



Eastern Creek Speedway Operational Environmental Management Plan

Appendix E: Operational Air Quality Management Plan

EASTERN CREEK SPEEDWAY OPERATIONAL AIR QUALITY MANAGEMENT PLAN

Project name **Eastern Creek Speedway Operational Air Quality Management Plan (AQMP)**
 Project no. **318001087**
 Recipient **Peter Marshall (Western Sydney Parklands Trust)**
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 Approved by **Jon Williamson**
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1. Introduction

1.1 Purpose

This Air Quality Management Plan (AQMP) summarises the air quality management and mitigation measures required for operation of the Eastern Creek Speedway (the Speedway), located at Sydney Motorsport Park, Ferrers Road, Eastern Creek NSW 2766. Air quality was identified as a key environmental issue for the Speedway through the State Significant Infrastructure (SSI 10048) approval process. The desired performance outcome from the approval is for the project to be designed, constructed, and operated in a manner that minimises air quality impacts (including nuisance dust) to minimise risks to human health and the environment to the greatest extent practicable. Additionally, the adjacent Dragway has been identified as a key receptor for which to manage air quality impacts from the Speedway.

This AQMP has been prepared in accordance with the Environmental Management Plan Guideline for Infrastructure Projects (DPIE, 2020).

1.2 Scope

This AQMP addresses relevant conditions of consent, management measure commitments, and relevant guidance contained in:

- Instrument of Approval for Sydney International Speedway, application no. SSI 10048 (the Approval; Minister for Planning and Public Spaces, 2020).
- Sydney International Speedway – Environmental Impact Statement Volume 1 & 2 (the EIS, 2020), including the associated Air Quality Impact Assessment (the AQIA; Jacobs, 2020).
- Sydney International Speedway – Submissions Report (the Submissions Report, 2020).
- Sydney International Speedway – Amendment Report (the AR, 2020).
- Environmental Management Plan Guideline for Infrastructure Projects (Department of Planning, Industry and Environment, 2020).

1.3 Objectives

The measures specified in this AQMP aim to achieve the following objectives in relation to air quality for Speedway operations, to:

- Minimise air quality impacts for Speedway competitors, spectators, and employees.
- Maintain operational safety and minimise air quality impacts to the adjacent Western Sydney International Dragway.
- Facilitate compliance with regulatory air quality standards at nearby sensitive receptors.

2. Project Description

2.1 Project overview

The Approval defines the Speedway to include:

- A speedway racetrack for cars and motorcycles.
- Pit area and new access from Ferrers Road.

- A grandstand and open terraced seating.
- Ticketing infrastructure for both the Speedway and adjoining motorsport facilities.
- New carparking locations for use by the Speedway and adjoining motorsport facility patrons.
- Operational support infrastructure, including a stormwater management systems and mesh dust management screens.

The Speedway can operate year-round, however the Speedway racing season is typically 40 weeks per year with an average of 2 race days per event. Some events will occur over a single day with larger events lasting 3 days. Racing, with practice, is usually approximately seven hours per race day from 3pm. The finish time in the hot and dry summer daylight saving period will need to allow for additional time for track curation between events to control dust. The Speedway and associated infrastructure may be used for other motorsport activities throughout the year.

2.2 Site location

An overview of the site location in Eastern Creek, NSW is provided in Figure 2-1.

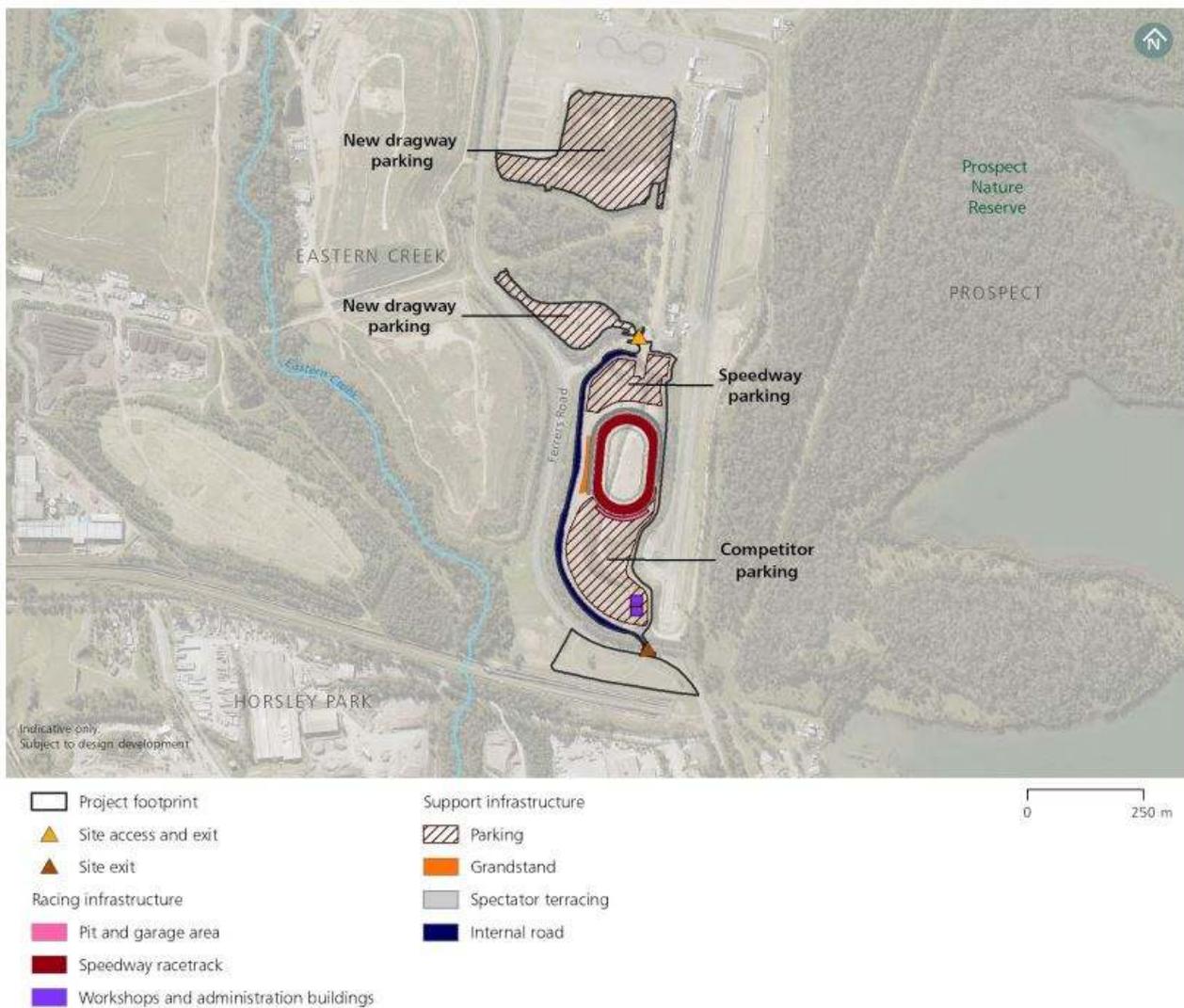


Figure 2-1: Project Overview (Sydney International Speedway EIS, 2020)

2.3 Timing of activities

Construction of the Project commenced in 2020 with operations to commence by September 2021. This AQMP must be implemented prior to commencing operation of the Speedway. All operational air quality mitigation measures identified in this AQMP that are not physically affected by work, much be established as soon as practicable during construction.

