

MOOREBANK INTERMODAL PRECINCT EAST

Annual Noise Review - May 2025 to May 2026

11 June 2026

The Trust Company (Australia) Limited (ACN 000 000 993) As Trustee of The
Moorebank Industrial Warehouse Trust (ABN 51 402 161 047) c/- ESR
Developments (Australia) Pty Ltd

TM306-28-07F02 MPE Annual Review 2026 (r2)

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1 Introduction

The Sydney Intermodal Terminal Alliance (SIMTA) received approval for the construction and operation of Stages 1 and 2 of the Moorebank Precinct East (MPE) Project (SSD 6766 and SSD 7628 respectively), which together comprise the two stages of development under the MPE Concept Approval (MP10_0193). The Trust Company (Australia) Limited (ACN 000 000 993) As Trustee of The Moorebank Industrial Warehouse Trust (ABN 51 402 161 047), care of ESR Developments (Australia) Pty Ltd (ESR), is now the proponent for the MPE projects.

This **Annual Noise Review report for Year 6 Operations (May 2025 to May 2026)** has been prepared to address the requirements of Condition of Consent (CoC) B90 of SSD 7628 as follows:

For the duration of operation, the Applicant must:

- a) continue to implement all reasonable and feasible best practice noise mitigation measures;*
- b) continue to investigate ways to reduce noise generated by the development, including maximum noise levels which may result in sleep disturbance; and*
- c) report on these investigations and the implementation and effectiveness of these measures in the Annual Review to the satisfaction of the Secretary.*

Table 1 provides a summary of the noise-related Approval Conditions and how these are addressed in this Annual Noise Review.

Appendix A contains a glossary of acoustic terms used in this report.

2 Compliance Matrix

Table 1 provides a summary of the Approval Conditions which relate to operational noise emission monitoring for Year 6 operations, and a discussion of the operational noise monitoring results. Where required, additional information is provided in later sections of this report or the appendices.

Table 2-1 Compliance matrix

Condition ID	Condition	Comments on compliance	Reference for further information
SSD 6766			
G7	The Applicant shall install and maintain a rail noise monitoring system on the rail link at the commencement of operation to continuously monitor the noise from rail operations on the rail link. The system shall capture the noise from each individual train passby noise generation event, and include information to identify: a) Time and date of freight train passbys; b) Imagery or video to enable identification of the rolling stock during day and night; c) $L_{Aeq(15\text{hour})}$ and $L_{Aeq(9\text{hour})}$ from rail operations; and d) $L_{AF(max)}$ and SEL of individual train passbys, measured in accordance with ISO3095; or e) Other alternative information as agreed with, or required by, the Secretary. The results from the noise monitoring system, shall be publicly accessible from a website maintained by the Applicant. The noise results from each train shall be available on the website within 24 hours of it passing the monitor, unless unforeseen circumstances (i.e. a system malfunction) have occurred. The $L_{Aeq(15\text{hour})}$ and $L_{Aeq(9\text{hour})}$ results from each day shall be available on the website within 24 hours of the period ending. Prior to the commencement of operation, the Applicant shall submit for the approval of the Secretary, justification supporting the appropriateness of the location for rail noise monitoring, including details of any alternative options considered and reasons for these being dismissed. The rail noise monitoring system shall not operate until the Secretary has approved the proposed monitoring location. The Applicant shall provide an annual report to the Secretary with the results of monitoring for a period of 5 years, or as otherwise agreed with the Secretary, from the commencement of operation of the IMEX terminal. The Secretary shall consider the need for further reporting following a review of the results for year 5.	Annual reports have been provided to the Secretary for each of the five years from the commencement of IMEX terminal operations in May 2020 to May 2025. On the basis that the five-year reporting requirement has been met, no further annual reports are proposed under Condition G7 (refer Section 5).	https://moorebankintermodalprecinct.com.au/wp-content/uploads/2023/04/TJ741-04F04-AoA-and-Functional-Spec-for-Permanent-Noise-Monitor-r9_redacted.pdf https://moorebanknoisemonitor-emsbk.trackiq.net/NoiseMonitor/ Section 5

Condition ID	Condition	Comments on compliance	Reference for further information
G7A	The applicant shall install and maintain a wayside angle of attack monitoring system on the rail link at the commencement of operation to continuously monitor the angle of attack to the rail of rolling stock wheels. The system shall capture the angle of attack from a wheel on each axle of every train, and include information to identify: a) Time and date of each axle passby; and b) The identification number of each item of rolling stock. The results from the angle of attack monitoring system shall be: • accessible by train operators from a website maintained by the Applicant. Angle of attack results from each train shall be available on the website within 24 hours of it passing the monitor, unless unforeseen circumstances have occurred. • included in a six-monthly report to the Secretary. The report should at least identify the number of wagons with wheels that exceed the ASA standard angle of attack and the action taken by operators to improve steering performance. Prior to the commencement of operation, the Applicant shall submit for the approval of the Secretary, justification supporting the appropriateness of the location for angle of attack monitoring, the format of the information to be accessible to operators and the format of the public report. The angle of attack monitoring system shall not operate until the Secretary has approved the proposed monitoring location and reporting arrangements.	Six-monthly angle of attack reports have been provided to the Secretary across the five-year period from the commencement of IMEX terminal operations in May 2020 to November 2025. On the basis that this reporting requirement has been met, no further six-monthly reports are proposed under Condition G7A (refer Section 5).	Section 5
G8	The following measures must be implemented during operation: a) The use of automatic rail lubrication equipment in accordance with ASA Standard T HR TR 00111 ST Rail Lubrication and top of rail friction modifiers, where required; and b) Measures to ensure the rail cross sectional profile is maintained in accordance with ETN-01-02 Rail Grinding Manual for Plain Track to ensure the correct wheel / rail contact position and hence to encourage proper rolling stock steering.	Two rail friction modifier systems were installed on the rail link on 22 November 2019 per ASA Standard. These are positioned on the MIMT North Track at Chainage 39.739 km and the MIMT South Track at Chainage 39.860 km. Monthly track inspections and maintenance is undertaken by Qube's maintenance contractor, Taylor Rail, to ensure alignment with maintenance standards. Rail grinding has been performed so that the rail profile is consistent with maintenance standards.	FCMM 3B

