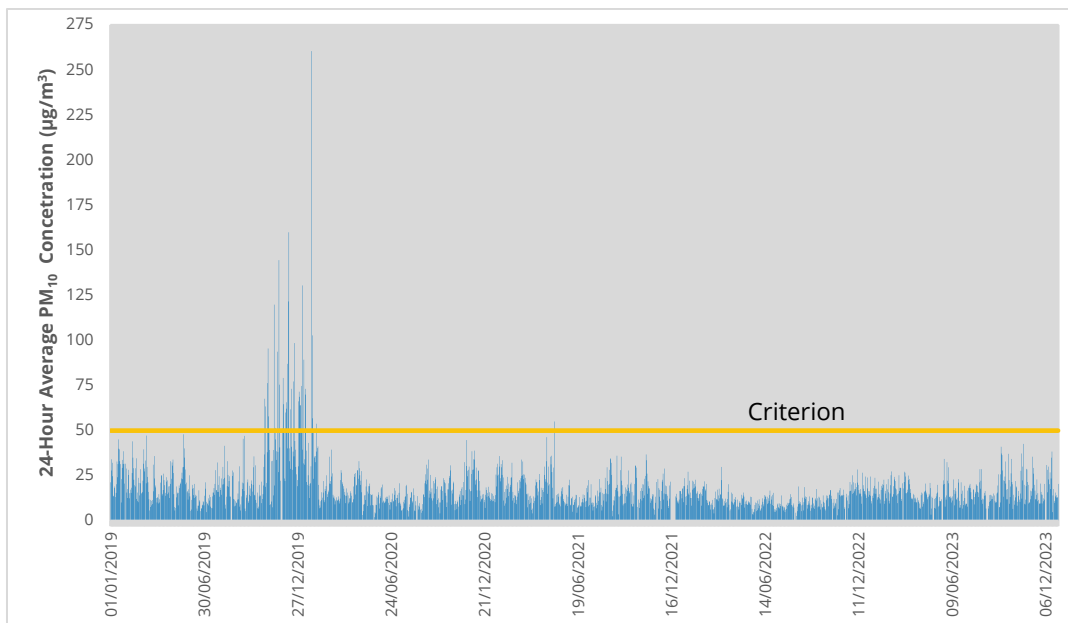


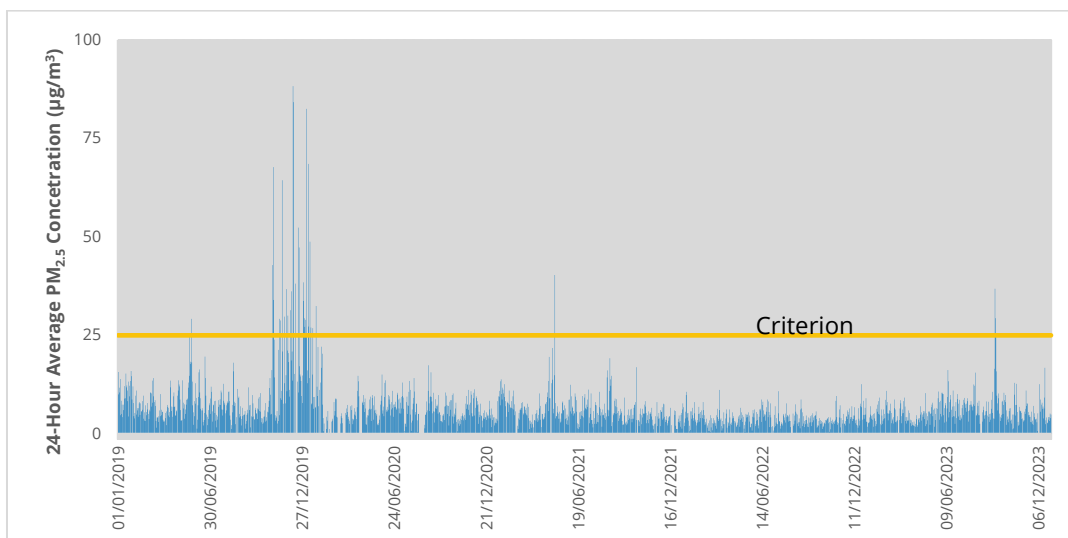
Figure 5-2: St. Mary's AQMS Wind Roses, 2019 - 2023

## 5.2 Local Ambient Air Quality

The air quality of the area surrounding the development site was characterised in Appendix H Updated Air Quality Impact Assessment (RWDI, 2024) to SSD-32722834 Application through the use of air quality observations collected at St. Mary's AQMS. Daily particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) observed at St. Mary's AQMS during 2019 to 2023 are presented in Figure 5-3 and Figure 5-4 respectively. Data from the year 2022 were adopted in the SSD-32722834 Application as these were considered to be representative of the longer-term period. These data indicate that, during 2022, concentrations of both PM<sub>10</sub> and PM<sub>2.5</sub> were below the air quality criteria, although examination of data from more recent years indicates that concentrations can be elevated on occasion. The elevated levels were likely to be caused by significant bushfires and dust storms throughout NSW.