3. Legal and Compliance Requirements

3.1 Approval requirements

The conditions of consent relevant to air quality are provided in Table 1.

Table 1: Air quality Conditions of Approval

Condition	Requirement	Where Addressed in AQMP
Infrastructure Approval SSI 10048 – Schedule 2 – Part A – Administrative Conditions		
A1	<p>The Proponent must carry out the SSI in accordance with the terms of this approval and generally in accordance with the:</p> <p>(a) Sydney International Speedway – Environmental Impact Statement Volume 1 & 2 (the EIS) (dated August 2020);</p> <p>(b) Sydney International Speedway – Submissions Report (the Submissions Report, dated November 2020); and</p> <p>(c) Sydney International Speedway – Amendment Report (the AR, dated November 2020).</p>	Relevant conditions to this OAQMP from these approval documents outlined in this table
A2	The SSI must only be carried out in accordance with all procedures, commitments, preventative actions, performance criteria and mitigation measures set out in in accordance with the documents listed in Condition A1 unless otherwise specified in, or required under, this approval.	Confirmed
A3	<p>In the event of an inconsistency between:</p> <p>(a) the terms of this approval and any document listed in Condition A1 inclusive, the terms of this approval will prevail to the extent of the inconsistency; and</p> <p>(b) any document listed in Condition A1 inclusive, the most recent document will prevail to the extent of the inconsistency.</p> <p>Note: For the purpose of this condition, there will be an inconsistency between a term of this approval and any document if it is not possible to comply with both the term and the document.</p>	Noted
A6	<p>Where the terms of this approval require a document or monitoring program to be prepared or a review to be undertaken in consultation with identified parties, evidence of the consultation undertaken must be submitted to the Planning Secretary with the document. The evidence must include:</p> <p>(a) documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval;</p>	Section 9 and Appendix D

Condition	Requirement	Where Addressed in AQMP												
	<p>(b) a log of the dates of engagement or attempted engagement with the identified party and a summary of the issues raised by them;</p> <p>(c) documentation of the follow-up with the identified party(s) where feedback has not been provided to confirm that they have none or have failed to provide feedback after repeated requests;</p> <p>(d) outline of the issues raised by the identified party and how they have been addressed; and</p> <p>(e) a description of the outstanding issues raised by the identified party and the reasons why they have not been addressed.</p>													
A8	References in the terms of this approval to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this approval.	No specific standards referenced in Approval Conditions for air quality. Appropriate standards specified in Appendix B												
D1	An Operational Environmental Management Plan (OEMP) must be prepared in accordance with the Environmental Management Plan Guideline for Infrastructure Projects (Department Planning, Industry and Environment 2020). The OEMP must detail how the performance outcomes, commitments and mitigation measures made and identified in the documents listed in Condition A1 will be implemented and achieved during operation. This condition (Condition D1) does not apply if Condition D2 of this approval applies.	Section 1.1 and Section 5												
D3	<p>Where an OEMP is required, the Proponent must include the following OEMP Sub-plans in the OEMP.</p> <p>Table 5 OEMP Sub-plans</p> <table border="1" data-bbox="336 1503 1235 1760"> <thead> <tr> <th data-bbox="336 1503 424 1592"></th> <th data-bbox="424 1503 823 1592">Required OEMP Sub-Plan</th> <th data-bbox="823 1503 1235 1592">Relevant government agencies to be consulted for each OEMP sub-plan</th> </tr> </thead> <tbody> <tr> <td data-bbox="336 1592 424 1648">(a)</td> <td data-bbox="424 1592 823 1648">Dust</td> <td data-bbox="823 1592 1235 1648">Office of Sport and WaterNSW</td> </tr> <tr> <td data-bbox="336 1648 424 1704">(b)</td> <td data-bbox="424 1648 823 1704">Traffic and Transport</td> <td data-bbox="823 1648 1235 1704">Relevant Road Authorities</td> </tr> <tr> <td data-bbox="336 1704 424 1760">(c)</td> <td data-bbox="424 1704 823 1760">Noise and Vibration</td> <td data-bbox="823 1704 1235 1760">Council</td> </tr> </tbody> </table> <p><i>Note: the Traffic and Transport sub-plan does not apply to major concurrent events with other venues in the motorsport precinct where a Major Events Operation Plan (or other equivalent document) as required by Condition E8 applies.</i></p>		Required OEMP Sub-Plan	Relevant government agencies to be consulted for each OEMP sub-plan	(a)	Dust	Office of Sport and WaterNSW	(b)	Traffic and Transport	Relevant Road Authorities	(c)	Noise and Vibration	Council	Section 9
	Required OEMP Sub-Plan	Relevant government agencies to be consulted for each OEMP sub-plan												
(a)	Dust	Office of Sport and WaterNSW												
(b)	Traffic and Transport	Relevant Road Authorities												
(c)	Noise and Vibration	Council												
D4	Each of the OEMP Sub-plans must include the information set out in Condition D1 of this approval.	Section 5												

Condition	Requirement	Where Addressed in AQMP									
D5	The OEMP Sub-plans must be developed in consultation with relevant government agencies as identified in Condition D3. Details of all information requested by an agency to be included in an OEMP Sub-plan as a result of consultation, including copies of all correspondence from those agencies, must be provided with the relevant OEMP Sub-Plan.	Section 9 and Appendix D									
D6	The OEMP Sub-plans must be submitted to the Planning Secretary as part of the OEMP.	Section 9									
D9	<p>The following Operational Monitoring Programs must be prepared in consultation with the relevant authorities identified for each Operational Monitoring Program to compare actual operational performance against predicted performance.</p> <p>Table 6 Operational Monitoring Programs</p> <table border="1" data-bbox="336 775 1235 1043"> <thead> <tr> <th data-bbox="336 775 424 898"></th> <th data-bbox="424 775 823 898">Required Operational Monitoring Programs</th> <th data-bbox="823 775 1235 898">Relevant authority(s) and council(s) to be consulted for each Operational Monitoring Program</th> </tr> </thead> <tbody> <tr> <td data-bbox="336 898 424 954">(a)</td> <td data-bbox="424 898 823 954">Dust</td> <td data-bbox="823 898 1235 954">Office of Sport and WaterNSW</td> </tr> <tr> <td data-bbox="336 954 424 1043">(b)</td> <td data-bbox="424 954 823 1043">Traffic and Transport</td> <td data-bbox="823 954 1235 1043">Council and the Transport Management Centre</td> </tr> </tbody> </table>		Required Operational Monitoring Programs	Relevant authority(s) and council(s) to be consulted for each Operational Monitoring Program	(a)	Dust	Office of Sport and WaterNSW	(b)	Traffic and Transport	Council and the Transport Management Centre	Section 5.1 and Appendix D
	Required Operational Monitoring Programs	Relevant authority(s) and council(s) to be consulted for each Operational Monitoring Program									
(a)	Dust	Office of Sport and WaterNSW									
(b)	Traffic and Transport	Council and the Transport Management Centre									
D10	<p>Each operational monitoring program must include:</p> <p>(a) details of baseline data;</p> <p>(b) details of all monitoring of the project to be undertaken;</p> <p>(c) the parameters of the project to be monitored;</p> <p>(d) the frequency of monitoring to be undertaken;</p> <p>(e) the location of monitoring;</p> <p>(f) the reporting of monitoring and analysis results against relevant criteria;</p> <p>(g) details of the methods that will be employed to analyse the monitoring data;</p> <p>(h) procedures to identify and implement additional mitigation measures where results of monitoring are unsatisfactory; and</p> <p>(i) any consultation to be undertaken in relation to the monitoring programs.</p>	Section 5, Section 4, Section 9 and Appendix B									
D11	The Operational Monitoring Program(s) must be submitted to the Planning Secretary at least one month before the commencement of operation.	Section 9									
D12	Operation must not commence until the Planning Secretary has been provided with all of the required Operational Monitoring Programs, and all relevant baseline data has been collected.	Section 9									
D13	The Operational Monitoring Programs must be implemented for the duration identified in the terms of this approval. Where no duration is specified in this approval, they must be implemented for the duration specified in the relevant Operational Monitoring Program or as specified by the Planning Secretary, whichever is the greater.	Section 5.4									
D14	The results of the Operational Monitoring Programs must be submitted to the Planning Secretary, and relevant regulatory authorities, for information in the form of an Operational Monitoring Report at the frequency identified in the in the terms of this approval. Where no	Section 5.3									

