Sydney Metro Western Sydney Airport Out-of-hours Work Protocol

SM-21-00306108

Sydney Metro Integrated Management System (IMS)

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1. Definitions and acronyms

All terminology in this document is taken to mean the generally accepted or dictionary definition. Other terms and jargon specific to this document are defined within the SM-17-00000203 Sydney Metro glossary. Acronyms and terminology specifically used throughout this document are listed below.

	Definitions
CEMF	Construction Environment Management Framework https://icentral.tdocs.transport.nsw.gov.au/otcs/cs.exe/app/nodes/272123288
CNVS	Construction and Noise Standard https://icentral.tdocs.transport.nsw.gov.au/otcs/cs.exe/app/nodes/272123288
CNVMP	Construction Noise and Vibration Management Plan
CoA	Conditions of Approval
CSSI	Critical State Significant Infrastructure
DNVIS	Detailed Noise and Vibration Impact Statement
DPIE	Department of Planning, Industry and Environment (formerly DPE)
EIS	Environmental Impact Statement
EPA	Environment Protection Authority (of New South Wales)
EPL	Environment Protection Licence
ER	Environmental Representative
ICNG	*Interim Construction Noise Guideline* (DECC, 2009)
MOD	Modification (to a planning approval)
OOH	Out-of-hours (i.e. outside of the standard construction hours stipulated in planning approval conditions)
POEO Act	*Protection of the Environment Operations Act 1997* (NSW)
REMM	Revised Environmental Mitigation Measure
SBOEP	Small Business Owners Engagement Plan
Secretary	The Secretary of the New South Wales Department of Planning, Industry and Environment
SM-WSA	Sydney Metro - Western Sydney Airport

2. Introduction

This document outlines the process for preparing, considering, assessing, managing and approving work on the Sydney Metro - Western Sydney Airport project that is undertaken outside of standard construction hours (i.e. Out-of-hours) that are subject to the following Critical State SignificantInfrastructure (CSSI) planning approvals:

- Sydney Metro - Western Sydney Airport (SSI_10051)

2.1. Purpose

This document has been developed to comply with various CSSI Conditions of Approval (CoAs)). Table 1 indicates where these requirements have been addressed.

Table 1: Out-of-hours Work CSSI CoAs

Condition Number	Condition	Where this condition is addressed
E37	A detailed land use survey must be undertaken to confirm sensitive land use(s) (including critical working areas such as operating theatres and precision laboratories) potentially exposed to construction noise and vibration and construction ground-borne noise. The survey may be undertaken on a progressive basis but must be undertaken in any one area before the commencement of work which generates construction noise, vibration or ground-borne noise in that area. The results of the survey must be included in the Detailed Noise and Vibration Impact Statements required under Condition E47.	Section 2.3.2.3 Detailed Noise and Vibration Impact Statement Construction Noise and Vibration Standard
E38	Work must only be undertaken during the following hours: (a) 7:00am to 6:00pm Mondays to Fridays, inclusive; (b) 8:00am to 1:00pm Saturdays; and (c) at no time on Sundays or public holidays.	Section 3.0 Standard hours
E39	Except as permitted by an EPL or approved in accordance with the Out-of-Hours Works Protocol required by Condition E42, highly noise intensive work that result in an exceedance of the applicable NML at the same receiver must only be undertaken: (a) between the hours of 8:00 am to 6:00 pm Monday to Friday; (b) between the hours of 8:00 am to 1:00 pm Saturday; and (c) if continuously, then not exceeding three (3) hours, with a minimum cessation of work of not less than one (1) hour. For the purposes of this condition, 'continuously' includes any period during which there is less than one (1) hour between ceasing and recommencing any of the work.	Construction Noise and Vibration Standard
E40	This approval does not permit blasting.	Section 4.0 OOH Work
E41	Notwithstanding Conditions E38 and E39 work may be undertaken outside the hours specified in the following circumstances: (a) Safety and Emergencies, including: (i) for the delivery of materials required by the NSW Police Force or other authority for safety reasons; or (ii) where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm; or	Section 4.0 OOH Work Construction Noise and Vibration standard

	(b) Low impact, including: (i) construction that causes LAeq(15 minute) noise levels: • no more than 5 dB(A) above the rating background level at any residence in accordance with the ICNG, and • no more than the 'Noise affected' NMLs specified in Table 3 of the ICNG at other sensitive land user(s); and (ii) construction that causes: • continuous or impulsive vibration values, measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.2 of Assessing Vibration: a technical guideline (DEC, 2006), or • intermittent vibration values measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.4 of Assessing Vibration: a technical guideline (DEC, 2006); or (c) By Approval, including: (i) where different construction hours are permitted or required under an EPL in force in respect of the CSSI; or (ii) works which are not subject to an EPL that are approved under an Out-of-Hours Work Protocol as required by Condition E42; or (iii) negotiated agreements with directly affected residents and sensitive land user(s); or (d) By Prescribed Activity, including: (i) tunnelling and ancillary support activities (excluding cut and cover tunnelling and surface works not directly supporting tunneling) are permitted 24 hours a day, seven days a week; or (ii) grout batching at the Orchard Hills construction site is permitted 24 hours per day, seven days per week; or (iii) delivery of material that is required to be delivered outside of standard construction hours in Condition E38 to directly support tunnelling activities, except between the hours 10:00 pm and 7:00 am to / from the Orchard Hills ancillary facility; or (iv) haulage of spoil generated through tunnelling is permitted 24 hours per day, seven days per week except between the hours of 10:00 pm and 7:00 am to / from the Orchard Hills construction site; or (v) works within an acoustic enclosure are permitted 24 hours a day, seven days a week where there is no exceedance of noise levels or intermittent vibration levels under Low impact circumstances identified in Condition E41(b), unless otherwise agreed with the Planning Secretary; or (vi) tunnel and underground station box fit out works are permitted 24 hours per day, seven days per week. On becoming aware of the need for emergency work in accordance with (a)(ii) above, the ER, the Planning Secretary and the EPA must be notified of the reasons for such work. The Proponent must use best endeavours to notify as soon as practicable all noise and/or vibration affected sensitive land user(s) of the likely impact and duration of those work. Notes: 1. Tunnelling does not include station box excavation. 2. Tunnelling ancillary support activities includes logistics support and material handling and delivery	
E42	An Out-of-Hours Work Protocol must be prepared to identify a process for the consideration, management and approval of work (not subject to an EPL) that is outside the hours defined in Conditions E38 and E39. The Protocol must be approved by the Planning Secretary before commencement of the out-of-hours	This document Section 4.0 OOH Work Construction Noise and Vibration Standard

	work. The Protocol must be prepared in consultation with the ER. The Protocol must provide: (a) justification for why out-of-hours work need to occur; (b) identification of low and high-risk activities and an approval process and the section within this protocol ss that considers the risk of activities, proposed mitigation, management, and coordination, including where: (i) the ER reviews all proposed out-of-hours activities and confirms their risk levels; (ii) low risk activities that can be approved by the ER; and (iii) high risk activities that are approved by the Planning Secretary; (c) a process for the consideration of out-of-hours work against the relevant NML and vibration criteria; (d) a process for selecting and implementing mitigation measures for residual impacts in consultation with the community at each affected location, including respite periods consistent with the requirements of Condition E56. The measures must take into account the predicted noise levels and the likely frequency and duration of the out-of-hours works that sensitive land user(s) would be exposed to, including the number of noise awakening events; (e) procedures to facilitate the coordination of out-of-hours work including those approved by an EPL or undertaken by a third party, to ensure appropriate respite is provided; and (f) notification arrangements for affected receivers for all approved out-of-hours works and notification to the Planning Secretary of approved low risk out-of-hours works. This condition does not apply if the requirements of Condition E41 are met ***Note:*** *Out-of-hours work is any work that occurs outside the construction hours identified in Condition E38 and E39.*	4.2.2.6 Approval Notification Arrangements
E44	All reasonable and feasible mitigation measures must be applied when the following residential ground-borne noise levels are exceeded: (a) evening (6:00 pm to 10:00 pm) — internal LAeq(15 minute): 40 dB(A); and (b) night (10:00 pm to 7:00 am) — internal LAeq(15 minute): 35 dB(A). The mitigation measures must be outlined in the **Noise and Vibration CEMP Sub-plan**, including in any **Out-of-Hours Work Protocol**, required by **Condition E42.**	Section 2.3 Governance Section 4.5 Ground-borne noise level exceedance Construction Noise and Vibration Standard
E45	Noise generating work in the vicinity of potentially-affected community, religious, educational institutions and noise and vibration-sensitive businesses and critical working areas (such as theatres, laboratories and operating theatres) resulting in noise levels above the NMLs must not be timetabled within sensitive periods, unless other reasonable arrangements with the affected institutions are made at no cost to the affected institution.	Section 2.3 Governance Construction Noise and Vibration Standard
E47	Detailed Noise and Vibration Impact Statements (DNVIS) must be prepared for any work that may exceed the NMLs, vibration criteria and / or ground-borne noise levels specified in Conditions E43 and E44 at any residence outside construction hours identified in Condition E38, or where receivers will be highly noise affected or subject to vibration levels above those otherwise determined as appropriate by a suitably qualified structural engineer under Condition E87. The DNVIS must include specific mitigation measures identified through consultation with affected sensitive land user(s) and the mitigation measures must be implemented for	Section 2.3.2.3 Detailed Noise and Vibration Impact Statements Construction Noise and Vibration Standard

