



Condition F5A MANAGEMENT PLAN

Moorebank Intermodal Precinct– East Precinct



MOOREBANK INTERMODAL PRECINCT

Moorebank Intermodal Precinct – East Precinct

Condition F5A Management Plan

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ACRONYMS AND DEFINITIONS

Acronym / Term	Meaning
C-ASC	Cantilever automated stacking cranes
CoC	Condition(s) of Consent
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.
DCCEEW	Department of Climate Change, Energy, the Environment and Water (formerly DotEE)
DotEE	Commonwealth Department of the Environment and Energy (now DCCEEW)
DPE	Department of Planning and Environment
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	NSW Environment Protection Authority
EPBC Act	Environmental Protection and Biodiversity Conservation Act 1999
Facility	The MPE Concept (MP10_0193), MPE Stage 1 (SSD 6766) and MPE Stage 2 (SSD 7628) Project, including the operation of the IMEX Terminal, warehousing and distribution facilities. A rail link is included as part of MPE Stage 1 (SSD 6766) and connects the Facility to the Southern Sydney Freight Line.
FCMM	Final Compilation of Mitigation Measures
IMEX Terminal	Import Export Terminal. Includes the following key components: <ul style="list-style-type: none"> • Truck processing, holding and loading areas with entrance and exit from Moorebank Avenue • Rail loading and adjacent container storage areas serviced by container handling equipment • Administration facility and associated car parking with light vehicle access from Moorebank Avenue.
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 LAeq.
L _{Aeq,15min}	The LAeq noise level for over a period of 15 minutes.
L1	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L _{max}	The maximum sound pressure level measured over a given period.
MIP	Moorebank Intermodal Precinct (formerly Moorebank Logistics Park)

Acronym / Term	Meaning
MIP East Approvals	<ul style="list-style-type: none"> • Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) Approval (No. 2011/6229), March 2014 • MPE Concept Approval received 29 September 2014 (MP10_0193). • MPE Stage 1 approved 12 December 2016 (SSD 6766) as modified by Appeal Number 2017/81889 Stage 1 Approval (SS 6766) outcome dated 13 March 2018
MIP East Precinct	The term referred to the operations of MPE Stage 1 and MPE Stage 2 Projects under the MPE Concept Approval (MP 10_0193) including the operation of a rail link to the Southern Sydney Freight Line, IMEX and warehousing and distribution facilities.
MPE	Moorebank Precinct East
MPW	Moorebank Precinct West
NCA	Noise Catchment Area
NML	Noise Management Level
NIA	Noise Impact Assessment
OEMP	Operational Environmental Management Plan
PUD	Pick-up and delivery vehicles
Rail link	Part of MPE Stage 1 (SSD 6766), connecting the MPE Site to the Southern Sydney Freight Line. The Rail link is to be utilised for the operation of the Facility.
RTS	Response to Submissions
SHEQ	Safety, Health, Environment and Quality
SSD	State significant development
TEU	Twenty-foot equivalent unit
TISEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021

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1 INTRODUCTION

The approval for the construction and operation of the Moorebank Intermodal Precinct (MIP) (formerly Moorebank Logistics Park) was obtained progressively as follows:

- Moorebank Precinct East (MPE) Concept Approval (MP10_0193) on 29 September 2014
- MPE Stage 1 (Stage significant development (SSD) 6766) on 12 December 2016
- MPE Stage 2 (SSD 7628) on 31 January 2018, as modified
- Department of Climate Change, Energy, the Environment and Water (DCCEEW) *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Approval and Mitigation Measures (No. 2011/6229) on 6 March 2014.

A management plan addressing Condition F5A of SSD 6766 was originally prepared by Arcadis (Container Noise Barrier Management Plan Rev 4, June 2019) to outline the management practices and procedures that would be implemented during night-time operations of the MPE Stage 1 Import Export (IMEX) Terminal.

This revised Condition F5A Management Plan continues to address the relevant requirements of CoC F5A for the management of container stacking during night-time operations of the IMEX Terminal. This management plan now also includes consideration of the operational shift to electrified automatic night-time stacking via the use of Cantilever Automated Stacking Cranes (C-ASC) (large gantry cranes) for yard stacking and electrified Automated Stacking Cranes (ASC) for rail servicing. This system, which is quieter than manual operations has only recently been implemented onsite and so has not previously been considered as part of the measures to mitigate potential noise impacts associated with night-time container stacking.

Approval to increase the operational capacity of the IMEX has also recently been sought (Section 1.2). In support of the application, a Noise Impact Assessment (NIA) (Renzo Tonin & Associates, August 2023) was prepared to identify any potential adverse acoustic impacts associated with the operational capacity increase, and outline management measures required to mitigate these impacts. This management plan has been updated to include these measures.

The title of the plan has been amended to reflect the dynamic, transient, and temporary nature of container placement on site. Additionally, it removes any undue perceptions of a singular permanent structure being in place on the MPE 1 Site to mitigate and manage noise emissions, which does not reflect the actual nature of onsite container operations and working container management or the required outcomes of CoC F5A. Recent modelling completed by Renzo Tonin & Associates (RTA) (August 2023) has found that noise emissions generated by operations at the IMEX requires mitigation via a number of measures working in parallel, along with consideration of prevailing meteorological conditions. Container stacks acting as noise barriers were found to be only one potential component of a wider strategy that can more effectively manage the impacts of noise emissions on sensitive receivers.

1.1 Background

The MIP is an integral component of the Freight, Ports and Transport strategies of both the NSW and Commonwealth governments to help manage the challenges of an expected tripling of freight volumes at Port Botany by 2031.