Condition ID	Condition	Comments on compliance	Reference for further information																				
SSD 7628																							
B79	The permitted hours of warehouse and distribution operation as detailed in Table 4. Table 4: Hours of Operation <table><tr><th>Activity</th><th>Day</th><th>Time</th></tr><tr><td>Operation</td><td>Monday to Sunday</td><td>24 hours</td></tr></table>	Activity	Day	Time	Operation	Monday to Sunday	24 hours	MPE operates 24 hours per day, 365 days per year, consistent with the permitted hours of operation.	n/a														
Activity	Day	Time																					
Operation	Monday to Sunday	24 hours																					
B80	B80. Noise generated by operation of the development inclusive of MPE Stage 1 operations must not exceed the noise limits in Table 5. Table 5: Noise Limits dB(A) <table><tr><th>Location (residential receivers)</th><th>Day (LAeq(15min))</th><th>Evening (LAeq(15min))</th><th>Night (LAeq(15min))</th><th>Night (LA1(1min))</th></tr><tr><td>Casula</td><td>35 dB</td><td>35 dB</td><td>35 dB</td><td>52 dB</td></tr><tr><td>Wattle Grove (NCA 2)</td><td>35 dB</td><td>35 dB</td><td>35 dB</td><td>52 dB</td></tr><tr><td>Glenfield (NCA 4)</td><td>35 dB</td><td>35 dB</td><td>35 dB</td><td>52 dB</td></tr></table> Notes: To determine compliance with the LAeq,15 minute noise limits, noise from the development is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the project is impractical, the EPA may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy must also be applied to the measured noise levels where applicable. To determine compliance with the LA1,1 minute noise limits, noise from the project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the project is impractical, the EPA may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The noise emission limits identified above apply under meteorological conditions of: (i) wind speeds of up to 3 m/s at 10 metres above ground level; or (ii) 'F' atmospheric stability class.	Location (residential receivers)	Day (LAeq(15min))	Evening (LAeq(15min))	Night (LAeq(15min))	Night (LA1(1min))	Casula	35 dB	35 dB	35 dB	52 dB	Wattle Grove (NCA 2)	35 dB	35 dB	35 dB	52 dB	Glenfield (NCA 4)	35 dB	35 dB	35 dB	52 dB	This condition specifies the operational noise limits for MPE operations. However, when undertaking any compliance assessment, it is noted that the SSD 7628 B80 noise limit table states “...inclusive of MPE Stage 1 operations” therefore was intended to apply to the cumulative noise emissions of noise generating activities in SSD 6766 and SSD 7628. However, MPE Stage 1, has specific noise limits included in SSD 6766, approved as part of L&EC Proceedings (No 2017/81889) which are higher than these levels. This requirement presents a consistency issue, as the requirement is inconsistent with the EIS derived noise limits in accordance with NSW EPA policy, the expected noise emission performance from MPE, and previous approvals. As part of Modification 1 to SSD 7709 (MPW Stage 2), which identifies cumulative noise limits for MPW + MPE, EPA agreed there was an inconsistency issue. Following which, it was agreed that MPW + MPE should achieve the cumulative noise limits in SSD 7709 B131.	Section 3 – Warehouse noise monitoring Section 6 - Noise monitoring in response to complaints
Location (residential receivers)	Day (LAeq(15min))	Evening (LAeq(15min))	Night (LAeq(15min))	Night (LA1(1min))																			
Casula	35 dB	35 dB	35 dB	52 dB																			
Wattle Grove (NCA 2)	35 dB	35 dB	35 dB	52 dB																			
Glenfield (NCA 4)	35 dB	35 dB	35 dB	52 dB																			