**Figure 5-3: 24-Hour Average PM<sub>10</sub> Concentrations at St. Mary's AQMS (2019-2023)**



**Figure 5-4: 24-Hour Average PM<sub>2.5</sub> Concentrations at St. Mary's AQMS (2019-2023)**



## AIR QUALITY MANAGEMENT

6

Construction associated with the Project has the potential to impact air quality in areas within, and adjacent to, the construction footprint. The air quality management measures to be adopted during the construction of the development have been determined through the quantification of emissions and the identification of the major emissions sources. To avoid, mitigate and/or minimise these potential impacts, a range of control measures can be implemented.

### 6.1 Key Objectives

As previously outlined, the key objectives of the CAQMP are to prevent visible emissions of dust from the development site and to ensure that impacts to air quality are minimised and within the scope permitted by the Approval. To achieve these objectives, the key performance indicators (KPIs) associated with the management of air quality are indicated below:

- Visible dust is not observed to be leaving site or generated off-site as a result of the project;
- Air quality trigger levels and response actions are complied with as per Table 6.4.
- All complaints from the community and stakeholders are managed in a timely manner, and, the site shall work to achieve zero community complaints regarding dust or odour;
- Ensure site personnel are educated on best practices to avoid dust being generated from the site;
- Use of all plant and equipment on site is undertaken in a proper and efficient manner so as to reduce dust and combustion emissions,
- Ensure maintenance of all plant and equipment on site is undertaken in a timely manner; and
- Prompt contingency measures are implemented to control air quality.

### 6.2 Monitoring Program

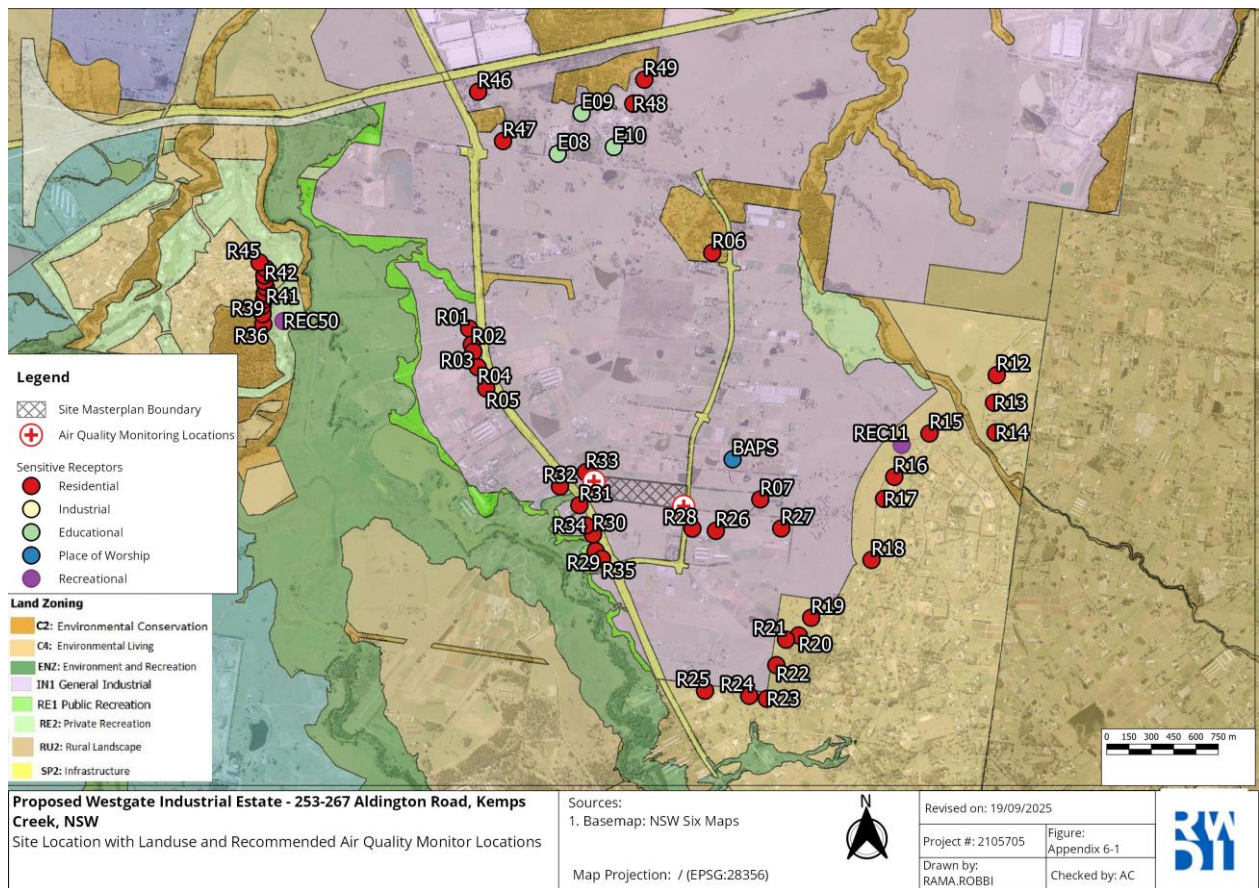
Awareness must be given to all site personnel on the importance of minimising dust on site. It is a requirement of the CoC that the Project utilises a Trigger Action Response Plan (TARP) supported by a PM<sub>10</sub> real-time air quality monitor to manage impacts off-site.

