Construction Noise and Vibration Management Plan

Project Name:	Sydney Metro West		
Client Name:	Sydney Metro		
Project Address:	Delta will demolish buildings across the following sites: 1. Parramatta 2. Clyde 3. Westmead		
Project Description/Scope:	Delta Pty Ltd (Delta) is responsible for the full structural demolition of existing structures including removal of all hazardous materials of the Sydney Metro West Demolition Project.		
Prepared By: (Consulting Engineer)	Name: [redacted]	Signature: [redacted]	Date:11/11/2021
Reviewed By: (Project Manager)	Name: [redacted]	Signature: [redacted]	Date: 11/11/2021
Authorised By (Project Director):	Name: [redacted]	Signature: [redacted]	Date: 11/11/2021

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1 AUTHORISATION AND CONTROL

1.1 Authorisation

This CEMP Sub-plan is endorsed by the AA and ER, and approved by the Secretary. This CEMP Sub-plan must be submitted to the Planning Secretary with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before construction or where construction is phased no later than one (1) month before the commencement of that phase.

Construction must not commence until the CEMP and CEMP Sub-plans have been approved by the Planning Secretary or endorsed by the ER (whichever is applicable), unless otherwise agreed by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning Secretary or endorsed by the ER (whichever is applicable), including any minor amendments approved by the ER, must be implemented for the duration of construction. Where construction of Stage 1 of the CSSI is phased, construction of a phase must not commence until the CEMP and CEMP Sub-plans for that phase have been approved by the Planning Secretary or certified by the ER upon nomination by the Planning Secretary (whichever is applicable).

All project personnel are to ensure that their work activities and those of Project Consultants, Contractors and Suppliers are carried out in accordance with the requirements of this Plan.

1.2 Distribution

This Plan is a Controlled Document and must be distributed and revised under the guidance of the Project Manager. People who hold Controlled copies are responsible for maintaining their copies up-to-date.

1.3 Revision

The Project Director will monitor the implementation of this Plan and review the need for change or improvements having due regard to:

- Change in work scope, client comments etc.
- Internal and external audits
- Suggestions and comments from project personnel
- Incidence and frequency of non-conformance
- Necessity for corrective or preventative action
- Legal Update and Requirements
- Review by Delta Groups Management team
- Annual Review

Minor amendments of this plan are endorsed by the ER, or otherwise by the Planning Secretary where amendments are not deemed minor. Changes to the recent revision will be highlighted. The following table provides a record of amendments made to this document.

Rev	*Date*	*Description*	*Page*	*Developed By*	*Approved By*
0	25/08/2021	Issued for review	All	[redacted]	[redacted]
1	24/09/2021	Updated to address stakeholder review comments	All		
2	01/10/2021	No Changes to document- Inclusion of Appendix F Consultation Register	Appendix F		
3	18/10/2021	Address comments raised on 11/10/2021	All		
4	25/10/2021	Addressed final comments	34		
5	11/11/2021	Addressed DPIE comments	All		
6	09/04/2022	Updated to capture archaeological investigations and asbestos in soils removal at Westmead	All		

Distribution Register			
Rev No.	***Date of Issue***	***Name of Recipient***	***Position / Organisation***
0	***25/08/21***	[redacted]	***Principal Representative / Sydney Metro***
1	24/09/2021		***Principal Representative / Sydney Metro***
2	01/10/2021		***Principal Representative / Sydney Metro***
3	18/10/2021		***Principal Representative / Sydney Metro***
4	25/10/2021		***Principal Representative / Sydney Metro***
5	-		-
6	09/04/2022		***Principal Representative / Sydney Metro***

2 INTRODUCTION

2.1 Purpose

This Construction Noise and Vibration Management Plan (CNVMP) forms part of the Construction Environmental Management Plan (CEMP).

This CNVMP provides specific management measures to ensure that establishment of Delta's demolition works are carried out so as to manage noise and vibration aspects of the Project in a responsible and sensitive manner.

Implementing the CNVMP effectively will ensure that the Project meets regulatory and contract requirements in a systematic manner and continually improves its performance.

This CNVMP identifies hazards and risks that Delta Group business and personnel may be exposed to during the course of work. The plan details the control measures to be implemented to regulate these hazards and risks. The risk management process involves the use of policies and procedures compliance, forms and checklists, education, training and supervision, and continual improvement in all areas required of quality.

All Delta staff and subcontractors are required to comply fully with the requirements of this CNVMP.

This plan forms part of the project management documentation that has been prepared in accordance with the requirements of the Contract. The Project will be guided by Delta's Integrated Management System (IMS). Delta's IMS is certified as meeting the requirements of:

- AS45001 Occupational Health and Safety Management Systems;
- ISO14001 Environmental management; and
- ISO9001 Quality Management Systems.

