Planning Approval Consistency Assessment Form

SM-17-00000111

Metro Body of Knowledge (MBoK)

Assessment name:	Sydney International Speedway – Operational hours
Prepared by:	Jacobs / Arcadis / Ethos Urban
Prepared for:	Sydney Metro and Speedway Promotions
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For information – do not alter:

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The Planning Approval Consistency Assessment Form should be completed in accordance with SM-17-00000103 Planning Approval Consistency Assessment Procedure.

1. Existing Approved Project

Planning approval reference details (Application/Document No. (including modifications)):

- SSI 10048 Sydney International Speedway

Date of determination:

- SSI 10048: 23 December 2020

Type of planning approval:

- State significant infrastructure (Division 5.2)

Description of existing approved project you are assessing for consistency:

- Construction and operation of the Sydney International Speedway including:
  - A new world-class clay-based racetrack for both speedway cars and motorcycles, including sprint, wingless sprint, street stockers, V8 dirt modified and Formula 500 cars
  - A new grandstand and terraced seating to accommodate up to 7000 spectators
  - Public amenities, corporate boxes and food, beverage and merchandise outlets
  - Dedicated parking for speedway competitors and spectators
  - Additional overflow parking with flexibility to be used for dragway events
  - Dual access to the precinct by creating new vehicle access to the speedway pit area via a new intersection built off Ferrers Road
  - A dedicated competitor pit area to service the speedway
  - Workshops, garages and trackside support services.

Based on the Sydney Speedway 2019-2020 season schedule (45 racing events per year) it is anticipated that there would be an average of one event at the Sydney International Speedway per week across the racing season (generally September to May), with a number of midweek events (typically Wednesday and Friday nights) across the Christmas and early January period. On average, it is expected that

there would be about four major events held at the speedway each year, attracting around 4000 to 6000 people per event, with smaller events spread frequently across the racing season expected to attract around 500 to 1500 spectators per event.

The racing events would typically be held on Saturdays with gates opening about 2 pm and racing occurring in the early evening between 6 pm and 10 pm. During events some incidents or track maintenance activities may result in racing extending beyond 10 pm. Such racing beyond 10 pm is expected to occur infrequently, for a relatively short duration and would not carry on through to the late night time period. Some events might then conclude with firework displays.

There is no Condition of Approval that specifies hours of operation.

Relevant background information (including EA, REF, Submissions Report, Director General's Report, MCoA):

- *Sydney International Speedway Environmental Impact Statement* including accompanying technical papers (August 2020)
- *Sydney International Speedway Submissions Report* (November 2020)
- *Sydney International Speedway Amendment Report* (November 2020)
- Instrument of Approval (dated 23 December 2020).

The above documents are available on the NSW planning portal: https://www.planningportal.nsw.gov.au/major-projects/project/30111

All proposed work identified in this assessment would be undertaken in accordance with the mitigation measures identified in the EIS, Submissions Report and Amendment Report and the conditions of approval.

2. Description of proposed development/activity/work

Describe ancillary activities, duration of work, working hours, machinery, staffing levels, impacts on utilities/authorities, wastes generated or hazardous substances/dangerous goods used.

This proposal comprises an amendment of typical operating hours for the approved Sydney International Speedway to enable racing to occur more frequently until 11 pm. Whilst the *Sydney International Speedway Submissions Report* (November 2020) provides clarification that incidents or track maintenance activities may result in infrequent racing extending beyond 10 pm, this proposal would formalise the operating hours to be one additional hour later than the approved project as described by the *Sydney International Speedway Environmental Impact Statement* (August 2020) and allow racing to occur up to 11 pm on a frequent basis.

3. Timeframe

When will the proposed change take place? For how long?

The proposed change to typical operating hours would be implemented from opening of the operational Sydney International Speedway (anticipated to be December 2021) and would continue for the duration of the operation.

4. Site description

Provide a description of the site on which the proposed work are to be carried out, including, Lot and Deposited Plan details, where available. Map to be included here or as an appendix. Detail of land owner.

The Sydney International Speedway is being developed on land owned by the NSW Government, managed by Greater Sydney Parklands (previously known as the Western Sydney Parklands Trust). The Sydney International Speedway is located on the following lots:

- Lot 1, deposited plan (DP) 1077822
- Lots A, B & C DP 408966
- Lot 2 DP 1062965.

No changes to the approved project area are required for the proposal. The approved project area as per the Amendment Report is shown in Appendix A.

5. Site Environmental Characteristics

Describe the environment (i.e., vegetation, nearby waterways, land use, surrounding land use), identify likely presence of protected flora/fauna and sensitive area.

The proposal would be consistent with the approved project area, as described in Section 3 of the Amendment Report. The approved project, which is currently under construction, is located within the Western Sydney Parklands. The new speedway is located alongside the existing Sydney Dragway to the north and east and the Sydney Motorsports Park (operated by the Australian Racing Drivers' Club) to the north.

The existing land uses bounding the project area are commercial/industrial to the south and west, with major road corridors further to the west (M7 Motorway) and north (M4 Motorway). Prospect Reservoir is located to the east of the approved project. Existing sources of noise in the study area include existing commercial/industrial facilities, road traffic noise and noise from existing motorsport events at Sydney Motorsport Park and Sydney Dragway.

The nearest residential receivers are around one kilometre to the south of the project area along Chandos Road and about one kilometre to the north-west, beyond the Lighthorse (M4/M7) Interchange. Residential receivers are sparsely distributed on either side of the M7 Motorway.

6. Justification for the proposed work

Address the need for the proposed work, whether there are alternatives to the proposed work (and why these are not appropriate), and the consequences with not proceeding with the proposed work.

The amendment of typical operating hours until 11 pm would accommodate any delays to the completion of racing, to allow the full program of racing to take place. Typically, incidents during racing result in minor delays to proceedings, but it is not unusual that an incident results in an extended delay. Such delays are unlikely to be accommodated within the 6 pm and 10 pm typical racing hours identified in the Environmental Impact Statement without requiring a reduction in the number of programmed race classes, number of races, or number of laps for each race. These programming changes would adversely impact the number of racing entrants and the experience for spectators, which may in turn impact on entrants and spectators returning for other events. The proposed extension to typical operating hours until 11 pm would therefore allow the operator of the Sydney International Speedway to confidently program a racing schedule that includes all classes, races and laps, and is value for money for both competitors and spectators as a result, encouraging continued patronage and ensuring financial feasibility of the Sydney International Speedway operations.

An earlier start time for racing to accommodate delays has been considered as an option. However, track lighting and race control is designed for dusk and night time racing. Running speedway cars on the clay racetrack during daylight hours could create dust and debris hazards. In addition to being a hazard for drivers, such excessive dust would lessen the spectator experience and increase the likelihood of dust impacting on nearby receivers (including Sydney Dragway). Therefore, racing commencing earlier than 6 pm has been discounted as a viable option.

7. Environmental Benefit

Identify whether there are environmental benefits associated with the proposed work. If so, provide details:

There would be no environmental benefits associated with the proposed change to operating hours.

8. Control Measures

Will a project and site specific EMP be prepared? Are appropriate control measures already identified in an existing EMP?

As per the approved project, an Operational Environmental Management Plan would be prepared and implemented by the operator of the Sydney International Speedway. The plan would provide the overarching framework for the management of all potential environmental

impacts resulting from the operation of the project. The scope of the plan would be confirmed by the operator, but would likely contain noise management measures, including:

- Establishing vehicle noise control limits for events and monitoring to verify compliance with these limits
- Managing the use of the public address system to minimise noise
- Coordination with other motorsports operators to minimise noise from concurrent events
- Establishment of a complaints handling and response procedure.

The following conditions which are most specifically relevant to the proposed change in operating hours include:

Condition 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.

Condition E29

At-property treatment must be provided to the properties identified in Table 38 of the Noise and Vibration Technical Paper (dated July 2020), unless otherwise agreed by the Planning Secretary.

9. Climate Change Impacts

Is the site likely to be adversely affected by the impacts of climate change? If yes, what adaptation/mitigation measures will be incorporated into the design?

Climate change adaptation impacts from this proposal would be consistent with those assessed in the Environmental Impact Statement.

10. Impact Assessment – Construction

The proposed change relates only to operation of the project, so no changes to the approved project would occur during construction.

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Flora and fauna	No change from the approved project.	No additional measures required.	Y	Y	
Water	No change from the approved project.	No additional measures required.	Y	Y	
Air quality	No change from the approved project.	No additional measures required.	Y	Y	
Noise and vibration	No change from the approved project.	No additional measures required.	Y	Y	
Indigenous heritage	No change from the approved project.	No additional measures required.	Y	Y	
Non-indigenous heritage	No change from the approved project.	No additional measures required.	Y	Y	
Community and stakeholder	No change from the approved project.	No additional measures required.	Y	Y	
Traffic	No change from the approved project.	No additional measures required.	Y	Y	
Waste	No change from the approved project.	No additional measures required.	Y	Y	
Social	No change from the approved project.	No additional measures required.	Y	Y	
Economic	No change from the approved project.	No additional measures required.	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Visual	No change from the approved project.	No additional measures required.	Y	Y	
Urban design	No change from the approved project.	No additional measures required.	Y	Y	
Geotechnical	No change from the approved project.	No additional measures required.	Y	Y	
Land use	No change from the approved project.	No additional measures required.	Y	Y	
Climate Change	No change from the approved project.	No additional measures required.	Y	Y	
Risk	No change from the approved project.	No additional measures required.	Y	Y	
Other	No change from the approved project.	No additional measures required.	Y	Y	
Management and mitigation measures	No change from the approved project.	No additional measures required.	Y	Y	

11. Impact Assessment – Operation

Attach supporting evidence in the Appendix if required. Make reference to the relevant Appendix if used.