	the duration of the works. A copy of the DNVIS must be provided to the ER before the commencement of the associated works. The Planning Secretary and the EPA may request a copy (ies) of the DNVIS.	
E49	Where sensitive land use(s) are identified in Appendix B as exceeding the highly noise affected criteria during typical case construction, mitigation measures must be implemented with the objective of reducing typical case construction noise below the highly noise affected criteria at each relevant sensitive landuse(s). Activities that would exceed highly noise affected criteria during typical case construction must not commerce until the measures identified in this condition have been implemented, unless otherwise agreed with the Planning Secretary. Note: Mitigation measures may include path barrier controls such as acoustic sheds and/or noise walls, at-property treatment, or a combination of path and at-property treatment.	Section 2.3 Governance Construction Noise and Vibration Standard
E57	In order to undertake out-of-hours work outside the work hours specified under Condition E38, appropriate respite periods for the out-of-hours work must be identified in consultation with the community at each affected location on a regular basis. This consultation must include (but not be limited to) providing the community with: (a) a progressive schedule for periods no less than three (3) months, of likely out-of-hours work; (b) a description of the potential work, location and duration of the out-of-hours work; (c) the noise characteristics and likely noise levels of the work; and (d) likely mitigation and management measures which aim to achieve the relevant NMLs under **Condition E43** (including the circumstances of when respite or relocation offers will be available and details about how the affected community can access these offers). The outcomes of the community consultation, the identified respite periods and the scheduling of the likely out-of-hour work must be provided to the ER, EPA and the Planning Secretary prior to the out-of-hours work commencing. **Note:** Respite periods can be any combination of days or hours where out-of-hours work would not be more than 5 dB(A) above the RBL at any residence.	Section 4.2.2 and 4.3 Communications Construction Noise and Vibration Standard

2.2. Document Requirements

The Out-of-hours Work Protocol needs to meet the following consultation, endorsement and approval requirements in accordance with the Sydney Metro - Western Sydney Airport CoAs

- Be prepared in consultation with the Environmental Representative (ER); and
- Be approved by the Planning Secretary of the NSW Department of Planning, Industry and Environment (the Secretary).

These requirements were complied with as demonstrated in Sections 2.2.1.

2.2.1. ER Endorsements and Approval

This document has been prepared in consultation with and reviewed and endorsed by the ER. Copies of the ER endorsements are provided in Appendix A.

2.2.2. Secretary Approval

In accordance with CSSI 10051 CoA E42, construction will not commence for OOH works that are not subject to an EPL prior to this document's preparation and submission to the Secretary for approval.

2.3. Governance

This document should be used in conjunction with the Construction Environmental Management Framework, https://icentral.tdocs.transport.nsw.gov.au/otcs/cs.exe/app/nodes/272116977 Construction Noise and Vibration Strategy and any applicable EPLs. These documents establish minimum requirements for managing noise and vibration impacts on the SM-WSA project.

2.3.1. Construction Environment Management Framework

The CSSI planning approval includes SM-21-00279320 Construction Environment Management Framework https://icentral.tdocs.transport.nsw.gov.au/otcs/cs.exe/app/nodes/272116977 in its documentation. The CEMF represents Sydney Metro's minimum requirements for environmental management and specifies a standard framework that each contractor must establish and document in their Construction Environmental Management Plan and sub-plans. These requirements, including those relating to construction noise and vibration management, are specified in Chapter 9.

2.3.2. Construction Noise and Vibration Standard

The Construction Noise and Vibration Standard (CNVS) https://icentral.tdocs.transport.nsw.gov.au/otcs/cs.exe/app/nodes/272123288 establishes a framework for managing construction noise and vibration impacts andadopting appropriate mitigation measures (including minimum requirements);

- Is included in the CSSI planning approval documentation;
- Forms part of the contract requirements that contractors must comply with;

- Defines a minimum standard for managing noise and vibration impacts that considers current best practice guidelines and other regulatory requirements; and
- Sets minimum requirements for all OOH work, including the need for and development of Construction Noise and Vibration Management Plans, Construction Noise and Vibration Impact Statements and Detailed Noise and Vibration Impact Statements.

2.3.2.1. Construction Noise and Vibration Management Plans

A Construction Noise and Vibration Management Plan (CNVMP) sets out how noise and vibration impacts will be mitigated and managed. These may also include a Noise & Vibration Monitoring Program, which typically outlines how noise and vibration monitoring will be undertaken, how the results of monitoring will be reported and procedures to identify and implement additional mitigation measures as necessary.

2.3.2.2. Detailed Noise and Vibration Impact Statement

A Detailed Noise and Vibration Impact Statement (DNVIS) is a document developed by Contractors which assesses and documents the anticipated noise and vibration impacts at receivers of proposed construction activities. In accordance with the CSSI planning approvals, a DNVIS is to be prepared for each construction site before construction noise and vibration impacts commence for any work that may exceed the NMLs, vibration criteria and / or ground-borne noise levels specified in Conditions E43 and E44 at any residence outside construction hours identified in Condition E38, or where receivers will be highly noise affected or subject to vibration levels above those otherwise determined as appropriate by a suitably qualified structural engineer under Condition E87.

The DNVIS must include specific mitigation measures identified through consultation with affected sensitive receivers. It also clarifies assumptions made in the EIS and allowsthe Contractor to provide more detailed quantitative assessments of the EIS due to their better understanding of the exact equipment list and construction methodology they will be using to complete the scope of works.

2.3.3. Environment Protection Licence

An Environment Protection Licence (EPL) is a regulatory approval issued to strategically control the localised, cumulative and acute impacts of pollution. The NSW Environment Protection Authority (EPA) is responsible for issuing EPLs for ‘scheduled activities’ under the Protection of the Environment Operations (POEO) Act 1997 (NSW).

Some aspects of the SM-WSA construction and operation works will constitute ‘scheduled activities’ under the POEO Act and therefore need to be subject to an EPL. SM-WSA contractors are required to either comply with Sydney Trains’ EPL or obtain and comply with any EPLs as applicable to their scope of works.

The process for approving OOH work outside of those already permitted in accordance with an EPL, is governed by the conditions of the EPL. In order for these types of OOH work to be approved, an application to vary the EPL is to be prepared and submitted to the EPA for approval. The application is to be in accordance with the CNVS and EPL requirements.

OOH work that is subject to an EPL does not require an ‘OOH approval’ prior to the

commencement of the proposed OOH works in accordance with the CSSI planning approval conditions.

2.4. Roles and Responsibilities

2.4.1. Sydney Metro - Western Sydney Airport Director of Sustainability, Environment& Planning

The Sydney Metro - Western Sydney Airport Director of Sustainability, Environment & Planning is accountable for this document. Accountability includes authorising the document, monitoring its effectiveness and performing a formal document review.

Roles reporting to the Director are accountable for ensuring the requirements of this document are implemented within their area of responsibility. The roles that are accountable for specific projects/programs are accountable for ensuring associated contractors comply with the requirements of this document.

2.4.2. Sydney Metro Environment Manager

A Sydney Metro Environment Manager will be allocated to each contract package on the Sydney Metro - Western Sydney Airport project. The Environment Manager is responsible for ensuring that all environmental management requirements associated with their contract package are being complied with.

2.4.3. Place manager

Either a Sydney Metro or contractor Place Manager will be allocated to each site on the Sydney Metro - Western Sydney Airport project. The Place Manager is responsible for ensuring that all project communication requirements with the surrounding community are being complied with.

2.4.4. Independent Environmental Representative

The CSSI planning approval conditions under CoA A32 requires an Environmental Representative (ER) to be appointed to the project prior to work commencing. The ER is to act as an independent point of contact for all environmental and planning approval compliance matters. Refer to A32 for a comprehensive list of the ER's responsibilities under CSSI 10051.

Section 4.2.2 includes descriptions of the ER's responsibilities with respect to reviewing and approving OOH work.

3. Standard Hours

The SM-WSA CSSI planning approval conditions define standard construction hoursas:

- 7:00am to 6:00pm Mondays to Fridays, inclusive;
- 8:00am to 1:00pm Saturdays for works and
- At no time on Sundays or public holidays.

Construction activity on the SM-WSA project must only be undertaken within these standard hours, unless otherwise permitted in accordance with this document or the conditionsof an applicable EPL.