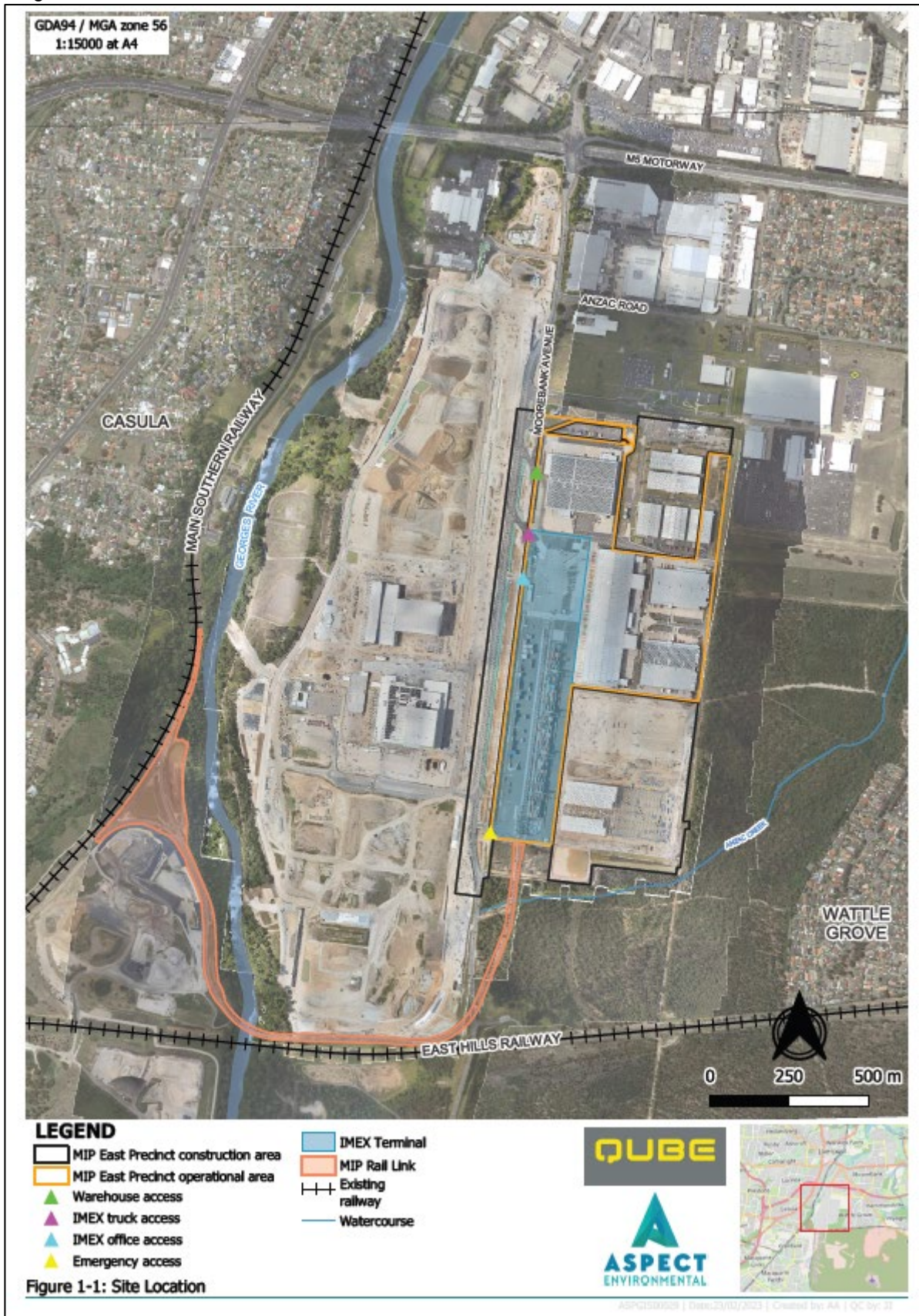
The MIP aims to streamline the freight logistics supply chain from port to store, deliver savings to businesses and consumers, and help service the rapidly growing demand for imported goods in south-west Sydney. It is located approximately 27km south-west of the Sydney Central Business District and approximately 26km west of Port Botany within the Liverpool Local Government Area. The MIP is divided into an East Precinct (MPE) and a West Precinct (MPW), located east and west of Moorebank Avenue respectively, (Figure 1-1).

The main features of the MIP East Precinct include:

- The IMEX Terminal comprised of:
 - Truck processing, holding and loading areas with an entrance and exit from Moorebank Avenue
 - Rail loading and container storage areas serviced by container handling equipment
 - An administration facility and associated car parking with light vehicle access from Moorebank Avenue
- A rail link connecting the IMEX Terminal and the Southern Sydney Freight Line
- Warehouse and distribution facilities
- A freight village including a mix of retail, commercial and light industrial spaces
- An internal road network to enable efficient movement of vehicles, dispatch of freight from the warehouses and transport of containers between the IMEX Terminal and warehouse and distribution facilities.

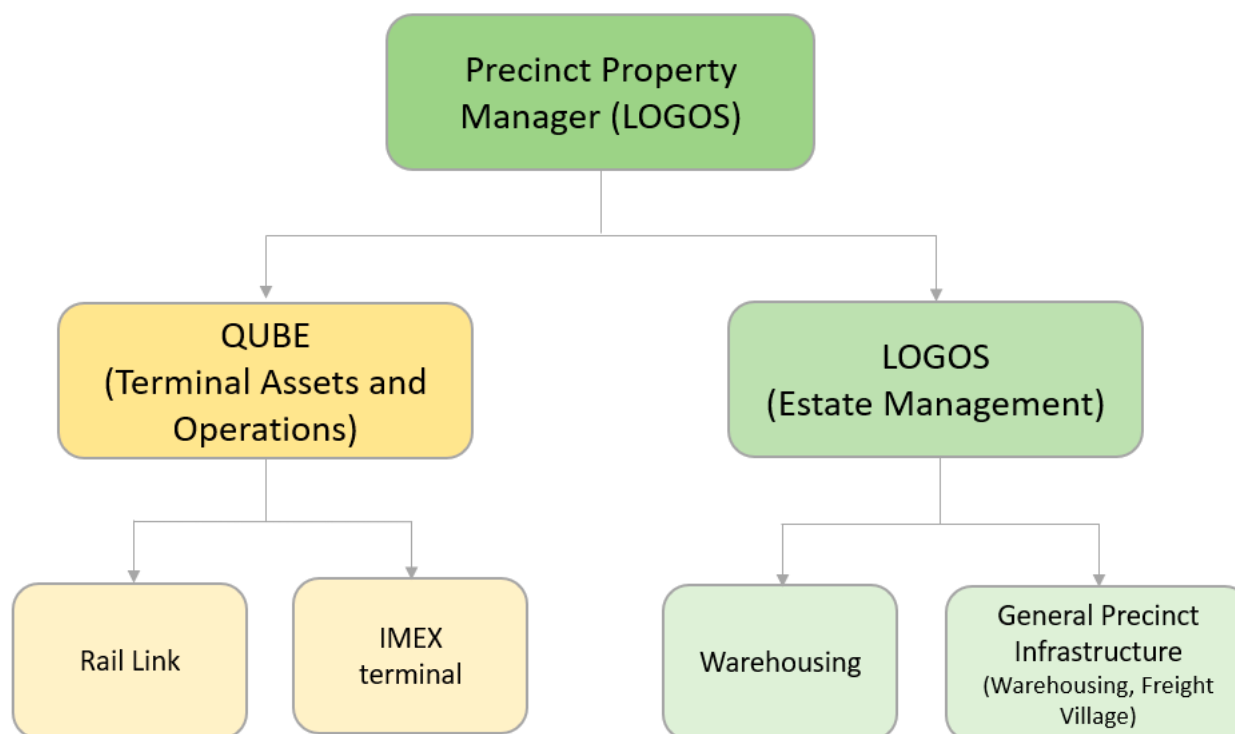
The location of the MIP East Precinct is shown in Figure 1-1.

Figure 1-1: Site location



In 2022, LOGOS Property took over the management of the warehouse and distribution facilities, as well as the overall management of the MLP East Precinct. Qube Logistics will continue to maintain responsibility for the IMEX and the Rail Link. Section 2 of the OEMP describes the operational areas of responsibilities for LOGOS Property and Qube Logistics. This is summarised in Figure 1-2.

Figure 1-2: Environmental Management Structure



1.2 IMEX Terminal Capacity Increase

The increase in IMEX Terminal capacity from 250,000 TEU to 500,000 TEU, is subject to a complying development certificate (CDC) under Chapter 6 of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (TISEPP). A NIA to support the application was prepared by RTA (August 2023).