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed activity/work, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Flora and fauna	No change from the approved project.	No additional measures required.	Y	Y	
Water	No change from the approved project.	No additional measures required.	Y	Y	
Air quality	No change from the approved project.	No additional measures required.	Y	Y	
Noise and vibration	**Operational motorsport noise** The operational noise assessment for the approved project considered the potential impacts of operational motorsport noise up to 10 pm. It predicted that worst-case noise levels from motorsport events for neutral and adverse weather conditions were below existing background levels for most receiver locations, in the absence of mitigation measures. Where noise levels at receivers were predicted to exceed background noise levels (RBL) by more than 5 dB, at-property treatment would be provided at each affected property to mitigate the impact (mitigation measure NV02). A quantitative operational noise assessment has been carried out for motorsport noise up to 11 pm (see Appendix B). The assessment identified that, in the absence of mitigation measures, the worst-case noise levels during neutral weather conditions are predicted to exceed background levels at the nearest receivers while racing is underway during events for certain race classes. Residential receivers to the south of the project are expected to be most affected due to	No additional measures required – the control measures identified for the approved project would be applied to the additional receivers identified in this assessment as required (see Appendix B).	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed activity/work, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
	receivers in this catchment being the closest to the approved project. There would be no additional receivers affected and generally, the predicted noise impacts from 10 pm to 11 pm would be within 1 dB of the predicted noise impacts up to 10 pm for the approved project. Therefore, these potential impacts are consistent with the approved project. Due to the potential occurrence of temperature inversions during the night time period in winter months, this assessment has also considered the effects of temperature inversions on the prediction of noise levels to represent the potential worst case during adverse weather conditions. Assessment in accordance with the *Noise Policy for Industry* (EPA, 2017) requires temperature inversions to be considered for night time impacts only. Therefore, temperature inversions were not previously considered for the typical operating hours of the approved project (which were limited to the evening period). It is unlikely that these adverse weather conditions would coincide with speedway events, as temperature inversions only occur during the winter months (June to August), which is generally outside of the speedway racing season (September to May). The assessment concluded that for worst case potential impacts during a temperature inversion, 24 receivers additional to those that were identified for the worst case predictions for the approved project would experience predicted average noise levels of more than 5 dBA above the background level. Further information, including the locations of these receivers, is provided in Appendix B. The approved project included a specific mitigation measure for operational motorsport noise impacts				

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed activity/work, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
	(NV02) that states that at-property treatment will be provided for residential receivers which were predicted to have average noise level exceedances of more than 5 dB above the background level. Whilst events are not planned to be scheduled during winter months, should events regularly occur between June and August past 10pm, at-property treatment for the additional receivers identified in this assessment would be further investigated and implemented in accordance with mitigation measure NV02. This would reduce both the likelihood and consequence of potential impacts, consistent with the approved project. **Sleep disturbance** A quantitative sleep disturbance assessment was not required for the approved project, given the typical operating hours were limited to the evening period (up to 10 pm). However, a qualitative sleep disturbance assessment was provided in *Sydney International Speedway Submissions Report* (November 2020) to consider potential impacts of racing occurring after 10 pm due to minor delays. As the proposed extension of typical operating hours would result in racing during the night time period (10 pm to 11 pm), a quantitative sleep disturbance assessment has been carried out (see Appendix B). While exceedances of the *Noise Policy for Industry* (EPA, 2017) screening levels are predicted at some of the nearest residential receivers, the exceedances are considered relatively minor. Existing noise monitoring data shows that existing maximum noise levels above those predicted for the proposed change to typical operating hours are a regular feature of the area. These exceedances are not likely to result in sleep disturbance when compared against *Road*				

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed activity/work, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
	Noise Policy (Department of Environment, Climate Change and Water NSW, 2011) advice on assessing noise impacts and are therefore consistent with the conclusions of the qualitative sleep disturbance assessment of the approved project in the *Sydney International Speedway Submissions Report* (November 2020). **Operational traffic noise** Operational traffic from the project (including after 11 pm) is predicted to result in an increase in road traffic noise levels of less than 2 dB, which does not trigger the requirement to consider additional noise mitigation and is consistent with the impacts of the approved project.				
Indigenous heritage	No change from the approved project.	No additional measures required.	Y	Y	
Non-indigenous heritage	No change from the approved project.	No additional measures required.	Y	Y	
Community and stakeholder	No change from the approved project. Additional consultation has been carried out with Greater Sydney Parklands and the Office of Sport on the proposed change.	No additional measures required.	Y	Y	
Traffic	No change to traffic volumes or the peak arrival hour from the approved project. The proposed change would result in change of peak departure hour from between 9 pm and 10 pm as per the approved project, to 10 pm to 11 pm, with some departures also taking place between 11pm and 12am. Traffic impacts are expected to be minor given the likelihood of less vehicles on the existing network at this later time, and would be consistent with the approved project.	No additional measures required.	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed activity/work, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Waste	No change from the approved project.	No additional measures required.	Y	Y	
Social	No change from the approved project.	No additional measures required.	Y	Y	
Economic	No change from the approved project.	No additional measures required.	Y	Y	
Visual	No change from the approved project.	No additional measures required.	Y	Y	
Urban design	No change from the approved project.	No additional measures required.	Y	Y	
Geotechnical	No change from the approved project.	No additional measures required.	Y	Y	
Land use	No change from the approved project.	No additional measures required.	Y	Y	
Climate Change	No change from the approved project.	No additional measures required.	Y	Y	
Risk	No change from the approved project.	No additional measures required.	Y	Y	
Other	No change from the approved project.	No additional measures required.	Y	Y	
Management and mitigation measures	No change from the approved project	No additional measures required.	Y	Y	

12. Consistency with the Approved Project

Based on a review and understanding of the existing Approved Project and the proposed modifications, is there is a transformation of the Project?	No. The proposed change to typical operating hours would not transform the approved project.
Is the project as modified consistent with the objectives and functions of the Approved Project as a whole?	Yes. The proposed change to typical operating hours would be consistent with the objectives and functions of the approved project.
Is the project as modified consistent with the objectives and functions of elements of the Approved Project?	Yes. The proposed change to typical operating hours would be consistent with the objectives and functions of elements of the approved project.
Are there any new environmental impacts as a result of the proposed work/modifications?	All risks would be adequately addressed through the application of the mitigation measures for the approved project relevant to the assessment in this document, and the required OEMP, including any sub-plans. There would be no new environmental risks as a result of the proposed work.
Is the project as modified consistent with the conditions of approval?	Yes. The proposed change to typical operating hours would be consistent with the conditions of approval.
Are the impacts of the proposed activity/work known and understood?	Yes. The impacts of the proposed change to typical operating hours are understood and will be accounted for by implementing the control measures within this document and the OEMP, including any sub-plans.
Are the impacts of the proposed activity/work able to be managed so as not to have an adverse impact?	Yes. The impacts of the proposed change to typical operating hours can be managed so as to avoid an adverse impact.

13. Other Environmental Approvals

Identify all other approvals required for the project:	N/A

Author certification

To be completed by person preparing checklist.

I certify that to the best of my knowledge this Consistency Checklist: • Examines and takes into account the fullest extent possible all matters affecting or likely to affect the environment as a result of activities associated with the Proposed Revision; and • Examines the consistency of the Proposed Revision with the Approved Project; is accurate in all material respects and does not omit any material information.			
Name:	Carys Scholefield	Signature:	
Title:	Senior Environmental Planner		
Company:	Jacobs	Date:	22/10/2021

This section is for Sydney Metro only.

Application supported and submitted by			
Name:	Yvette Buchli	Date:	25/10/2021
Title:	Associate Director Planning Approvals	Comments:	
Signature:			

Based on the above assessment, are the impacts and scope of the proposed activity/modification consistent with the existing Approved Project?