3.1. Covid Health Orders

Due to the Covid-19 pandemic affecting Sydney, the NSW Government has issued a number of Health Orders to assist in the population living through Covid. In order to assist infrastructure projects, the Government has issued the COVID Infrastructure Construction Work Days Order (2020-2020-75). This Order allows an infrastructure Project to work the following hours as Normal Hours:

- 7:00am to 6:00pm, Saturdays, Sundays or public holidays for works inclusive.

These Orders are subject to updates, with the latest update being:

Environmental Planning and Assessment (COVID-19 Development—Infrastructure Construction Work Days No. 2) Order 2020.

Condition 6 of this Order specifies the following for Infrastructure construction work days:

(1) The carrying out of any building work or work, or the demolition of a building or work, on a Saturday, Sunday or public holidays is development specified for this Order.

(2) The conditions specified for the development are that the development must—

(a) be the subject of an approval, and

(b) comply with all conditions of the approval other than any condition that restricts the hours of work or operation on a Saturday, Sunday or public holiday, and

(c) for work or operation on a Saturday, Sunday or public holiday—

(i) comply with the conditions of the approval that restrict the hours of work or operation on any other day as if the conditions applied to work or operation on a Saturday, Sunday or public holiday, and

(ii) not involve the carrying out of rock breaking, rock hammering, sheet piling, pile driving or similar activities during the hours of work or operation that would not be permitted but for this Order, and

(iii) take all feasible and reasonable measures to minimise noise.

These orders are for a finite time and may be updated again. The Project is to work to the conditions of any updates as they are issued.

4. OOH Work

Out-of-hours (OOH) work is defined as any work that is undertaken outside of standard construction hours.

CoA E40 applies to OOH work and is not allowed during normal or OOH.

In accordance with CoA E41 any type of OOH work is permittedto be undertaken on the SM-WSA project provided that it is subject to this document.

A list of work activities that may typically be undertaken OOH is provided below:

(a) Work which could result in a high risk to construction personnel or public safety, based on a risk assessment carried out in accordance with AS/NZS ISO 31000:2009 “Risk Management Principles and Guidelines”; or

(b) where the relevant road authority has advised the Proponent in writing that carrying out the activities could result in a high risk to road network operational performance; or

(c) where the relevant utility service operator has advised the Proponent in writing that carrying out the activities could result in a high risk to the operation and integrity of the utility network; or

(d) where the Transport for NSW Transport Management Centre (or other road authority) has advised the Proponent in writing that a road occupancy licence is required and will not be issued for the activities during the hours specified in Conditions E19 and E20; or

(e) where Sydney Trains (or other rail authority) has advised the Proponent in writing that a Rail Possession is required.

Allworks that are proposed to be undertaken OOH and are subject to this document must be supported by a clear statement justifying the reason(s) why the work is being proposed to be undertaken OOH. Furthermore, this statement must demonstrate how the works are being scheduled in accordance with the following OOH work period prioritisation list:

1. Standard Hours.
2. Daytime OOH.
3. Evening OOH.
4. Night Time OOH.

Further guidance on the provision of justification is provided in the Out-of-hours application form (refer to Section 4.2.2). Normally, program acceleration is normally not a justifiable reason to undertake works OOH, however in these times of Covid, with health restrictions, program acceleration may be acceptable.

4.1. OOH Work Endorsement and Approval

In accordance with CoA E42 and with the exception of OOH work that is subject to an EPL, all OOH work subject to the planning approval requires approval by either the ER, or in the case of ‘high risk’ works approval by the Secretary.

In accordance with CoA E42(b) OOH work that is subject to the planning approval and not subject to an EPL only require approval from the ER, or in the case of ‘high risk’ works approval by the Secretary.

4.2. OOH Work Approval Process

Figure 1 provides the OOH work approval process for the Sydney Metro - Western Sydney Airport project. This includes a requirement to prepare an application that covers the assessment of noise and vibration impacts, mitigation measures (including community notification requirements) and review and approval for all proposed OOH work.

All OOH work applications that are not subject to an EPL will be submitted to the Place Manager, Sydney Metro Environment Manager and ER for review and comment. These reviews will take into consideration a range of aspects,including reviewer experience and expert understanding, local knowledge of the area, current understanding of sensitive receiver requirements and other relevant documents (for example,the applicable SBOEP Plan detailing predicted impacts to affected businesses,key issues and appropriate mitigation measures for implementation). This review process is further explained in Section 4.2.2.

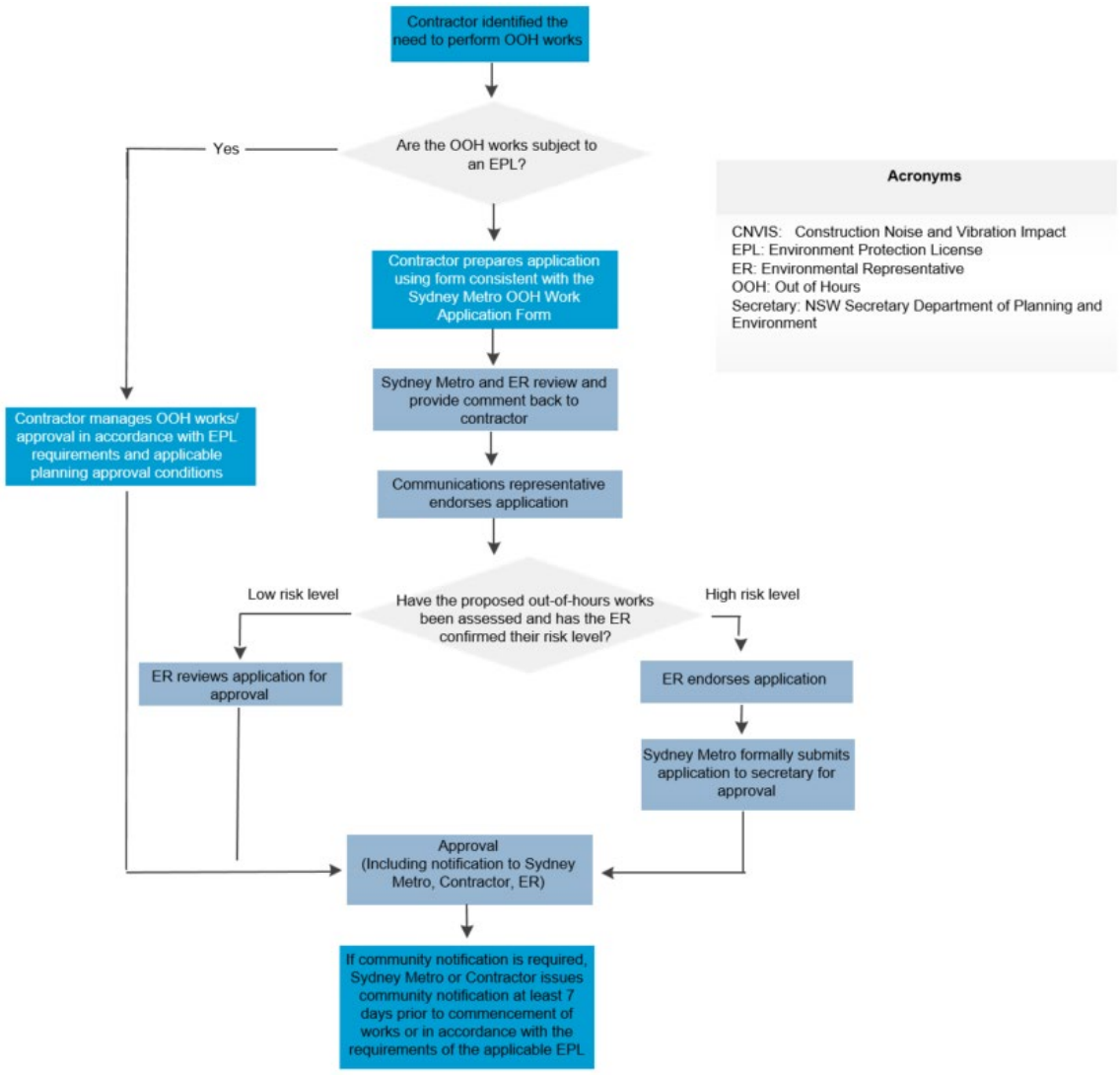

Figure 1: OOH Work Approval Process

4.2.1. OOH Work subject to an EPL

For OOH work that is subject to an EPL, the EPL conditions will dictate the approval process. As a minimum however, for proposed OOH work that is not approved within the EPL and a license variation is required, the contractor is expected to:

- Prepare an application to the EPA in accordance with the CNVS and EPL requirements;
- Submit the revised application to the EPA for approval and submit the application to the Place Manager, Sydney Metro Environment Manager and the ER for information;
- Notify Sydney Metro and ER upon receiving EPA approval; and
- Ensure any required community notifications have been issued (by either Sydney Metro or the contractor directly) within the timeframe(s) specified and in accordance with any relevant conditions of the EPL.