Condition	Requirement	Where Addressed in AQMP		
	frequency is identified in this approval, the results must be submitted at the frequency identified in the relevant Operational Monitoring Program.			
D15	Where a relevant OEMP Sub-plan exists, the relevant Operational Monitoring Program may be incorporated into that OEMP Sub-plan.	Noted		
E9	<p>In addition to the commitments to develop performance outcomes and mitigation measures for air quality specified in the documents listed in Condition A1, all reasonably practicable measures must be implemented to minimise the emission of dust and other air pollutants during the construction and operation of the SSI.</p> <p>EIS Performance outcomes and mitigation measures committed to include:</p> <ul style="list-style-type: none"> • A Dust Mitigation and Control Plan • A Rectification Action Plan (in the event of a breach) • Sydney Dragway dragstrip dust level monitoring and reporting • Adoption of approved track curation and preparation procedures • Use and maintenance of approved track material • Conducting and reporting of annual track condition audits • Repair and maintenance of natural and engineered physical barriers <p>The Submission Report described mitigation measures to include:</p> <ul style="list-style-type: none"> • A large dust screen to the north-east (from Turn 2 through to the end of Turn 3) as well as additional planting of trees and vegetation between the Speedway and Dragway. • Adoption of approved track curation and preparation procedures and use and maintenance of approved track materials. <p>The AR does not propose any additional mitigation for the Operation phase.</p>	Section 4.2, Section 5.2		
E10	The commitments to develop performance outcomes and mitigation measures for air quality specified in the documents listed in Condition A1 must be implemented during construction and operation of the SSI to ensure the operational safety of the Western Sydney International Dragway.	Section 5.1, Section 5.2		
E11	Operational air quality mitigation measures as identified in the documents listed in Condition A1 that will not be physically affected by work, must be established as soon as practicable during construction.	Section 2.3		
Sydney International Speedway Amendment Report (November 2020), Sydney Metro				
Reference	Impact / Issue	Mitigation Measure	Applicable Location	Where Addressed in AQMP
AQ3	Dust generation during construction and operation	Four permanent dust monitoring stations would be installed across the project site and at Sydney Dragway. These stations would acquire and measure baseline dust levels in real time to inform thresholds for safe operational dust levels at the Sydney Dragway and to monitor dust levels during construction and operation of the project	Main operational site and Sydney Dragway	Section 5.1 and Appendix B

Condition	Requirement			Where Addressed in AQMP
AQ4	Dust generation during construction and operation	An on-site meteorological station would be installed, sited in accordance with the relevant standards and guidelines, to inform the dust monitoring programme.	Main operational site	Section 5.1 and Appendix B

The AQIA submitted as part of the EIS specifies dust control and mitigation measures which have been incorporated into Section 4.2 of this AQMP and operational air quality monitoring which has been incorporated into Section 5.1.

The Submissions Report commits to the preparation of an AQMP (this document), continuous dust monitoring (refer to Section 5.1), development of trigger levels (refer to Section 5.2) and control measures (incorporated into Section 4.2).

The proposed amendments outlined in the AR were consistent with those assessed in the EIS and AQIA so no further assessment or controls were proposed for air quality.

3.2 Air quality criteria

Air quality criteria apply at the nearest sensitive receptors to the project. Sensitive receptors are generally defined as the location of an occupied residential dwelling or other sensitive land use located near the project. Sensitive receptors can include, for example, homes, caravan parks, daycare centres, universities, hospitals, schools and parks.

The AQIA identified the nearest sensitive receptors as residential receptors approximately 1 km to the south of the speedway and an educational facility (Horsley Park Public School) approximately 2.5 km to the south of the Speedway. Additionally, the adjacent Sydney Dragway was identified as a sensitive location for dust emitted from the Speedway due to potential safety concerns associated with deposition of dust onto the Dragway surface.

The relevant air quality criteria for sensitive receptors (i.e. residential and other sensitive land uses) are presented in Table 2.

Table 2: Air quality criteria relevant at the nearest sensitive receptors to the project

Pollutant	Averaging period	Criteria	Source
TSP	Annual	90 µg/m ³	NHMRC (1996)
PM _{2.5}	24 hours	25 µg/m ³	DoE (2016)
	Annual	8 µg/m ³	DoE (2016)
PM ₁₀	24 hours	50 µg/m ³	DoE (2016)
	Annual	25 µg/m ³	DoE (2016)
Deposited dust	Annual	4 g/m ² /month	NERDDC (1988)

Air quality impacts from the Speedway operation were predicted through dispersion modelling at the nearest sensitive receptors as part of the AQIA. It was concluded that there would be no exceedances of annual total suspended particulates (TSP), particulate matter of less than 10 microns in aerodynamic diameter (PM_{10}), particulate matter of less than 2.5 microns in aerodynamic diameter ($PM_{2.5}$) and deposited dust. There were no predicted exceedances of the 24-hour PM_{10} and $PM_{2.5}$ criteria at the nearest sensitive receptors, when considering exceedances measured during the representative year used in the assessment.

4. Air Quality Management

4.1 Air quality risks

The key sources of dust potentially resulting from operation of the Speedway are:

- Wheel-generated emissions from the clay-based track. The highest dust generating areas of the track are likely to be corners where tyres grind across the surface.
- Wheel-generated emissions from roadways, sealed areas and exposed open surfaces within the complex.
- Wind erosion from the racetrack when not in use.
- Wind erosion from nearby exposed land.

Additional sources of air pollutants and dust include:

- Exhaust emissions.
- Wearing of brakes, clutches, and tyres.
- Odour from refuelling activities and fuel storage during racing events.