Real-time dust monitoring equipment is required to be installed and operated in line with best practice for real time dust monitoring near the location as shown in Figure 6-1. PM<sub>10</sub> will be continuously monitored, and results will be made available through an online system, alongside the criteria stipulated in Section 4.2. Continuous PM<sub>10</sub> data will be used as a real-time management tool to ensure appropriate air quality controls are being implemented to keep PM<sub>10</sub> levels within criteria. Real-time PM<sub>10</sub> monitoring will be used as an additional management tool to the proactive management controls. Air quality compliance monitoring will be undertaken at the sampling frequency stipulated in Table 6-1.

Proactive visual observation by site personnel is also recommended, who have been made aware of the following:

- Wind conditions and their potential impact on air quality.
- Loading practices, particularly those that may contribute to dust emissions.
- Vehicle speed and movement patterns on site, which can exacerbate airborne particulates.
- Use of water sprays and dust suppression on site, which may decrease the risk of dust generation.
- Increasing wind gusts or signs of impending inclement weather, such as strong fronts.

By integrating these observational practices with daily weather forecasts, site teams can respond swiftly to mitigate environmental risks and maintain air quality standards.



**Figure 6-1: Site location with land use and recommended monitoring locations**

**Table 6-1: Location and frequency of monitoring**

Monitoring Location	Pollutant	Sampling Frequency	Australian Standard/Masurement Technique
As per Figure 6-1	PM <sub>10</sub>	Continuous	Australian Standard 3580.9.8: Determination of suspended particulate matter – PM <sub>10</sub> continuous direct mass method using a tapered element oscillating microbalance analyser/Tapered element oscillating microbalance (TEOM)

It is recommended that the following additional features and functionality are included in managing the air quality impacts from the Project:

- Raise alarms in response to triggers for concentrations approaching air quality goals based on real time PM<sub>10</sub> monitoring results.

- Include alarms and/or notifications that are informed by meteorological forecasts.
- Produce a Daily Report that includes as a minimum:
  - summary of 24-hour average PM<sub>10</sub> levels against the criteria
  - summary of alarms raised and actions taken
- All monitoring results are provided to the Environmental Representative (ER) monthly to facilitate the preparation of the ER monthly report to Department of Planning, Housing and Infrastructure (DPHI).

All monitoring records to be kept in a legible form and produced to any authorised officer of DPHI, EPA or Penrith City Council if requested.

A trigger action response plan (TARP) has been prepared to assist with the management of air quality emissions. The monitoring program (Table 6-2) will be used in combination with real-time PM<sub>10</sub> monitoring, meteorological conditions and nearby regional air quality stations operated by NSW EPA to inform air quality emission management actions at the Project Site. Daily observations of any identified visible dust emissions from the Project will be made by the Site Supervisor, or their delegate in a logbook, including the intensity of the observations, wind speeds (or observations from Horsley Park Automatic Weather Station<sup>1</sup>), rainfall, any known regional impacts (e.g. bushfires or regional dust events<sup>2</sup>) and any observable triggers of dust emissions from the site. High wind speed and low rainfall (which usually occur during mid-winter to mid-spring periods) have a great potential for fugitive dust emissions during construction and also should be noted.

There are other construction activities in the area that may also be ongoing simultaneously that is likely to result in cumulative air quality impacts. Based on 5-year wind roses (Figure 5-2), south-south-easterly and north-north-westerly winds are likely to carry fugitive dust from surrounding construction sites to the Project site yet are estimated to occur less than 7% of the time. Daily observations of visible dust will provide details about any dust-generating activities from the Project Site and therefore can be used to determine the actual air quality impact from construction activities.

**Table 6-2: Monitoring and Inspection Program**

Monitoring method	Record	Responsibility	Frequency	Criterion
Visual observations during daily site monitoring or via CCTV if available to ascertain the effectiveness of implemented dust and odour controls, including any observations of dust	Daily records documenting activities, weather conditions and presence of visible dust or odour. Where wind is expected to be in excess of 20 km/h (5.5 m/s), work may be halted if causing dust concerns.	Site Supervisor (or delegate)	Daily	Daily recorded observations of visible dust or odour on the site

<sup>1</sup> <http://www.bom.gov.au/climate/dwo/IDCJDW2062.latest.shtml>

<sup>2</sup> <https://www.airquality.nsw.gov.au/north-west-sydney/st-marys>

Monitoring method	Record	Responsibility	Frequency	Criterion
plumes leaving the Project Site and/or controls during dust generating activity.				
Real time particulate (PM <sub>10</sub> ) monitoring (µg/m <sup>3</sup> )	Real time monitoring of PM <sub>10</sub> concentration. Data should be hosted on an online platform accessible to relevant personnel.	Environmental Specialist	Continuous	As per Table 4-1
Meteorological data including daily rainfall, hourly temperature, relative humidity, wind (easterly and westerly direction and speed) and barometric pressure.	Daily records containing wind and rainfall observations from closest BoM station (BoM Horsley Park Automatic Weather Station)	Site Supervisor (or delegate)	Daily	High wind speed (> 20 km/h or 5.5 m/s) and low rainfall.
Weekly, fortnightly and monthly site inspections to ascertain the effectiveness of implemented controls, including any observed dust plumes originating from the work site and/or activities observed outside of the Project that may impact on dust levels near sensitive receivers.	Weekly, fortnightly and monthly inspection record	Site Supervisor (or delegate)	Weekly, fortnightly and monthly	Weekly, fortnightly and monthly recorded observations of visible dust or odour impacting off-site