2.2 Objectives

The primary objective of this CNVMP is to achieve the environmental performance outcomes identified in Chapter 8 Table 8.13 of the EIS, specifically:

- Construction noise and vibration impacts on local communities are minimised by controlling noise and vibration at the source, on the source to receiver path and at the receiver
- Structural damage to buildings and heritage items from construction vibration is avoided
- Local communities are engaged during construction, including on noise mitigation in areas predicted to be affected by high noise impacts.

These environmental performance outcomes shall be achieved through the following:

(a) Compliance with the relevant Minister's Conditions of Approval;

(b) Implementation of the mitigation measures identified in the documents listed in Condition of Approval A1;

(c) Management of issues during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, through SMART principles.

(d) Implementation of the requirements outlined in the Sydney Metro Construction Noise and Vibration Standard (CNVS)

This CNVMP incorporates the findings of individual Detailed Noise and Vibration Impact Statements (DNVIS) developed for each of the three demolition sites. The DNVIS' provide detailed assessment of construction noise and vibration impacts associated with each site. The DNVIS' include specific mitigation measures identified through consultation with affected sensitive land user(s) which shall be implemented for the duration of the works.

3 Project Description

3.1 Overall

The Sydney Metro West project is a new 24-kilometre metro line with stations confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street in the Sydney CBD (see **Figure 1**).

In order to enable the next phase of the overall Sydney Metro West Project, the Principal requires the demolition of all structures, and clearance of all vegetation (with the exception of riparian vegetation at Clyde) within three sites located in Clyde, Parramatta and Westmead. **Figures 2, 3 & 4** show each of the sites and specific buildings to be demolished.

Delta will be delivering the Parramatta, Clyde, and Westmead Enabling Works package (Phase C1), and the archaeological testing at Parramatta and Clyde (Phase C2). Phase C1 works are generally broken down into the following stages including; site establishment works, service disconnections and relocations, hazardous materials (HAZMAT) removal, internal strip-out of structures, demolition of existing structures and site clearing. These stages of works will apply to each of the sites. The archaeological testing at Parramatta and Clyde (Phase C2) will be staged as the study areas become available.

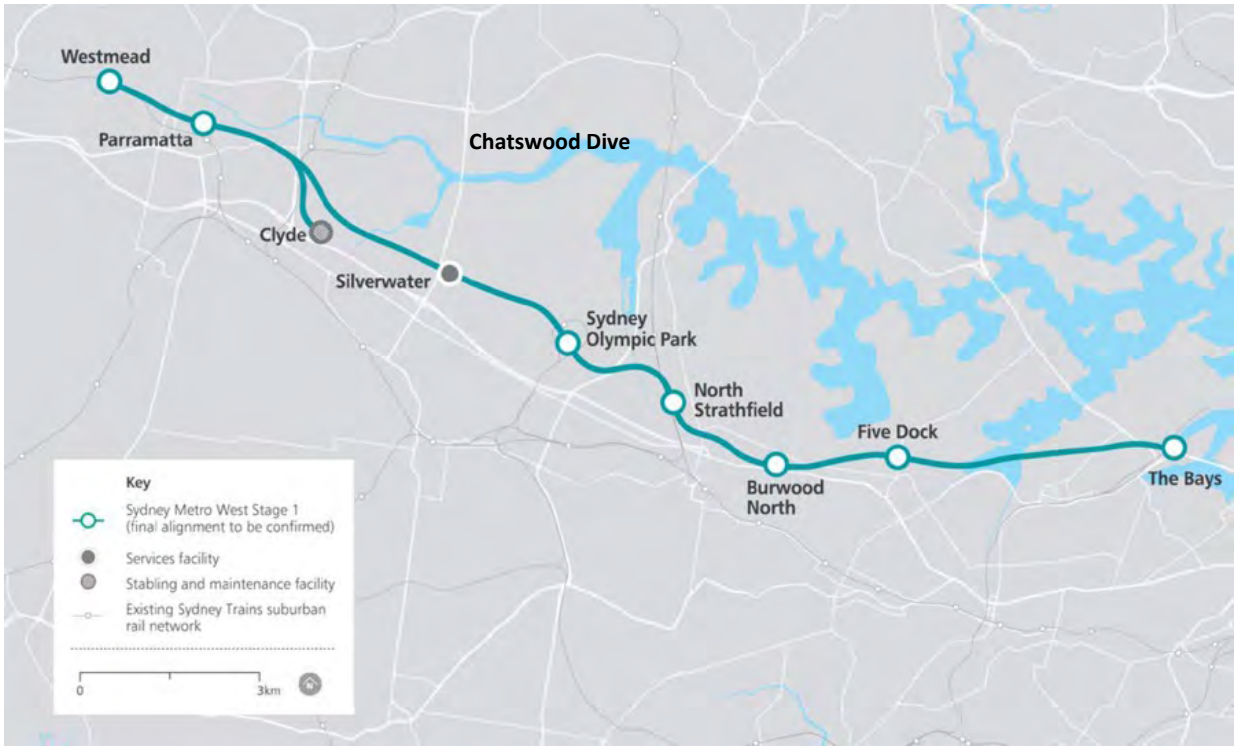


Figure 1 Sydney Metro West project

Source: Sydney Metro.