For individual OOH work applications that are subject to an EPL (including Sydney Trains' EPL), endorsement/approval from the ER is not required. However, Sydney Metro may request the ER's endorsement prior to approval and commencement of the proposed OOH works (at Sydney Metro's discretion).

4.2.2. OOH Work not subject to an EPL

For OOH work that is not subject to an EPL, the approval process is dictated by CoA E42.

Contractors are required to prepare an OOH application using a form consistent with Out-of-hours Work application form. This form requires a noise and vibration impact assessment to be undertaken and contains a consolidated and conservative version of Table 14 from the CNVS. This facilitates simpler consideration of applicable additional mitigation measures to implement. The form also requires demonstration of how a range of additional noise and vibration mitigation measures have been considered for implementation,including community notifications and respite offers. The applicant is also required to indicateits risk level for the proposed OOH work within the application.

Where Third Party permits (e.g. Road Occupancy Licences and/or rail possessions) require works to be undertaken OOH, these works will be exempt from classification as 'high risk' (described under section 4.2.2.3) and will be subject to approval by ER as required under CoA E42 in accordance with the 'Low Risk' approval pathway. Evidence of Third Party approval applicable to the works, specifying the time that the works must be undertaken must be included as partof application.

4.2.2.1. Respite

Respite offers for impacted receivers will be considered in accordance with the CNVS. Respite may be offered in the form of a reduction or absence of noise emissions for a period of time, or by removing the affected receiver from the noise emission point source (e.g. dinner/movie tickets and/or alternative accommodation offers).

The CNVS requires respite offers to be considered for all OOH works that are predicted to generate impacts higher than the applicable exceedance criteria for the applicable OOH period. Proposed OOH works must be coordinated to avoid the same receiver being affected over consecutive nights as much as is reasonable. OOH works must be staggered as much as is reasonable in order to maximise the respite period between OOH works.

If consideration of respite offers is required, a decision to implement respite offers will be determined on a case-by-case basis and considering, but not limited to, the following factors:

- The predicted maximum exceedance level;
- The predicted exceedance levels and associated duration and timings of those exceedance levels;
- The overall duration of the predicted exceedance levels;
- Surrounding land uses;
- Community feedback provided by Place Managers; and
- Any other OOH works (Sydney Metro or otherwise) that have affected or will affect the same receivers concurrently or within three days of either the start or end of the proposed OOH works.

In the event that respite is determined to be implemented for works that are subject to the planning approval, respite will be implemented to meet the intent of CoA E39 as applicable and so far is reasonable and practicable.

4.2.2.2. Review

Once the contractor has prepared an OOH work application, the application is submitted to the Place Manager, Sydney Metro Environment Manager, and ER for review. Any of the reviewers may provide comments on the application,which need to be adequately addressed by the contractor in a resubmitted application to the satisfaction of the comment provider(s).

4.2.2.3. Communications Endorsement and Default Risk Level Identification

The first endorsement of an OOH application is from the applicable communications representative (from Sydney Metro). This endorsement represents an agreement from the communications representative that the OOH works have been proposed in accordance with the relevant communications requirements and that the community's interests have been addressed as much as is reasonable (including appropriate consideration and implementation of additional mitigation measures, such as respite). This person may also add any comments and/or conditions that need to be complied with.

Following this person's endorsement, the ER is required to consider the applicant's risk level for the proposed OOH work and determine whether this risk level is appropriate. Once the ER has considered the applicant's risk level, the ER indicates the risk level of the proposed OOH work in its own professional judgement in accordance with CoA E42. This risk level will be categorised as either 'Low risk' or 'High risk'.

As a default risk level, OOH work will be categorised as 'high risk' if all of the following three criteria apply:

- The type and sensitivity of the affected noise sensitive receivers is categorised as either Moderate Impact receivers (e.g. standard residential/typical density) or High Impact receivers (e.g. elderly/high density/persistent complainers/residents experiencing construction noise fatigue); and
- The predicted noise level of the OOH work has a likelihood for potential sleep disturbance (i.e. Rating Background Level + 15 dB or more); and
- The type of and intensity of noise emitted from the OOH work is categorised as High Impact (e.g. prolonged high noise and/or vibration intensive activities), and

These criteria are based on Section 3.1 of the CNVS.

For non-residential receivers, OOH work may be considered as 'high risk' if undertaken during trading hours and in close proximity to their place of business (for example, during Saturday evening trading hours). Since each non-residential receiver has different business needs, it is imperative that the Place Manager and ER discuss each OOH work application to better understand how the proposed OOH work would impact the business.

4.2.2.4. Modification of Default Risk Level

Using the default risk level as a 'starting point', the ER will consider all other relevant factors in order to identify a final risk level. These relevant factors include:

- Those identified in Section 3.1 of the CNVS (noting that the reference to 'impact levels' is different from the 'risk level' with respect to CoA E42(b));
- Those listed in Table 2 of this document;
- Third Party permits; and
- Any other factors the ER considers relevant in their professional opinion.

These factors may cause the default risk level to be modified from either 'high risk' to 'low risk' (or vice-versa), as the ER deems appropriate in their professional opinion.

Once the ER has identified a final risk level for the OOH work application, the ER indicates the risk level on the application (including any risk identification commentary). Depending on the risk level that has been determined, the ER either signs and dates the OOHs application if works are determined to be low risk, or endorses the OOH application for Sydney Metro to formally submit the OOH application to the Planning secretary for approval.

4.2.2.5. Other Endorsements and Approval

Following the identification of risk level by the ER, the ER endorses the OOH work application and provides any conditions or comments. This endorsement represents an agreement from the ER that the OOH works have been proposed in accordance with the relevant requirements (as applicable to their respective roles) and that additional mitigation measures (including respite) have been appropriately considered and proposed for implementation.

If the ER identifies that the OOH work application is high risk, the application is forwarded to the Secretary for approval. This endorsement represents an agreement from the ER that the OOH works have been proposed in accordance with the relevant requirements and that additional mitigation measures (including respite) have been appropriately considered and proposed for implementation. Following the ER's endorsement, the application is then formally submitted by Sydney Metro to the Secretary for approval in accordance with CoA E42.

For all other applications, the ER indicates their approval (or otherwise) on the application, including any conditions or comments, and forwards directly to Sydney Metro and the contractor.).

4.2.2.6. Approval Notification Arrangements

Community notifications for approved OOH applications (which include low risk OOHW) will be made available to the Secretary, the EPA and the community through the Sydney Metro website within five (5) daysand not more than fourteen (14) days of the works commencing. The community will also be issued with hard-copy community notifications.

Table 2: Risk Level Considerations

	Risk Level Considerations
Predicted Noise Exceedance	Degree of predicted noise level exceedance above the Rating Background Level or Noise Management Level as appropriate
Certainty	Rating background levels, noise management levels or predicted noise impactsare not well understood
Past Experience	Nature of works are new, in a new location or have not been undertaken by thecontractor on the project already
Negotiated Agreement with Sensitive Receivers	No negotiated agreement with sensitive receivers has been obtained in accordance with CoA E41
Exceeding residential ground-borne noise levels	Addressing potential evening and night-time exceedance levels of 40 and 35 dB (A) respectively
Potential Sleep Disturbance	Likely to generate potential sleep disturbance (Rating Background Level +15dB or greater)
Non-Residential Receivers	Impacted non-residential receivers operating during the same period of proposed OOH work
Special Events	The timing and location of special events in the area of the proposed OOH workmay be scheduled at the same time or immediately before or after the special event (e.g. festivals, public gatherings, etc.)

Place Manager Feedback	Feedback from the Place Manager for the area will provide the AA and ER an understanding of the types and requirements of surrounding sensitive receivers.
Sensitive Receivers	Moderate impact sensitive receivers (e.g. standard residential, medium density receivers) or high impact sensitive receivers (e.g. residential home for the elderly, high density unit blocks, persistent complainers, residents deemed to have 'construction noise fatigue')
Timetabling noisy activities	Timetabling works with high noise levels to avoid sensitive times for receptors such as hospitals, community, religious, educational institutions and noise and vibration-sensitive businesses and critical working areas
High Impact Works	Prolonged high noise or vibration intensive activities
Other Impacts	Impacts other than noise and vibration impacts are likely to be generated (e.g. lighting, traffic, etc.)

4.3. Community Notifications

Community notifications are used as a mitigation measure for receivers of noise and vibration impacts from OOH work.

Community notifications usually comprise of letterbox-dropped or hand-distributed notification letters to identified stakeholders prior to the commencement of works. Communities are more likely to understand and accept the impacts from noise and vibration if they are provided with honest detailed information and commitments on mitigation measures to be implemented that are adhered to by the project prior to the works commencing.

Community notification requirements are included in the CNVS and outlined in the Community Communications Strategy for the SM-WSA project.

Community notification is an example of an additional mitigation measure that may be considered for implementation in accordance with the CNVS and the additional mitigation measure tables contained in SM-21-00306108 Out-of-hours work application form.