Air quality is a cumulative issue where other sources of air pollution in the vicinity of the site can generate air quality impacts at the Speedway site. For example, sources can include bushfires, burning, dust storms from neighbouring regions, pollen, and industrial facilities in the vicinity of the project. There are four operations within 1.5 km of the Speedway which report emissions of particulate matter (i.e. dust) through the National Pollutant Inventory (most recent reported year 2018/2019) that could potentially generate dust impacts. All are located to the west and south-west of the site, including:

- LMS Energy, Eastern Creek Renewable Energy Facility, Wallgrove Road, Eastern Creek, NSW
- EDL LFT (NSW) Pty Ltd, Eastern Creek Waste Management Centre, Wallgrove Road, Eastern Creek, NSW
- UR-3R Alternative Waste Treatment Facility, Wallgrove Road, Eastern Creek, NSW
- Austral Brick Plants, 738-780 Wallgrove Road, Horsely Park, NSW

4.2 Management and mitigation measures

Air quality will be managed by reducing dust generation potential at the source, reducing dispersion of airborne dust and modifying or ceasing operations to reduce air quality impacts. All operations and activities will be carried and maintained in a manner that prevents and minimises air pollution from the premises. The premises will be maintained in a manner that prevents and minimises the emission of air pollutants.

Management and mitigation measures required during operation of the Speedway are shown in Table 3. Additional controls may be required at times, such as when a high dust generating activity is identified or during periods of high winds.

Table 3: Operational Air Quality Mitigation and Management Measures

No.	Source / Activity	Management Measure
AQ1	Wheel-generated emissions from racetrack	<ul style="list-style-type: none"> Dust Mitigation & Control Measures (Appendix A) have been agreed with both the Speedway and Dragway and have been incorporated in their respective leases. Proactively curate the Speedway race track ahead of events to minimise the need for interventions during an event between races. Use only approved track material and approved track curation and preparation procedures. Provide adequate training, staffing and equipment for watercart operation. Visually monitor dust levels from the racetrack at all times during race days to implement additional controls when needed. Maintain vegetation on the boundary between the Dragway and Speedway operations. Maintain vertical mesh dust screens installed on the boundary between the Speedway and the Dragway braking area. Maintain natural physical barriers (e.g. bunds) around the site. Maintain real-time air quality and meteorological monitoring equipment. Modify or cease operations when dust trigger levels are exceeded, in accordance with the action described against each trigger level. Modify or cease operations during adverse dust generating conditions when unreasonable dust plumes are visible. Use only approved clay track material, tested prior to operation in consultation with Speedway Australia and Speedway operators. Adopt approved track curation and preparation procedures, established prior to operation. Applying additional water or other dust suppression agents. Adjusting race times or ceasing races in extreme weather conditions and during high winds. Complete an annual track maintenance audit.
AQ2	Wheel generated emissions from roads, sealed areas, and erodible surfaces	<ul style="list-style-type: none"> Maintain and sweep sealed areas and roads where deposited dust is visible. Avoid unnecessary use and access to unsealed surfaces by employees, competitors, and spectators.
AQ3	Wind erosion from exposed land	<ul style="list-style-type: none"> Limit the extent of exposed areas through seeding or suppressant. Restrict vehicle and machinery access to exposed areas when not in use.

5. Evaluation of Performance

5.1 Air quality and meteorology monitoring program

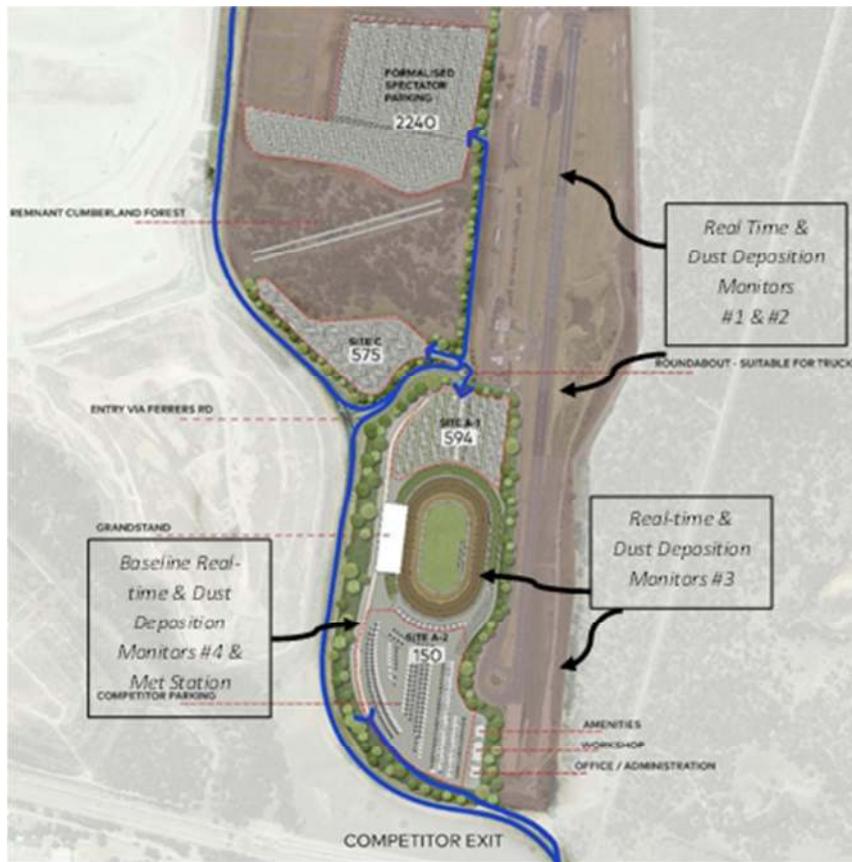
Western Sydney Parklands Trust (WSPT) is responsible for facilitating air quality and meteorological monitoring at the Speedway and Dragway sites. Monitoring, analysis and reporting shall be conducted by an independent specialist who is skilled and competent in dust monitoring and analysis. The roles and responsibilities of WSPT, the Speedway and the Dragway are specified in the Speedway Lease – Dust Mitigation & Control Measures (Appendix A).

Air quality monitoring locations should seek to comply with the recommendations of Australian Standard 3580.1.1: *Methods for sampling and analysis of ambient air Guide to siting air monitoring equipment*. The position of the air quality monitors will be finalised during Speedway track testing.

Continuous air quality monitoring will be conducted at the Speedway site to allow for notification of trigger levels. Air quality monitoring at the Dragway will include monthly monitoring for dust deposition and a continuous instrument. Background monitoring will be conducted at one location for both continuous monitored parameters and dust deposition.

The air quality monitoring locations will broadly align with the following locations:

1. Mid-way down the Dragway (PM₁₀, PM_{2.5} and dust deposition).
2. Near the braking area of the Dragway (PM₁₀, PM_{2.5} and dust deposition).
3. South Eastern side of the Speedway (PM₁₀, PM_{2.5} and dust deposition).
4. Background monitoring to the west of the speedway competitor pit area (PM₁₀, PM_{2.5} and dust deposition).