3.2 Site establishment works (Phase C1)

Site establishment works are required to facilitate the overall works and are generally considered to be relatively low impact works. These activities will generally be undertaken in accordance with the Sydney Metro West Low Impact Works approval pathway in accordance with MCoA A21 or under an approved Site Establishment Management Plan (SEMP) in accordance with MCoA A19. Any SEMP must be submitted to the Planning Secretary for approval one (1) month before the establishment of any ancillary facilities. Once the CEMP and relevant Sub Plans approved, any outstanding site establishment works will be managed in accordance with the project CEMP and relevant sub plans.

Site establishment works will generally include:

- Initial site investigations (e.g., specialist consultant inspections or surveys);
- Establishing perimeter security (e.g., installation of hoarding, fencing and boundary screening);
- Establishing environmental controls (e.g., erosion and sediment controls, and bat roosting boxes (if required);
- Salvaging any potential items identified by the Principal that may have heritage value; and
- Installation of site amenities and associated infrastructure (e.g., site sheds).

Note that in accordance with MCoA 21, the use of an ancillary facility for construction must not commence until the CEMP required by Condition C1 of this schedule, relevant CEMP Sub-plans required by Condition C5 of this schedule and relevant Construction Monitoring Programs required by Condition C14 of this schedule have been approved by the Planning Secretary or endorsed by the ER (whichever is applicable). Also noting that the requirement of Condition 21 does not apply to Condition A21 of this schedule or where the use of an ancillary facility is Low Impact Work or for Low Impact Work. In addition, Delta will be undertaking the Parramatta and Clyde archaeological investigative works (Phase C2).

3.3 Service disconnections and relocations (Phase C1)

Each site has a number of services that require disconnection and/or relocation in order to facilitate the safe demolition of structures and future phases of work on the site. Access to all utilities and properties will be maintained during works, unless otherwise agreed with the relevant utility owner, landowner or occupier. Service disconnection and/or relocation includes:

Service disconnection generally incudes:

- Service location, generally using non-destructive techniques where appropriate;
- Accessing services via existing structures or via targeted excavation;
- Disconnecting relevant service in accordance with relevant requirements and approvals;

Relocating services generally includes:

- Service location, generally using non-destructive techniques where appropriate;
- Installing services via existing structures or via targeted excavation; and
- Connecting relevant service in accordance with relevant requirements and approvals;

3.4 Hazardous materials (HAZMAT) removal (Phase C1)

Due to the age of various structures to be demolished, there are number of sites that have been identified to contain hazardous materials such as asbestos, lead paint and dust. This material identified through target surveys and will be safely removed by appropriately licensed removalists prior to undertaking the strip-out or demolition.

Hazardous materials removal works will generally include:

- Accessing the site;
- Establishing appropriate controls and exclusion zones for the hazard;
- Licensed removalist will use relevant tools to safely undertake the strip-out;
- Waste is managed and disposed to an appropriately licensed facility; and
- Validation of removal works by an appropriately qualified professional (e.g., Licensed Asbestos Assessor)

3.5 Internal strip-out of structures (Phase C1)

To allow safe structural demolition, Delta will perform an internal strip-out of internal materials. This would include items such as; office furniture and internal fixtures and linings.

Internal strip-out works will generally include:

- Accessing the site;
- Using appropriate tools and machinery to remove items;
- Managing waste and recycling; and
- Making safe for the final demolition work.

3.6 Demolition of existing structures and site clearing (Phase C1)

Delta has been engaged to undertake the demolition of all structures within the nominated sites down to slab level. Structural demolition works will generally include:

- Use of mechanical demolition methods e.g. Using Excavators with hydraulic attachments to demolish buildings.
    - Demolition will predominantly by completed top-down methodologies;

- Mechanical demolition will be used either working from the slab on ground reaching up to the height of structure; or
- Mechanical demolition with excavators working on top of the structure progressively demolishing level by level.

- Using appropriate tools and machinery to demolish items;
- Removal of underground services to 1.5m below ground level at Westmead;
- Managing waste and recycling; and
- Making safe for handover.