Condition ID	Condition	Comments on compliance	Reference for further information
B85	The Applicant must carry out noise monitoring of mechanical plant and other noisy equipment for a minimum period of one week where valid data is collected following occupation of each warehouse. The monitoring program must be carried out by a suitably qualified and experienced person(s) and a Monitoring Report for Mechanical Plan must be submitted to the Secretary within two months of occupation or each tenancy to verify predicted mechanical plant and equipment noise levels.	Warehouse noise monitoring is required to be undertaken following the occupation of each warehouse. Noise monitoring of warehouse mechanical plant and other noisy equipment has not been undertaken during the 2025-2026 review period as no additional warehouses in MPE have become newly occupied. During the 2024-2025 review period, the operational noise monitoring identified that further acoustic mitigation measures should be installed for warehouse E7 to assist ESR with managing the cumulative noise emissions from the Moorebank Intermodal Precinct (MIP). The proposed noise mitigation has been installed during the current 2025-2026 review period, to provide 12 dB(A) noise reduction for the Dangerous Goods exhaust fan (refer Section 7.3)	Section 3 Section 7.3
B88	To ensure the operational noise impacts are appropriately managed, the following measures apply: a) use of best practice plant; and b) preparation of a risk assessment to determine if non-tonal reversing alarms can be fitted as a condition of site entry. Alternatively, site design may include traffic flow that does not require or precludes reversing of vehicles.	A range of best practice plant / measures have been implemented during previous monitoring periods, and continue to operate with these during the 2025-2026 noise monitoring period. These include: 1. The use of electric cranes with broadband movement alarms for all rail loading and container stacking, with reach stackers now only required for truck loading and combi-lifts and straddle carriers used for warehouse container movements. 2. 'Quackers' or broadband reversing alarms were fitted to all reach stackers and combi-lifts. 3. IMEX staff briefings were undertaken, reminding staff and drivers of noise management obligations and will be ongoing as part of regular reminders. The risk assessment relating to the use of non-tonal reversing alarms is addressed in the Table 2-3 B88 of the ONVMP. Further measures are identified in the F5A management plan, which include both mitigation and management measures, including container handling and truck operations and are being implemented as part of operations.	Operational Noise and Vibration Management Plan (Rev 013, 24/01/2023) (ONVMP) https://moorebankintermodalprecinct.com.au/wp-content/uploads/2023/09/ONVMP_V13_clean_compiled_Redacted-compressed.pdf F5A Management Plan Moorebank Intermodal Precinct– East Precinct (Rev 08, 22/11/2023) https://moorebankintermodalprecinct.com.au/wp-content/uploads/2024/08/Condition-F5A-MP - Rev8_Redacted10.pdf Section 6 and 7

Condition ID	Condition	Comments on compliance	Reference for further information
B90	For the duration of operation, the Applicant must: a) continue to implement all reasonable and feasible best practice noise mitigation measures; b) continue to investigate ways to reduce noise generated by the development, including maximum noise levels which may result in sleep disturbance; and c) report on these investigations and the implementation and effectiveness of these measures in the Annual Review to the satisfaction of the Secretary.	The following additional best practice plant / measures are continuing to be implemented within the current reporting period, including through the F5A management plan for the IMEX terminal: 1. The use of electric cranes commenced so that all rail loading and container stacking is performed by the electric cranes, with reach stackers now only required for truck loading. 2. 'Quackers' or broadband reversing alarms were fitted to all reach stackers and combi lifts. 3. IMEX staff briefings were undertaken, reminding staff and drivers of noise management obligations and will be ongoing as part of regular reminders. The AoA monitoring data for train axles is reviewed by operators to identify wagons that may require maintenance to improve steering performance. An outcome from the Warehouse E7 B85 warehouse mechanical plant noise monitoring in May 2024 was that, even though noise levels were below the B80 noise limits, further acoustic mitigation measures were recommended, for a fan at warehouse E7. The proposed noise mitigation for this fan has been installed during the current 2025-2026 review period, to provide 12 dB(A) noise reduction (refer Section 7.3) Noise monitoring being undertaken for Moorebank Precinct West (MPW) is also being used to provide feedback on MPE noise emissions as the MPW noise requirements are cumulative of MPE, to assist with reviewing the effectiveness of ongoing noise management.	Sections 3, 4, 5, 6 and 7 F5A Management Plan Moorebank Intermodal Precinct– East Precinct (Rev 08, 22/11/2023) https://moorebankintermodalprecinct.com.au/wp-content/uploads/2024/08/Condition-F5A-MP - Rev8_Redacted10.pdf
Final Compilation of Mitigation Measures (FCMM) for MPE Stage 1 and Stage 2			
Stage 2 2D	In the event of any noise or vibration related complaint or adverse comment from the community, noise and ground vibration levels (as relevant) would be investigated. Remedial action would be implemented where feasible and reasonable. The procedures for managing complaints would be provided within the Community Information and Awareness Strategy.	14 operational noise complaints were received during the period of 30 April 2025 to 1 May 2026. These complaints were investigated and responses including advising the relevant MIP teams for further investigation, or noise mitigation strategies currently being implemented were communicated to the complaints.	Section 6