Dust deposition monitoring should be conducted in accordance with Australia Standard 3580.10.1: *Methods for sampling and analysis of ambient air Determination of particulates - Deposited matter - Gravimetric method.*

The instruments for measuring PM₁₀ and PM_{2.5} can be indicative laser photometers. They must be factory calibrated prior to installation, with regular calibration during operation consistent with the manufacturer's guidelines. The instruments should be regularly serviced in accordance with the manufacturer's guidelines. Monitoring equipment must be configured to alert the Speedway operator to exceedances of Alert Level, Action Level 1 and Action Level 2 alerts in near real-time by email and/or SMS.

A meteorological monitor will be maintained during operation, consistent with the monitoring conducted during construction.

Specifications of the proposed real time monitoring is included in Appendix B.

5.2 Trigger values

Air quality and meteorological data collected during construction and track testing will be used to set an initial set of acceptable track emission rates and develop dust trigger levels to manage safe operation of the Dragway. The maximum allowable concentrations and deposition rates will be determined in consultation with WSPT and the Dragway operator and incorporated into this AQMP as trigger levels.

The trigger levels, dust concentrations and actions for operation of the Speedway are presented in Table 4.

Table 4: Trigger levels

Trigger Level	Dust concentration ($\mu\text{g}/\text{m}^3$)	Action
Alert Level	To be established during track testing (December 2021)	Should the SDTL2 be exceeded, observe the track to see if obviously elevated dust levels are occurring. Consider taking action or continue to closely observe
Trigger Action Level 1	To be established during track testing (December 2021)	Should the SDTL2 be exceeded on two (2) consecutive 15 minute average readings, action is required to reduce dust levels before the next race
Trigger Action Level 2	To be established during track testing (December 2021)	Should the SDTL2 be exceeded on three (3) consecutive 15 minute average readings, then the speedway must cease to operate until the Speedway Lessee completes all necessary action to rectify the breach and perform a test that it can comply with its dust control obligations under the Lease. Cease racing until the track surface is appropriately controlled for dust emissions

- i. Alert Level – elevated levels of dust above XX $\mu\text{g}/\text{m}^3$ (To be established during track testing in December 2021) observe the track to see if obviously elevated dust levels are occurring. Possibly take action or continue to observe closely;
- ii. Action level 1 – elevated levels of dust above XX $\mu\text{g}/\text{m}^3$ (To be established during track testing in December 2021) on two (2) consecutive 15 minute readings, which require actions to be undertaken to bring dust levels down before the next race; and
- iii. Action Level 2 – elevated levels of dust above XX $\mu\text{g}/\text{m}^3$ (To be established during track testing in December 2021) on three (3) consecutive 15 minute readings, which if it remains above this level deposition rates at the Dragstrip may be above acceptable levels.

5.3 Reporting

The Dragway operator must be notified of an exceedance of the Alert Level, Trigger Action Level 1 and Level 2 within 24 hours.

All monitoring results must be independently reported on a quarterly basis to the Speedway operator and made available to the Dragway operator and Western Sydney Parklands Trust. Validation and

reporting shall be conducted in accordance with Australia Standard 3580.19: *Methods for sampling and analysis of ambient air - Ambient air quality data validation and reporting*.

Following the first year of operation an independent report will be prepared to analyse the dust trigger levels against concentrations measured to determine whether the trigger levels are adequate or should be updated. The report shall also justify the monitoring in each location and determine whether the instruments locations remain justified and whether monitors shall be removed or added to the program. A copy of this report will be provided to Planning Secretary for information after the initial 12 months of operation.

An annual audit of track condition report is required in accordance as outlined in the Air Quality EIS (Jacobs, 2020) and therefore required by Condition A1 of the Conditions of Approval.

5.4 Monitoring duration

The monitoring program will be maintained for 12 months initially and then reviewed through the independent report outlined in Section 5.3. Continuation of monitoring will be determined by the review and Lease Agreement between the Speedway and Dragway.

6. Awareness and Training

Dust is to be raised as a potential concern with all employees and contractors working at the Speedway and should be raised as a key environmental concern with all competitors as part of preliminary race information.

Air quality will be raised with stakeholder in the following circumstances:

- During site familiarisation and induction processes for employees and contractors.
- During specific training sessions for employees and contractors as required.
- In preliminary race meeting information supplied to competitors or provided on the website.
- In discussion with competitors if unreasonable dust generation is detected during operations.

7. Accountabilities

Specific accountabilities for this AQMP are provided in Table 5.

Table 5: AQMP Roles and Responsibilities

Role	Responsibility
Speedway Director	<ul style="list-style-type: none"> Identify and allocate sufficient resources to manage air quality risks. Progress opportunities for improvement in minimising dust at the Speedway.
Speedway Manager	<ul style="list-style-type: none"> Oversee implementation of the dust management measures contained in this AQMP. Comply with the Dust Mitigation & Control Measures (Appendix A) Identify and allocate sufficient resources to manage air quality risks. Coordinate the operation to minimise dust impacts. Manage the appropriate track curation and race preparation works to minimise dust emissions. Modify operations that are generating unreasonable dust. Adjust race times and finishing time to permit additional time for track curation between events to control dust. When the Alert Level is exceeded, observe the track to see if obviously elevated dust levels are occurring and possibly take action When the Action Level 1 is exceeded, take action to bring dust levels down before the next race, When the Action Level 2 is exceeded or when dust control measures are not effective, cease operations. Provide communications and tool-box-talks addressing air quality management objectives, hazards, risks, controls, behaviours and consequences for inappropriate behaviour. Facilitate the provision of information to competitors that air quality and dust generation is a key environmental issue for the operation. Record, respond and, if required, commission investigations for air quality related incidents and complaints. Facilitate the training of employees and contractors for the implementation of dust management controls and procedures.
Speedway Employees and Contractors	<ul style="list-style-type: none"> Carry out work activities in a manner that minimises dust. Report excessive dust incidents to the Speedway Manager. Implement dust management measures contained in this AQMP.
Competitors	<ul style="list-style-type: none"> Minimise all dust generating activities in the pit area.
Air quality monitoring contractor	<ul style="list-style-type: none"> Maintain the air quality monitoring program in accordance with best practice techniques and standards. Analyse air quality data and provide reports to the Speedway operator. Maintain appropriate training and qualifications in air quality monitoring and analysis.

8. Communication Strategy

A Communication Strategy for the operation has been prepared separately to this AQMP. It is important that all stakeholders be kept informed on air quality issues and management.

9. Stakeholder Consultation

Approval Condition A6 requires consultation with identified parties, evidence of consultation and a log of engagement or attempted engagement and a summary of issues raised with them. Follow up with the

identified parties is required if no response is provided. All issues raised will be outlined with details on how these issues have been addressed or why they have not been addressed.

Office of Sport and WaterNSW are required to be consulted for the dust management plan. Details of the consultation process are provided in Appendix D, including the Agenda and responses from both agencies. No issues were raised with both agencies welcoming ongoing engagement.

This AQMP must be submitted to the Planning Secretary at least one month prior to operation, as part of the broad Operational Management Plan. Operation must not commence until the Planning Secretary has been provided with all required Operational Monitoring Programs and all relevant baseline data has been collected.

10. Complaint Management

A complaints telephone number and email address will be displayed prominently on the Speedway website and administration office.