4.3.1. Negotiated Agreements with Sensitive Receivers

A negotiated agreement for particular OOH work may be formed with the potentially affected sensitive receivers in accordance with CoA E41 (c) (iii). These negotiated agreements would be undertaken and documented by either the contractor or Sydney Metro as part of an OOH application.

The negotiated agreement needs to reach a minimum 65% acceptance rate of those sensitive receivers that are contactable. 'Contactable' is defined as having received correspondence (either verbal or written) from receivers within a two week timeframe. The preparation of a DNVIS and the Place Manager will advise of potentially affected sensitive receivers to be contacted.

Upon ER approval of any OOH applications containing negotiated agreements, Sydney Metro will forward the negotiated agreement documentation to the Secretary for information at least one week prior to the OOH work commencing. In the event that community notification is required as a mitigation measure prior to the OOH work commencing, this would be undertaken at the same time (i.e. at least five days and not more than fourteen days prior to the works commencing).

4.4. Emergency Works

Occasionally there may be a need to undertake emergency works outside of standard work hours. In this situation, the works are permitted to proceed without prior approval, provided that the works were:

- Unforeseen, and
- Required to avoid injury or the loss of life, damage or loss of property or to prevent environmental harm.

Work 'over-runs' (i.e. work activities that have taken longer to complete than expected) are not emergency works, unless the continuation of the activity is required to 'avoid injury or theloss of life, damage or loss of property or to prevent environmental harm'.

Figure 2 outlines the emergency work process.

On becoming aware of the need to undertake emergency works, contractors must notify Sydney Metro, the Planning Secretary, the ER and the EPA (if it is required under an EPL if relevant) of the need to undertake the works. This notification should be in the form of a written email or text message to Sydney Metro and the ER. The requirements for notifying the EPA will be dictated in the conditions of the EPL if relevant.

As a form of mitigation, community notification is to be undertaken within two hours of the commencement of emergency works. These notifications will generally be prepared by the contractor using a small hand-written Sydney Metro template card for distribution to the immediate surrounding community. These cards will include the following details as a minimum:

- Scope;
- Location;
- Hours;
- Duration;
- Types of equipment to be used; and
- Likely impacts.

Within 24 hours of any emergency works commencing, the applicant is to provide a written emergency works report to Sydney Metro. The emergency works report is to include as a minimum:

- Date, time, duration and cause of the emergency;
- Description of emergency works undertaken;
- Mitigation measures implemented to address the impacts of the emergency works; and
- Actions/Measures taken or to be taken to prevent or mitigate recurrence of the emergency. If there are no appropriate actions/measures to be taken, explanation is to be provided as to why.

The emergency works report will be used by Sydney Metro to determine whether the works qualified as emergency works under the applicable planning approval. If Sydney Metro determines that the works did not qualify as emergency works, the works may be considered an incident and/or non-compliant dependent on the applicable planning approval conditions.

ACRONYMS	
EPA:	Environment Protection Authority (NSW)
EPL:	Environment Protection Licence
ER:	Environmental Representative
OOH:	Out of Hours

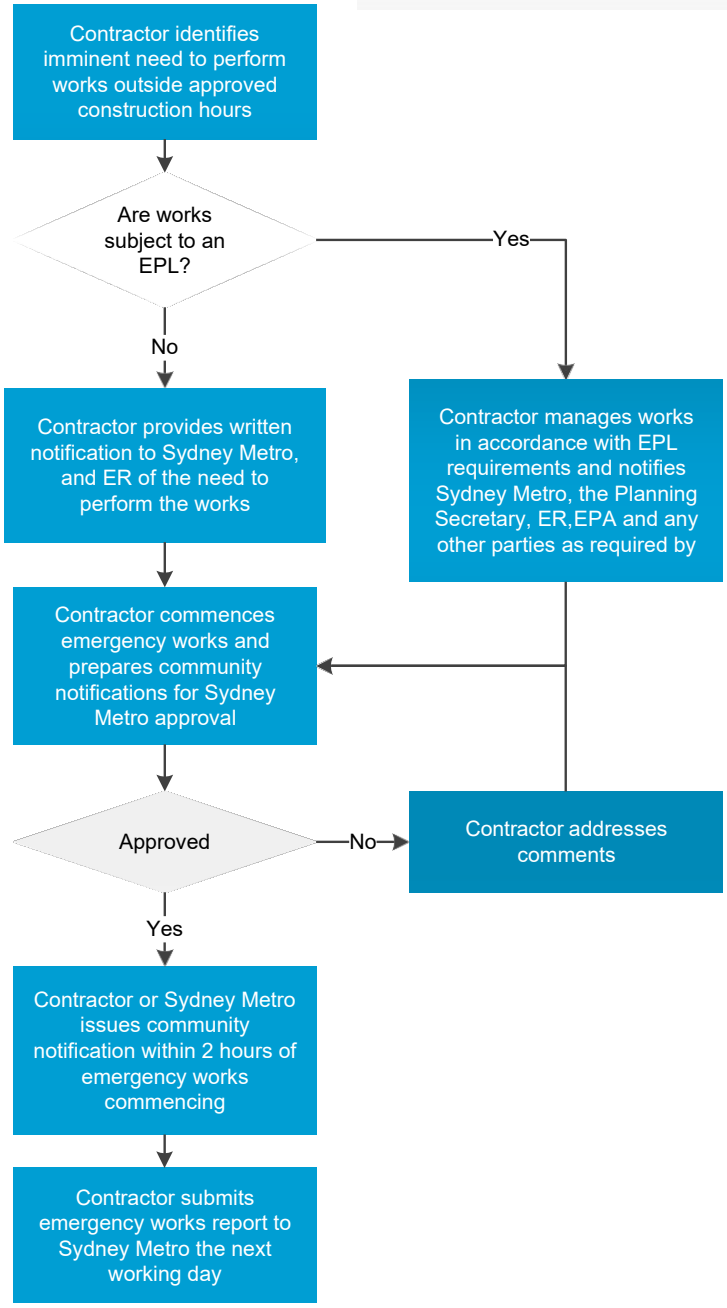

Figure 2: Emergency Works Process

4.5. Ground-borne noise level exceedance

4.5.1. Ground-borne regenerated noise condition

All reasonable and feasible mitigation measures must be applied when the following residential ground-borne noise levels are exceeded:

(a) evening (6:00 pm to 10:00 pm) — internal LAeq(15 minute): 40 dB(A); and

(b) night (10:00 pm to 7:00 am) — internal LAeq(15 minute): 35 dB(A).

4.5.2. Ground-borne regenerated noise condition assessment

The evening and night-time criteria are only applicable to residential receivers.

The internal noise levels are to be assessed at the centre of the most-affected habitable room. For a limited number of discrete, ongoing ground-borne noise events, such as drilling or rock-hammering, The LAmax noise descriptor using a slow response on the sound level meter may be better than the LAeq noise descriptor (15 min) in describing the noise impacts. The level of mitigation of ground-borne noise would depend on the extent of impacts and also on the scale and duration of works. Any restriction on the days when construction work is allowed would take into account whether the community:

- Has identified times of day when they are more sensitive to noise (for example Sundays or public holidays).
- Is prepared to accept a longer construction duration in exchange for days of respite.

4.5.3. Mitigation measures

Due to the highly variable nature of construction activities and the likelihood of work outside the standard construction hours on Sydney Metro projects, some exceedances of the construction noise and vibration management levels are likely to be unavoidable. Where there is a potential exceedance of the construction noise and vibration management levels, a number of additional measures to mitigate such exceedances – primarily aimed at pro-active engagement with affected sensitive receivers – would be explored and have been included in below. The additional mitigation measures to be applied are outlined in Table 3 below.

Table 3: Additional Mitigation Measures

Measure	Description	Abbreviation
Alternative accommodation	Alternative accommodation options may be provided for residents living in close proximity to construction works that are likely to incur unreasonably high impacts over an extended period of time. Alternative accommodation will be determined on a case-by-case basis.	AA
Monitoring	Where it has been identified that specific construction activities are likely to exceed the relevant noise or vibration goals, noise or vibration monitoring may be conducted at the affected receiver(s) or a nominated representative location (typically the nearest receiver where more than one receiver have been identified). Monitoring can be in the form of either unattended logging or operator attended surveys. The purpose of monitoring is to inform the relevant personnel when the noise or vibration goal has been exceeded so that additional management measures may be implemented.	M
Individual briefings	Individual briefings are used to inform stakeholders about the impacts of high noise activities and mitigation measures that will be implemented. Communications representatives from the contractor would visit identified stakeholders at	IB

	least 48 hours ahead of potentially disturbing construction activities. Individual briefings provide affected stakeholders with personalised contact and tailored advice, with the opportunity to comment on the project.	
Letter box drops	For each Sydney Metro project, a newsletter is produced and distributed to the local community via letterbox drop and the project mailing list. These newsletters provide an overview of current and upcoming works across the project and other topics of interest. The objective is to engage and inform and provide project-specific messages. Advanced warning of potential disruptions (e.g. traffic changes or noisy works) can assist in reducing the impact on the community. Content and newsletter length is determined on a project-by-project basis. Most projects distribute notifications on a monthly basis. Each newsletter is graphically designed within a branded template.	LB
Project specific respite offer	The purpose of a project specific respite offer is to provide residents subjected to lengthy periods of noise or vibration respite from an ongoing impact.	RO
Phone calls and emails	Phone calls and/or emails detailing relevant information would be made to identified/affected stakeholders within 7 days of proposed work. Phone calls and/or emails provide affected stakeholders with personalised contact and tailored advice, with the opportunity to provide comments on the proposed work and specific needs etc.	PC
Specific notifications	Specific notifications would be letterbox dropped or hand distributed to identified stakeholders no later than 7 days ahead of construction activities that are likely to exceed the noise objectives. This form of communication is used to support periodic notifications, or to advertise unscheduled works.	SN

4.5.4. Applying additional mitigation measures

Prior to the commencement of OOHW a detailed noise impact assessment shall be carried out. Mitigation measures shall be determined based on potential exceedances of the relevant NML.