Condition ID	Condition	Comments on compliance	Reference for further information
Operational Noise and Vibration Management Plan – Section 4.1.1 Summary of Monitoring Requirements			
Table 4.1 Rail noise monitoring	Continuous rail noise monitoring will be undertaken from the commencement of operations of the IMEX terminal. The monitoring system will capture the following information: - Noise from each train passby - Time and date of each train passby - Imagery or video recording to identify rolling stock $L_{AF(max)}$ and Sound Exposure Level (SEL) of individual train passbys, measured in accordance with ISO 3095:2013 $L_{Aeq(15hour)}$ and $L_{Aeq(9hour)}$ noise levels for each 24-hour period, which will be calculated based on the number of train passbys during the day and night periods and the corresponding SEL noise levels, consistent with the procedure in Clause 3.4.1.1 of the Rail Infrastructure Noise Guideline (EPA, 2013). - Other information as required by the Secretary	Refer comments related to SSD 6766 G7	SSD 6766 G7
Wayside Angle of Attack Monitoring	Continuous wayside angle of attack monitoring will be undertaken from the commencement of operations of the IMEX terminal. The monitoring system will capture the following information: - Angle of attack from a wheel on each axle of every train - Time and date of each axle passby - Identification number of each item of rolling stock	Refer comments related to SSD 6766 G7A	SSD 6766 G7A
Brake Squeal Noise	Continuous (unattended monitoring system) from the commencement of operations of the IMEX terminal – to assess potential noise impacts of rail link at western receivers	Refer comments related to SSD 6766 G7. The permanent noise monitoring system is positioned at a location on the rail link where it can capture noise levels associated with curve brake squeal should this occur.	SSD 6766 G7
Operational Noise Monitoring	Noise monitoring to compare actual noise performance of the MIP East Precinct against the noise management levels will be undertaken as follows: - Regular performance monitoring - Within 12 months of the commencement of operation of the IMEX terminal and Warehouse 1 Precinct - Within 12 months of occupation of the first warehouse, 50% occupation of the site and 100% occupation of the site, or as otherwise agreed by the Secretary - For a minimum of 12 months following occupation of the entire site	Sections 3, 4, 5, and 6	Sections 3, 4, 5, and 6

Condition ID	Condition	Comments on compliance	Reference for further information
Operational Noise Monitoring	Attended noise monitoring will be undertaken to determine compliance against the noise management levels upon receipt of a noise complaint	Noise complaints received during the 2025-2026 review period relating to operational noise referenced container handling activities, and general concerns about MIP noise generating activities (Section 6). Noise monitoring (attended and unattended) being undertaken for Moorebank Precinct West (MPW) has been used to provide feedback on MPE noise emissions as the MPW noise requirements are cumulative of MPE, to assist with reviewing the effectiveness of ongoing noise management. This included recommendations for managing container handling activity noise.	Section 6
Noise Assessment of Mechanical Plant and other equipment	Conducted for the freight village and each warehouse for a period of 1 week after construction and submitted to secretary within 2 weeks of occupation. Compliance against the noise management levels.	Refer comments related to SSD 7628 B85	SSD 7628 B85
Continuous Unattended Noise Monitoring	Continuous noise monitoring will be conducted at the following locations for a period of twelve months following the occupation of the entire site: - CM1: 10 Talbot Court, Wattle Grove - CM2: 24 Glenelg Court, Wattle Grove North - CM3: 14 Dunmore Crescent, Casula - CM4: 26 Goodenough Street, Glenfield	Refer comments related to SSD 7628 B64 (refer Section 4)	SSD 7628 B64 Section 4

3 Warehouse mechanical plant and other noisy equipment noise monitoring

Warehouse mechanical plant and other noisy equipment noise monitoring is required following the occupation of each warehouse in accordance with SSD 7628 CoC B85.

Noise monitoring of warehouse mechanical plant and other noisy equipment has not been performed during the 2025-2026 review period as no additional warehouses in MPE have become newly occupied.

4 Continuous noise monitoring in residential areas

Continuous noise monitoring at sensitive receivers is required to be undertaken at sensitive receivers in accordance with the approval conditions for MPE Stage 2 (SSD 7628 CoC B64).

The primary purpose of the permanent noise monitoring systems is to measure construction-related noise in accordance with the requirements of SSD 7628 Condition B64. Whilst this condition relates to construction noise, the noise monitoring results can also be utilised for operational noise reviews/assessments and to investigate noise complaints (if required).

Details of the continuous noise monitoring and measurement locations (CM1 to CM4) are provided in Section 3.1.1 (Figure 3-1) of the MPE ONVMP (Rev 14, 13/12/2024). The measurement systems comprise four Envirosuite permanent noise monitors. The monitoring locations are:

- CM1: 10 Talbot Court, Wattle Grove
- CM2: 24 Glenelg Court, Wattle Grove North
- CM3: 14 Dunmore Crescent, Casula
- CM4: 26 Goodenough Street, Glenfield

This noise monitoring is ongoing.

5 Continuous rail link noise monitoring and Angle of Attack monitoring

In reporting Years 1 to 5, this section presented a summary of the continuous rail link noise monitoring and angle of attack (AoA) monitoring results for the relevant year. For the current reporting year, a results summary is not provided. Instead, this section summarises the technical memorandum prepared by Renzo Tonin & Associates (RTA), "Moorebank Intermodal Precinct East – Completion of Year 5 operational monitoring and reporting under SSD 6766 Conditions G7 and G7A" (RTA reference TM306-28-07F01), dated 15 May 2026, which addresses the completion of the five-year operational monitoring and reporting period under SSD 6766 Conditions G7 and G7A.