A complaint management process shall be in place, including:

- Acknowledging all complaints within a week of when the complaint is made and providing a response to the complainant of when they can expect a follow-up call.
- Registering all complaints in the site's complaints register.
- Investigating complaints, impartially considering the facts and circumstances prevailing at the time.
- Implementing corrective actions if required.
- Reporting investigation outcomes and corrective actions taken to relevant stakeholders.

11. Review of AQMP

This AQMP shall be revised to include trigger values and monitoring locations that have been established following initial track testing in December 2021. Review of air quality monitoring data shall be undertaken following the initial month of operation to determine the suitability of monitoring locations, from which the locations may be revised, requiring an update to this AQMP.

Air quality monitoring data collected during the first twelve months of operation will be used to determine the relationship between airborne dust and dust deposition rates on the Dragway. Following this analysis, the trigger levels may be revised, requiring an update to this AQMP.

Subsequently the AQMP will be reviewed on a 2-yearly basis to ensure it remains relevant to the Operation. It will be reviewed and revised should there be changes to the operational approval conditions.

12. Version History

Table 6: Record of document amendment

Version	Date	Author	Reviewer	Description / Change
1	12 February 2021	Greer Laing	Martin Parsons	Draft for comment
2	24 February 2021	Greer Laing	Ashley Yelds	Final (pre-operation)
3	16 July 2021	Greer Laing	Peter Marshall	Updates following operator (WSPT) appointment
3.1	27 July 2021	Greer Laing	Matthew Marrinan	Incorporation of Sydney Metro review comment to reference to all relevant Approval Conditions
3.2	28 July 2021	Greer Laing	Matthew Marrinan	Minor section reference updates to matrix
4	27 August 2021	Greer Laing	Peter Marshall	Inclusion of Stakeholder Consultation
5	17 November 2021	Greer Laing	Peter Marshall	Update to track testing schedule and monitoring specifications

13. References

Jacobs (2020). Sydney International Speedway – Air Quality Impact Assessment. Technical Paper 4. Final dated 30 July 2020.

Minister for Planning and Public Spaces (2020). Sydney International Speedway – SSI 10048 Approval. Dated 23 December 2020.

NSW Department of Planning, Industry and Environment (2020). Environmental Management Plan Guideline: Guideline for Infrastructure Projects. Dated April 2020. DOC20/277703.

NSW Planning Industry & Environment (2020). Planning Secretary’s Environmental Assessment Requirements for Sydney International Speedway. SSI application number 10048. Dated 19 May 2020.

Sydney International Speedway (2020). Environmental Impact Statement Volume 1 & 2. Dated August 2020.

Sydney International Speedway (2020). Submissions Report. Dated November 2020.

Sydney International Speedway (2020). Amendment Report. Dated November 2020.

Appendix A – Speedway Lease – Dust Mitigation & Control Measures

Dust mitigation and control obligations will be incorporated into the new Speedway lease for compliance by the Speedway Lessee and will be an essential term of the Lease.

Baseline Dust Levels

Dust monitoring stations will be installed by Western Sydney Parklands on the dragway site during the period up to the operations commencement and WSPT will monitor, measure and report the Dragway Baseline Dust Level (DBDL). Subject to final review, the monitors will include at least one adjacent to the racing area, one adjacent to the dragstrip's timing marker and one adjacent to the braking area. These will be known as Site Dust Monitor #1, Site Dust Monitor #2 and Site Dust Monitor #3.

Data gathered will be used to establish a baseline for safe operational dust levels at the dragstrip. The threshold beyond this baseline that still provides safe dragway operations will be determined, and that threshold level will be the requirement to which the speedway operator will be obligated to manage.

1. An air quality management plan will be developed which incorporates the maintenance procedures and operational conditions that need to be in place to minimise the generation of dust.
2. Trigger values will be developed to enable the Speedway to be managed in a reactive manner as well as a proactive manner through design measures. The trigger values would be developed as follows:
 - a. Dispersion modelling would be undertaken using either measured or estimated dust emission rates from the speedway. This will be undertaken during speedway track testing ahead of racing operations.
 - b. Modelling would predict the level of dispersion expected as the plume moves away from the track (both in terms of concentration dispersion and deposition rate).
 - c. The maximum allowable ground level deposition rate would be determined from discussions with the Dragstrip operators and the results of the dispersion modelling examined to determine what emission rates would be needed to result in deposition rates of concern.
 - d. Based on the deposition rates of concern, two to three trigger values would be developed which can then be used for the operation of the track. These trigger values would be as follows:
 - i. Alert Level – elevated levels of dust above $XX \mu\text{g}/\text{m}^3$ (To be established during track testing in December 2021) observe the track to see if obviously elevated dust levels are occurring. Possibly take action or continue to observe closely;
 - ii. Action level 1 – elevated levels of dust above $XX\mu\text{g}/\text{m}^3$ (To be established during track testing in December 2021) on two (2) consecutive 15 minute readings, which require actions to be undertaken to bring dust levels down before the next race; and
 - iii. Action Level 2 – elevated levels of dust above $XX\mu\text{g}/\text{m}^3$ (To be established during track testing in December 2021) on three (3) consecutive 15 minute readings, which if it remains above this level deposition rates at the Dragstrip may be above acceptable levels.

Speedway and Dragway Dust Level Monitoring

From Lease Commencement the Speedway Dust Level (SDL) and the Dragway Dust Level (DDL) will be required to be continuously monitored and regularly sampled on speedway event days, with measurement and testing reports to be made available to the Speedway Lessee, the Dragway Lessee and the Lessor. The position of two real-time operational dust monitors will be finalised during track testing ahead of full speedway operations. These are to be known as Operational Dust Monitor # 1 and Operational Dust Monitor # 2.

During Speedway racing events, real-time Operational Dust Monitors are to be utilised, positioned appropriately to monitor dust generated by speedway racing that might impact the dragstrip. If during an event, the monitors indicate potential impact on the dragstrip, speedway racing is to cease until the track surface is appropriately treated.

Baseline site dust conditions for the dragstrip would be established from the Site Dust Monitors. This would be the level of dust deposition that currently occurs onto the dragstrip independent of speedway construction or operation activities.

Operational conditions would be agreed as follows:

- Baseline: dust deposition on the dragstrip (DDL) in the absence of speedway activity.
- Condition Option 1 - 'The Speedway Dust Level (SDL) based on Operational Dust Monitors 1 and 2 does not exceed the Speedway Dust Trigger Action Level 2 (SDTL2) [$XX \mu\text{g}/\text{m}^3$ (To be established during track testing in December 2021)]'.
- Condition Option 2 - 'The Speedway Dust Contribution (SDC) at the dragstrip (Site Dust Monitor 1, 2 or 3 – Site Dust Monitor 4) is greater than $XX \mu\text{g}/\text{m}^3$ (To be established during track testing in December 2021)' –

The positioning of the real time Operational Dust Monitors will be finalised during speedway track testing. Site Dust Monitor positions are proposed as follows:

- Site Dust Monitor #1: Adjacent to the dragstrip in the racing area
- Site Dust Monitor #2: Adjacent to the dragstrip in the braking area
- Site Dust Monitor #3: to the south east of the speedway
- Site Dust Monitor #4: to the west of the speedway competitor pit area

The dust monitor locations are shown in the attached plan.