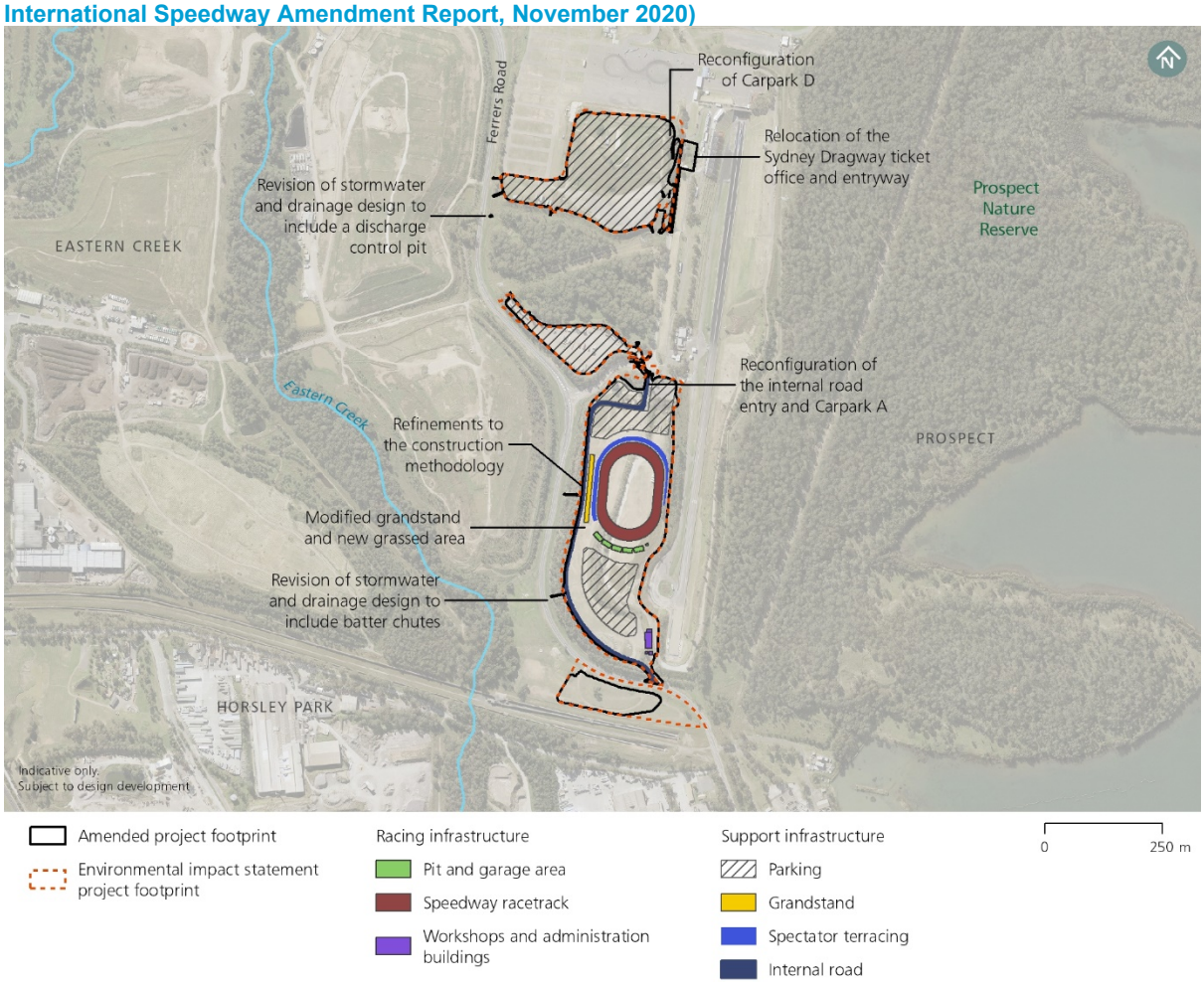
Yes	☒	The proposed activity/work are consistent and no further assessment is required.
No	☐	The proposed work/activity is not consistent with the Approved Project. A modification or a new activity approval/ consent is required. Advise Project Manager of appropriate alternative planning approvals pathway to be undertaken.

Endorsed by			
Name:	Stuart Hodgson	Date:	25/10/2021
Title:	Director ESP Sydney Metro West	Comments:	None
Signature:			

Appendix A Sydney International Speedway approved project area

The approved project area is shown as the amended project footprint in Figure A1, taken from the Sydney International Speedway Amendment Report (November, 2020). There is no change to the approved project area as part of this proposed change.

Figure A1 The approved project area, labelled as the Amended project footprint (Source: Sydney International Speedway Amendment Report, November 2020)



Appendix B Noise and vibration memorandum

Memorandum

To:	Carys Scholefield	**At:**	Jacobs
From:	Aaron McKenzie	**At:**	SLR Consulting Australia Pty Ltd
Date:	22 October 2021	**Ref:**	610.18331-M13-v1.1-20211022.docx
Subject:	Sydney International Speedway Night-time Operations - Noise Assessment		

1 Introduction

This technical memorandum has been prepared to assess the potential noise impacts associated with the proposed extension of operating hours for the Sydney international speedway from 10pm till 11pm.

The Sydney international speedway is being relocated from Rosehill to a new location within Western Sydney Parklands' Precinct 5: Eastern Creek Motor Sports. This assessment has been prepared with reference to the *Sydney International Speedway EIS noise and vibration technical paper* (SLR Consulting 2020) referred here on as the EIS NVIA, which previously assessed operation of the speedway between the hours of 7am and 10pm.

The scope of this investigation includes:

- Describe the existing acoustic environment with respect to the extended hour of operation and establish noise criteria for the extended hour of operation till 11pm
- Determine noise impacts including sleep disturbance impact potential during the extended hour of operation
- Identify feasible and reasonable noise mitigation and management measures to be incorporated in the detailed design and operational planning stage of the project.

2 Existing Environment

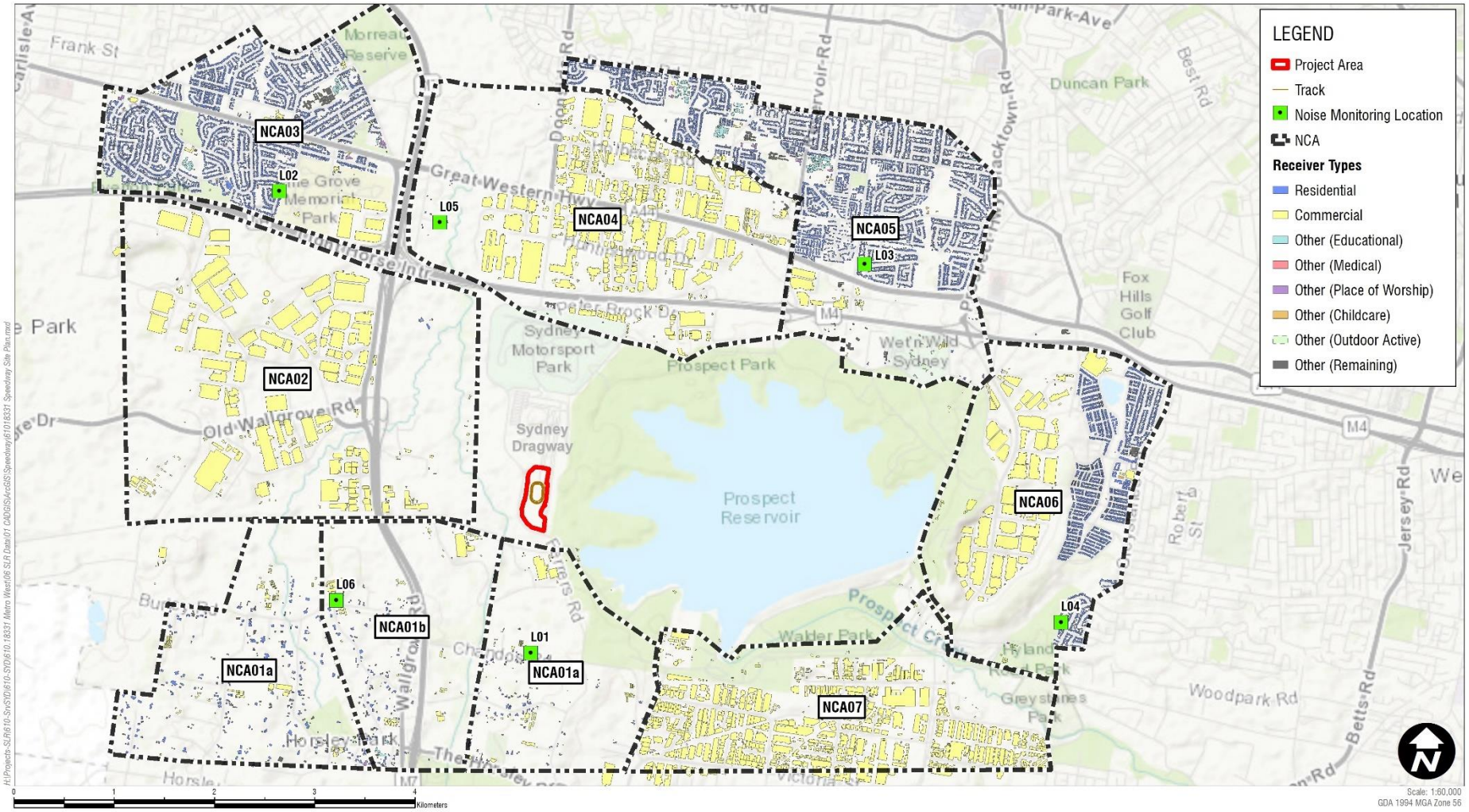
The project is located in the Blacktown Local Government Area (LGA) within the Western Sydney Parklands Precinct 5: Eastern Creek Motor Sports. The existing land uses near the site are commercial/industrial to the south and west, with major road corridors being further to the west (M7 Motorway) and north (M4 Motorway). Prospect Reservoir is located to the east of the project. The nearest residential receivers are located to south beyond the existing industrial area and to the northwest beyond the Lighthorse (M4/M7) Interchange.

Ambient noise monitoring was completed in the study area in January and February 2020 as part of the EIS NVIA. The measured noise levels have been used to determine the existing noise environment and to set criteria to assess the potential impacts from the project. This assessment for the extended hours of operation has reviewed the monitoring data with further consideration of the 10pm to 11pm night-time shoulder period.

A review of publicly available monitoring data measured at receivers near the M7 Motorway south west of the project area was conducted to quantify representative background levels. This resulted in an additional noise catchment area (NCA) representative of these receivers (NCA 01b) when compared to the EIS NVIA.