In circumstances where following application of the standard mitigation measures, the LAeq(15minute) construction noise and vibration levels are still predicted to exceed the Noise Management Level, including ground-borne noise levels, the relevant Additional Mitigation Measures (AMM) are considered to determine any offset strategies for these impacts (Tables 4-6).

The following steps need to be carried out to determine the Additional Mitigation Measures to be implemented:

- Determine the duration (time period) when the work is to be undertaken.
- Determine the level of exceedance above the NML.

From the AMM table, identify the additional mitigation measures to be implemented (abbreviation codes are explained in Table 3).

Table 4: Additional Mitigation Measures – Airborne Construction Noise

Mitigation Measures Time Period		Predicted LAeq (15minute) noise level Above NML 0 to 10 dB	10 to 20 dB	20 to 30 dB	> 30 dB
Standard	Mon-Fri (7.00 am - 6.00 pm)	-	LB	LB, M, SN	LB, M, SN
	Sat (8.00 am - 1.00 pm)				
	Sun/Pub Hol (Nil)				
OOHW (Evening)	Mon-Fri (6.00 pm - 10.00 pm)	LB	LB, M	LB, M, SN, RO	LB, M, SN, IB, PC, RO
	Sat (1.00 pm - 10.00 pm)				
	Sun/Pub Hol (8.00 am - 6.00 pm)				
OOHW (Night)	Mon-Fri (10.00 pm - 7.00 am)	LB	LB, M, SN, RO	LB, M, SN, IB, PC, RO, AA	LB, M, SN, IB, PC, RO, AA
	Sat (10.00 pm - 8.00 am)				
	Sun/Pub Hol (6.00 pm - 7.00 am)				

Table 5: Additional Mitigation Measures – Ground Borne Construction Noise

Time Period		Mitigation Measures Predicted LAeq (15minute) noise level Above NML 0 to 10 dB	10 to 20 dB	> 20 dB
Standard	Mon-Fri (7.00 am - 6.00 pm)	No NML for GBN during standard hours, refer to Table 18		
	Sat (8.00 am - 1.00 pm)			
	Sun/Pub Hol (Nil)			
OOHW (Evening)	Mon-Fri (6.00 pm - 10.00 pm)	LB	LB, M, SN	LB, M, SN, IB, PC, RO
	Sat (1.00 pm - 10.00 pm)			
	Sun/Pub Hol (8.00 am - 6.00 pm)			
OOHW (Night)	Mon-Fri (10.00 pm - 7.00 am)	LB, M, SN	LB, M, SN, IB, PC, RO, AA	LB, M, SN, IB, PC, RO, AA
	Sat (10.00 pm - 8.00 am)			
	Sun/Pub Hol (6.00 pm - 7.00 am)			

Table 6: Additional Mitigation Measures - Ground-borne Vibration

Time Period		Mitigation Measures Predicted Vibration Levels Exceed Maximum Levels
Standard	Mon-Fri (7.00 am - 6.00 pm)	LB, M, RO
	Sat (8.00 am - 1.00 pm)	
	Sun/Pub Hol (Nil)	
OOHW (Evening)	Mon-Fri (6.00 pm - 10.00 pm)	LB, M, IB, PC, RO, SN
	Sat (1.00 pm - 10.00 pm)	
	Sun/Pub Hol (8.00 am - 6.00 pm)	
OOHW (Night)	Mon-Fri (10.00 pm - 7.00 am)	LB, M, IB, PC, RO, SN, AA
	Sat (10.00 pm - 8.00 am)	
	Sun/Pub Hol (6.00 pm - 7.00 am)	

5. Related documents and references

Related documents and references
• SM-17-00000022 Environment & Sustainability Management Manual • SM-21-00279320 Construction Environmental Management Framework https://icentral.tdocs.transport.nsw.gov.au/otcs/cs.exe/app/nodes/272116977 • SM-21-00279321 Construction Noise and Vibration Standard https://icentral.tdocs.transport.nsw.gov.au/otcs/cs.exe/app/nodes/272123288 • SM-21-00306108 Out-of-hours Work Application Form • Overarching Community Communications Strategy https://www.sydneymetro.info/sites/default/files/document-library/Sydney_Metro_Overarching_Community_Communication_Strategy.pdf • EPA Interim Construction Noise Guideline

6. Superseded documents

Superseded documents
There are no documents superseded as a result of this document.

7. Document history

Version	Date of approval	Notes
1.0	14 October 2021	New document
2.0	8 November 2021	DPIE RFI Review

5. Appendix A: OOH Work Strategy/Protocol Endorsements and Approval(s)

Out-of-hours work application form- SM-WSA

This form is to be used for formal review and approval of Out-of-hours (OOH) work as it may affect residential and non-residential receivers. This form can be used in accordance with the Sydney Metro - Western Sydney Airport out-of-hours works protocol. Each OOH application and all applicable appendices must be submitted to Sydney Metro as one PDF file at least 15 business days prior to the commencement of the proposed OOH work.

1. OOH Application	
Sydney Metro Project: Western Sydney Airport	
Contract:	
Contractor:	
Application Title: E.g. 'Smith St service relocation works'.	
Application Number: E.g. 1, 2, 3, etc.	
Application Date: Original submission date (resubmission date in parentheses if applicable).	
Relevant Planning Approval:	
Environment Protection Licence (EPL): If subject to an EPL, state title and number.	

2. Proposed OOH Work Details	
Description of works, including: • Work methodologies. • List of plant/equipment to be used (worst case scenario). • Location Map (and/or Environmental Control Map) attached as Appendix 1, indicating location of works, plant/equipment locations and receivers (including distance to nearest receiver for noisiest plant/equipment). • Traffic Management Plan and/or Traffic Control Plan if applicable as Appendix 2.	
Timing of works: Including proposed dates/times works are planned to be undertaken outside standard hours.*	
Worst-case number of consecutive occasions affecting the same receiver: Refer to Section 4 for definition of 'occasion'.	
Justification: Demonstrate how the proposed OOH work has been scheduled in accordance with the OOH work period prioritisation list.* Program acceleration is generally not accepted as a justification.	

* Unless specified otherwise in project-specific documentation, the prioritisation of work time periods is as follows:
- **Standard Hours:** 7am to 6pm weekdays and 8am to 1pm Saturdays.
- **Daytime OOH:** 1pm to 6pm Saturdays and 8am to 6pm Sundays and Public Holidays.
- **Evening OOH:** 6pm to 10pm every day.
- **Night Time OOH:** 10pm to 7am weekday mornings and 9pm to 8am weekend and Public Holiday mornings.

3. Assessed Noise and Vibration Impacts and Standard Mitigation Measures	
Are the proposed works consistent with a prepared Construction Noise & Vibration Impact Statement (CNVIS)? (Y/N)	
If 'N', skip this section and move to Section 4.	
State the title of the CNVIS and attach the section(s) describing the noise and vibration impacts of the proposed works as Appendix 3.	
Quantitatively summarise the worst-case predicted noise and vibration impacts specific to the proposed OOH work for each OOH period on the nearest receivers and compare these against the respective management levels. **For Night Time OOH Period works, include a review of potential sleep disturbance impacts in accordance with Section 4.3 of the ICNG.**	Worst-case predicted noise impact summary: • • • Worst-case predicted vibration impact summary: • Potential sleep disturbance summary (for night time OOH periods only): •
Using Table 4 and Table 5, indicate in Table 6: • Which Additional Mitigation Measures (AMMs) are applicable for consideration, • Which of those applicable for consideration are planned to be implemented, • For AMMs that are applicable for consideration but not being implemented, justify why the AMM is not being implemented. • For AMMs that are being implemented, provide details on how the AMM is being implemented (e.g. which receivers being offered respite, alternative accommodation, etc.).	