The NIA assessed operational noise impacts associated with the increase in TEU capacity and identified the anticipated impact of the TEU increase on baseline noise conditions. The NIA considered noise generated by additional trains at the terminal, terminal activities and increased vehicle movements and included measures to mitigate the potential increases in noise from these operational activities. These measures were identified to control noise emissions, with consideration of other potential noise emissions from other MIP (MPW & MPE) activities along with the acoustic shielding provided by the overall MIP design, including the MPE and MPW warehousing build out adjacent to the IMEX both east and west. This assessment, also considered the interim stage while this is being constructed.

This Plan now presents mitigations and management for any potential adverse noise impacts associated with the TEU increase - including electrified automated stacking and other NIA recommend mitigation and management measures.

1.3 Purpose and Application

The purpose of this management plan is to outline the management practices and procedures to be followed during night-time operations and the methodology for stacking of containers during these night-time operations to manage noise emissions to the nearest residential receivers, where required.

This Condition F5A Management Plan has been developed to address the requirements of MPE Stage 1 CoC F5A (SSD 6766) which requires the preparation of a Management Plan, to the satisfaction of the Secretary of the Department of Planning and Environment (DPE) prior to the commencement of operation. The specific CoC and FCMMs relevant to the development of this plan are identified in Section 2.2.

The IMEX Terminal is approved for 24/7 operation and will include following noise generating activities:

- Container truck movements
- Crane operations
- Reach stacker operations
- Train operations
- Combi lift operations/ straddle carrier operations.

It will receive and dispatch containers on a 24/7 basis which will result in a varying number of stored transient working containers onsite at any one time. The most recent, approved version of this plan will be implemented to manage the Facility activities.

1.4 Objectives and Targets

Table 1-1 outlines the objectives and targets set out for IMEX Terminal for the management of container noise during night-time operations. These objectives and targets were developed by the Principal's Representative based on collective industry experience and best practice.

Table 1-1: Objective and targets

Objective	Target	Timeframe	Accountability
Minimise night-time operational noise impacts on residents through the implementation of management measures	No exceedances of noise criteria	Duration of Operations	IMEX Terminal Manager
Comply with relevant CoCs, applicable legislative and other requirements	No written warnings or infringement notices	Duration of Operations	Site Safety, Health, Environment and Quality (SHEQ) Manager/Advisor for MPE
Promptly investigate any complaints made by the surrounding residents and implement appropriate mitigation measures as required	No validated complaints from the community regarding night-time noise	Duration of Operations	IMEX Area Manager Community Liaison ¹ Manager Site SHEQ Manager/Advisor for MPE

¹ Community complaints are managed by the Precinct Operator.

1.5 Approval

The CNBMP Rev 4 (Arcadis June 2019) was approved by DPE (16/08/2019).

This Condition F5A Management Plan will be submitted to the Secretary as an update to the previously approved Plan.

2 STATUTORY REQUIREMENTS

2.1 Legal and Other Obligations

The legislation, planning instruments and guidelines considered during development of this plan are listed below, with specific details provided in the Legislation Register within Appendix B of the Operational Environmental Management Plan (OEMP).

- *Environmental Planning and Assessment Act 1979*
- *Environmental Planning and Assessment Regulation 2000*
- *Environment Protection and Biodiversity (EPBC) Act 1999*
- *Protection of the Environment Operations (Noise Control) Regulation 2017*
- *State Environmental Planning Policy (Transport and Infrastructure) Amendment (Moorebank Freight Intermodal Precinct) 2022 (Moorebank SEPP)*

Additional legislation, standards and guidelines relating to the management of container noise during night-time operations include:

- *Industrial Noise Policy 2000* (NSW Environment Protection Authority (EPA))
- *Noise Policy for Industry 2017* (EPA)

2.2 Development Consent

The operation of the MIP East Precinct was approved under both the *Environmental Planning and Assessment Act 1979* (EP&A Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Both these approvals have environmental conditions relevant to the operational works for the MIP East Precinct, which are discussed below.

The operational requirements for the Facility, including consultation, impact mitigation and management, is documented in the following suite of documents.

This Condition F5A Management Plan has been prepared in accordance with:

- EPBC Act Approval (No. 2011/6229), March 2014
- MPE Concept (MP 10_0193), 29 September 2014
- MPE Stage 1 (SSD 6766), as modified by Appeal Number 2017/81889 Stage 1 Approval (SS 6766) outcome dated 13 March 2018
- MPE Stage 1 – EIS (Arcadis Australia Pacific Pty Limited, May 2015)
- MPE Stage 1 – RtS (Arcadis Australia Pacific Pty Limited, September 2015).

The EP&A Act and EPBC Act approval requirements are discussed in the following section.

2.2.1 EPBC Act Approval

The EPBC Act approval for the MPE Concept was granted by DCCEE (formerly DotEE) in March 2014 (No. 2011/6229).

The operation of the MIP East Precinct has been designed to be consistent with the EPBC Act approval conditions. Specific conditions and commitments that are required to be addressed in this plan are identified within Table 2-1.

Table 2-1: EPBC Act Conditions of Approval

Commonwealth	Requirement	Document Reference
Annexure A – Summary of Mitigation Measures	<p>Operation</p> <p>To reduce noise and vibration impacts of the SIMTA proposal during operation, the following recommendations as presented within Wilkinson Murray (2013) would be implemented:</p> <p>SIMTA would make provisions for a potential noise barrier along the western boundary of the SIMTA site. The requirement for the barrier will be confirmed during detailed assessments at each development application stage for approval under the NSW State planning approval process.</p>	<p>This Plan</p> <p>In response to updated noise monitoring and modelling in support of the increase in IMEX Terminal capacity from 250,000 to 500,000 TEU, the Condition F5A Management Plan has been revised to implement recommendations for the mitigation and management of night-time noise levels arising from container placement at nearby residential receivers.</p> <p>Additionally, this Plan reflects the progressive development of the MPW Precinct to the west of Moorebank Avenue and the presence of new, large warehousing and distribution facilities which provide acoustic shielding to residences in Casula, to the west of the MPE 1 facility. This Plan focuses on providing noise mitigation for night-time container placement.</p>

2.2.2 EP&A Act Approval

Approval for MPE Stage 1 was originally received on 12 December 2016 (SSD 6766) and subject to appeal, with revised CoC issued from the Land and Environment Court on 13 March 2018.

The CoC include requirements to be addressed in this plan and delivered during operation of the IMEX Terminal. These requirements, and how they are addressed are summarised within Table 2-2 and Table 2-3 for MP10_0193 and SSD 6766 respectively.

The MPE Stage 2 consent (SSD 7628), at Condition B80, includes LAeq noise management levels that represent a cumulative set of noise criteria for MPE 1 and MPE 2. However, as identified by RTA in their most recent Noise Impact Assessment (August 2023, Section 2.1.2), this set of criteria is inconsistent with the EIS derived noise limits derived in accordance with NSW EPA policy, the expected noise emission performance from MPE as detailed in the EIS, and former approvals.

As part of the MPW Stage 2 (SSD 7709) Modification 1, a review of the applicable operational noise requirements across MIP was undertaken (Renzo Tonin, June 2020). The review identified operational noise requirements are inconsistent across the MIP and not aligned with EPA or DPE methodologies for regulating industrial noise emissions. As a result, the updated MPW Stage 2 consolidated consent now includes, at Condition B131, a set of cumulative noise criteria applicable to operations across MPE and MPW (Table 2-4).