The study area, NCAs and noise monitoring locations are shown in **Figure 1.**

Figure 1 Study Area



The monitoring results are summarised in **Table 1**. Descriptions of each monitoring location together with graphs of the daily measured noise level are included in Appendix B of EIS NVIA.

Table 1 Summary of Unattended Noise Monitoring Results

Location ID	NCA	Address	Noise Level (dBA)[1,2]							
			Background Noise (RBL)				Average Noise Level (LAeq)			
			Day	Evening	Night	Night shoulder	Day	Evening	Night	Night shoulder
L01	NCA01a & NCA02	150-151 Chandos Road, Horsley Park	39	39[3] (actual 40)	39[3] (actual 40)	39[3] (actual 42)	49	49	48	47 (46 no insects)
L02	NCA03	8 Farrington Street, Minchinbury	41	41[3] (actual 45)	41	41 (actual 45)	55	57	49	52
L03	NCA05	94 Ollier Crescent, Prospect	43	43	38	42	54	54	49	50 (49 no insects)
L04	NCA06	48 Munro Street, Greystanes	35	35[3] (actual 36)	35[3] (actual 39)	35 (actual 43)	48	48	47	49 (45 no insects)
L05[4]	NCA04	51 Pikes Lane, Eastern Creek	47	47	41	44	52	51	52	52
L06[5]	NCA01b	58 Burley Road, Horsley Park	42	42[3] (actual 47)	42[3] (actual 43)	42[6]	52	57	51	51[6]

Note 1: The RBL and L_{Aeq} noise levels have been determined with reference to the procedures in the Noise Policy for Industry

Note 2: Daytime is 7.00am to 6.00pm, evening is 6.00pm to 10.00pm and night-time is 10.00 pm to 7.00am, Night-time shoulder 10:00pm – 11:00pm.

Note 3: RBL for evening set at no greater than the daytime, and RBL for night-time set no greater than the day or evening following principles outlined in the NPfI.

Note 4: Data from noise monitoring undertaken by SLR in December 2018 as part of a nearby project.

Note 5: Data obtained from monitoring conducted by Arup between 6 February to 17 February 2020, Western Sydney Energy and Resource Recovery Centre, Chapter 13 Noise and Vibration, 2020.

Note 6: The publicly available data could not be recalculated for the night shoulder period, hence the night time level was adopted.

The unattended noise monitoring results indicate existing daytime background noise levels (RBL) are dominated by road traffic noise from distant major roads, including the M7 Motorway, M4 Motorway and Great Western Highway. Nearby insect noise is considered likely to have influenced the evening and night-time measurements during the survey which is common during warmer months. The EIS NVIA used guidance from the Noise Policy for Industry (NPfI) (NSW EPA 2017) to determine the RBLs for the day, evening and night-time periods at each location.

The noise monitoring data was re-analysed to determine RBL and average noise levels for the night-time shoulder period from 10pm to 11pm. The analysis indicated that the measured background noise levels during this shoulder period were typically higher than the night-time (10pm to 7am) period and at two locations (L01 and L04) higher than the evening period. As shoulder period noise levels are likely to have been influenced by insect noise at certain locations, the evening period RBL has been used for the night-time shoulder period in NCA01a, NCA01b, NCA02, NCA03 and NCA06. This is consistent with the approach in the EIS NVIA.

2.1 Meteorology

An assessment of meteorological data during the night-time shoulder period has been undertaken to determine the occurrence of seasonal noise enhancing weather conditions. Weather data from the Bureau of Meteorology Horsley Park Equestrian Centre #67119 weather station between 2016 and 2020 was reviewed.

The results of the analysis indicated noise enhancing winds (0.5 – 3m/s) from the south west occurred for 30% of the night-time shoulder period during the autumn and winter months. As per the EIS NVIA temperature inversion conditions were also considered a feature of the area during the winter months which would typically occur during calm conditions and very light winds. As such the following weather conditions have been assessed:

- Calm conditions with Neutral Class D atmospheric stability
- Noise enhancing (3m/s) south west winds with Neutral D atmospheric stability
- Noise enhancing temperature inversion Stable Class F atmospheric stability.

3 Noise Guidelines

3.1 Assessment Criteria

The EIS NVIA provides a summary of relevant noise guidelines for the assessment of noise impacts from motor sport events being held at the facility.

The assessment of the night-time shoulder period has been undertaken on the basis of the predicted exceedance of the background noise level. This is consistent with the EIS NVIA.

3.2 Sleep Disturbance

Guidance for assessing the potential for sleep disturbance impacts on nearby residences is provided in Section 2.5 of the NPfI, which states:

> Where the subject development/premises night-time noise levels at a residential location exceed:
>
> - $L_{Aeq,15min}$ 40 dBA or the prevailing RBL plus 5 dB, whichever is the greater, and/or
> - L_{AFmax} 52 dBA or the prevailing RBL plus 15 dB, whichever is the greater,
>
> a detailed maximum noise level event assessment should be undertaken.

The night-time sleep disturbance L_{Amax} screening noise levels for the residential areas near the development are shown in **Table 2**.

Table 2 Night-time Sleep Disturbance Screening Noise Levels

Residential Receiver Area	Noise Level (dBA)	
	Night-time Shoulder RBL	Sleep Disturbance Screening Noise Level (L_{Amax})
NCA01a & NCA02	39	54
NCA01b	42	57
NCA03	41	56
NCA04	44	59
NCA05	42	57
NCA06	35	52

The NSW *Road Noise Policy* (RNP) contains the following additional advice relating to potential sleep disturbance impacts:

> "*From the research on sleep disturbance to date it can be concluded that:*
>
> - *maximum internal noise levels below 50–55 dB(A) are unlikely to awaken people from sleep*
> - *one or two noise events per night, with maximum internal noise levels of 65–70 dB(A), are not likely to affect health and wellbeing significantly."*

It is generally accepted that internal noise levels in a dwelling with windows open for ventilation are 10 dB lower than external noise levels. The equates to external noise events of 60 dBA to 65 dBA being unlikely to cause awakening reactions.

3.3 Operational Road Traffic Noise

When traffic related to the project is on the public road network, vehicle movements are regarded as 'additional road traffic' (rather than as part of the site operations) and are assessed under the RNP.

The RNP recognises that fewer opportunities generally exist to reduce the noise impacts from new land use developments generating additional traffic on existing roads and suggests that any increase in the total traffic noise level resulting from the project should be limited to 2.0 dB above the existing level.

The RNP criteria applicable to the Project is reproduced below in **Table 3**.

Table 3 Road Noise Policy Criteria for Assessing Additional Vehicles on Public Roads

Road Category	Type of Project/Land Use	Assessment Criteria (dBA)	
		Daytime (7 am - 10 pm)	Night-time (10 pm - 7 am)
Freeway/ arterial/ sub-arterial roads	Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	$L_{Aeq(15hour)}$ 60 (external)	$L_{Aeq(9hour)}$ 55 (external)
Local roads	Existing residences affected by additional traffic on existing local roads generated by land use developments	$L_{Aeq(1hour)}$ 55 (external)	$L_{Aeq(1hour)}$ 50 (external)

4 Methodology

The noise modeling approach, parameters and assumptions in the EIS NVIA have been used in this assessment. Weather conditions during the night-time shoulder period have also been considered (see **Section 2.1**).

Publicly available reports have been reviewed to determine the likely maximum noise emissions from sprint car racing at speedways locally and internationally. This review concluded that an L_{Amax} sound power level (SWL) of around 139 - 142 dB is appropriate sprint car racing. This noise source has been modelled as a single point emission at any location around the track circuit to provide an estimate of maximum noise emissions during racing.

5 Speedway Noise Assessment

5.1 Night-time Shoulder Period Motorsport Noise Levels Relative to Existing Background Level

A summary of the modelling results for motorsport noise emissions during the night-time shoulder period is shown in **Table 4** for neutral weather and **Table 5** for adverse weather conditions. To indicate the extent of the predicted impacts, noise contours for the highest noise events (i.e. sprint cars) have been generated. The predicted noise levels are shown in for **Figure 2** neutral weather conditions and in **Figure 3** for adverse weather conditions. The figures show the location of the potentially affected residential receivers.

The assessment shows the following at residential receivers:

- The predicted noise impacts during the night-time shoulder period are generally the same (ie within 1 dB) as was predicted in the EIS NVIA for the daytime/evening period. This is due to the background levels in the study area being relatively constant. Where shoulder period background levels were found to be higher than the daytime/evening they were reduced to equal the evening level as per NPfI requirements.
- Due to the occurrence of temperature inversions during the night times period in winter months, this assessment has considered these effects on the prediction of noise levels for the night-time shoulder period.
- The following impacts, which are consistent with the EIS NVIA, are predicted:
    - In the absence of mitigation measures, the worst-case noise levels are predicted to exceed background levels at the nearest receivers while racing is underway during certain events. Residential receivers to the south of the project in NCA01a are expected to be most affected due to receivers in this catchment being the closest to the project.
    - During neutral weather conditions (see **Table 4**), exceedances of up to 12 dB above existing background level are predicted in NCA01a while racing is underway during the noisiest sprint car events. Noise levels in NCA01a during lower noise events, such as V8 modifieds and other events, are predicted to result in exceedances of up to 8 dB. The average exceedance of the background level in NCA01a is predicted to be 7 dB during neutral weather, consistent with the average exceedance of 7dB predicted in the EIS NVIA. During adverse weather conditions (see **Table 5**) noise levels are predicted to increase by 3 dB with exceedances of up to 15 dB during the noisiest sprint car events. The average exceedance in NCA01a is predicted to be 10 dB during adverse weather.
    - Residential receivers in NCA01b have higher background noise levels due to their proximity to the M7 Motorway. Worst-case noise levels during neutral weather conditions are predicted to exceed background levels by up to 6 dB while racing is underway during sprint car events in NCA01b, with levels during lower noise events generally being below background level. The average exceedance of the background level in NCA01b during neutral conditions is predicted to be 3 dB. During adverse weather conditions noise levels are predicted to increase by 2 dB in NCA01b.