External site clearing of vegetation will be undertaken during demolition and/or concurrently with other stages of the works. Site clearing will generally include:

- Use of available machinery to remove vegetation;
- Use of an arborist to remove trees where there is a safety or ecological requirement (e.g., where there is potential to damage neighbouring buildings or structures to be retained or where an ecologist has noted it is as a requirement);
- Manage the waste; and
- Pre and Post Clearing inspections and reporting.

3.7 Asbestos impacted soil removal (Phase C1)

Due to finds of asbestos containing material found within the surface soils at the Westmead site, Delta has been engaged to undertake the removal of approximately 3000 tonnes of asbestos impacted soil. The soil removal works will generally include:

- A soil strip of 0.1m below ground level across the Westmead Site over unsealed areas and underside of slab on ground (approximately 8,670m^2) except for Lot 35 DP 4036, Lot 36 DP 4036, Lot 37 DP 4036, SP 67282, SP 61570, Lot 1 DP 949987 and Area 'W3' (see **Figure 4a** below).
- The soil will be classified in accordance with the NSW EPA Waste Classification Guidelines (2014) and disposed of to an appropriately licensed facility.

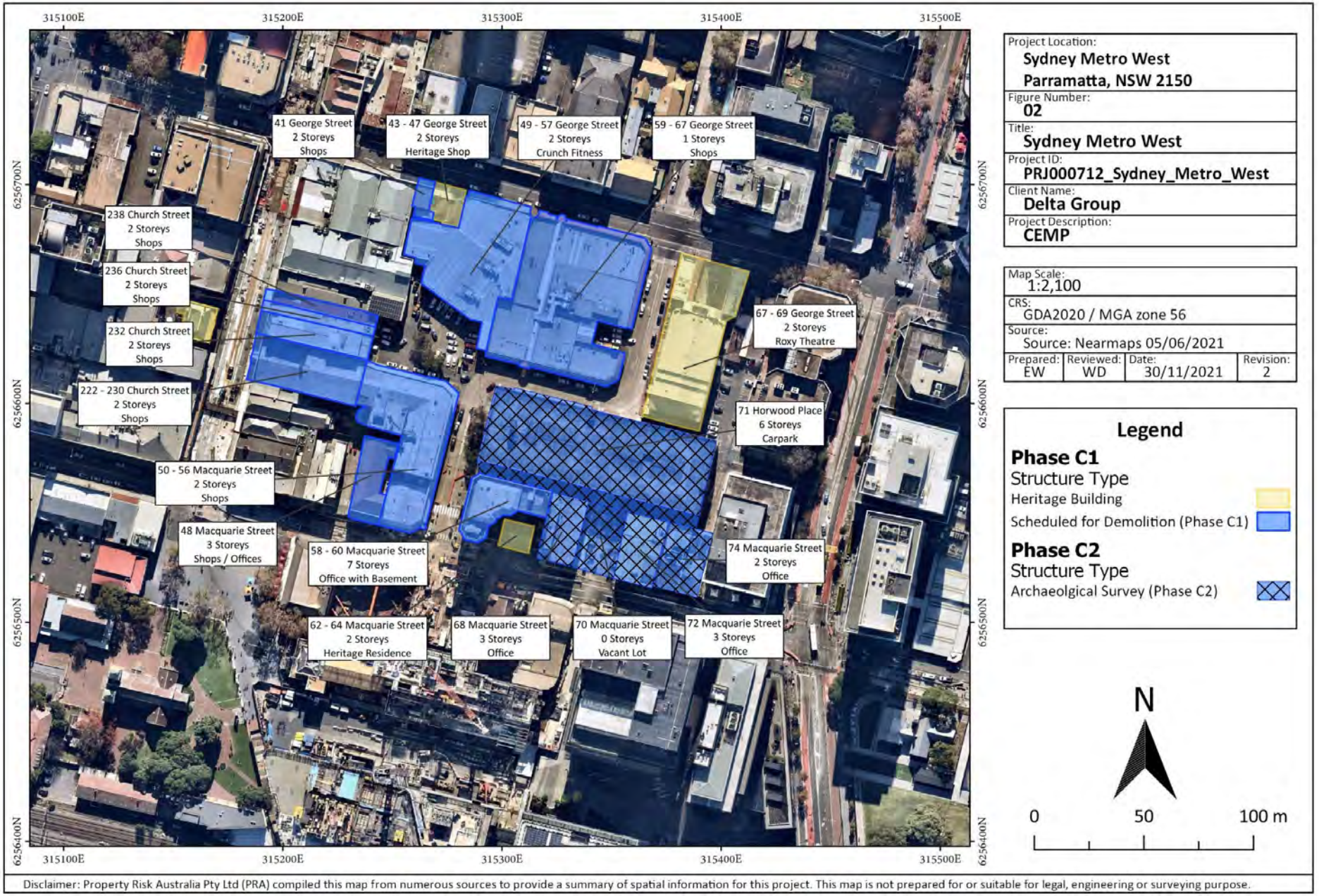
3.8 Archaeological test excavation and related investigations (Phase C2)

Archaeological test excavation and related investigations are required at the Parramatta and Clyde sites as identified in the Aboriginal Cultural Heritage Assessment Report of the EIS Stage 1. Delta will facilitate the excavation and spoil management requirements of the archaeological investigation. The archaeological investigation works will be undertaken by a Heritage specialist in accordance with the Archaeological Research Design and Excavation Methodology (ARDEM) 2021 and AHR 2021. The approximate extent of the Phase C2 works are shown in Figures 2 and 3 below.