Monitoring method	Record	Responsibility	Frequency	Criterion
<p>Provide environmental awareness training for greater awareness of air quality impacts relative to the Site and any potential cumulative impacts. Recommend all supervisory staff subscribe to air quality updates and alerts and provide regular updates to all site personnel from the following resources:</p> <ul style="list-style-type: none"> <li>• <a href="https://www.airquality.nsw.gov.au/subscribe-to-air-quality-updates">https://www.airquality.nsw.gov.au/subscribe-to-air-quality-updates</a></li> <li>• <a href="https://www.airquality.nsw.gov.au/sydney-forecast/air-quality-monitoring-in-sydney">https://www.airquality.nsw.gov.au/sydney-forecast/air-quality-monitoring-in-sydney</a></li> <li>• <a href="https://www.airquality.nsw.gov.au/air-quality-in-my-area">https://www.airquality.nsw.gov.au/air-quality-in-my-area</a></li> </ul>	<p>Include in site induction or as stand-alone training. Keep records of staff training.</p>	<p>All site personnel</p>	<p>As required</p>	<p>Provide environmental awareness training for all staff</p>

Monitoring method	Record	Responsibility	Frequency	Criterion
The ER can include a monthly summary of dust impacts in their Environmental Representative Monthly Report. The Environmental Representative Monthly Report must be submitted within seven calendar days following the end of each month for the duration of the ER's engagement for the development, or as otherwise agreed with the Planning Secretary as per Condition A48	Environmental Representative Monthly Report	Environmental Representative	Monthly	Monthly summary of construction dust impacts

## 6.3 Emission Control Measures

Most of the recommended measures are routinely employed as 'good practice' on construction sites. If mitigation measures prove impracticable, they should be read as guidelines as opposed to requirements.

As the construction activities will be short-term and variable in nature, the impacts on local air quality are also expected to be short-term and will depend significantly upon the meteorological conditions during the construction period. A Project hotline or other communications pathway shall be posted outside the front entrance of site for potentially affected receptors to contact the site supervisor in the event of a dust or odour complaint. A high wind warning threshold, informed by site-specific risk assessments and meteorological data should be established, for the purposes of undertaking a review of site activities when the threshold is approached or exceeded. This should be conducted during daily pre-start meetings to assess the effectiveness of the implemented dust mitigation measures and to identify whether any additional controls (e.g., modifying or ceasing activities when the predominant wind direction is toward the nearest residences, or, when wind speeds are above a stop work point are required. Records of these reviews, including any activity modifications or shutdowns, should be maintained to demonstrate compliance and continuous improvement.

In addition to automated warning systems (e.g., BoM alerts), visual observations and on-site environmental monitoring should be used to support decision-making. This integrated approach ensures that dust control is both proactive and responsive, minimizing off-site impacts and maintaining trust. The emission control measures to be employed at the development site during construction are outlined in the below Table 6-3.

**Table 6-3: Air Quality Management Measures**

Control	Source	Responsibility	Timing
<b>Identified through review of AQIA</b>			
<b>Control Measures:</b> <ul style="list-style-type: none"> <li>Measures to reduce potential dust generation, such as the use of water carts, sprinklers, dust screens and surface treatments, needs to be implemented within Project Site.</li> <li>Application of spray-on soil stabilising agents such as P-47 or similar in advance of extreme wind / rain forecasts, before periods of absence during which erodible material is at risk of being airborne, or when traditional management practices such as water carts cannot be implemented (weekends &amp; long weekends).</li> <li>Stockpile surfaces should be dampened slightly to prevent dust from becoming airborne but should not be wet to the extent that run-off occurs.</li> <li>Unsealed access roads within the Project Site should be maintained and managed so as to reduce dust generation.</li> <li>Storage of materials that have the potential to result in dust generation should be minimised within Project Site.</li> <li>During extended periods of inactivity, all stockpiles should be covered, regardless of prevailing weather conditions.</li> <li>All materials should be stored or stockpiled at suitable locations and stockpiles must be maintained at sizes that allow them to be covered, if necessary, to control emissions of dust.</li> <li>Sealing of earthworks areas and exposed surfaces by tracking with heavy machinery, smooth drum roller or other compaction method and sealing of earthen stockpiles via excavator bucket compaction.</li> </ul>	Section 8.1 of AQIA	Site Supervisor	As required and ongoing throughout the construction schedule