- Residential receivers in NCA02 and NCA06 are further away from the project site and less affected. Worst-case noise levels during neutral weather conditions are predicted to exceed background levels by up to 7 dB and 8 dB while racing is underway during sprint car events in NCA02 and NCA06 respectively, with levels during lower noise events generally being below background level. The average exceedance of the background level in NCA02 during neutral conditions is predicted to be 2 dB, with NCA06 predicted to be 3 dB, consistent with the EIS NVIA. While NCA06 receivers are further away than NCA02, differing ground type and screening effects from intervening structures / buildings likely causes the differences between these NCAs. During adverse weather conditions noise levels are predicted to increase by 4 dB in NCA02 and 2 dB in NCA06 with exceedance of up to 11 dB and 10 dB, respectively.
- It is noted that the exceedance in NCA02 is at an isolated property to the north-west of the project site (165 Wallgrove Road, Eastern Creek). This receiver is situated within the project area of the approved Lighthorse Interchange Business Hub and identified as unoccupied and therefore unlikely to currently be noise sensitive. No other residential receivers in NCA02 are predicted to have noise levels above background.
- Noise levels in NCA03, NCA04 and NCA05 during neutral weather conditions are generally predicted to be below background during most events. During adverse weather conditions noise levels during the loudest events are predicted to exceed background by 2 dB in NCA03 and NCA04. Average exceedances are generally below background during adverse weather conditions in all three NCAs. This is consistent with noise levels predicted in the EIS NVIA.

Table 4 Worst-case Predicted Motorsport Noise Levels, Night-time Shoulder Period – Neutral Weather

NCA	Distance to Nearest Residential	Event	Assumed Number of Events	Noise Level LAeq(15minute) (dBA)		
				Predicted	Exceedance of Background[1]	Average Exceedance[2]
NCA01a	1200 m	Sprint cars	17	51	12	7
		Wingless Sprints	4	42	3	
		Formula 500s	4	40	1	
		Street stocks	4	42	3	
		V8 Dirt modifieds	4	47	8	
		Motorcycles	4	40	1	
NCA01b	1500 m	Sprint cars	17	48	6	3
		Wingless Sprints	4	39	-	
		Formula 500s	4	36	-	
		Street stocks	4	39	-	
		V8 Dirt modifieds	4	43	1	
		Motorcycles	4	36	-	
NCA02	1900 m	Sprint cars	17	46	7	2
		Wingless Sprints	4	37	-	
		Formula 500s	4	34	-	
		Street stocks	4	37	-	
		V8 Dirt modifieds	4	42	3	
		Motorcycles	4	34	-	
NCA03	3700 m	Sprint cars	17	39	-	<0
		Wingless Sprints	4	30	-	
		Formula 500s	4	26	-	
		Street stocks	4	30	-	
		V8 Dirt modifieds	4	34	-	
		Motorcycles	4	26	-	
NCA04	2800 m	Sprint cars	17	42	-	<0
		Wingless Sprints	4	33	-	
		Formula 500s	4	30	-	
		Street stocks	4	33	-	
		V8 Dirt modifieds	4	37	-	
		Motorcycles	4	30	-	
NCA05	3400 m	Sprint cars	17	44	2	<0
		Wingless Sprints	4	35	-	
		Formula 500s	4	31	-	
		Street stocks	4	35	-	
		V8 Dirt modifieds	4	39	-	
		Motorcycles	4	31	-	
NCA06	3200 m	Sprint cars	17	43	8	3
		Wingless Sprints	4	35	-	
		Formula 500s	4	31	-	
		Street stocks	4	35	-	

NCA	Distance to Nearest Residential	Event	Assumed Number of Events	Noise Level LAeq(15minute) (dBA)		
				Predicted	Exceedance of Background[1]	Average Exceedance[2]
		V8 Dirt modifieds	4	37	2	
		Motorcycles	4	31	-	
NCA07	n/a – no residential receivers identified in this NCA					

Note 1: Background levels during the night-time shoulder period (see **Table 1**).

Note 2: Arithmetic average weighted by the proposed number of events.

Table 5 Worst-case Predicted Motorsport Noise Levels, Night-time Shoulder Period – Adverse Weather

NCA	Distance to Nearest Residential	Event	Assumed Number of Events	Noise Level LAeq(15minute) (dBA)		
				Predicted	Exceedance of Background[1]	Average Exceedance[2]
NCA01a	1200 m	Sprint cars	17	54	15	10
		Wingless Sprints	4	46	7	
		Formula 500s	4	43	4	
		Street stocks	4	46	7	
		V8 Dirt modifieds	4	50	11	
		Motorcycles	4	43	4	
NCA01b	1500 m	Sprint cars	17	51	9	5
		Wingless Sprints	4	42	-	
		Formula 500s	4	39	-	
		Street stocks	4	42	-	
		V8 Dirt modifieds	4	46	4	
		Motorcycles	4	39	-	
NCA02	1900 m	Sprint cars	17	50	11	6
		Wingless Sprints	4	41	2	
		Formula 500s	4	38	-	
		Street stocks	4	41	2	
		V8 Dirt modifieds	4	45	6	
		Motorcycles	4	38	-	
NCA03	3700 m	Sprint cars	17	43	2	1
		Wingless Sprints	4	34	-	
		Formula 500s	4	30	-	
		Street stocks	4	34	-	
		V8 Dirt modifieds	4	38	-	
		Motorcycles	4	30	-	
NCA04	2800 m	Sprint cars	17	46	2	<0
		Wingless Sprints	4	36	-	
		Formula 500s	4	33	-	
		Street stocks	4	36	-	
		V8 Dirt modifieds	4	41	-	
		Motorcycles	4	33	-	

NCA	Distance to Nearest Residential	Event	Assumed Number of Events	Noise Level $L_{Aeq(15minute)}$ (dBA)		
				Predicted	Exceedance of Background[1]	Average Exceedance[2]
NCA05	3400 m	Sprint cars	17	47	5	<0
		Wingless Sprints	4	38	-	
		Formula 500s	4	34	-	
		Street stocks	4	38	-	
		V8 Dirt modifieds	4	42	-	
		Motorcycles	4	34	-	
NCA06	3200 m	Sprint cars	17	45	10	5
		Wingless Sprints	4	37	2	
		Formula 500s	4	33	-	
		Street stocks	4	37	2	
		V8 Dirt modifieds	4	40	5	
		Motorcycles	4	33	-	
NCA07	n/a – no residential receivers identified in this NCA					

Note 1: Background levels during the night-time shoulder period (see **Table 1**).

Note 2: Arithmetic average weighted by the proposed number of events.

Figure 2 Noise Contours – Predicted Average Noise Level from Sprint Cars, Night-time Shoulder Period – Neutral Weather