WSPT will be responsible for the dust monitors. The operating costs incurred by WSPT for the dust monitoring will be reimbursed by the Speedway Lessee and the Dragway Lessee on a 50/50 basis.

Speedway Dust Level Reporting

If the SDL does not exceed a Speedway Dust Trigger Level (SDTL) level of [$XX \mu\text{g}/\text{m}^3$] (To be established during track testing in December 2021), then the dust consultant will prepare Quarterly reports on the monitoring and sampling of the DSDLs to be made available to the Speedway Lessee, the Dragway Lessee and the Lessor.

If on any day the SDL exceeds the SDTL, then the dust consultant will immediately, but no more than 24 hours later, notify the Speedway Lessee, the Dragway Lessee and the Lessor of the dragway dust level exceedance.

Trial Period

There will be a trial period of 12 months from Lease Commencement where the correlation of the SDTL with the DDL and DBDL will be reassessed and the dust consultant will report on the adequacy of the SDTL and whether the SDTL need to be varied.

Dust Mitigation and Control Measures

The Speedway Lessee is to be fully responsible for the implementation and management of dust mitigation and control measures to achieve compliance with the requirement of not exceeding the SDTL. The Speedway Lessee will be required to ensure compliance with the above lease obligation through agreement to and implementation of:

- A Dust Mitigation and Control Plan
- A Rectification Action Plan (in the event of a breach)
- Adoption of approved track curation and preparation procedures
- Use and maintenance of approved track material
- Conducting and reporting of annual track condition audits
- Repair and maintenance of natural and engineered physical barriers

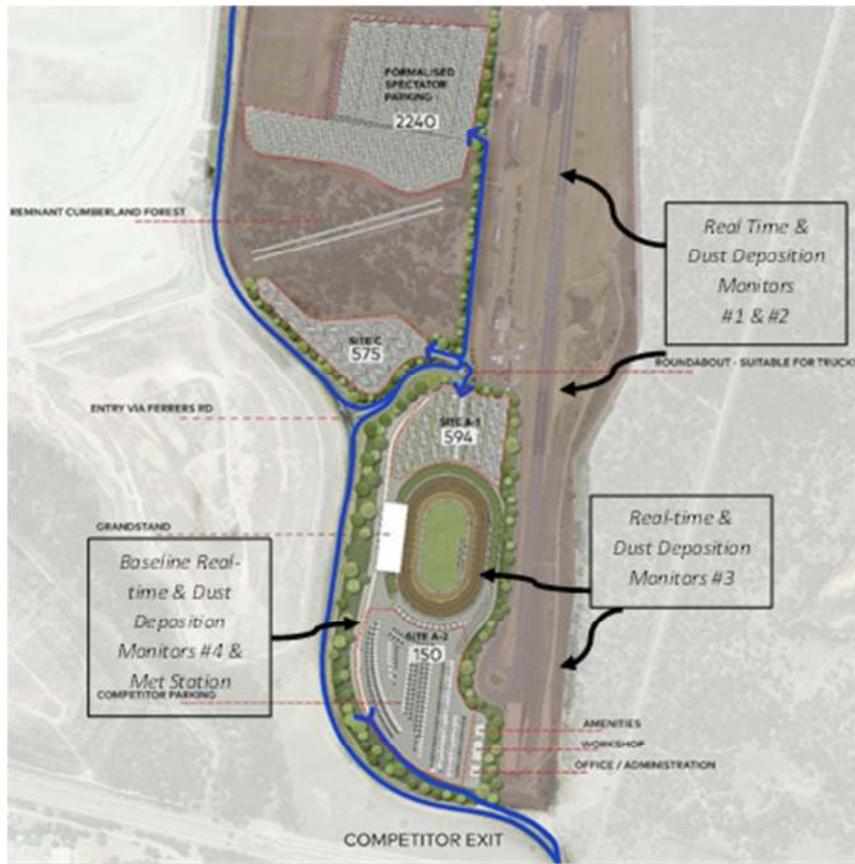
Remedies

Should the SDTL2 be exceeded on three (3) consecutive 15 minute readings, then the speedway must cease to operate until the Speedway Lessee completes all necessary action to rectify the breach and perform a test that it can comply with its dust control obligations under the Lease.

If during a speedway event, there have been three (3) consecutive 15 minute readings above SDTL2 and the Speedway Lessee has not ceased speedway operations and the breach impacts Dragway's dragstrip safety whereby it needs to stop competition, then the Speedway Lessee will make a payment to Sydney Dragway of up to \$25,000.

If the Speedway Lessee does not comply with the Dust Mitigation and Control Measures contained in the Lease, then the speedway will not be permitted to operate. If the breach is not remedied within 90 days, then the Lessor would have the right to terminate the Lease.

Dust Monitor Location Plan



Appendix B – Air Quality and Meteorological Monitoring Specifications

Location	ID	Parameter	Measurement technique	Sampling frequency	Measurement standard
Mid-way down the Dragway	AQM1	TSP, PM ₁₀ and PM _{2.5}	Laser photometer	Continuously, configured to 15-minute averages	Manufacturer's recommendations
	DDG1	Dust deposition	Dust deposition gauge	30 days +/- 2 days	AS 3580.10.1
Near the braking area of the Dragway	AQM2	TSP, PM ₁₀ and PM _{2.5}	Laser photometer	Continuously, configured to 15-minute averages	Manufacturer's recommendations
	DDG2	Dust deposition	Dust deposition gauge	30 days +/- 2 days	AS 3580.10.1
South Eastern side of the Speedway	AQM3	TSP, PM ₁₀ and PM _{2.5}	Laser photometer	Continuously, configured to 15-minute averages	Manufacturer's recommendations
	DDG3	Dust deposition	Dust deposition gauge	30 days +/- 2 days	AS 3580.10.1
Background monitoring near the Admin Building	MET	Wind speed, wind direction, temperature, humidity, pressure	Ultrasonic combined sensor	Continuously, configured to 15-minute averages	NSW EPA Approved Methods specified method for meteorology
	AQM4	TSP, PM ₁₀ and PM _{2.5}	Laser photometer	Continuously, configured to 15-minute averages	Manufacturer's recommendations
	DDG4	Dust deposition	Dust deposition gauge	30 days +/- 2 days	AS 3580.10.1

Appendix C – Air Quality Definitions

Deposited dust

Deposited dust is particulate matter that settles out of the air onto the ground or surfaces. It generally consists of larger, heavier particles from a local source and is considered a nuisance impact rather than a health concern. These particles contain a variety of components such as nitrates, sulphates, organic chemicals, metals, soil or dust particles and allergens.