Control	Source	Responsibility	Timing
<ul style="list-style-type: none"> <li>Consider basic earthmoving practices such as careful and/or slower loading and unloading of rather than dumping from a significant height.</li> <li>Monitor and maintain site-wide erosion and sediment controls (ESC) as per the Erosion and Sediment Control Plan (ESCP) to reduce erosion and sediment / dust release</li> </ul>			
<b>Identified through review of NSW LGAQ 2024 and IAQM 2024</b>			
<b>Topsoil Stripping and Handling</b> <ul style="list-style-type: none"> <li>Deploy water carts during construction to moisten topsoils/subsoil.</li> <li>Modify work practices to limit clearing, stripping and spoil handling during periods of adverse weather (hot, dry and windy conditions) and when dust is seen leaving the site.</li> <li>Clearing of vegetation and topsoil will be limited to the designated footprint required for construction</li> <li>Land stabilisation works will be carried out progressively and as soon as possible</li> </ul>	NSW LGAQ 2024	Site Supervisor	Construction
<ul style="list-style-type: none"> <li>Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.</li> </ul>	IAQM 2024	Site Supervisor	Construction
<ul style="list-style-type: none"> <li>Make the complaints log available to the local authority when asked.</li> <li>Record any exceptional incidents that cause dust and/or air emissions, either on or offsite, and the action taken to resolve the situation.</li> <li>Undertake daily on-site and off-site inspections where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100m of site boundary.</li> <li>Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.</li> </ul>	IAQM 2024	Site Supervisor	Construction

Control	Source	Responsibility	Timing
<ul style="list-style-type: none"> <li>• Installation of a high-visibility wind sock, so that supervisors and operators have a visible indicator of if wind direction or wind gusts are favourable for dust impacts at nearest receptors.</li> <li>• Impose and signpost 25 km/h maximum speed limits on surfaced and 15 km/h on unsurfaced haul routes and work areas to minimise dust generated from vehicle movements (if long haul routes are required these speeds may be increased with suitable additional control measures provided).</li> <li>• Ensure all vehicles switch off engines when stationary – no idling vehicles.</li> <li>• Avoid the use of diesel- or petrol-powered generators and employ the use of mains powered or battery powered equipment where practicable.</li> <li>• Review the positioning of plant exhausts and re-orient where safe or install deflector plates to limit release of exhausts or compressed air directly downward onto exposed surfaces (e.g., haul roads)</li> <li>• Ensure all road sweepers conduct duties with wet spray nozzles and well-maintained roof exhaust filters to prevent sediment being lifted and dispersed during road cleaning.</li> <li>• Consider areas where misting canons may be appropriate to maintain moisture levels, so dust is adequately suppressed. Ensure mists are directed appropriately to prevent "dirty clouds" of mist discharging off site - i.e.: ensure the canons are not directed downwind of construction activity.</li> </ul>			
<p><b>General Construction Activities:</b></p> <ul style="list-style-type: none"> <li>• Ensure an adequate water supply on the Site for effective dust suppression, using non-potable water where possible and appropriate.</li> <li>• During daily pre-start/ toolbox talks, weather conditions are discussed so that adequate mitigation resources are available (such as water carts or dust suppression sprays) and activities can be changed or programmed to minimise dust impacts</li> <li>• Ensure equipment is readily available on Site to clean any dry spillages, and, ensure spills are</li> </ul>	IAQM 2024	Site Supervisor	Construction

Control	Source	Responsibility	Timing
<p>cleaned up as soon possible using wet cleaning methods.</p> <ul style="list-style-type: none"> <li>• Avoid scabbling (roughening of concrete surfaces) if possible.</li> <li>• In addition to the above - specifically for crushing activities, water supplies must be made available at all times during crushing operations and internal belt misters must be maintained and well-functioning prior to and during any rock crushing activities.</li> <li>• Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case appropriate additional control measures shall be implemented.</li> <li>• Including covering with tarps that are weighed down before periods of high wind. Additionally, during hot, dry conditions, aggregates and imported road base can be ordered for delivery pre-conditioned to optimal moisture conditions for working and compaction, which will likely reduce the potential for dust plumes from unloading on site</li> <li>• Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent fugitive emissions during delivery.</li> <li>• For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.</li> </ul>			
<p><b>Track out:</b></p> <ul style="list-style-type: none"> <li>• Use water-assisted dust sweeper(s) on the access and local roads, as necessary.</li> <li>• Avoid dry sweeping of large areas.</li> <li>• Ensure vehicles entering and leaving the Site are covered to prevent escape of materials during transport.</li> <li>• Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.</li> </ul>	IAQM 2024	Site Supervisor	Construction



Control	Source	Responsibility	Timing
<ul style="list-style-type: none"> <li>Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the Site ) where reasonably practicable.</li> <li>Access gates to be located at least 10 m from receptors where possible.</li> </ul>			

## 6.4 Trigger Action Response Plan

As identified in AQIA, the Trigger, Action, and Response Plan (TARP) provides an outline of remedial actions and responses for dealing with significant dust generating activities. Weather observations for wind will be observed from:

- Horsley Park Equestrian Centre AWS, located approximately 5.0 km east of the Site and records observations of several meteorological parameters including wind speed, wind direction, temperature, humidity, and rainfall.
- Badgerys's Park AWS, located approximately 8.0 km south-west of the Site and records observations of several meteorological parameters including wind speed, wind direction, temperature, humidity, and rainfall.
- St. Mary's AQMS, located approximately 6.0 km north-west of the Site, also capable of providing wind observations.