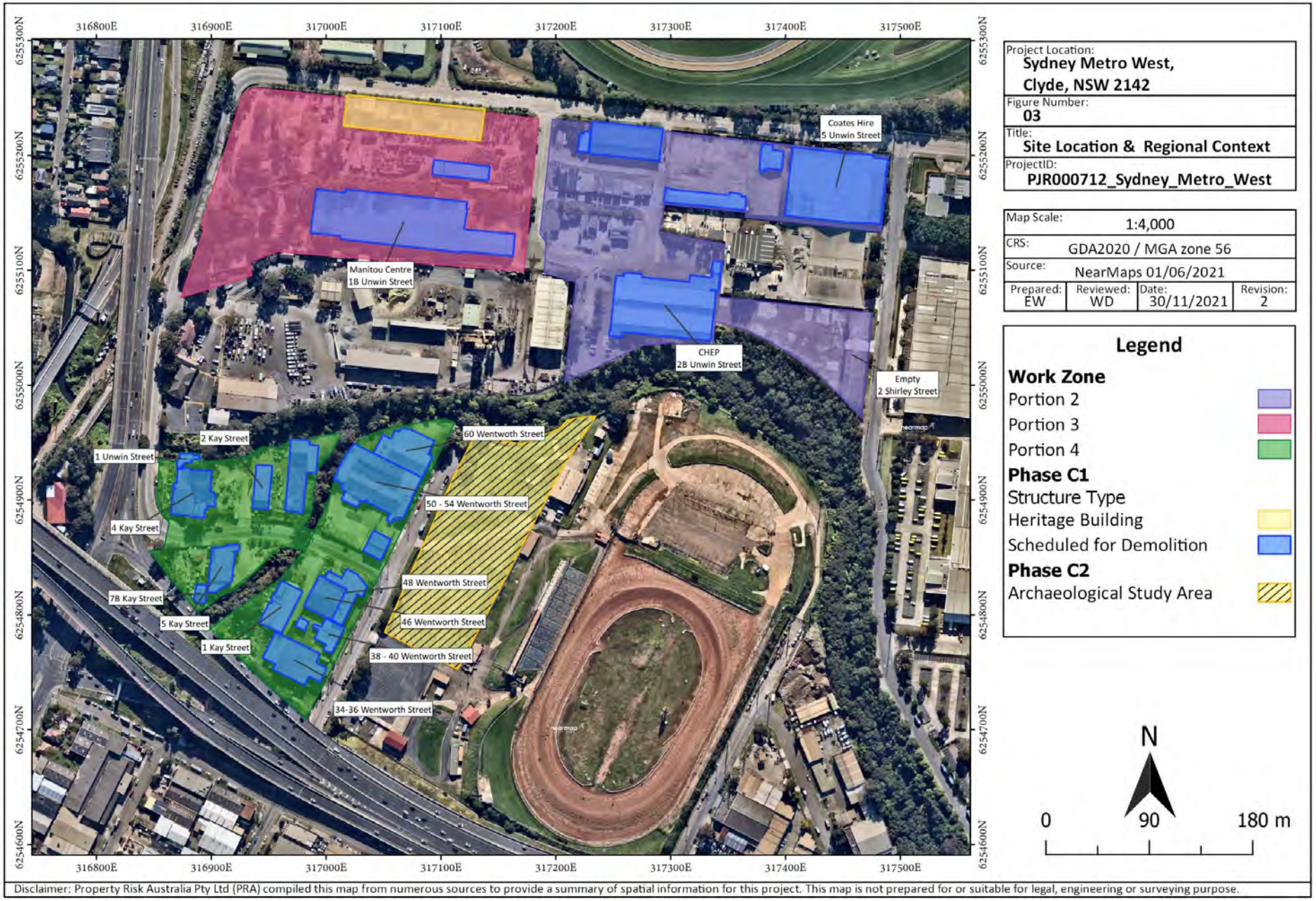
The investigation works will generally include:

- Test excavation;
- Salvage excavation;
- Archaeological monitoring if localised or shallow excavations are proposed in areas of potential and are not expected to impact significant archaeology; and
- Review for opportunities for conservation/relocation/interpretation of state significant archaeology to salvage.