The memorandum confirms that the operational monitoring and reporting requirements of SSD 6766 Conditions G7 (rail noise monitoring) and G7A (wayside angle of attack monitoring) have been met for the five-year period from the commencement of IMEX terminal operations in May 2020. Condition G7 requires the Applicant to provide an annual report to the Secretary with the results of monitoring for a period of five years, or as otherwise agreed with the Secretary, from the commencement of operation of the IMEX terminal, following which the Secretary is to consider the need for further reporting based on a review of the Year 5 results.

The memorandum lists the rail noise monitoring and angle of attack monitoring reports issued by RTA over the May 2020 to November 2025 period, comprising five annual rail noise review reports issued under Condition G7 and the corresponding six-monthly angle of attack monitoring reports issued under Condition G7A. On the basis that the requirements of Conditions G7 and G7A have been met for the five-year operational reporting period, the memorandum sets out RTA's position that no additional annual or six-monthly reports are proposed to be provided under SSD 6766 Conditions G7 and G7A for the MPE Project. This position is limited in scope to SSD 6766 Conditions G7 and G7A and does not address other operational noise obligations associated with the MPE Project.

6 Noise monitoring in response to complaints

In the current reporting period, there were 14 operational noise-related complaints reported by residents (complaints confirmed to relate to construction or non-MIP noise are excluded).

The operational noise complaints related predominantly to container-handling noise from the IMEX terminal — in particular containers being lifted and dropped on the hardstand (described by residents as “container smashing”) during the night and early hours of the morning. The complaints about events were concentrated in the December 2025 to February 2026 period, and were largely lodged by a repeat complainant, and included a complaint raised by the Member for Holsworthy on behalf of a community member.

Complaints have been referred to the QUBE, the IMEX terminal operators, for investigation, with the precinct partners (ESR, National Intermodal and QUBE) and the project’s acoustic consultant reviewing on-site monitoring data in response to complaints, and the ESR is liaising with DPHI compliance team to address complaints raised by the resident. These complaints have been further investigated, which included reviewing of permanent noise monitoring data and a noise monitoring investigation survey during April 2026.

The number of operational noise-related complaints each month is summarised in the below table, for the period between 1 May 2025 and 1 May 2026. The number of noise complaints were highest in February 2026.

Period	Number of operational noise-related complaints
May 2025	1
June 2025	0
July 2025	0
August 2025	1
September 2025	0
October 2025	0
November 2025	1
December 2025	2
January 2026	3
February 2026	5
March 2026	1
April 2026	0

During the current reporting period in response to complaints the following analysis of the noise monitoring data at the permanent noise monitoring stations was undertaken to investigated noise complaints:

- In response to a complaint received in May 2025, noise monitoring data at the Casula permanent noise monitoring station was analysed for specific time periods, specifically for a residential

complaint in Casula on 22 May 2025. This review identified noise events were believed to be container handling noise during some of the identified time windows. Recommendations were made regarding mitigation and management measures.

- In response to a noise complaint received in January 2026, noise monitoring data at the Casula permanent noise monitoring station was analysed for specific time periods, specifically for a complaint regarding noise in Casula on 12 January 2026. This review identified noise events were believed to be container handling noise during some of the identified time windows.

Following the complaints receiver during December 2025 through to February 2026, noise complaint monitoring has been undertaken on one occasion during the current reporting period in April 2026.

In response to the noise complaints from residences in Casula (to the west of the MIP) and current DPHI queries, RTA undertook an operational noise complaint investigation, for which the reporting is being finalised. The investigation was conducted concurrently with noise monitoring being undertaken to satisfy SSD 7709 B140A monitoring to utilise the installed noise monitoring equipment. Attended noise measurements were undertaken overnight on 15–16 April and 17 April 2026, supported by unattended monitoring along Bushmaster Avenue, to capture representative operational noise events including container handling, truck horns, airbrake releases and heavy vehicle movements. The investigation preliminary outcomes have found that maximum (L_{Amax}) noise levels from MIP and IMEX operations were generally compliant with the applicable L_{Amax} noise limits, although several events have been identified above the L_{Amax} limit for Casula; these exceedance events were infrequent and short-lived, generally occurred under very-noise enhancing conditions. The monitored noise levels also did not exceed NPfI sleep disturbance screening levels with consideration of the background levels during the monitoring period. DPHI has been consulting with ESR regarding this monitoring. Relating to MPE activities, the requirement for further mitigation and management measure investigations for IMEX truck horns usage and container handling practices have been identified, and further noise monitoring to be conducted following the implementation of measures to confirm the effectiveness of the implemented measures.

7 Other noise-related tasks

7.1 Other relevant consent monitoring

Noise monitoring was undertaken during August 2025 and April 2026 for Moorebank Precinct West (MPW) to address SSD 7709 CoC B140 and CoC B140A respectively. As the MPW noise requirements are cumulative this monitoring also considered MPE noise emissions.

The noise monitoring surveys determined that the noise emissions from MIP operations were less than the SSD 7709 Conditions of Consent (CoC) $L_{Aeq15min}$ noise limits at all surrounding receiver locations, and that typically, the maximum noise levels from MIP operations were generally compliant with the L_{Amax} noise, however, a number of periods were identified where the L_{Amax} noise levels were above the L_{Amax} noise limit for residences in Casula, which were on occasions from MPE activities.