When assessing noise emission for IMEX operations, the noise limits specified in Condition F5B of SSD 6766 and Condition B131 of SSD 7709 would be applicable for this plan.

Table 2-2: MPE Concept CoC (MP10_0193)

Condition	Requirement	Sections or documents where requirements addressed
2.1	Under section 75P(2)(c) of the Act, the following environmental assessment requirements apply with respect to future development that is subject to Part 4 Division 4.1 Act:	Note
Noise and Vibration	Any future Development Application shall include an updated assessment of noise and vibration impacts. The assessment shall: a) The assessment shall: ...	-
	ii. assess operational noise and vibration impacts and identify feasible and reasonable measures proposed to be implemented to minimise operational noise impacts of the intermodal facility and rail link, including the preparation of an Operational Noise Management and Monitoring Plan; and	Section 3
	iii. be prepared in accordance with: NSW Industrial Noise Policy (EPA 2000), Interim Construction Noise Guideline (DECC 2009), Assessing Vibration: a technical guide (DEC 2006), the Rail Infrastructure Noise Guideline (EPA 2013), Development Near Rail Corridors and Busy Roads Interim Guideline (DoP 2008), and the NSW Road Noise Policy 2011.	Section 2.1

Table 2-3: MPE Stage 1 CoC (SSD 6766)

CoC	Requirement	Sections or documents where requirements addressed
F5A	<p>The Applicant shall prepare and implement (following approval) a Container Noise Barrier Management Plan (CNBMP). The plan shall be prepared by a suitably experienced and qualified acoustics consultant and shall outline the management practices and procedures that are to be followed during night-time operation of the site and for the stacking of containers to be used as noise barriers. The plan shall include, but not necessarily be limited to:</p>	<p>This Plan Refer to authors details on Page (i) Section 3.5</p>
F5A(a)	<p>the preparation of a specification for the stacking of containers to achieve the required level of noise reduction so as to comply with the project specific noise levels** and the sleep disturbance trigger levels*** for the night-time period* at the nearest affected residential receivers and which is to include such details as the minimum numbers of containers, their locations, stacking heights, orientation and maximum gap between containers. The Plan shall include any restrictions on stacking of containers above two high if this is found necessary.</p>	<p>Section 3</p>
F5A(b)	<p>The measurement of noise from operation of the site and an assessment of compliance with the project specific noise levels and the sleep disturbance trigger levels at the nearest affected residential receivers at the following times:</p> <ul style="list-style-type: none"> i) not less than 3 months and not more than 6 months after commencement of operation, noise surveys shall be conducted on three separate nights for a period of not less than 2 hours whilst train wagons are being loaded with containers; ii) thereafter for 6 months on one night per month for a period of not less than 2 hours whilst train wagons are being loaded with containers. <p>Noise measurements shall be conducted in accordance with the EPA's Industrial Noise Policy.</p>	<p>Section 2.1 Section 3.5 Section 4</p>
F5A(c)	<p>the details of each noise survey shall be documented in a report with a drawing showing the observed location of containers which are subject to the Plan, the measurement equipment used, its calibration status, environmental conditions, receiver locations, methodology, a detailed description of the activities on site, the results obtained and whether or not compliance has been achieved with the project specific noise levels and the sleep disturbance trigger levels at the nearest affected residential receivers.</p>	<p>Section 4</p>
F5A(d)	<p>if the report concludes that the project specific noise levels and the sleep disturbance trigger levels for the night-time period at the nearest affected residential receivers are not being complied with, then recommendations shall be made by the acoustic consultant to amend the Plan accordingly and the Applicant shall implement those recommendations as soon as practical provided they are feasible and reasonable.</p>	<p>Section 4</p>

CoC	Requirement	Sections or documents where requirements addressed																									
F5A(e)	the Plan shall include a description of the roles and responsibilities for relevant employees involved in the operation of the CNBMP, including relevant training and induction provisions for ensuring that employees are aware of their environmental and compliance obligations under the Plan.	Section 2.3 Section 2.4																									
	The Plan shall be submitted for the approval of the Secretary no later than one month prior to the commencement of operation. Copies of the detailed reports and the Plan (as amended) shall be provided to the Secretary and made available on the Project Website.	Section 1.5 Section 4																									
	<p>* The night-time period is defined as 10pm-7am Mon-Sat and 10pm-8am Sundays and Public Holidays</p> <p>** Contained within the LAeq (15 min) column in Table A in Condition F5B</p> <p>*** Contained within the Review of Operational Sleep Disturbance Impacts</p>	-																									
F5B	<p>Industrial noise (excluding activities covered by the <i>NSW Rail Infrastructure Noise Guideline</i>) generated by the development is to be measured and evaluated for compliance generally in accordance with the relevant requirements of the <i>NSW Industrial Noise Policy</i> (as may be updated from time to time).</p> <p>Table A: Noise Criteria dB(A)</p> <table border="1" data-bbox="308 1216 1050 1496"> <thead> <tr> <th>Sensitive receiver</th> <th>Day (LAeq (15 min))</th> <th>Evening (LAeq (15 min))</th> <th>Night (LAeq (15 min))</th> <th>Night (LA1 (1 min))</th> </tr> </thead> <tbody> <tr> <td>Wattle Grove (NCA 1)</td> <td>43</td> <td>42</td> <td>42</td> <td>52</td> </tr> <tr> <td>Wattle Grove (NCA 2)</td> <td>41</td> <td>41</td> <td>41</td> <td>51</td> </tr> <tr> <td>Casula (NCA 3)</td> <td>45</td> <td>42</td> <td>38</td> <td>47</td> </tr> <tr> <td>Glenfield (NCA 4)</td> <td>46</td> <td>46</td> <td>40</td> <td>50</td> </tr> </tbody> </table> <p>Note: References to sensitive receivers should be read in conjunction with the description of sensitive receivers in the EIS noting that Casula includes Glenfield Farm.</p>	Sensitive receiver	Day (LAeq (15 min))	Evening (LAeq (15 min))	Night (LAeq (15 min))	Night (LA1 (1 min))	Wattle Grove (NCA 1)	43	42	42	52	Wattle Grove (NCA 2)	41	41	41	51	Casula (NCA 3)	45	42	38	47	Glenfield (NCA 4)	46	46	40	50	Section 3.4 Section 4 details noise monitoring and reporting requirements which will assess compliance with noise criteria
Sensitive receiver	Day (LAeq (15 min))	Evening (LAeq (15 min))	Night (LAeq (15 min))	Night (LA1 (1 min))																							
Wattle Grove (NCA 1)	43	42	42	52																							
Wattle Grove (NCA 2)	41	41	41	51																							
Casula (NCA 3)	45	42	38	47																							
Glenfield (NCA 4)	46	46	40	50																							
F5C	<p>The noise criteria in Table A of condition F5B are to apply under all meteorological conditions except the following:</p> <p>a) wind speeds greater than 3 m/s at 10 metres above ground level; or</p> <p>(b) stability category F temperature inversion conditions and wind speeds greater than 2 m/s at 10 m above ground level; or</p> <p>(c) stability category G temperature inversion conditions.</p>	Section 3.2																									

Table 2-4: MPW Stage 2 CoC (SSD 7709)