Approximately 27,000 tonnes of spoil will be generated to facilitate archaeological clearance activities at Clyde and Parramatta. Of this 27,000 tonnes, approximately 20,000 tonnes of spoil will be transported offsite from the Parramatta works and 7,000 tonnes of spoil would be stockpiled at Clyde and used to backfill the trenches created during the archaeological clearance works at Clyde.



Disclaimer: Property Risk Australia Pty Ltd (PRA) compiled this map from numerous sources to provide a summary of spatial information for this project. This map is not prepared for or suitable for legal, engineering or surveying purpose.



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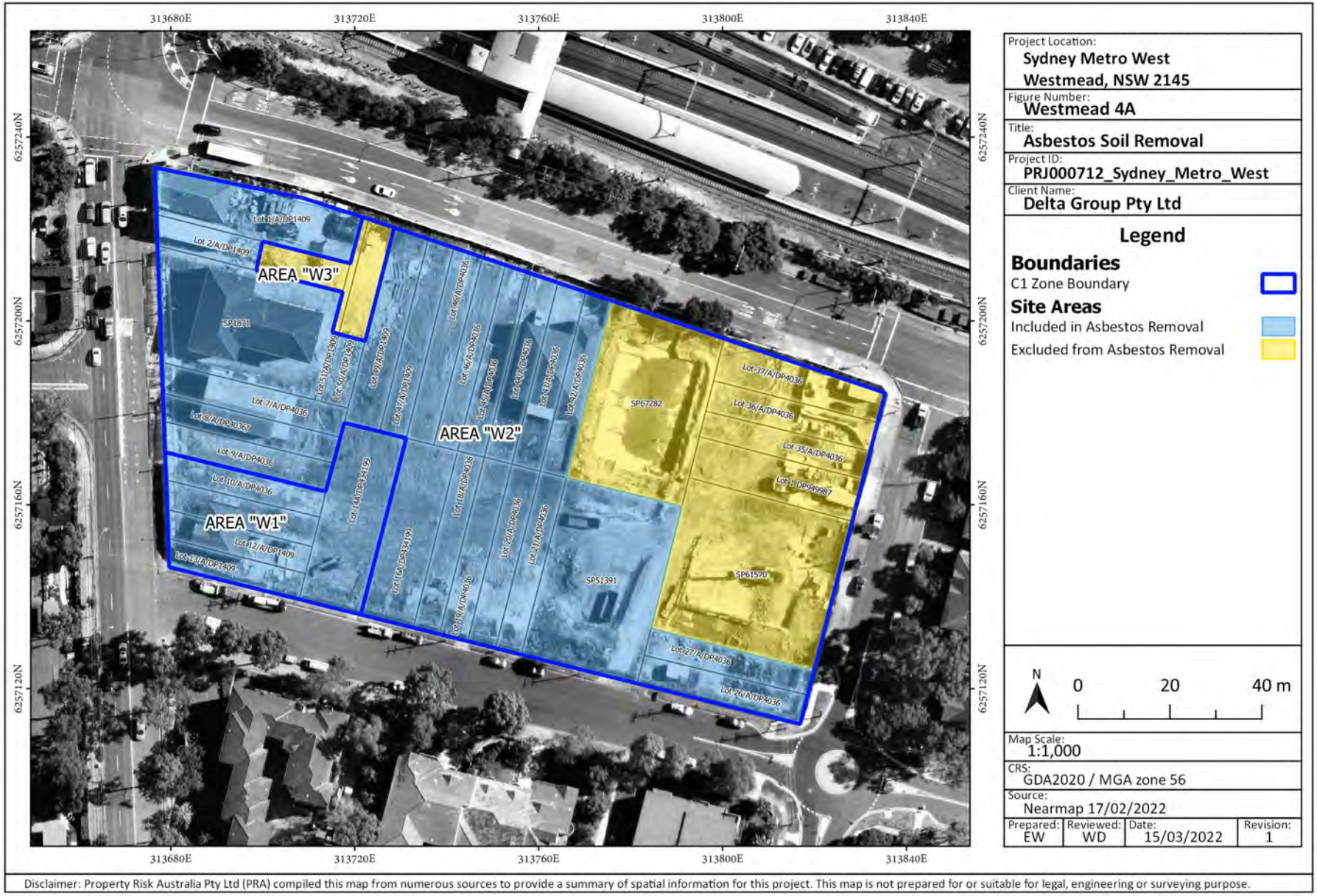

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4 ROLES AND RESPONSIBILITIES

For each procurement activity, Delta Group will allocate sufficient resources to manage quality, including personnel with the appropriate knowledge, skills and experience, to cover the defined practices/processes and procedures required for tender/contract documentation, management and activities generally.