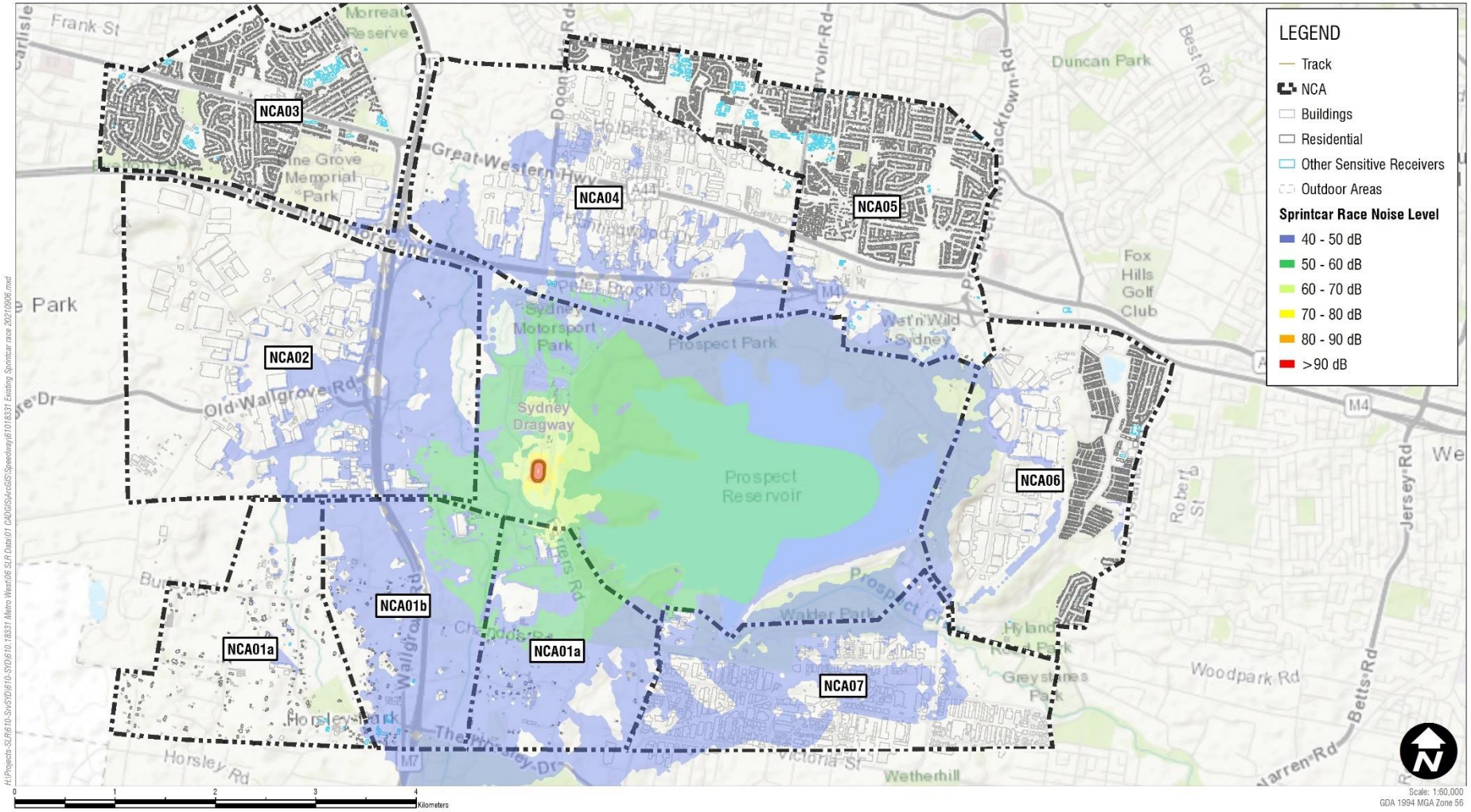
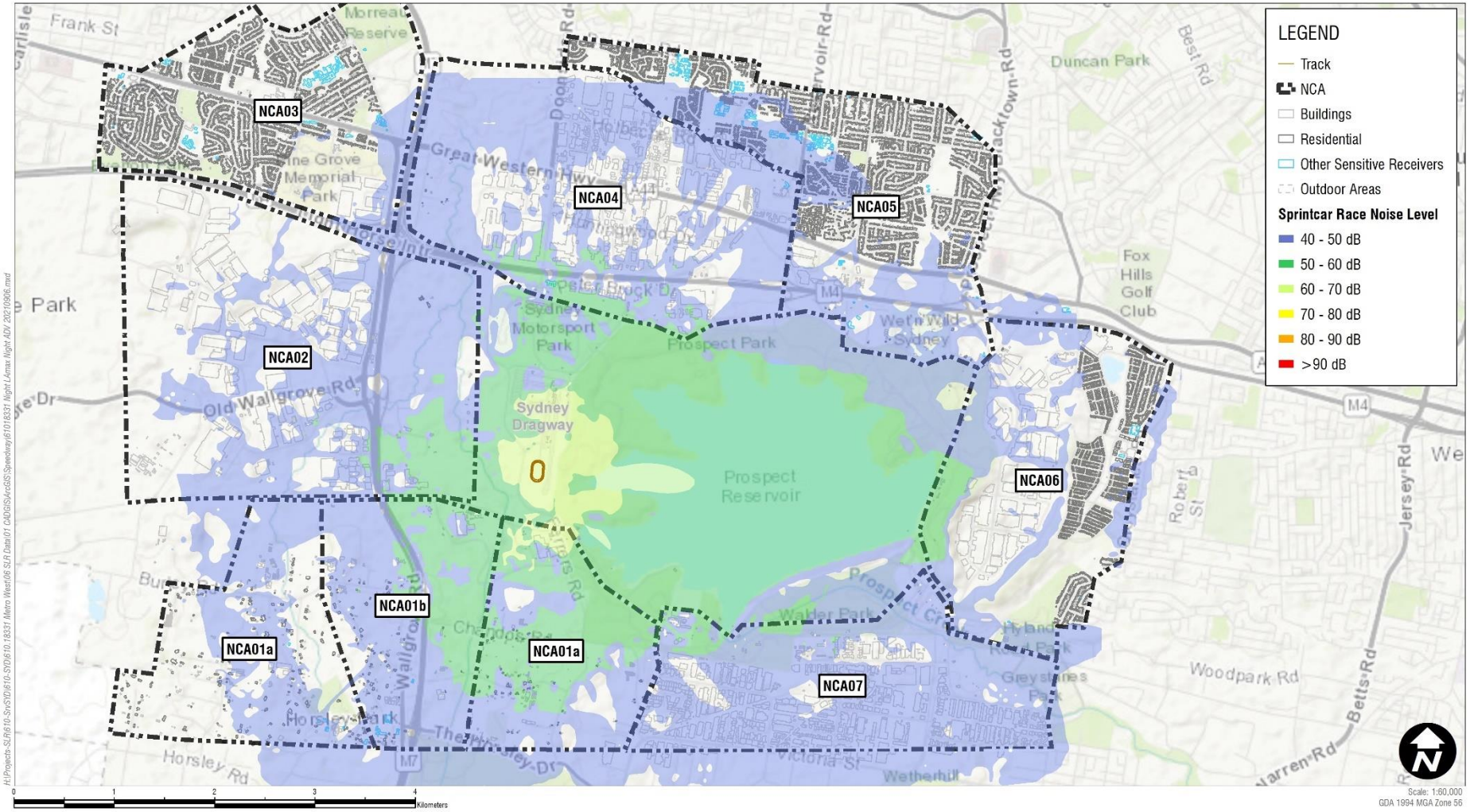


Figure 3 Noise Contours – Predicted Average Noise Level from Sprint Cars, Night-time Shoulder Period – Adverse Weather (Temperature Inversion)



5.2 Sleep Disturbance Noise Assessment

A summary of the modelling results for maximum noise emissions during the night-time shoulder period is shown in **Table 6** for both neutral weather and adverse weather conditions.

Table 6 Maximum Noise Levels – Sprint car race

NCA	Event	Sleep Disturbance Guideline Level RBL +15	Predicted Noise Level (LAmax)		Exceedance of Sleep Disturbance Screening Level
			Neutral Weather	**Adverse Weather**	
NCA01a	Sprint cars	54	58	61	4 to 7
NCA01b		57	56	59	0 to 2
NCA02		54	54	58	0 to 4
NCA03		56	47	52	-
NCA04		59	51	55	-
NCA05		57	50	54	-
NCA06		52	50	54	0 to 2

The assessment shows the following at residential receivers:

- In the absence of mitigation measures, the worst-case maximum noise levels are predicted to exceed the sleep disturbance screening level at the nearest receivers while racing is underway during Sprintcar and V8 dirt modified events. Residential receivers to the south of the project in NCA01a are expected to be most affected due to receivers in this catchment being the closest to the project.
- During neutral weather conditions exceedances of up to 4 dB above screening level are predicted in NCA01. This increases to 7 dB above the screening level during adverse weather.
- In NCA01b noise levels up to 2 dB above the screening level occur during adverse weather.
- In NCA02 noise levels up to 4 dB above the screening level occur during adverse weather.
- In NCA06 noise levels up to 2 dB above the screening level occur during adverse weather.
- No exceedances of the screening levels were predicted in NCA03, NCA04 or NCA05.
- While exceedances of the screening levels are predicted at some of the nearest residential receivers, the exceedances are considered relatively minor. Reference to the noise monitoring data in the EIS NVIA shows that existing maximum noise levels in the region of 65 to 70 dB are a regular feature of the area during the night-time shoulder period, which is higher than the maximum noise levels predicted from the proposed extension of operating hours. The predicted maximum noise levels in all NCAs are also below the levels outlined in the RNP that would be considered to have potential to cause sleep disturbance.
- Based on the above, the predicted sleep disturbance exceedances are considered of relatively low significance. Worst-case impacts are predicted to occur during temperature inversion conditions typical of winter months, which is typically outside of the speedway racing season.

To indicate the extent of the predicted impacts, noise contours for the highest maximum noise events (i.e. sprint cars) have been generated. The predicted noise levels are shown in for **Figure 4** neutral weather conditions and in **Figure 5** for adverse weather conditions.