CoC	Requirement	Sections or documents where requirements addressed																									
B131	<p>The noise generated by the development must not exceed the noise limits in Table 4 which are generated by the overall precinct operations (defined as all activities approved for MPW and MPE).</p> <p>Table 4: Operational Noise Limits dB(A)</p> <table border="1" data-bbox="308 524 1048 904"> <thead> <tr> <th>Location (residential receivers)</th> <th>Day L_{Aeq,15} minute</th> <th>Evening L_{Aeq,15} minute</th> <th>Night L_{Aeq,15} minute</th> <th>Night L_{AFmax} Sleep Arousal Screening Level</th> </tr> </thead> <tbody> <tr> <td>Casula</td> <td>46 dB</td> <td>44 dB</td> <td>39 dB</td> <td>52 dB</td> </tr> <tr> <td>Glenfield</td> <td>49 dB</td> <td>46 dB</td> <td>42 dB</td> <td>52 dB</td> </tr> <tr> <td>Wattle Grove</td> <td>44 dB</td> <td>42 dB</td> <td>42 dB</td> <td>52 dB</td> </tr> <tr> <td>Wattle Grove North</td> <td>41 dB</td> <td>41 dB</td> <td>41 dB</td> <td>52 dB</td> </tr> </tbody> </table> <p>Notes:</p> <p>To determine compliance with the L_{Aeq,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 m of a dwelling where the dwelling is more than 30 m 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 7 of the NPI). The modification factors in Fact Sheet C of NPI must also be applied to the measured noise levels where applicable.</p> <p>To determine compliance with the L_{AFmax} Sleep Arousal Screening Level in Table 4 above, noise from the project is to be measured at 1 m 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 7 of the NPI).</p> <p>The noise emission limits identified above apply under meteorological conditions of:</p> <ul style="list-style-type: none"> (i) wind speeds of up to 3 m/s at 10 m above ground level; or (ii) 'F' atmospheric stability class. 	Location (residential receivers)	Day L _{Aeq,15} minute	Evening L _{Aeq,15} minute	Night L _{Aeq,15} minute	Night L _{AFmax} Sleep Arousal Screening Level	Casula	46 dB	44 dB	39 dB	52 dB	Glenfield	49 dB	46 dB	42 dB	52 dB	Wattle Grove	44 dB	42 dB	42 dB	52 dB	Wattle Grove North	41 dB	41 dB	41 dB	52 dB	<p>Section 3.3, Table 3-4</p> <p>The noise limit requirements detailed within Condition B131 are applicable to operations within MPE Stage 1 (i.e. of the IMEX terminal) as the condition applies to the cumulative noise emissions of all noise generating activities in the MIP (MPE & MPW), SSD 6766, SSD 7628 and SSD 7709.</p> <p>Section 4 details noise monitoring and reporting requirements which will assess compliance with noise criteria.</p>
Location (residential receivers)	Day L _{Aeq,15} minute	Evening L _{Aeq,15} minute	Night L _{Aeq,15} minute	Night L _{AFmax} Sleep Arousal Screening Level																							
Casula	46 dB	44 dB	39 dB	52 dB																							
Glenfield	49 dB	46 dB	42 dB	52 dB																							
Wattle Grove	44 dB	42 dB	42 dB	52 dB																							
Wattle Grove North	41 dB	41 dB	41 dB	52 dB																							

2.3 Roles and Responsibilities

Key roles and responsibilities applicable to this Condition F5A Management Plan are presented in Table 2-6.

Table 2-5: Roles and responsibilities

Roles	Responsibilities
IMEX Terminal Manager	<ul style="list-style-type: none"> Co-ordinate induction and training of IMEX Terminal staff on the requirements of this Plan
Site HSEQ Manager/Advisor for MPE	<ul style="list-style-type: none"> Monitoring the implementation of this Plan, including compliance with relevant CoC Undertake the monitoring and reporting requirements of this Plan
Qualified Acoustic Consultant	<ul style="list-style-type: none"> Will be engaged to undertake the noise surveys required by this Plan
Shift Supervisor	<ul style="list-style-type: none"> Monitoring of weather conditions during the night-time period Implementing this Plan, in particular the actions and activities detailed in Section 4.2 in the event that noise criteria are exceeded during night time operations.
All other personnel	<ul style="list-style-type: none"> Comply with applicable requirements of this Plan Follow instructions of Shift Supervisor, in relation to container placement during night-time operations

2.4 Training

All staff, contractors and sub-contractors shall undergo site-specific induction training which will include container handling noise mitigation and management training developed with an emphasis on understanding and managing noise impacts arising from night-time operation of the IMEX Terminal.

This site-specific induction training will include:

- The location of sensitive receivers and monitoring locations
- Relevant noise mitigation measures and procedures
- Identifying the specifications for the placement and stacking of containers during night-time operations to manage and minimise noise emissions.
- Any limitations on high noise-generating activities
- Designated loading/unloading areas and procedures
- Details of the complaints handling procedure (complaints are received by Precinct Operator)
- Details of the environmental incident procedures
- Non-conformance, preventative and corrective action procedures
- An outline of the consequences of not complying with these measures
- Plant and equipment maintenance requirements
- Operation of vehicles to minimise noise and vibration impacts, e.g., use of designated container handling areas/locations, use of non-tonal reversing beepers, using alternate

onsite signaling systems to horns, and turning off plant, equipment and vehicles when not in use.

Personnel directly involved in implementing container handling noise control measures will be given specific training in the various measures to be implemented as per Section 3, including stacking times and locations, allocated areas, priorities of containers, orientation and placement.

3 IMPLEMENTATION

This section addresses the key night-time period operational noise risks associated with operation of the IMEX Terminal in respect of container placement and stacking. In accordance with CoC F5A(a), the night-time period is defined as 10pm-7am Monday to Saturday and 10pm-8am Sundays and Public Holidays.

3.1 Existing Environment

The IMEX terminal is surrounded by the residential suburbs of Wattle Grove, Casula and Glenfield.

Background noise levels at the nearby residences were established through long-term background noise monitoring during the approval process. The noise monitoring was undertaken by Wilkinson Murray (now RWDI) for the *SIMTA Concept Plan Noise Impact Assessment (NIA)* [Wilkinson Murray, Report No. 12186-C, Version C, 2 August 2013 (MPE Concept NIA)] in addition to further monitoring undertaken related to the Land and Environment Court Appeal No. 2017/81889.

These monitored noise levels then informed the operational noise limits identified in SSD 6766 F5B Table A.

The Rating Background Levels (RBLs) were then defined for each of the four defined residential noise catchment areas surrounding the IMEX terminal.

3.2 Meteorological Conditions

At relatively large distances from a source, the resultant noise levels at sensitive receivers can be influenced by meteorological conditions, particularly temperature inversions and winds; and can therefore vary from hour to hour and night to night.

As further explained in the NPfI, certain meteorological/weather conditions may increase noise levels at receiver locations by focusing sound-wave propagation paths at a single point. Such refraction of sound waves can occur during temperature inversions (atmospheric conditions where temperatures increase with height above ground level), and where there is a wind gradient (that is, wind velocities increasing with height) with wind direction from the source to the receiver.

As per the NPfI, these noise-enhancing meteorological conditions need to be considered when predicting the likely levels of noise emission for an industrial activity. Subject to the distance and meteorological conditions, noise-enhancing meteorological conditions can typically increase noise levels by up to 5 dB(A) at distances similar to that of receivers around MIP.