Appropriate training will be provided to personnel, including in:

- The quality management requirements for construction as outlined in the Guidelines
- The principles, standards and codes applicable to Quality Management Systems
- Specification of quality requirements
- Assessment of a Quality Management System
- Review of the Delta Group Quality Management System documentation, including any Construction Noise and Vibration Management Plan , and Inspection and Test Plans, submitted in connection with a contract
- Monitoring, reviewing and auditing of the Delta Groups implementation of the required quality management, and notifying the Delta Group IMS Manager where any action is required.

Table 1 below outlines roles and responsibilities of key personnel under this CNVMP.

Table 1: Key Roles and Responsibilities

Role	Applicable Party	Responsibilities
Project Assessment and Approval	NSW Department of Planning, Industry and Environment (DPIE)	• Project Approval • Approval of CNVMP and CNVS • Issues Secretary's Environmental Assessment Requirements (SEARs)
Governing Environmental Authority	NSW Environmental Protection Authority (EPA)	• Enforcement of Environmental Protection Act • Issues Environmental Protection Licences where required • Environmental auditing and compliance checks
Acoustic Advisor (AA)	Acoustic Studios	• Endorsement of CNVMP and DNVIS documents • Regular monitoring of the implementation of the CNVMP
Environmental Representative (ER)	Healthy Buildings International	• Endorsement of CNVMP and DNVIS documents
Noise & Vibration Management Consultant (pre-works)	Osterman	• Prepare and develop CNVMP and site-specific DNVIS documents in consultation with Delta
Noise & Vibration Management Consultant (during works)	Osterman	• Setup and operate noise and vibration monitoring equipment • Develop and prepare ongoing noise & vibration reports in accordance with the CNVMP
Heritage Consultant	GML Heritage	• Provide advice on the methods and locations for installing noise and vibration monitoring equipment for heritage structures
Project Manager	Delta Group	• Ensure all works comply with the requirements stated in the CNVMP. • Ensure that all stakeholder and community liaison specific to noise & vibration is conducted in accordance with the Sydney Metro Overarching Community Communications Strategy
Site Manager	Delta Group	• Ensure all plant and equipment coming to site and operated onsite complies with the Sydney Metro CNVS & CNVMP • Implement controls stated under the CNVMP

5 ENVIRONMENTAL REQUIREMENTS

5.1 Minister's Conditions of Approval

Table 2 highlights the Minister's Conditions of Approval that relate to noise and vibration management applicable to the Sydney Metro West Project. Cross references are provided to the applicable section of the relevant document(s) that address each requirement.

Table 2: Minister's Conditions of Approval

CoA	Relevant Requirement	Where addressed
C-A1	Approval is granted to the 'Concept' as described in Schedule 1 and in Chapter 6 and in Chapter 7 of the Sydney Metro West – Westmead to The Bays and Sydney CBD Environmental Impact Statement dated 15 April 2020, as amended by the following: (a) Sydney Metro West – Westmead to The Bays and Sydney CBD Amendment Report dated 20 November 2020; and (b) Sydney Metro West – Westmead to The Bays and Sydney CBD Submissions Report dated 20 November 2020.	Note.
A1	The Proponent must carry out Stage 1 of the CSSI in accordance with the conditions of this approval and generally in accordance with the: (a) Sydney Metro West – Westmead to The Bays and Sydney CBD Environmental Impact Statement dated 15 April 2020; (b) Sydney Metro West – Westmead to The Bays and Sydney CBD Submissions Report dated 20 November 2020; and (c) Sydney Metro West – Westmead to The Bays and Sydney CBD Amendment Report dated 20 November 2020.	Section 2.4
A17	Before establishment of any ancillary facility (excluding exempt or complying development, minor ancillary facilities determined by the ER to have minimal environmental impact and those established under Condition A21 of this schedule, and those considered in an approved CEMP), the Proponent must prepare a Site Establishment Management Plan which outlines the environmental management practices and procedures to be implemented for the establishment of the ancillary facilities. The Site Establishment Management Plan must be prepared in consultation with the Relevant Council(s) and relevant government agencies. The Site Establishment Management Plan must include: (a) a description of activities to be undertaken during establishment of the ancillary facility (including scheduling and duration of work to be undertaken at the site); (b) figures illustrating the proposed operational site layout and the location of the closest sensitive land user(s); (c) a program for ongoing analysis of the key environmental risks arising from the site establishment activities described in subsection (a) of this condition, including an initial risk assessment undertaken before the commencement of site establishment work; (d) details of how the site establishment activities described in subsection (a) of this condition will be carried out to: (i) meet the performance outcomes stated in the documents listed in Condition A1 of this schedule, and (ii) manage the risks identified in the risk analysis undertaken in subsection (c) of this condition; and (e) a program for monitoring the performance outcomes, including a program for construction noise monitoring, where appropriate or required. Nothing in this condition prevents the Proponent from preparing individual Site Establishment Management Plans for each ancillary facility.	Refer to Site Establishment Management Plan for relevant Site
C1	Construction Environmental Management Plans (CEMPs) and CEMP Sub-plans must be prepared in accordance with the Construction Environmental Management Framework (CEMF) included in the documents listed in Condition A1 of this schedule to detail how the performance outcomes, commitments and mitigation measures specified in the documents listed in Condition A1 of this schedule will be implemented and achieved during construction.	This Plan Refer also to Parramatta, Clyde and Westmead DNVIS'