As such, mitigation and management measure recommendations were included to address this noise and further improve noise performance from the MIP noise emissions. The implementation of these measures are under investigation.

7.2 Moorebank Cumulative Noise Management

Planning work is continuing for the management of cumulative noise from the Moorebank Intermodal Precinct (MIP). This work currently aims to manage cumulative noise emissions from the various noise generating components (e.g. warehouse and IMEX operations), to manage overall cumulative noise emissions against the applicable consent requirements.

7.3 Warehouse E7 noise mitigation

Acoustic mitigation has been installed in May 2026 for the existing Dangerous Goods exhaust fan at Warehouse E7. The mitigation was required to achieve a 12 dB(A) reduction at the nearest noise-sensitive receivers in Wattle Grove, approximately 450 m east of the site, in response to noise emissions from the fan.

The measure, specified in the DDEG Consultant Advice Note 211527-A CAN01 R0 (1 November 2024) on the basis of environmental noise modelling, comprises an acoustic screen installed along the northern, eastern and southern boundaries of the fan (refer Figure 1).

The need for this mitigation was identified in the May 2024 SSD 7628 B85 noise monitoring, which found the Dangerous Goods exhaust fan to be operating at noise levels louder than would be expected, and so further mitigation was recommended to assist ESR with managing cumulative noise emissions from the warehouse. This was not required to address any noise exceedances. The recommended acoustic mitigation has now been actioned, with the acoustic screen installed.

Figure 1: Acoustic screen at Warehouse E7



8 Discussion and conclusion

This **Annual Noise Review** report for **Year 6 Operations** has been prepared to address the requirements of Approval Condition B90 of SSD 7628.

A range of operational noise monitoring has been performed in accordance the Approval Conditions in SSD 6766 and 7628 and the relevant noise management plans.

As a result of complaints, a number of investigations have been undertaken, during some of which it has been found that maximum (L_{Amax}) noise levels from MPE operations were generally compliant with the applicable L_{Amax} noise limits, although several events have been identified above the L_{Amax} limits. Monitoring from to address MPW requirements, has also been used to inform further required noise management of MPE activities, the MPW noise requirements are cumulative this monitoring also considered MPE noise emissions.

As such, mitigation and management measure recommendations were included to address this noise and further improve noise performance from the MIP noise emissions. The implementation of these measures are under investigation, and ongoing at the time of preparing this report. Further monitoring to review the effectiveness of these measures will be required.

The project has also implemented noise mitigation to assist ESR with managing cumulative noise emissions from the MIP, such as the acoustic screen on the E7 warehouse roof, to implement all reasonable and feasible best practice noise mitigation measures .

APPENDIX A Glossary of terminology

The following is a brief description of the technical terms used to describe noise to assist in understanding the technical issues presented.

Absorption Coefficient α	The absorption coefficient of a material, usually measured for each octave or third-octave band and ranging between zero and one. For example, a value of 0.85 for an octave band means that 85% of the sound energy within that octave band is absorbed on coming into contact with the material. Conversely, a low value below about 0.1 means the material is acoustically reflective.
Adverse weather	Weather effects that enhance noise (particularly wind and temperature inversions) occurring at a site for a significant period of time. In the NSW INP this occurs when wind occurs for more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of nights in winter.
Air-borne noise	Noise which is fundamentally transmitted by way of the air and can be attenuated by the use of barriers and walls placed physically between the noise source and receiver.
Ambient noise	The all-encompassing noise associated within a given environment at a given time, usually composed of sound from all sources near and far.
AoA	Angle of Attack - As the wheels on a bogie negotiate a tight curve, the leading wheelset typically presents an Angle-of-Attack (AoA) to the rail. The AoA of a leading wheelset with good steering performance can be calculated from $AoA = \text{wheelbase (m)} / \text{curve radius (m)}$. AoA is normally measured in milliradian (mrad).
Amenity	A desirable or useful feature or facility of a building or place.
AS	Australian Standard
ASA	Asset Standards Authority
Assessment period	The time period in which an assessment is made. e.g. Day 7am-10pm & Night 10pm-7am.
Assessment Point	A location at which a noise or vibration measurement is taken or estimated.
Attenuation	The reduction in the level of sound or vibration.
Audible Range	The limits of frequency which are audible or heard as sound. The normal hearing in young adults detects ranges from 20 Hz to 20 kHz, although some people can detect sound with frequencies outside these limits.
A-weighting	A filter applied to the sound recording made by a microphone to approximate the response of the human ear.
Background noise	Background noise is the term used to describe the underlying level of noise present in the ambient noise, measured in the absence of the noise under investigation. It is described as the average of the minimum noise levels measured on a sound level meter and is measured statistically as the A-weighted noise level exceeded for ninety percent of a sample period. This is represented as the LA90 noise level if measured as an overall level or an L90 noise level when measured in octave or third-octave bands.
Barrier (Noise)	A natural or constructed physical barrier which impedes the propagation of sound and includes fences, walls, earth mounds or berms and buildings.
Berm	Earth or overburden mound.
Buffer	An area of land between a source and a noise-sensitive receiver and may be an open space or a noise-tolerant land use.
Bund	A bund is an embankment or wall of brick, stone, concrete or other impervious material, which may form part or all of the perimeter of a compound.
BS	British Standard