The night-time noise management levels are applicable under the meteorological conditions as outlined in CoC F5C (SSD 6766) and CoC B131 (SSD 7709), and so are applicable for all weather conditions except those detailed below:

- Wind speeds greater than 3m/s at 10m above ground level
- Stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level

- Stability category G temperature inversion conditions.

To properly manage noise emissions from the IMEX terminal, these noise-enhancing conditions require monitoring and consideration, so that the appropriate recommended management measures are adopted where required. When noise-enhancing conditions are not certain management measures would not be needed for noise emissions to achieve the noise requirements at nearby residences.

3.3 Prevailing Meteorological Conditions

3.3.1 Meteorological Station

Todoroski Air Sciences was engaged to supply and install a meteorological station on the MPE Stage 1 (required under condition A54 of SSD 7709 (MPW Stage 2)) to record weather conditions. Previous versions of this Plan identified a requirement for installation of a temporary meteorological station prior to commencement of MPE operations. The MPW Stage 2 meteorological station was utilised for this purpose and is also appropriate for use with the MPE Stage 1 requirements.

The following information is monitored by the meteorological station:

- Wind speed
- Sigma-theta (the standard deviation of wind direction)

Weather data is being stored to allow for post-processing in the event of complaints, or noise exceedances.

3.3.2 Project specific meteorological forecasting

Todoroski Air Sciences has also been engaged to provide a forecasting and monitoring tool, whereby the forecast wind and temperature inversion risks in coming days can be identified. The appropriate mitigation and management measure can be implemented as required as part of operational planning, in response to the forecast conditions.

Night-time Shift Supervisors would have access to the outputs from the meteorological station and would be aware in advance of the predicted weather conditions, to enable implementation of the applicable noise mitigation measures and operational practices.

Noise management measures, combined with the applicable prevailing meteorological conditions, are summarised in Section 3.5.

3.4 Sensitive Receivers

The residential receivers in the vicinity of the IMEX Terminal with the greatest potential for being adversely impacted by noise are located in the suburbs of Casula, Glenfield and Wattle Grove.

Table 3-1 and Figure 3-1 identifies these residential receiver noise catchment areas. Figure 3-1 also identifies key potentially noise-affected receivers from IMEX terminal operations in each noise catchment area (NCA), which are where attended measurements would typically be conducted, subject to the operational activity being monitored.

Alternate monitoring locations may be appropriate subject to the operational activity being monitored. Any monitoring locations should be appropriately justified.

Table 3-1: Sensitive receivers and approximate distance from IMEX Terminal

Noise Catchment Area (NCA)	Typical Monitoring Location	Approximate distance (m) from IMEX Terminal
NCA 1: Wattle Grove	AM1	770
NCA 2: Wattle Grove North	AM2	1,050
NCA 3: Casula	AM3	960
NCA 4: Glenfield	AM4	1,750

Noise monitoring at nearby residential receivers for the Precinct noise emissions are managed by the Precinct Operator in line relevant conditions of consent, compliance monitoring requirements, and requirements of both the Construction Noise and Vibration Management Plan (CNVMP) and Operational Noise and Vibration Management Plan (ONVMP).

Figure 3-1: Noise catchment areas and typical noise monitoring locations



Figure 3-1: Noise Catchment areas and noise monitoring locations

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3.5 Noise Management Criteria

As detailed in Section 2.2.2, the noise limits specified by SSD 6766 CoC F5C and SSD 7709 CoC B131 are applicable for the operation of IMEX Terminal and have therefore been adopted for this management plan.

Table 3-2 and Table 3-3 identify the operational noise limits for the operations of the IMEX Terminal during the night-time period. These noise limits apply under the meteorological conditions as outlined in CoC F5C (SSD 6766) and CoC B131 (SSD 7709).

Table 3-2: Noise criteria, dB(A) (SSD 6766)

Sensitive receiver	Day ($L_{Aeq,15\text{ min}}$)	Evening ($L_{Aeq,15\text{ min}}$)	Night ($L_{Aeq,15\text{ min}}$)	Night ($L_{A1,1\text{ min}}$)
Wattle Grove (NCA 1)	43	42	42	52
Wattle Grove North (NCA 2)	41	41	41	51
Casula (NCA 3)	45	42	38	47
Glenfield (NCA 4)	46	46	40	50

Table 3-3: Operational noise limits, dB(A) (SSD 7709)

Sensitive receiver	Day ($L_{Aeq,15\text{ min}}$)	Evening ($L_{Aeq,15\text{ min}}$)	Night ($L_{Aeq,15\text{ min}}$)	Night (L_{AFmax})
Wattle Grove (NCA 1)	44	42	42	52
Wattle Grove North (NCA 2)	41	41	41	52
Casula (NCA 3)	46	44	39	52
Glenfield (NCA 4)	49	46	42	52

3.6 Noise Management

3.6.1 Application strategies

Based on the recently completed NIA by RTA (August 2023) and in accordance with NPfl, measures for reducing noise impacts from industrial activities should follow three main control strategies:

- reducing noise at source
- reducing noise in transmission to the receiver
- reducing noise at the receiver.

These control strategies should be considered in a hierarchical way so that all the measures that reduce noise for a large number of receivers (that is, source controls) are exhausted before more localised mitigation measures are considered.

The NIA by RTA (August 2023) identified that due to the actual nature of onsite container handling operations and working container management, alternate noise control strategies to the implementation of a single permanent noise barrier were required to achieve the required outcomes of CoC F5A.

In the context of the MIP, due to the distance between the IMEX terminal and the nearby residences, the prevailing meteorological conditions can result in noise enhancing conditions, which will increase the noise levels from IMEX noise generating activities at nearby receivers. Noting that this can substantially change the noise level at the potentially impacted receivers, it is important to take this into consideration when developing a noise control strategy (Section 3.2).

In accordance with CoC F5A of SSD 6766, container stacking is implemented at the IMEX Terminal to reduce noise impacts to sensitive receivers during night-time operations when required. However, the NIA prepared by RTA in support of the IMEX TEU capacity increase proposal, has found that various container yard container stack heights can alter the noise emissions to nearby receivers, through both shielding or reflection. Furthermore, the numbers of containers present onsite at any given time is variable depending on operational activities. Additionally, not all potentially impacted residential receivers may be located such that the container yard is located in between the noise sources and the receivers, where it can act as a noise barrier. As such, increasing container stacks and/or container heights does not provide a holistic solution to noise emissions mitigation.

A series of management and mitigation strategies have been developed for the IMEX operations – utilising a combination of noise control measures both ‘at source’ and ‘in the noise transmission path’ approaches. These strategies include implementation of container stacking at selected locations (depending on the location of operational activities). The level of mitigation required is driven by the prevailing meteorological conditions, which are monitored by IMEX operations staff.

With the implementation of this strategy (Section 3.5.2), the IMEX operations (up to a maximum capacity of 500,000 TEU) are then predicted to achieve the applicable noise emissions criteria. By achieving these criteria, operations will also aid the MIP in achieving the overall applicable cumulative noise limits as part of the final MIP arrangement.