Figure 4 Noise Contours – Predicted Maximum Noise Level from Sprint Cars, Night-time Shoulder Period – Neutral Weather

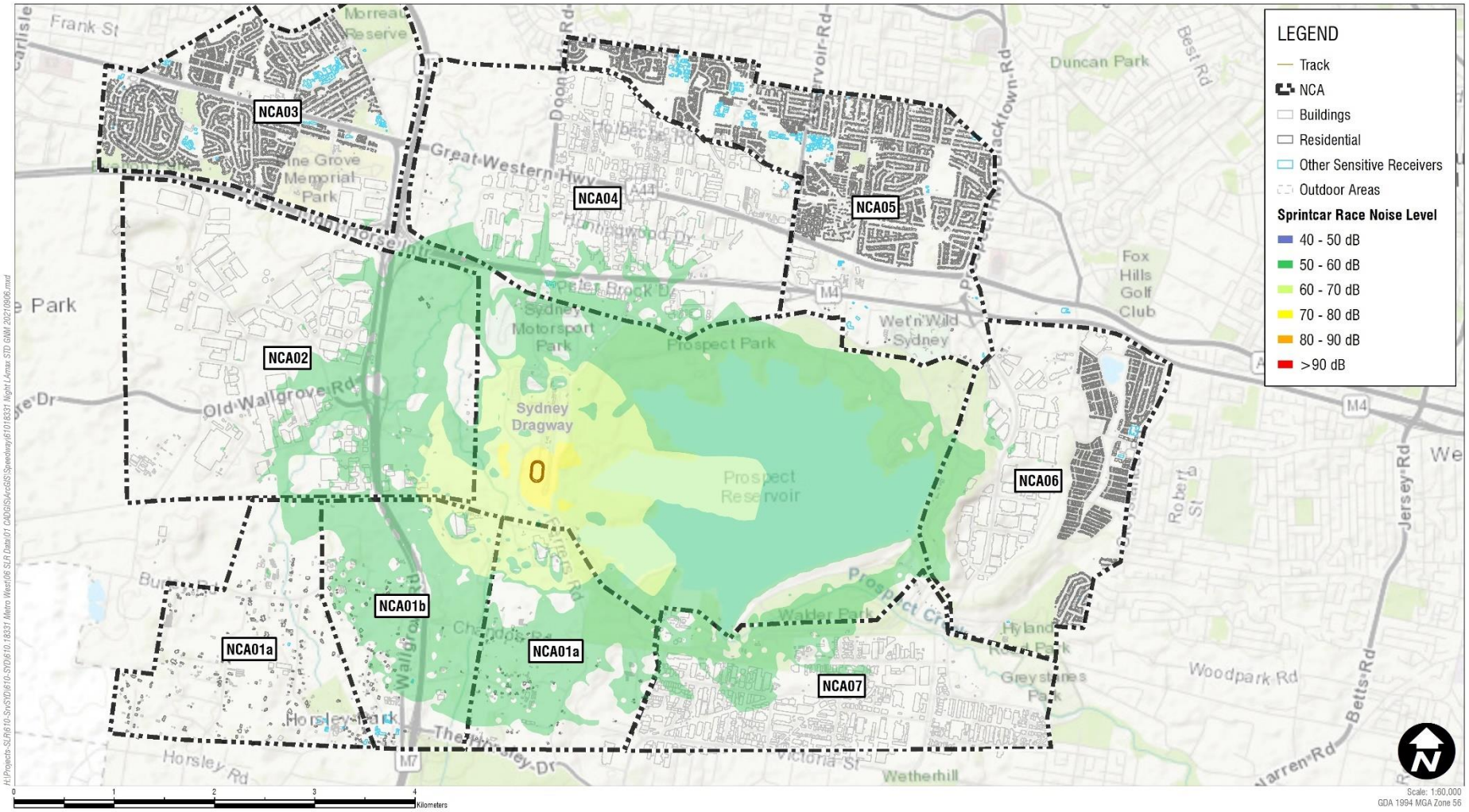
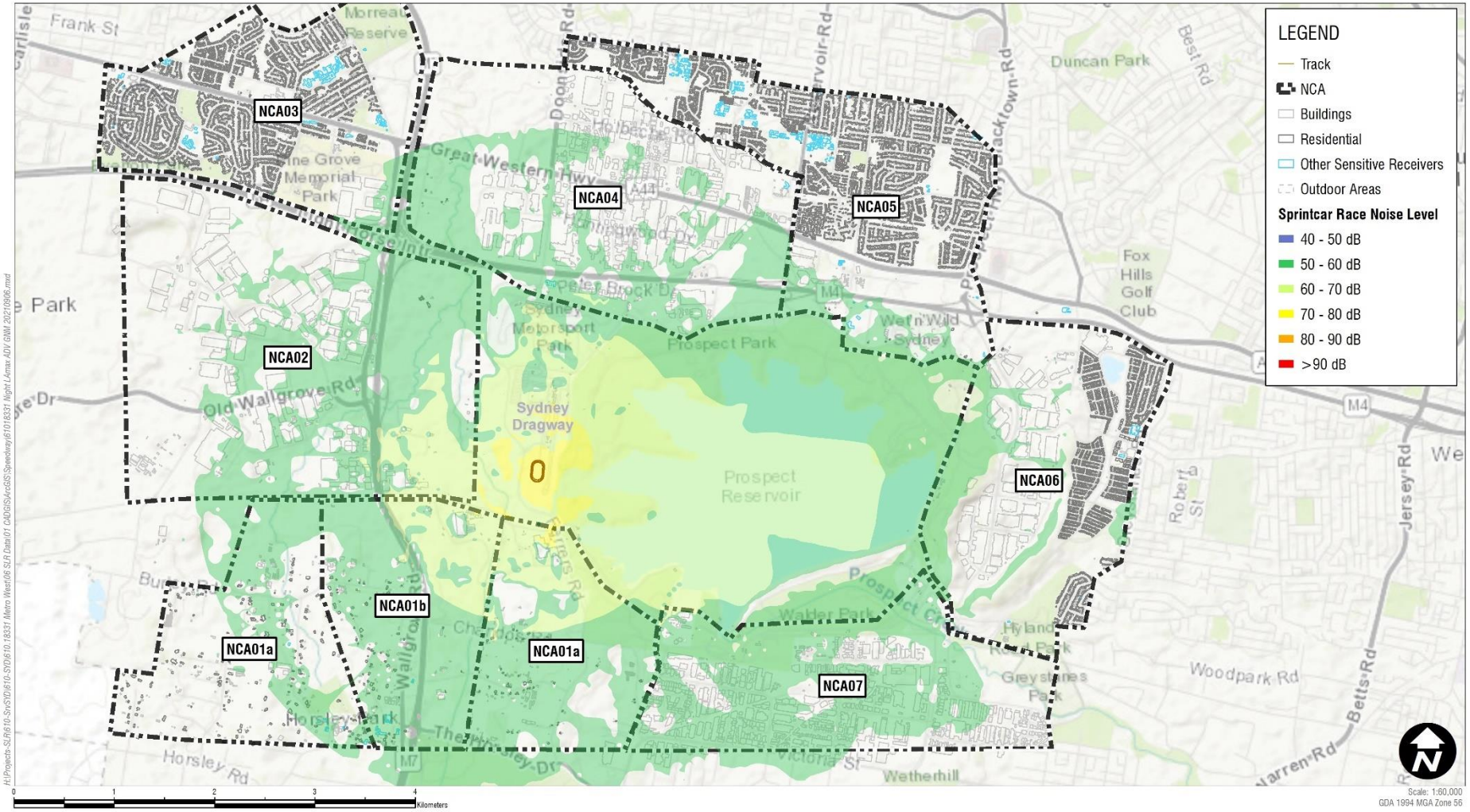


Figure 5 Noise Contours – Predicted L_{Amax} Noise Level from Sprint Cars – Adverse Weather (Temperature Inversion)



5.3 Operational Road Traffic Noise

The predicted road traffic noise levels at residential receivers on Ferrers Road are summarised in **Table 7**. No residential receivers are identified adjacent to Ferrers Road north of the project site.

The assessment shows that operational traffic from the project is predicted to result in an increase in road traffic noise levels of less than 2.0 dB which does not trigger the requirement to consider additional noise mitigation.

Table 7 Predicted Speedway Operational Road Traffic Noise Level Increase

Location	Scenario	Minimum distance to nearest trafficable lane	Predicted Increase (dBA)[1]
			Night-time LAeq(9hour) 10 pm – 7 am External Noise Level
Ferrers Road residential receivers south of the project site	Saturday Major Speedway event	15-20m	1.5

Note 1: Existing road traffic noise levels are estimated based on existing (no event) traffic volumes on Ferrers Road south of the project site presented in the Traffic Impact Assessment Report

6 Mitigation Measures

6.1.1 At-property Noise Treatment

The EIS NVIA proposed at-property treatment be considered for residential receivers which were predicted to have average noise level exceedances of more than 5 dB above the background level.

The night-time shoulder period motorsport noise levels (see **Section 4.2**) are predicted to exceed the background level +5 dB noise goal at 37 receivers to the south in NCA01a. Two exceedances are also predicted at receivers in NCA02 which are not believed to be occupied and are situated within the project area of the approved Lighthorse Interchange Business Hub and therefore would not be considered noise sensitive.

A total of 39 receivers have been identified with predicted average noise levels of more than 5 dB above the background level, with 24 of these additional to the EIS NVIA. These receivers are shown in **Figure 6** and **Table 8**.

The additional receivers are triggered due to the noise enhancing effect of night-time temperature inversions during the winter months. It is noted, however, that the typical speedway racing season occurs between September to April, with race events not typically scheduled for winter months.

No additional properties are predicted to exceed the background level by more than 5 dB under neutral weather conditions. As racing events are not proposed during the 10pm to 11pm night-time period in winter months there is no requirement to considered additional mitigation from what was recommended in the EIS NVIA. In future, however, if events are regularly scheduled to occur past 10pm during winter months then at-property treatments would need to be further investigated and provided in accordance with mitigation measure NV02 of the EIS NVIA.