A 1-hour average time period has been selected as a practical time-step for identifying sustained elevated dust concentrations that could potentially result in an exceedance of the NSW EPA 24-hour average PM<sub>10</sub> criterion, while providing sufficient time for additional mitigation measures to be implemented at the Project to reduce dust emissions before such an exceedance occurs.

During daily pre-start/ toolbox talks, weather conditions are discussed so that adequate mitigation resources are available (such as water carts or dust suppression sprays) and activities can be changed or programmed to minimise dust impacts. There needs to be a commitment to stopping work in the event of excessive dust generated during strong and gusty winds (> 40 km/h winds).

Table 6-4 presents the recommended 1-hour average PM<sub>10</sub> trigger levels and actions. The air quality categories detailed in the NSW Health advice<sup>3</sup> have been used as the trigger levels for 1-hour PM<sub>10</sub> concentrations. The upper trigger has been conservatively increased to 300 µg/m<sup>3</sup>.

**Table 6-4: TARP PM<sub>10</sub> and Wind Speed Trigger Levels and Responses**

Level	Trigger Criteria (1-hour average PM <sub>10</sub> Trigger Level)	Action Response	Responsibility	Implementation Timing
<b>Alert</b>	≥50 µg/m <sup>3</sup> but < 100 µg/m <sup>3</sup> OR visible dust seen leaving the Site	<ul style="list-style-type: none"> <li>• Review operations via a visual inspection of dust emissions from current activities to ensure all standard dust mitigation measures are being appropriately implemented.</li> <li>• Deployment of additional water sprays, water trucks etc</li> </ul>	Site Supervisor	Entire Construction Schedule

<sup>3</sup> <https://www.airquality.nsw.gov.au/health-advice/air-quality-categories#:~:text=In%20New%20South%20Wales%2C%20five%20colour%20indicators,pollutants%20we%20monitor%20at%20our%20monitoring%20locations.>

Level	Trigger Criteria (1-hour average PM <sub>10</sub> Trigger Level)	Action Response	Responsibility	Implementation Timing
		<ul style="list-style-type: none"> <li>Record construction activity being undertaken on and offsite, as well as unusual regional activity (nearby operation of construction and industry sites, bushfire and dust storms)</li> <li>Continue to closely monitor PM<sub>10</sub> concentrations being recorded.</li> </ul>		
<b>Action I</b>	≥100 µg/m <sup>3</sup> but <200 µg/m <sup>3</sup>	<ul style="list-style-type: none"> <li>Increase watering rates on haul roads and stockpiles where appropriate.</li> <li>Reduce speed of equipment / vehicles.</li> <li>Record construction activity being undertaken on and offsite, as well as unusual regional activity (nearby operation of construction and industry sites, bushfire and dust storms)</li> <li>Continue to closely monitor PM<sub>10</sub> concentrations being recorded.</li> <li>Undertake an investigation of the dust generating activities, and if necessary, temporarily halt the dust generating activities</li> </ul>	Site Supervisor	Entire Construction Schedule
<b>Action II</b>	≥200 µg/m <sup>3</sup> but <300 µg/m <sup>3</sup>	<ul style="list-style-type: none"> <li>Review planned operations and mitigation strategies.</li> <li>Cease any non-critical dust-generating activity or relocate relevant activities where possible away from sensitive receptors, or to less exposed locations.</li> </ul>	Site Supervisor	Entire Construction Schedule

Level	Trigger Criteria (1-hour average PM <sub>10</sub> Trigger Level)	Action Response	Responsibility	Implementation Timing
		<ul style="list-style-type: none"> <li>Continue to closely monitor PM<sub>10</sub> concentrations being recorded.</li> </ul>		
<b>Action III</b>	> 300 µg/m <sup>3</sup>	<ul style="list-style-type: none"> <li>Shut down high risk dust generating activities.</li> <li>Continue to closely monitor PM<sub>10</sub> concentrations being recorded.</li> <li>Temporarily stop work until conditions improve</li> </ul>	Site Supervisor	Entire Construction Schedule

Table 6-5 outlines the Additional Air Quality Trigger Action Response Plan.

**Table 6-5: Additional Air Quality Trigger Response Plan**

Source	Trigger Criteria	Action Response	Responsibility	Implement ation Timing
<b>Weather Forecast</b>	Predicted/observed wind speeds >10 km/h	<ul style="list-style-type: none"> <li>Review operations via a visual inspection of dust emissions from current activities to ensure all standard dust mitigation measures are being appropriately implemented.</li> <li>Continue to closely monitor wind speed and direction being recorded at Horsley Park Equestrian AWS.</li> </ul>	Site Supervisor	Entire Constructio n Schedule
	Predicted/observed wind speeds >15 km/h; and wind gusts ≥20 km/h	<ul style="list-style-type: none"> <li>Notifications to Site crews.</li> <li>Complete visual inspections to check that mitigations are in place.</li> <li>Increase watering rates on haul roads and exposed areas where appropriate.</li> <li>Reduce speed of equipment / vehicles.</li> <li>Consider holding off on potentially dust generating activities.</li> </ul>	Site Supervisor	Entire Constructio n Schedule