3.6.2 Mitigation and Management Measures

3.5.2.1 Mitigation and Management Measures – Noise Impact Assessment Recommendations

The NIA prepared by RTA (August 2023) in support of the IMEX capacity increase to 500,000 TEU concluded that with the implementation of a number of mitigation and management measures, with consideration of the prevailing meteorological conditions, operations are predicted to achieve noise emissions criteria at sensitive receivers.

Figure 3-2, Figure 3-3, Figure 3-4 and Figure 3-5 identify the mitigation measures, the triggers for their implementation and the locations within the IMEX footprint to which they should be applied.

The measures include both general 'at source' treatment measures (for implementation across all conditions), requirements for container stacking and other operational-based measures to reduce night-time noise emissions to nearby residences (M1 – M12).

Figure 3-2: Recommended mitigation measure (NIA, RTA, August 2023)

Table 3-9: Recommended noise mitigation measures – Noise controls

Applicable activity / noise source	Details	Mitigation control type	Applicable for	NCA's benefiting from mitigation measure
Reach stackers	5 dB(A) of mitigation to reach stackers is required, comprising the installation of residential grade mufflers to achieve a maximum pass-by noise level of 108 dB(A).	Noise source control	Noise emissions: L _{Aeq} 15min	All NCA's
Cranes - broadband movement alarms	Broadband movement alarms would be shifted to the ground level.	Noise source control	Noise emissions: L _{Aeq} 15minute	All NCA's

Table 3-10: Recommended additional management measures during applicable meteorological conditions

Item	Applicable activity / noise source	Applicable assessment periods Evening: 6pm – 10pm Night: 10pm – 7am	Applicable when meteorological conditions include temperature inversions <u>OR</u> wind as per below		Applicable for	Details	NCA's benefiting from mitigation measure
			Temperature inversion	Wind ¹			
General noise management							
M1	Minimise truck idle time on arrival/departure	Night	All met conditions	All met conditions	Noise emissions L _{Aeq} 15minute	If trucks are to wait for extended periods of time at arrival area (ie. greater than 2 minutes) they are to turn off their engine.	All NCA's
M2	Truck and reach stacker horns	Night	All met conditions	All met conditions	Noise emissions L _{Aeq} 15minute	Horns are not to be used as part of the loading process at night.	All NCA's
M3	Warehouse container operation (reach stacker)	Night	Inversion risk conditions medium or greater (ie. Class E/F)	0.5 – 3m/s (all directions)	Noise emissions L _{Aeq} 15minute	Containers are taken to warehouses combi lifts or straddle carriers only.	All NCA's
Casula noise management							
M4	Container truck loading activity noise emissions	Evening	Inversion risk conditions medium or greater (ie. Class E/F)	0.5 – 3m/s (NE to S)	Noise emissions L _{Aeq} 15min	Schedule trucks loading/unloading activities so that the number of trucks that would be loaded/unloaded within a 15-minute period would be limited to 9 truck movements. Other trucks to wait at the truck arrival area with engine switched off. When truck movements are greater than 6 movements in a 15-minute period (and no more than 9) in the evening, see M5 for warehouse container operations linked mitigation.	Casula

Figure 3-3: Recommended mitigation measure (NIA, RTA, August 2023)

Item	Applicable activity / noise source	Applicable assessment periods Evening: 6pm – 10pm Night: 10pm – 7am	Applicable when meteorological conditions include temperature inversions <u>OR</u> wind as per below		Applicable for	Details	NCAs benefiting from mitigation measure
			Temperature inversion	Wind ¹			
M5	Warehouse container operations	Evening	Inversion risk conditions medium or greater (ie. Class E/F)	0.5 – 3m/s (NE to S)	Noise emissions: L _{Aeq} 15min	When truck movements through the facility are greater than 6 movements in a 15-minute period, container movements to warehouses are not permitted. There should be no more than 9 truck movements in a 15-minute period (as per M4). Container movements to warehouses can only happen when truck movements through the facility are 6 trucks or less in a 15-minute period, and they are to be moved by combi lift or straddle carriers.	Casula
M6	Container truck loading activity noise emissions	Night	Inversion risk conditions low (ie. Class D)	All wind up to 3m/s (NE to S)	Maximum noise levels events (L _{Amax}) Noise emissions: L _{Aeq} 15min	Strategic container stacking (where no containers) Where truck container loading/unloading is to take place in a location where there are no containers in the yard in the immediate vicinity of the operations, containers should be placed there to a minimum 2 containers high. These containers are to extend either side north/south of where container loading will take place for a minimum 4 containers in length. See note 2.	Casula
M7	Container handling high noise events	Night	Inversion risk conditions medium or greater (ie. Class E/F)	0.5 – 3m/s (NE to S)	Maximum noise levels events (L _{Amax})	Strategic container stacking (yard containers up to 2 high) Assuming the container yard is a minimum 2 containers high in the immediate night operations area (as per M6), truck container loading/unloading is to take place outside of the following locations during the night: <ul style="list-style-type: none"> • Slots 1 to 18 (inclusive) 	Casula
M8	Container handling noise emissions	Night	Inversion risk conditions medium or greater (ie. Class E/F)	0.5 – 3m/s (NE to S)	Maximum noise levels events (L _{Amax}) Noise emissions: L _{Aeq} 15min	Strategic container stacking (yard containers up to 2 high) Where truck container loading/unloading is proposed for: <ul style="list-style-type: none"> • Slot 19 to 34 (inclusive), and • existing containers are up to 2 high (per M6), the yard containers are to be increased to a minimum 4 high and extend either side of where container loading will take place for a minimum 4 containers in length. See note 2.	Casula

Figure 3-4: Recommended mitigation measure (NIA, RTA, August 2023)

Item	Applicable activity / noise source	Applicable assessment periods Evening: 6pm – 10pm Night: 10pm – 7am	Applicable when meteorological conditions include temperature inversions <u>OR</u> wind as per below		Applicable for	Details	NCAs benefiting from mitigation measure
			Temperature inversion	Wind ¹			
M9	Container truck loading activity noise emissions	Night	Inversion risk conditions medium or greater (ie. Class E/F)	0.5 – 3m/s (NE to S)	Noise emissions LAeq 15min	Schedule trucks loading/unloading activities so that up to 6 trucks are loaded/unloaded within a 15-minute period. Other trucks to wait at the truck arrival area with engine switched off. When truck movements are greater than 4 movements in a 15 minute period (and no more than 6) in the night, please see M10 for warehouse container operations linked mitigation.	Casula
M10	Warehouse container operations	Night	Inversion risk conditions medium or greater (ie. Class E/F)	0.5 – 3m/s (NE to S)	Noise emissions LAeq 15min	When truck movements through the facility are 4 or greater within a 15-minute period, container movements to warehouses are not permitted. There should be no more than 6 truck movements in a 15-minute period (as per M9). Container movements to warehouses can only happen when truck movements through the facility are 4 trucks or less in a 15-minute period, and they are to be moved by combi lift or straddle carriers.	Casula
Wattle Grove noise management							
M11	Container handling noise emissions and high noise events	Night	Inversion risk conditions medium or greater (ie. Class E/F)	0.5 – 3m/s (NW to SW)	Maximum noise levels events (LAmax) Noise emissions LAeq 15min	Assuming the eastern container yard is a minimum 2 containers high, truck container loading/unloading is to take place outside of the following locations during the night period: <ul style="list-style-type: none"> • Slots 60 to 73 • Slots 93 to 102 	Wattle Grove
M12	Warehouse container operation (WH7)	Evening and Night	Inversion risk conditions medium or greater (ie. Class E/F)	0.5 – 3m/s (NW to SW)	Noise emissions LAeq 15minute	Containers to be taken to WH7 only by combi lifts or straddle carriers during the evening and night.	Wattle Grove

- Notes
1. Wind directions apply to + or minus 22.5 degrees from the indicated wind direction.
 2. In all cases, the containers being used to shield for noise are to be located no further than 1 metre apart, and a minimum of 2 containers deep is required. If this is not the case containers will not provide an effective barrier for the majority of receivers it is protecting.
 3. LAeq15minute management measures assume that all MPW (north) warehouses will be constructed, when determining measures to achieve a suitable contribution to Casula receivers.