4. Non-Assessed Noise and Vibration Impacts

Skip this section if Section 3 has been completed in full.

A quantitative noise assessment for OOH work is to be carried out in accordance with the *Interim Construction Noise Guideline* (DECC, 2009). This section allows applicants to address these requirements through the following steps:

1) Establishing Rating Background Levels (RBLs) and Noise Management Levels (NMLs).
2) Predicting the anticipated noise levels using a quantitative noise assessment:
   a. Works that are not likely to generate high noise impacts for a significant duration may use a preliminary quantitative noise assessment (facilitated within this form). This ensures that all applications, as a minimum, include a preliminary quantitative noise assessment in accordance with the *Interim Construction Noise Guideline* (ICNG).
   b. Works that are likely to generate high noise impacts for a significant duration may require a detailed quantitative noise assessment (e.g. Construction Noise and Vibration Impact Statement) to be undertaken.
   c. Works that are likely to generate ground-borne or structure-borne vibration and/or noise require specialist advice and assessment.
3) Comparing predicted noise levels against RBLs/NMLs and applying standard mitigation measures as appropriate (i.e. implementing 'all feasible and reasonable' mitigation measures in accordance with the ICNG).
4) Considering additional mitigation measures when predicted noise levels exceed RBLs/NMLs.

The need for a detailed quantitative noise and vibration assessment will be considered by Sydney Metro, the contractor and the Environmental Representative (if applicable) collectively when the predicted noise levels are anticipated to:

- Exceed an RBL at a residential receiver or an NML at a non-residential receiver by more than 10dBA, **AND**
- Affect the same receiver on 10 or more consecutive **occasions**. An occasion is anytime works are carried out:
  - Between 6pm on a weekday and the start of standard hours the next day, **OR**
  - Between 1pm on a Saturday and 8am on a Sunday), **OR**
  - Between 8am on a Sunday or public holiday and the start of standard hours the next day.

A detailed quantitative noise and vibration assessment should generally include:

- Derivation of RBLs for residential receivers and/or derivation of NMLs for non-residential receivers based on noise monitoring at representative locations and local sensitivities.
- Detailed noise predictions for daytime, evening and night time OOH periods (as applicable) in accordance with Section 4.5 of the ICNG (including an outline of timing, duration and predicted noise levels for each OOH period).
- For Night Time OOH Period works, a review of potential sleep disturbance impacts in accordance with Section 4.3 of the ICNG.
- Detailed predictions of vibration levels for sensitive receivers.

Please complete the following Steps 1 to 4.

Step 1: RBLs/NMLs	If RBLs for residential receivers or NMLs for non-residential receivers have already been established (e.g. in an Environmental Impact Statement, Review of Environmental Factors, detailed quantitative noise assessment or Construction Noise and Vibration Impact Statement for other work activities), enter into Table 3 and attach the supporting evidence as Appendix 3. If no RBLs/NMLs have been established, use Table 1 to estimate and enter into Table 3.
Step 2: Predicted Anticipated Noise Levels	If predicted anticipated noise levels have already been established (e.g. in an Environmental Impact Statement, Review of Environmental Factors, detailed quantitative noise assessment), enter the predicted anticipated noise levels into Table 3 and attach the supporting evidence as Appendix 3. If predicted anticipated noise levels have not already been established, use Table 2 to estimate anticipated noise aspects for the noisiest plant/equipment and enter into Table 3. In Table 3, use these values to calculate the anticipated predicted noise levels.
Step 3: Exceedances and Mitigation Measures	Compare the anticipated predicted noise levels to the applicable RBLs/NMLs, calculate the exceedances and enter into Table 3. In Section 5, provide a description of the standard mitigation measures that are planned to be implemented in order to mitigate the noise impacts (and vibration impacts if relevant) as much as 'feasible and reasonable' in accordance with the ICNG.
Step 4: Consideration of Additional Mitigation Measures	Use Table 4 and the exceedances in Table 3 to determine the applicable Additional Mitigation Measures for consideration. Use Table 6 to indicate which of these measures are applicable for consideration, which will be implemented and provide justification/details accordingly.

5. Standard Mitigation Measures	
Outline the standard noise mitigation measures that will be implemented during the proposed OOH work: I.e. Implementation of all 'feasible and reasonable' mitigation measures in accordance with the ICNG):	• • • •
Outline the standard vibration mitigation measures that will be implemented during the proposed OOH work: I.e. Implementation of all 'feasible and reasonable' mitigation measures in accordance with the ICNG):	•

Table 1: Noise RBLs and NMLs

Skip this section RBLs and NMLs have already been established in other documentation.			
Sensitive Receiver Category	**Estimated RBLs (dBA)**		
Residential	**Daytime OOH**	**Evening OOH**	**Night Time OOH**
Urban (e.g. city hubs, near busy roads, near industrial activity)	**55**	**50**	**45**
Suburban	**45**	**40**	**35**
Quiet, rural or isolated	**40**	**35**	**30**
Non-Residential	**ICNG NMLs (dBA)**		
Industrial facilities	**75** (only applicable when in use)		
Offices or retail	**70** (only applicable when in use)		
Health and educational facilities	**55** (only applicable when in use)		

Table 2: Predicted Noise Level Aspects

Skip this section if predicted noise levels have already been established in other documentation.		
Noise Aspect	**Select the most applicable value for each noise aspect below and enter into Table 3.**	**dBA**
1. Plant/Equipment Noise Level at 10m Including non-continuous use reduction (-5dBA) and annoying activity penalty (+5dBA) for as per ICNG (refer to ICNG Appendix B for predicted noise level data) Underline indicates vibratory generating plant/equipment	Impact sheet piling rig	100
	Hand-held tamper, excavator with hammer, rock-breaker, driven/vibratory piling, concrete saw, diamond saw, air track drill, large dozer, hand-held rail grinder	95
	Jackhammer, rock crusher, angle grinder, pneumatic hammer, medium dozer, tracked loader, impact wrench	90
	Mainline tamper, ballast regulator, dynamic track stabiliser, vibratory roller, mainline rail grinder, ballast train (pour/fill ballast), chainsaw, tub grinder/large mulcher, scraper, grader, super-sucker/vacuum truck, large backhoe/wheeled front-end loader, bored piling, pavement profiler, fixed crane, tracked excavator	85
	Small bulldozer, small excavator, tower crane, truck-mounted crane, forklift, bobcat, skid-steer front-end loader, road truck/truck and dog, dump truck, concrete truck/pump/mixer, compressor, non-vibratory/large pad foot roller, whacker packer/compactor, water cart, pavement laying machine, asphalt truck and sprayer, line marking truck, standard penetration testing, welder, pin puller	80
	Concrete vibrator, cherry-picker scissor lift/elevated work platform/Franna crane, small backhoe, front end loader, fence post driver, electric drill rig, hand held rattle gun, generator (diesel/petrol), spreader	75
	Lighting tower, medium-rigid truck/semi-trailer, welding equipment, small front end loader	70
	Light vehicle, hand-tools (no impact), small cement mixer, attenuated generator (inside housing)	65
2. Multiple Plant	More than one of the noisiest plant being used simultaneously at roughly the same location	+5

3. Local Screening	Existing screening between site and receiver (buildings, cuttings, canopies, etc.)	- 5
	Temporary screening to be implemented near work site	- 10
	Acoustic shed or enclosure	- 25
4. Distance Attenuation	< 10 metres	0
	10 to 20 metres	- 5
	20 to 35 metres	- 10
	35 to 60 metres	- 15
	60 to 100 metres	- 20
	100 to 180 metres	- 25
	180 to 350 metres	- 30
	350 to 1,000 metres	- 40

Table 3: Predicted Noise Levels and Exceedances of RBLs and/or NMLs (dBA)

Skip this section if Section 3 has been completed in full.										
Period (only complete as applicable for each period)	**Noisiest Plant/Equipment** (state the noisiest plant/equipment to be used during each applicable OOH period)	**Receiver Type** (state 'Res' or 'Non-Res' as applicable for closest receiver to noisiest plant/equipment)	Enter the most applicable values from Table 2, then add to determine the Predicted Noise Level				**Predicted Noise Level** (1 + 2 + 3 + 4)	**NML** (for Res)	**NML** (for Non-Res)	**Exceedance** (Predicted Noise Level minus NML for Res or Non-Res)
			1. Plant/Equipment Noise Level	**2. Multiple Plant/Equipment**	**3. Local Screening**	**4. Distance Attenuation**				
Daytime OOH *										
Evening OOH *										
Night Time OOH *										

* Refer to OOH period timings under Section 2 of this form.