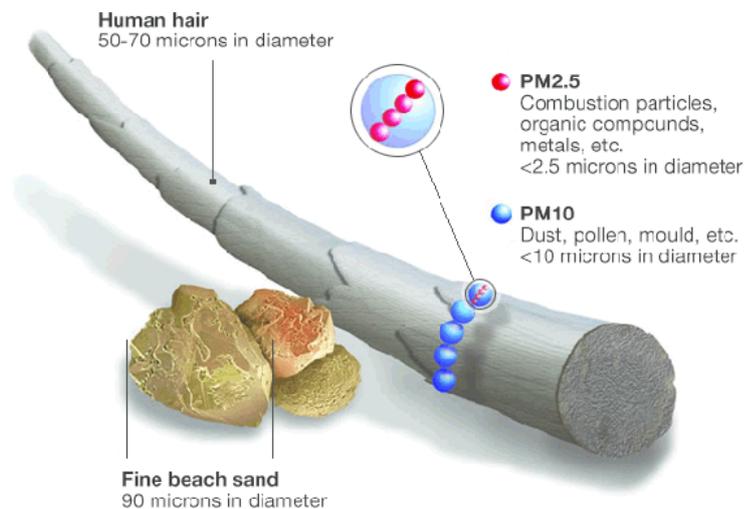
Total suspended particulates (TSP)

TSP are solid particles and water droplets less than approximately 50 to 100 μm in aerodynamic diameter. This parameter is dominated by larger entrained particles which are generally considered a nuisance dust compared to finer particles such as PM_{10} and $\text{PM}_{2.5}$ which are known to be hazardous to human health.

PM_{10} and $\text{PM}_{2.5}$

PM_{10} refers to particles of less than 10 microns in aerodynamic diameter, and $\text{PM}_{2.5}$ to those of less than 2.5 microns. These size fractions can be drawn into the respiratory system and can cause serious health effects, such as lung disease, asthma, heart attacks, respiratory and cardiovascular disease. As with other fractions of particulate matter, these particles consist of a multitude of constituents from a range of local and regional sources.

Figure 0-1: Size comparison for particulate matter (US EPA, 2020)



Source: US EPA

<https://www.epa.gov/pm-pollution/particulate-matter-pm-basics>

Appendix D – Evidence of Stakeholder Consultation

Stakeholder Workshop Agenda

Unclassified



Agenda

Sydney International Speedway SSI 10048 Stakeholder Workshop - Air Quality Management Plan

Date/Time:	Thursday 12 August 2021 2 – 4pm	
Location:	Microsoft Teams	
Attendees:		
Peter Marshall	PM	Greater Sydney Parklands (Chair)
Greer Laing	LD	Ramboll
Kathy Kelly	KK	Eastern Creek Speedway
Michael Toohey	MT	Office of Sport
Alison Kniha	AK	Water NSW
Matthew Marrinan	MM	Sydney Metro
Ashley Yelds	AY	Sydney Metro
Lorraine Chirawu	LC	Sydney Metro
Nicole Balestro	NB	Sydney Metro
Tara Larkin	TL	Sydney Metro

Please note, questions can be asked at any time throughout the workshop.

	Agenda item	Time
1.	Introduction & background	10 minutes
2.	Conditions of Approval	5 minutes
3.	EIS performance requirements <ul style="list-style-type: none"> Operational Monitoring Program (D10) Performance outcomes and mitigation measures (E9) 	5 minutes
4.	Operational air quality mitigation and management measures (AQ1-AQ3) <ul style="list-style-type: none"> Lease obligations (Appendix A) Other mitigation measures (AQ1-AQ3) 	15 minutes
5.	Monitoring Program (Section 5) <ul style="list-style-type: none"> Monitoring locations Trigger values Reporting Monitoring duration 	10 minutes
6.	Speedway manager role and responsibilities (Table 5)	10 minutes
7.	Conclusion	5 minutes
8.	Discussion and questions Please note, questions can be asked at any time throughout the workshop.	Remaining time

Office of Sport Response to Consultation



OFFICE OF SPORT

CDGS21/165

20 August 2021

Phillip Kelly
Manager Project Interface Engagement
Sydney Metro West
SydneyMetroWest@transport.nsw.gov.au

Dear Mr Kelly,

SSI 10048 - Sydney International Speedway - Consultation on Air Quality Operational Management Plan

Thank you for providing the Office of Sport with the opportunity to comment on the Eastern Creek Speedway Operational Air Quality Management Plan (the Plan) as per SSD-10048 Development Consent conditions D3 & D9.

The Office of Sport acknowledges receipt of this document and the dedicated stakeholder consultation.

The Office of Sport endorses the Plan's approach to ensuring air quality, in particular compliance comply with the recommendations of Australian Standard 3580.1.1: Methods for sampling and analysis of ambient air Guide to siting air monitoring equipment. The Office of Sport supports the consultative approach to developing trigger levels, and subsequent actions, with Greater Sydney Parklands Trust, Speedway Promotions and Western Sydney International Dragway.

The Office of Sport chairs the Eastern Creek Motor Sport Project Control Group (the PCG). It is appropriate that further consultation with the Office on the Plan continue through that forum.

Please do not hesitate to contact me (michael.toohey@sport.nsw.gov.au / 0417 958 609) if I can be of further assistance.

Yours sincerely

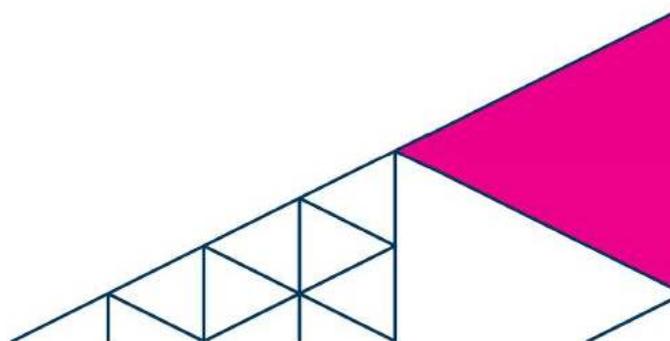
A handwritten signature in black ink, appearing to read "M. Toohey", with a stylized flourish at the end.

Michael Toohey

Director, Greater Sydney Branch

OFFICE OF SPORT

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WaterNSW Response to Consultation



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ABN 21 147 934 787

17 August 2021

Contact: *Justine Clarke*
Telephone: *0457 535 955*
Our ref: *D2021/91602*

Phillip Kelly
Manager Project Interface Engagement
Sydney Metro West
Level 43, 680 George Street, Sydney NSW 2000
PO Box K659, Haymarket NSW 1240

Dear Mr Kelly,

SSI 10048 - Sydney International Speedway - Consultation on Air Quality Operational Management Plan

Thank you for providing WaterNSW with the opportunity to comment on the Eastern Creek Speedway Operational Air Quality Management Plan as per SSD-10048 Development Consent conditions D3 & D9.

WaterNSW acknowledges receipt of this document and the dedicated stakeholder consultation.

WaterNSW raised air quality concerns in its submission to the EIS, due to the potential impact to water quality within Prospect Reservoir from Speedway construction and operation. The Operational Air Quality Management Plan (Ramboll, 04/08/2021) meets WaterNSW's expectations for managing the risk to water quality. As such, WaterNSW supports the implementation of the air quality management plan for the operation of the project.

WaterNSW requests that Sydney Metro and Greater Sydney Parklands continues to consult with us regarding the project where it is has the potential to impact on WaterNSW adjoining lands, assets or infrastructure. All correspondence should be emailed to Environmental.Assessments@waternsw.com.au.

If you have any questions regarding this letter, please contact Justine Clarke at justine.clarke@waternsw.com.au.

Yours sincerely

A handwritten signature in black ink, appearing to read "AK", written over a horizontal line.

ALISON KNIHA
Catchment Protection Planning Manager