Source	Trigger Criteria	Action Response	Responsibility	Implementation Timing
		<ul style="list-style-type: none"> <li>Note changed state and continue to closely monitor for visible dust generation.</li> </ul>		
	Predicted/observed wind speeds >20 km/h; and wind gusts ≥25 km/h	<ul style="list-style-type: none"> <li>Notifications to Site crews.</li> <li>Review planned operations and mitigation strategies.</li> <li>Cease any dust-producing activities or relocate relevant activities away from sensitive receptors or to less exposed locations.</li> <li>Minimise vehicle movements on unsealed surfaces.</li> <li>Restrict earthworks and loading of trucks.</li> <li>If dust generation is not reduced (PM<sub>10</sub> concentration should be reduced), reschedule the work to another time when metrological conditions are more suitable.</li> </ul>	Site Supervisor	Entire Construction Schedule
<b>Visual Observations</b>	Mud Tracking onto roads / access points.	<ul style="list-style-type: none"> <li>Sweep street immediately if mud is observed tracking on public roads and review adequacy of dust controls.</li> </ul>	Site Supervisor	Entire Construction Schedule
	Dust being generated on Site as result of active works	<ul style="list-style-type: none"> <li>Monitor the activity for on-site dust generation to observe whether dust is migrating off-site.</li> <li>Increase frequency of water application.</li> <li>Review Dust Controls for correct application and efficacy.</li> </ul>	Site Supervisor	Entire Construction Schedule
	Dust being generated on Site with no active works	<ul style="list-style-type: none"> <li>Apply ground cover (physical barrier, revegetation, water sprays, dust suppression spray) as soon as practical.</li> <li>Notify the Site Manager and access opportunity for preventative actions</li> </ul>	Site Supervisor	Entire Construction Schedule

Source	Trigger Criteria	Action Response	Responsibility	Implementation Timing
	Release of dust from premises as result of active works (where there is no incident or wind speed less than 20 km/hr).	<ul style="list-style-type: none"> <li>Cease works and review work methodology and explore alternative methods.</li> <li>Increase rate of frequency of watering and application of dust controls.</li> <li>Review Dust Controls for correct application and efficacy.</li> </ul>	Site Supervisor	Entire Construction Schedule
<b>Plant Inspections</b>	Continuous visible vehicle / plant / equipment emissions for longer than 10 seconds.	<ul style="list-style-type: none"> <li>Turn off vehicle / plant / equipment.</li> <li>Quarantine until maintenance service is completed.</li> </ul>	All staff	Entire Construction Schedule
<b>Community Compliant Relevant to Air Quality or Odour</b>	Any Compliant	<ul style="list-style-type: none"> <li>Record the complaint in a logbook.</li> <li>Review the dust or odour generating activity and apply the preventive control (dust suppression, additional ground cover)</li> </ul>	Site Supervisor	Entire Construction Schedule
<b>Incidents / Non-compliance</b>	Release of dust or other environmental hazard from the premises	<ul style="list-style-type: none"> <li>Notify Site Supervisor</li> <li>If material harm is caused notify relevant authorities as per <a href="https://www.epa.nsw.gov.au/Reporting-and-incidents/Report-pollution">https://www.epa.nsw.gov.au/Reporting-and-incidents/Report-pollution</a></li> </ul>	All staff	Entire Construction Schedule

## 6.5 Community consultation and complaints

Icon will develop a Community Consultation and Complaints Handling Strategy (CCCHS) which outlines key stakeholders and the engagement strategies to be adopted prior to and during construction works. Consultation with the surrounding community will be undertaken and the local community will be notified of the up-and-coming works and provided with contact details to raise any concerns they may have with the Site team.

Community feedback and complaints relating to local air quality will be dealt with in accordance with the Project CCCHS.

## 6.6 Training



All employees, contractors and utility staff working on site will undergo site induction training that would include air quality and odour impact management issues. The induction training will address elements related to air quality and odour management including:

- typical construction activities that may impact air quality and odour;
- air quality and odour mitigation and management measures;
- incident response, management and reporting;
- community complaints response and reporting requirements;
- location of sensitive receptors likely to be impacted by construction dust or odour;
- specific responsibilities to minimise air quality impacts on sensitive receptors; and
- shutdown procedures to be followed in the event of a high wind or PM<sub>10</sub> trigger.

## REVIEW AND IMPROVEMENT

### 7

A review of the CEMP, sub-plans and monitoring programs will be undertaken during construction as per section 5.8 of CEMP. These reviews will be completed to determine the efficiency of the monitoring program and any required changes necessary to ensure compliance. This review is to be undertaken by the Contractor HSEQ Manager, in consultation with the Contractor Project Manager and Icon Representative, or as required by independent audit or instruction from DPHI, in consultation with the ER, on an annual basis commencing one year after the commencement of construction. An Environmental Review Report recommending measures to improve the environmental performance of the Project will be produced by the review.

Continuous improvement of this Program will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets which includes:

- Identify areas of opportunity for improvement of environmental management and performance
- Determine the cause of non-conformances and deficiencies
- Develop and implement a plan of corrective and preventive action to address any non-conformances
- Verify and document corrective and preventative actions

### 7.1 Update and amendment

Revision of the CAQMP would be performed as per CoCs (as relevant to air quality management). The Project will annually review the adequacy of the environmental mitigation measures within this CEMP and Sub-Plans (including this CAQMP) as well as the effectiveness of their implementation to determine whether they are still applicable to the activities being carried out onsite. Updates and amendments to this CAQMP must first be approved by Environmental Representative and then may require to be submitted to the Planning Secretary for approval via the Planning Portal website.