Table 4: Additional Mitigation Measures (AMM) requiring Consideration for Implementation

OOH Period	**AMMs that must be considered for implementation** (apply the exceedances from Table 3 to the two OOH period categories below as applicable)			
	0 to 10 dBA Exceedance	**>10 to 20 dBA Exceedance**	**>20 to 30 dBA Exceedance**	**>30 dBA Exceedance**
Airborne Construction Noise				
Daytime OOH Period	–	LB	LB, M, SN	LB, M, SN
Evening OOH Period	LB	LB, M	LB, M, SN, RO	LB, M, SN, IB, PC, RO
Night Time OOH Periods	LB	LB, M, SN, RO	LB, M, SN, IB, PC, RO, AA	LB, M, SN, IB, PC, RO, AA
Ground Borne Construction Noise				

Daytime OOH Period	No NML for GBN during standard hours			
Evening OOH Period	LB	LB, M. SN	LB, M, SN, IB, PC, RO	LB, M, SN, IB, PC, RO
Night Time OOH Periods	LB, M, SN	LB, M, SN, IB, PC, RO, AA	LB, M, SN, IB, PC, RO, AA	LB, M, SN, IB, PC, RO, AA

Table 5: List of Additional Mitigation Measures (AMM)

AMM Abbrev.	AMM	AMM Descriptions and Guidance
LB	Letterbox-drop (generic to the project)	A newsletter is generally produced and distributed to the local community via letterbox-drop and the project mailing list. These newsletters provide an overview of current and upcoming works across the project and other topics of interest. The objective is to engage, inform and provide project-specific messages. The geographic extent of letterbox-drops is generally centred on the immediate surrounding community within 200 metres from the works site.
M	Monitoring	Where it has been identified that specific construction activities are likely to exceed the relevant Rating Background Levels (RBL) and/or Noise Management Levels (NMLs), monitoring may be conducted at the affected receiver(s) or a nominated representative location (typically the nearest receiver where more than one receiver have been identified). Monitoring can be in the form of either unattended logging or operator attended surveys. The purpose of monitoring is to inform the relevant personnel when the RBL/NML has been exceeded so that additional management measures may be implemented.
IB	Individual Briefings	Individual briefings are used to inform stakeholders about the impacts of high noise activities and mitigation measures that will be implemented. Communications representatives would visit identified stakeholders at least 48 hours ahead of potentially disturbing construction activities. Individual briefings provide affected stakeholders with personalised contact and tailored advice, with the opportunity to comment on the project.
PC	Phone calls (and/or emails)	Phone calls and/or emails (with specific notifications attached) detailing relevant information would be made to identified/affected stakeholders within seven days of proposed work. The objective of the phone calls and/or emails is to support letterbox-drop and specific notifications. Phone calls and/or emails provide affected stakeholders with personalised contact and tailored advice, with the opportunity to provide comments on the proposed work and specific needs.
SN	Specific Notifications (specific to the OOH work)	Specific notifications are letterbox-dropped to identified stakeholders no later than 7 days prior to out of hour construction activities commencing that are likely to exceed the RBLs/NMLs. Specific notifications may be produced by Sydney Trains or by Sydney Metro (or on behalf of Sydney Metro by a contractor as approved by Sydney Metro): - Sydney Trains specific notifications cover all works being undertaken by various parties (including Sydney Metro) during designated rail possession periods. These specific notifications are delivered 14 days prior to works commencing and are delivered to all properties located within 250m of the proposed works. - Sydney Metro specific notifications focus on proposed Sydney Metro works being undertaken outside of designated rail possession periods and are only produced in the absence of any Sydney Trains notifications covering the proposed works. These notifications are delivered 7 days prior to works commencing and are delivered to all properties located within 100m of day works and within 200m of night works. All notifications are emailed to all registered stakeholders on site-specific email distribution lists.
RO	Respite Offer	The purpose of a project specific respite offer is to provide residents subjected to lengthy periods of noise and/or vibration impacts respite during OOH periods. Respite offers are offers made to affected receivers to provide a period of either no or limited noise impacts. This can be in the form of stopping or limiting works onsite or offering affected receivers dinner/movie vouchers. The first priority is to implement a period of no or limited noise impacts. If this cannot be achieved, dinner/movie vouchers may be offered on a case-by-case basis.

AA	Alternative Accommodation *(residential only)*	Alternative accommodation options may be provided for residents living in close proximity to construction works that are likely to incur unreasonably high impacts during night time OOH periods. Alternative accommodation will be considered on a case-by-case basis.

Table 6: Consideration of Additional Mitigation Measures (AMM)

Additional Mitigation Measures	Applicable for Consideration? Y/N (refer to Table 4)	To be Implemented? Y/N	Justification/Details For AMMs that are applicable for consideration but not being implemented, justify why the AMM is not being implemented. For AMMs that are being implemented, provide details on how the AMM is being implemented (e.g. which receivers being offered RO, AA, etc.).
LB			
M			
IB			
PC			
SN			
RO *			
AA			

*If RO is being implemented, include how community consultation influenced the manner in which RO is being implemented.

6. Consideration Against Relevant Vibration Criteria		
Using Table 2, indicate whether any vibratory plant/equipment is planned to be used for the proposed works (Y/N)		
If 'N', skip this section and move to Section 7.		
'People' Criterion	Are the proposed works anticipated to have any perceptible sleep disturbance impacts? (Y/N)	
'Structures' Criterion	Are the proposed works anticipated to generate greater than 7.5mm/s vibration impacts on surrounding structures (generally within 25 metres of works)? (Y/N)	
'Sensitive Equipment' Criterion	Are the proposed works anticipated to impact sensitive equipment located in surrounding non-residential receivers? (Y/N)	
If 'Y' is answered to ANY of the above criteria AND the impacts affect the same receiver for more than one consecutive occasion (refer to Section 4 for 'occasion' definition), the need to prepare a detailed quantitative assessment will be considered collectively by Sydney Metro, the contractor and the Environmental Representative (if applicable).		

7. Cumulative Impacts	
Document the relevant details of <u>any</u> other OOH work (Sydney Metro or otherwise) that will impact the same receivers as those being impacted by these proposed works either concurrently or within 3 days of the start or end of these proposed works.	
If other works have been identified in the row above, how have the proposed works been coordinated to ensure appropriate respite is provided?	

8. Community Consultation	
What community consultation has been undertaken already?	
What community consultation is planned to be undertaken?	
If drafted already, attach applicable Community Notification as Appendix 4.	

9. Contractor's Signature				
Contractor's Identification of Risk Level: If subject to Western Sydney Airport Sydney Metro planning approval and not subject to an EPL, provide Contractor's Identification of Risk Level (refer to the *Western Sydney Airport Sydney Metro Protocol* for guidance).	Circle:	LOW	or	HIGH
Contractor's Signature:				
Name:				
Title:				
Contact Number:				
Date:				

10. Contractor's Contact Details		
Contractor Personnel	**Name**	**Mobile**
Manager Environment:		
Manager Communications:		
Contractor's Representative:		
Contractor's 24hr contact person:		

Planning Approval Determination Page

	Step 1 – Endorsement from Sydney Metro Director Project Communications or Contractor's Communications Manager	Step 2 – Risk Identification/Endorsement from ER under the Planning Approval	Step 3 – If works are under Sydney Trains EPL, approval from Sydney Metro Director of Planning, Environment and Sustainability. If works are not under an EPL, approval from either the ER or the Secretary of the NSW Department of Planning & Environment
Risk Level:	*N/A*	*If not subject to an EPL, circle Risk Level as: **LOW** or **HIGH*** *If works are HIGH Risk Level Sydney Metro submits application to the Secretary of the NSW Department of Planning & Environment for approval.*	*N/A*
Signature:	*Approved Road Occupancy Licence/Road Opening Permit (if applicable) must be sighted prior to endorsement.*		
Name:			
Role:			
Date:			
Comments: (including ER Risk Level comments if applicable)			
Conditions:			

Generic Determination Page (i.e. not subject to SM-WSA planning approvals)

	Step 1 – Sydney Metro Director of Project Communications	Step 2 – Environmental Representative (may be optional depending on planning approval or contract requirements)	Step 3 –Sydney Metro Director of Planning, Environment & Sustainability (only required if not approved already)
Action:	Endorsement	Circle: Endorsement or Approval	Approval
Signature:	*Approved Road Occupancy Licence/Road Opening Permit (if applicable) must be sighted prior to endorsement.*		
Name:			
Date:			
Comments:			
Conditions:			

Appendix 1: Location Map (and/or Environmental Control Map)

Appendix 2: Traffic Management Plan and/or Traffic Control Plan

(if applicable)

Appendix 3: Supporting Evidence for Noise & Vibration Impacts (e.g. Construction Noise & Vibration Impact Statement, noise assessment, etc.)

(if applicable)

Appendix 4: Community Notification

(if applicable and already drafted)

Appendix 1: Location Map (and/or Environmental Control Map)

Appendix 2: Traffic Management Plan and/or Traffic Control Plan

(if applicable)

Appendix 3: Supporting Evidence for Noise & Vibration Impacts (e.g. Construction Noise & Vibration Impact Statement, noise assessment, etc.)

(if applicable)

Appendix 4: Community Notification

(if applicable and already drafted)