Figure 6 Residential Receivers Considered Eligible for At-property Treatment (NCA01 and NCA02)

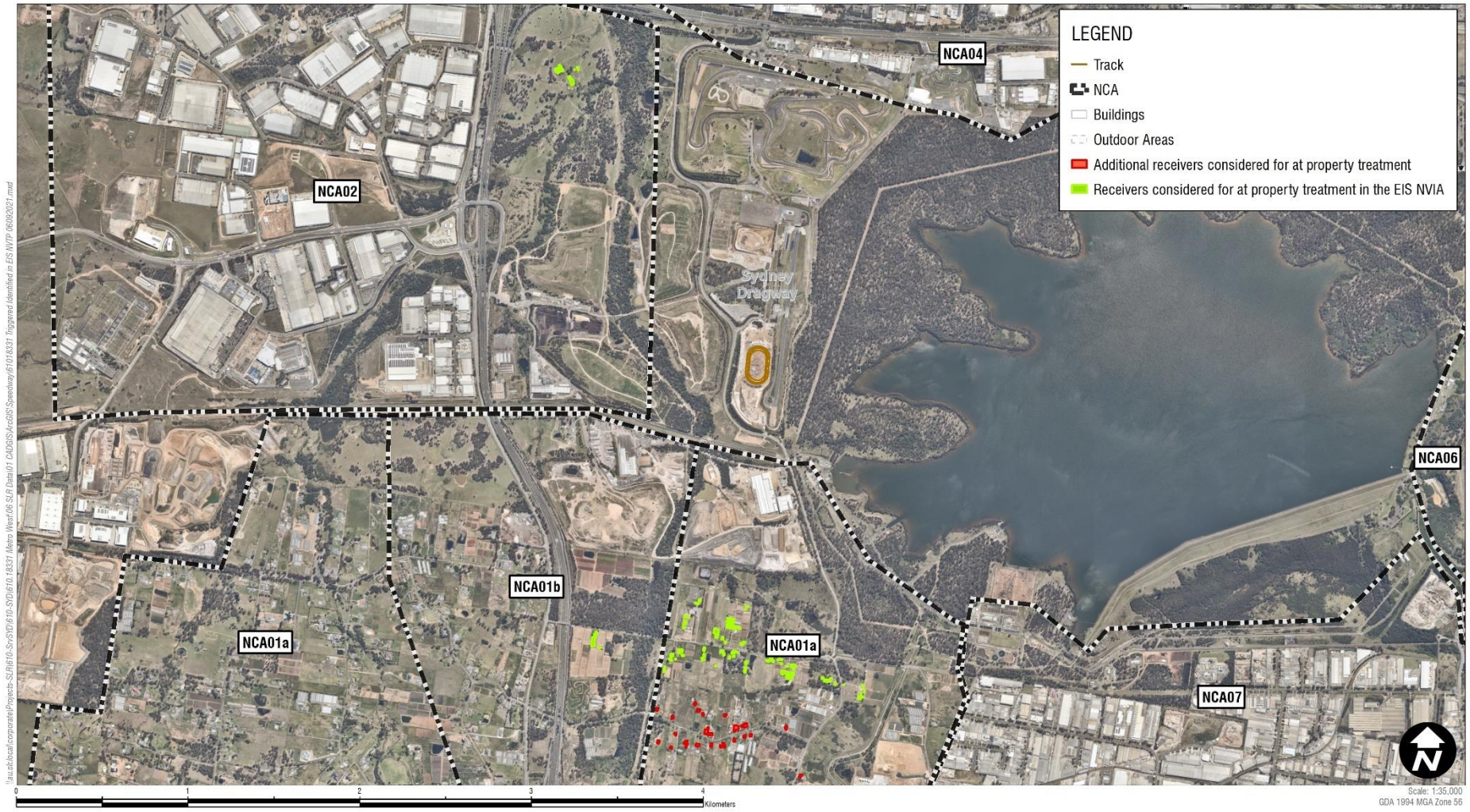


Table 8 Addresses of Identified Receivers

Number	NCA	Address	Predicted Noise Level (LAeq 15minute)		Average Exceedance of Background[2]	
			Standard Weather	Adverse Weather	Standard Weather	Adverse Weather
1	NCA01a, Identified in EIS NVIA	203-209 Chandos Road, Horsley Park	50	53	6	9
2		137-153 Chandos Road, Horsley Park	50	53	6	9
3		117 Chandos Road, Horsley Park	50	53	6	9
4		150-154 Chandos Road, Horsley Park	51	54	7	10
5		126-130 Chandos Road, Horsley Park	51	54	7	10
6		259-273 Chandos Road, Horsley Park	48	51	1	4
7		171-185 Chandos Road, Horsley Park	50	53	6	9
8		121-135 Chandos Road, Horsley Park	51	54	7	10
9		187-201 Chandos Road, Horsley Park	50	53	6	9
10		155-169 Chandos Road, Horsley Park	51	54	7	10
11		105-119 Chandos Road, Horsley Park	51	54	7	10
12		168-174 Chandos Road, Horsley Park	50	53	6	9
13		211-217 Chandos Road, Horsley Park	50	53	6	9
14	NCA02, Identified in EIS NVIA	165 Wallgrove Road, Eastern Creek[1]	44	48	0	4
15		165 Wallgrove Road, Eastern Creek[1]	44	48	0	4
16	NCA01a, Additional Receivers	215-223 Redmayne Road, Horsley Park	48	51	4	7
17		144-150 Redmayne Road, Horsley Park	47	50	3	6
18		182-190 Redmayne Road, Horsley Park	47	51	3	7
19		195-201 Redmayne Road, Horsley Park	47	50	3	6
20		143-155 Redmayne Road, Horsley Park	48	51	4	7
21		185-193 Redmayne Road, Horsley Park	48	51	4	7
22		152-170 Redmayne Road, Horsley Park	47	50	3	6
23		195-201 Redmayne Road, Horsley Park	47	50	3	6
24		203-213 Redmayne Road, Horsley Park	48	52	4	8
25		208-220 Redmayne Road, Horsley Park	47	51	3	7
26		225-245 Redmayne Road, Horsley Park	48	51	4	7
27		167-183 Redmayne Road, Horsley Park	48	51	4	7
28		172-180 Redmayne Road, Horsley Park	46	50	2	6
29		162-166 Chandos Road, Horsley Park	49	52	5	8
30		200-206 Redmayne Road, Horsley Park	47	51	3	7
31		247-263 Redmayne Road, Horsley Park	48	51	4	7
32		136-142 Redmayne Road, Horsley Park	47	50	3	6
33		136-142 Redmayne Road, Horsley Park	46	50	2	6
34		127-131 Ferrers Road, Horsley Park	49	53	5	9

Number	NCA	Address	Predicted Noise Level ($L_{Aeq\ 15minute}$)		Average Exceedance of Background[2]	
			Standard Weather	Adverse Weather	Standard Weather	Adverse Weather
35		120-134 Redmayne Road, Horsley Park	47	50	3	6
36		185-193 Redmayne Road, Horsley Park	47	51	3	7
37		222-230 Redmayne Road, Horsley Park	48	51	4	7
38		157-165 Redmayne Road, Horsley Park	47	51	3	7
39		70-84 Ferrers Road, Horsley Park	46	50	2	6

Note 1: Currently assumed to be unoccupied and situated within the project area for the approved Lighthorse Interchange Business Hub.

Note 2: Arithmetic average weighted by the proposed number of events.

Typical treatment may consist of mechanical ventilation to allow windows to be kept closed on affected facades while providing adequate ventilation. Other options may include window upgrades to glazing and/or acoustic seals. The extent and type of treatment would be confirmed during detailed design following inspection of the properties.

6.1.2 Operational Environmental Management Plan

Consistent with the recommendations in the EIS NVIA, an Operational Environmental Management Plan (OEMP) would be prepared by the operator, once appointed. The OEMP would contain an Operational Noise Management Plan (ONMP) which confirms the following aspects of the assessment, including any refinements made during detailed design:

- All major noise sources from the development
- The facilities operating hours and types of events
- The predicted numbers of light and heavy vehicle traffic created by the operation as well as the likely routes to be taken to and from the site to the main thoroughfares
- Any noise sensitive locations with the potential to be affected by activities at the site
- Site specific noise criteria
- Prevailing weather conditions applicable to the project site
- Predicted noise impacts from the project
- Mitigation measures to address any exceedances of the noise criteria
- Complaints handling and response procedure.

Community feedback received as part of the planning approvals process for this project would be incorporated into the ONMP to address concerns and expectations of the community. The aim of the ONMP should be to minimise noise impact from the venue where feasible and reasonable without unduly constraining operation of the various venues. This would likely incorporate detailed event planning informed by assessment of noise emissions from each site.

It is recommended that Blacktown City Council are consulted as part of the OEMP process.

7 Conclusion

The assessment of noise impacts from the proposed extension of operating hours for the Sydney international speedway from 10pm till 11pm has identified the following:

- Temperature inversions during winter months result in noise impacts being increased by between 2 – 4 dB at sensitive receivers surrounding the project, with a 3 dB increase at the nearest receivers to the south and south-west. It is noted, however, that the typical speedway racing season occurs between September to April, with race events not typically scheduled for winter months. No additional properties are predicted to exceed the background level by more than 5 dB under neutral weather conditions, when compared to the EIS NVIA.
- As racing events are not proposed during the 10pm to 11pm night-time period during the winter months there is no requirement to considered additional mitigation from what was recommended in the EIS NVIA. In future, however, if events are regularly scheduled to occur past 10pm during winter months then at-property treatments would need to be further investigated and provided in accordance with mitigation measure NV02 of the EIS NVIA.
- Maximum noise events during the night-time period are likely to exceed the L_{Amax} screening level at the nearest receivers to the south and south-west by up to 4 dB during neutral conditions and 7 dB during temperature inversions. However, are not likely to result in sleep disturbance when compared against RNP advice on assessing noise impacts.
- Noise management and mitigation measures as identified in the EIS NVIA remain the recommended approach to control the potential impacts.

Checked/
Authorised by: AW