CoRTN	United Kingdom Department of Environment entitled “Calculation of Road Traffic Noise (1988)”		
Decibel [dB]	The units that sound is measured in. The following are examples of the decibel readings of common sounds in our environment:		
	threshold of hearing	0 dB	The faintest sound we can hear, defined as 20 micro Pascal
		10 dB	Human breathing
	almost silent	20 dB	
		30 dB	Quiet bedroom or in a quiet national park location
	generally quiet	40 dB	Library
		50 dB	Typical office space or ambience in the city at night
	moderately loud	60 dB	CBD mall at lunch time
		70 dB	The sound of a car passing on the street
	loud	80 dB	Loud music played at home
		90 dB	The sound of a truck passing on the street
	very loud	100 dB	Indoor rock band concert
		110 dB	Operating a chainsaw or jackhammer
extremely loud	120 dB	Jet plane take-off at 100m away	
threshold of pain	130 dB		
	140 dB	Military jet take-off at 25m away	
dB(A)	A-weighted decibel. The A- weighting noise filter simulates the response of the human ear at relatively low levels, where the ear is not as effective in hearing low frequency sounds as it is in hearing high frequency sounds. That is, low frequency sounds of the same dB level are not heard as loud as high frequency sounds. The sound level meter replicates the human response of the ear by using an electronic filter which is called the “A” filter. A sound level measured with this filter is denoted as dB(A). Practically all noise is measured using the A filter.		
dB(C)	C-weighted decibels. The C-weighting noise filter simulates the response of the human ear at relatively high levels, where the human ear is nearly equally effective at hearing from mid-low frequency (63Hz) to mid-high frequency (4kHz), but is less effective outside these frequencies. The dB(C) level is not widely used but has some applications.		
Diffraction	The distortion of sound waves caused when passing tangentially around solid objects.		
DIN	German Standard		
ECRTN	Environmental Criteria for Road Traffic Noise, NSW, 1999		
ENMM	Environmental Noise Management Manual, Roads and Maritime Services (Transport for NSW)		
EPA	Environment Protection Authority		
Field Test	A test of the sound insulation performance in-situ. See also 'Laboratory Test' The sound insulation performance between building spaces can be measured by conducting a field test, for example, early during the construction stage or on completion. A field test is conducted in a non-ideal acoustic environment. It is generally not possible to measure the performance of an individual building element accurately as the results can be affected by numerous field conditions.		
Fluctuating Noise	Noise that varies continuously to an appreciable extent over the period of observation.		
Free-field	An environment in which there are no acoustic reflective surfaces. Free field noise measurements are carried out outdoors at least 3.5m from any acoustic reflecting structures other than the ground.		
Frequency	Frequency is synonymous to pitch. Sounds have a pitch which is peculiar to the nature of the sound generator. For example, the sound of a tiny bell has a high pitch and the sound of a bass drum has a low pitch. Frequency or pitch can be measured on a scale in units of Hertz or Hz.		

Ground-borne noise	Vibration propagated through the ground and then radiated as noise by vibrating building elements such as wall and floor surfaces. This noise is more noticeable in rooms that are well insulated from other airborne noise. An example would be vibration transmitted from an underground rail line radiating as sound in a bedroom of a building located above.
Habitable Area	Includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room, home theatre and sunroom. Excludes a bathroom, laundry, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, photographic darkroom, clothes drying room, and other spaces of a specialised nature occupied neither frequently nor for extended periods.
Heavy Vehicle	A truck, transporter or other vehicle with a gross weight above a specified level (for example: over 8 tonnes).
IGANRIP	Interim Guideline for the Assessment of Noise from Rail Infrastructure Projects, NSW DEC 2007
Impulsive noise	Having a high peak of short duration or a sequence of such peaks. A sequence of impulses in rapid succession is termed repetitive impulsive noise.
INP	NSW Industrial Noise Policy, EPA 1999
Intermittent noise	The level suddenly drops to that of the background noise several times during the period of observation. The time during which the noise remains at levels different from that of the ambient is one second or more.
Intrusive noise	Refers to noise that intrudes above the background level by more than 5 dB(A).
ISEPP	State Environmental Planning Policy (Infrastructure), NSW, 2007
ISEPP Guideline	Development Near Rail Corridors and Busy Roads - Interim Guideline, NSW Department of Planning, December 2008
L ₁	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L ₁₀	The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.
L ₁₀ (1hour)	The L ₁₀ level measured over a 1 hour period.
L ₁₀ (18hour)	The arithmetic average of the L ₁₀ (1hour) levels for the 18 hour period between 6am and 12 midnight on a normal working day.
L ₉₀	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L ₉₀ noise level expressed in units of dB(A).
L _{Aeq} or L _{eq}	The "equivalent noise level" is the summation of noise events and integrated over a selected period of time, which would produce the same energy as a fluctuating sound level. When A-weighted, this is written as the L _{Aeq} .
L _{Aeq} (1hour)	The L _{Aeq} noise level for a one-hour period. In the context of the NSW EPA's Road Noise Policy it represents the highest tenth percentile hourly A-weighted L _{eq} during the period 7am to 10pm, or 10pm to 7am (whichever is relevant).
L _{Aeq} (8hour)	The L _{Aeq} noise level for the period 10pm to 6am.
L _{Aeq} (9hour)	The L _{Aeq} noise level for the period 10pm to 7am.
L _{Aeq} (15hour)	The L _{Aeq} noise level for the period 7am to 10pm.
L _{Aeq} (24hour)	The L _{Aeq} noise level during a 24 hour period, usually from midnight to midnight.
L _{max}	The maximum sound pressure level measured over a given period. When A-weighted, this is usually written as the L _{Amax} .
L _{min}	The minimum sound pressure level measured over a given period. When A-weighted, this is usually written as the L _{Amin} .
Loudness	A rise of 10 dB in sound level corresponds approximately to a doubling of subjective loudness. That is, a sound of 85 dB is twice as loud as a sound of 75 dB which is twice as loud as a sound of 65 dB and so on. That is, the sound of 85 dB is four times or 400% the loudness of a sound of 65 dB.