Figure 3-5: Reach stacker container handling high noise events management - management zones (RTA, NIA, August 2023)



3.5.2.1 Additional Mitigation Measures

A number of additional management measures have been identified to be implemented to manage noise emissions during night-time operations. These measures are based on the requirements of the CoC, as well as Qube's Environmental Management System requirements and standards. These measures are summarised in Table 3-5.

Table 3-4 Management measures during night-time operations of the IMEX Terminal

ID	Management Measure	Timing	Responsibility	Reference
CN-1	A specific induction will be provided to all staff, contractors and sub-contractors working within the IMEX Terminal with an emphasis on understanding the requirements of this Plan and managing noise impacts during night-time operation of the IMEX Terminal.	Duration of Operations	Site SHEQ Manager/Advisor for MPE IMEX Terminal Manager Shift Supervisor All personnel	F5A (SSD 6766) F5B (SSD 6766) F5C (SSD 6766)
CN-2	Meteorological conditions will be monitored during the night-time period.	Duration of Operations	Shift Supervisor	F5C (SSD 6766)
CN-3	<p>In the event of a monitored exceedance during night-time periods further investigation would be undertaken to confirm. Where appropriate the suspected noise source works would cease or reduce and an investigation would be undertaken to determine potential sources and/or causes, plant and machinery would be checked and verified for noise levels and weather conditions would be recorded.</p> <p>In the event that an investigation does not identify any potential sources and/or causes for the exceedance, the following alternative mitigation measures would be implemented, where reasonable and feasible.</p> <ul style="list-style-type: none"> revisiting management measures/practices/sequencing etc to reduce noise levels and minimise impacts on receivers If the noise surveys identify noise exceedances, Qube would engage a qualified acoustic consultant to provide recommendations to amend this Plan accordingly. Recommendations made by the acoustic consultant would be implemented as soon as practical, where feasible and reasonable. 	Duration of Operations	IMEX Terminal Manager Shift Supervisor All personnel	F5A (SSD 6766)
CN-4	To minimise container stacking and loading noise, manual handling (reach stacker, combilift, straddle carrier) operators would use work practices to ensure to place containers and not drop them onto the	Duration of Operations	IMEX Terminal Manager Shift Supervisor All personnel	F5A(a) (SSD 6766)

ID	Management Measure	Timing	Responsibility	Reference
	hardstand, vehicles or container stacks.			
CN-5	All plant and equipment used at the IMEX Terminal would be maintained in a proper and efficient condition, and operated in a proper and efficient manner.	Duration of Operations	IMEX Terminal Manager Shift Supervisor All personnel	F5A(a) (SSD 6766)
CN-6	In the event of any night-time noise related complaint or adverse comment from the community as managed by the Precinct Operator, noise emission levels would be investigated. Remedial action would be implemented where feasible and reasonable in accordance with this management plan. The procedures for managing complaints is provided within the Community Communication Strategy managed by the Precinct Operator.	Duration of Operations	IMEX Terminal Manager Shift Supervisor All personnel	F5A(b) (SSD 6766) F5A(d) (SSD 6766)
CN-7	Manual stacker loading and unloading of the trains has ceased and permanent electrified automatic night-time stacking of containers has commenced. This subsequently reduce noise impacts associated with container stacking and loading within the container yard.	During Automatic Operation	IMEX Terminal Manager Shift Supervisor	F5A(a) (SSD 6766)

4 MONITORING AND REVIEW

4.1 Monitoring Requirements

Noise monitoring will be conducted as per the requirement of this Plan and the CoC. Noise measurements shall be undertaken consistent with the procedures documented in NSW EPA-*Noise Policy for Industry* (2017), which supersedes the NSW EPA Industrial Noise Policy (2000).

Noise monitoring procedures, locations and reporting will be completed in accordance with the latest approved MPE Stage 1 ONVMP.

4.2 Exceedances of Monitoring Criteria

Monitoring criteria applicable to the Condition F5A Management Plan are provided in Section 3.4. In the event that noise from the IMEX Terminal during night-time operations exceeds the operational noise criteria for the night-time period at nearby residential receivers, the following activities will be undertaken to determine the potential causes and/or sources and whether consideration of additional mitigation measures are required to minimise potential impacts.

- Identification of the monitored exceedance is to be reported to the Site HSEQ Manager/Advisor.
- Works identified as causing the exceedance will cease or reduce, at the direction of the Shift Supervisor, and an investigation will be undertaken to determine the potential sources and/or causes.
- Determine if the exceedance is an atypical or single occurrence, or sustained occurrence.
- Plant and machinery will be checked and verified for noise levels and appropriate exhaust/fittings/noise attenuators.
- Weather conditions at the time of the exceedance will be recorded.

In the event that a review of activities did not identify any potential sources and/or causes for the noise, the following alternative mitigation measures will be implemented, where reasonable and feasible.

- revisiting management measures/practices/sequencing to reduce noise levels and minimise impacts on receivers
- If the noise surveys identify noise exceedances, Qube will engage a qualified acoustic consultant to provide recommendations to amend this Plan accordingly.
- Recommendations made by the acoustic consultant will be implemented as soon as practical, where feasible and reasonable.

4.3 Review and Improvement

Review and improvement of this plan will be undertaken in accordance with the CoC and Section 6.2 of the OEMP [PREC-QPMS-EN-APP-00001]. Continuous improvement opportunities will be captured through the ongoing evaluation of environmental management performance and effectiveness of this plan against environmental policies, objectives and targets.

A copy of any updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure, as outlined in Section 1.4.1 of the OEMP. Copies of the detailed reports and the Plan (as amended) will be made available on the Project Website.

4.4 Incidents

All night-time operational noise incidents will be reported and managed in accordance with LOGOS Incident Reporting & Management Procedure (WHSMS-LOGOS-007) and Qube's Incident Reporting and Management Procedure (SHEMS-QM-13-PR-0126). Incidents are classified based on the incident's severity as shown in Section 4.6 of the OEMP [PREC-QPMS-EN-APP-00001].

All incidents will be managed and reported according to Section 4.6 of the OEMP.

4.5 Complaints

Complaints handling will be undertaken in accordance with Section 4.5.1 of the OEMP and the Community Communication Strategy (as managed by the Precinct Operator).

4.6 Non-Compliance, Non-Conformances and Corrective Actions

Non-compliance, non-conformances and resulting corrective actions will be managed in accordance with Section 6.4 of the OEMP.