A copy of the updated Program and changes will be distributed to all relevant stakeholders and the changes implemented immediately.

### 7.2 Non-Compliance, Corrective and Preventive Action

Potential non-compliances with the CoC will be followed as per section 5.5 of CEMP. Environmental inspection and observation results are interpreted to identify actual and potential nonconformances and events that may

result in nuisance, environmental harm and unacceptable loss of amenity or community complaints. The Environmental Representative and/or a public authority may also raise a noncompliance or improvement notice.

Non-compliances are to be investigated to determine the root cause and any corrective and/or preventative actions arising from the investigation. This investigation is to be documented in a Non-Compliance Report prepared by, or for, the Contractor Project Manager and is to include any corrective and/or preventative actions. The Non-Compliance Report is to be provided to Icon and the Environmental Representative within five days of the non-compliance. Where non-compliances are identified during regular inspections, corrective actions are raised, tracked and closed out through the inspection records. An appropriate register will be used to assign, track and close out corrective actions.

### 7.3 Complaints Handling Procedure

Community Consultation and Complaints Handling Procedure (CCCHP) has been prepared for this project and has been included as a part of the CEMP. This procedure outlines measures to enable effective communication with the community and assist the Project team to deliver the Project with minimal disruption. Any air quality and odour complaints received should be handled as per the CEMP.

The Environmental Representative (ER) appointed by Icon and approved by the Planning Secretary (as per Condition A44 of COCs) will prepare and submit “Environmental Representative Monthly Reports” (as per Condition A48 (k) of COCs). These monthly reports will include all dust and air quality complaints identified within the month; their causes and appropriate measures used to address the complaints and reduce the emissions in a timely manner. As required by Condition A48 (k) of the COCs, Icon will provide the Environmental Representative (ER) with all documentation requested to perform their functions, including:

- Air quality monitoring data (as per Section 6.2);
- Complaints data (as per Section 7.4).

The implementation of the procedure will assist the team to deliver the Project with minimal disruption to the community. For any complaint received relating to air quality impacts from the construction activities, the measures outlined in CCCHP and Table 7-1 will be undertaken.

**Table 7-1: Air Quality Complaints Handling Measures**

Control	Responsibility	Timing
Review and follow up all the complaints regarding dust or odour within 24 hours of receipt. Development of proposed response and issue within 48 hours by the Project team.	Site Supervisor	As required and ongoing throughout the construction schedule
All details will be captured and logged in the Complaints Register, and all responses will be shared with the Project team.	Site Supervisor	As required and ongoing throughout the construction schedule

Control	Responsibility	Timing
Perform a site inspection, noting all dust-generating activities taking place and the mitigation methods being used. If the complaint was related to an event in the recent past, if possible, note any dust or odour producing activities that were underway at that time and initiate any remedial action necessary	Environmental Representative	Once a complaint has been received
Verify if another source of dust (e.g. nearby construction, regional events) other than the construction activities of the Project is causing the complaint and collect appropriate evidence of this (photos and/or videos as appropriate). Once investigations have been completed, contact the complainant to explain any problems found and remedial actions taken	Environmental Representative	Once a complaint has been received
Provide the ER with all documentation requested by the ER in order for the ER to perform their functions, as well as the complaints register (to be provided on a daily basis)	Site Supervisor	On a daily basis



## 7.4 Recordkeeping

The Site Supervisor will keep a record of any complaint made to the development site or any employee or any agent of the development in relation to air quality from the development site. A complaint register will be maintained and will be produced to any authorised officer of the EPA if requested. Records of individual complaints will include:

- Date and time of complaint.
- Method by which the complaint was made.
- Personal details of the complainant (if provided).
- Nature of the complaint.
- The details of an initial response to the complaint.
- Action taken and any follow up actions.
- If no action was taken, the reason no action was taken.
- Weather conditions corresponding to the time of the complaint.
- ER to be provided with the complaints register on a daily basis.

## REFERENCES

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## STATEMENT OF LIMITATIONS

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This report entitled Westgate Industrial at 253-267 Aldington Road, Kemps Creek, NSW – Construction Air Quality Management Plan, was prepared by RWDI Australia Pty Ltd (“RWDI”) for Icon (“Client”). The findings and conclusions presented in this report have been prepared for the Client and are specific to the project described herein (“Project”). The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared. Because the contents of this report may not reflect the final design of the Project or subsequent changes made after the date of this report, RWDI recommends that it be retained by Client during the final stages of the Project to verify that the results and recommendations provided in this report have been correctly interpreted in the final design of the Project.

The conclusions and recommendations contained in this report have also been made for the specific purpose(s) set out herein. Should the Client or any other third party utilize the report and/or implement the conclusions and recommendations contained therein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.

Finally, it is imperative that the Client and/or any party relying on the conclusions and recommendations in this report carefully review the stated assumptions contained herein and to understand the different factors which may impact the conclusions and recommendations provided.