Microphone	An electro-acoustic transducer which receives an acoustic signal and delivers a corresponding electric signal.
MPE	Moorebank Precinct East
NCA	Noise Catchment Area. An area of study within which the noise environment is substantially constant.
NCG	Noise Criteria Guideline, Roads and Maritime Services (Transport for NSW)
NMG	Noise Mitigation Guideline, Roads and Maritime Services (Transport for NSW)
Noise	Unwanted sound
Pre-construction	Work in respect of the proposed project that includes design, survey, acquisitions, fencing, investigative drilling or excavation, building/road dilapidation surveys, minor clearing (except where threatened species, populations or ecological communities would be affected), establishing ancillary facilities such as site compounds, or other relevant activities determined to have minimal environmental impact (e.g. minor access roads).
Reflection	Sound wave reflected from a solid object obscuring its path.
RING	Rail Infrastructure Noise Guideline, NSW, May 2013
RMS	Root Mean Square value representing the average value of a signal.
Rw	Weighted Sound Reduction Index A measure of the sound insulation performance of a building element. It is measured in very controlled conditions in a laboratory. The term supersedes the value STC which was used in older versions of the Building Code of Australia. Rw is measured and calculated using the procedure in ISO 717-1. The related field measurement is the DnT,w. The higher the value the better the acoustic performance of the building element.
R'w	Weighted Apparent Sound Reduction Index. As for Rw but measured in-situ and therefore subject to the inherent accuracies involved in such a measurement. The higher the value the better the acoustic performance of the building element.
RNP	Road Noise Policy, NSW, March 2011
Sabine	A measure of the total acoustic absorption provided by a material. It is the product of the Absorption Coefficient (alpha) and the surface area of the material (m2). For example, a material with alpha = 0.65 and a surface area of 8.2m2 would have $0.65 \times 8.2 = 5.33$ Sabine. Sabine is usually calculated for each individual octave band (or third-octave).
SEL	Sound Exposure Level (SEL) is the constant sound level which, if maintained for a period of 1 second would have the same acoustic energy as the measured noise event. SEL noise measurements are useful as they can be converted to obtain Leq sound levels over any period of time and can be used for predicting noise at various locations.
Sound	A fluctuation of air pressure which is propagated as a wave through air.
Sound absorption	The ability of a material to absorb sound energy by conversion to thermal energy.
Sound Insulation	Sound insulation refers to the ability of a construction or building element to limit noise transmission through the building element. The sound insulation of a material can be described by the Rw and the sound insulation between two rooms can be described by the DnT,w.
Sound level meter	An instrument consisting of a microphone, amplifier and indicating device, having a declared performance and designed to measure sound pressure levels.
Sound power level	Ten times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power of 1 pico watt.
Sound pressure level	The level of noise, usually expressed in decibels, as measured by a standard sound level meter with a microphone referenced to 20 micro Pascal.
Spoil	Soil or materials arising from excavation activities.

SSFL	Southern Sydney Freight Line
STC	Sound Transmission Class A measure of the sound insulation performance of a building element. It is measured in controlled conditions in a laboratory. The term has been superseded by Rw.
Structure-borne Noise	Audible noise generated by vibration induced in the ground and/or a structure. Vibration can be generated by impact or by solid contact with a vibrating machine. Structure-borne noise cannot be attenuated by barriers or walls but requires the isolation of the vibration source itself. This can be achieved using a resilient element placed between the vibration source and its support such as rubber, neoprene or springs or by physical separation (using an air gap for example). Examples of structure-borne noise include the noise of trains in underground tunnels heard to a listener above the ground, the sound of footsteps on the floor above a listener and the sound of a lift car passing in a shaft. See also 'Impact Noise'.
Tonal Noise	Sound containing a prominent frequency and characterised by a definite pitch.
Transmission Loss	The sound level difference between one room or area and another, usually of sound transmitted through an intervening partition or wall. Also the vibration level difference between one point and another. For example, if the sound level on one side of a wall is 100dB and 65dB on the other side, it is said that the transmission loss of the wall is 35dB. If the transmission loss is normalised or standardised, it then becomes the Rw or R'w or DnT,w.
Wheelbase	The wheelbase is the distance between the centres of the front and rear wheels on a 2-axle bogie.