CoA	Relevant Requirement	Where addressed
C5	Of the CEMP Sub-plans required under Condition C1 of this schedule, the following CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan. Details of issues raised by a government agency during consultation must be included in the relevant CEMP Sub-plan, including copies of all correspondence from those government agencies as required by Condition A6 of this schedule. Where a government agency (ies) request(s) is not included, the Proponent must provide the Planning Secretary / ER (whichever is applicable) justification as to why: (a) Noise and vibration - SOPA (in respect of Sydney Olympic Park), Place Management NSW (in respect of The Bays) and Relevant Council(s)	Appendix F – Consultation Register
C6	The CEMP Sub-plans must state how: (a) the environmental performance outcomes identified in the documents listed in Condition A1 of this schedule will be achieved; (b) the mitigation measures identified in the documents listed in Condition A1 of this schedule will be implemented; (c) the relevant conditions of this approval will be complied with; and (d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART principles.	Section 2.4 & Section 8.4.6 Refer also to Parramatta, Clyde and Westmead DNVIS'
C7	With the exception of any CEMP Sub-plans expressly nominated by the Planning Secretary to be endorsed by the ER, all CEMP Sub-plans must be submitted to the Planning Secretary for approval.	Section 1.1
C8	The CEMP Sub-plans not requiring the Planning Secretary's approval must obtain the endorsement of the ER as being in accordance with the conditions of approval and all relevant undertakings made in the documents listed in Condition A1 of this schedule. Any of these CEMP Sub-plans must be submitted to the ER with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before construction or where construction is phased no later than one (1) month before the commencement of that phase.	Section 1.1
C9	Any of the CEMP Sub-plans to be approved by the Planning Secretary must be submitted to the Planning Secretary with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before construction or where construction is phased no later than one (1) month before the commencement of that phase.	Section 1.1
C10	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Planning Secretary or endorsed by the ER (whichever is applicable), unless otherwise agreed by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning Secretary or endorsed by the ER (whichever is applicable), including any minor amendments approved by the ER, must be implemented for the duration of construction. Where construction of Stage 1 of the CSSI is phased, construction of a phase must not commence until the CEMP and CEMP Sub-plans for that phase have been approved by the Planning Secretary or certified by the ER upon nomination by the Planning Secretary (whichever is applicable).	Section 1.1
C14	The following Construction Monitoring Programs must be prepared in consultation with the relevant government agencies identified for each to compare actual performance of construction of Stage 1 of the CSSI against the performance predicted in the documents listed in Condition A1 of this schedule or in the CEMP: (a) Noise and vibration	Section 8.3 Parramatta, Clyde and Westmead DNVIS'
C15	Each Construction Monitoring Program must provide: (a) details of baseline data available including the period of baseline monitoring; (b) details of baseline data to be obtained and when; (c) details of all monitoring of the project to be undertaken; (d) the parameters of the project to be monitored; (e) the frequency of monitoring to be undertaken (f) the location of monitoring (g) the reporting of monitoring results and analysis results against relevant criteria; (h) details of the methods that will be used to analyse the monitoring data; (i) procedures to identify and implement additional mitigation measures where the results of the monitoring indicated unacceptable project impacts;	Section 8.3 Parramatta, Clyde and Westmead DNVIS'

CoA	Relevant Requirement	Where addressed
	(j) a consideration of SMART principles; and (k) any consultation to be undertaken in relation to the monitoring programs; and (l) any specific requirements as required by Conditions C16 to C17 of this schedule.	
C16	The Noise and Vibration Construction Monitoring Program and Blasting Construction Monitoring Program must include: (a) noise and vibration monitoring determined in consultation with the AA to confirm the best- achievable construction noise and vibration levels with consideration of all reasonable and feasible mitigation and management measures that will be implemented; (b) for the purposes of (a), noise monitoring must be undertaken during the day, evening and night-time periods and within the first month of work as well as throughout the construction period and cover the range of activities being undertaken at the sites; and (c) a process to undertake real time noise and vibration monitoring. The results of the monitoring must be readily available to the construction team, the Proponent, ER and AA. The Planning Secretary and EPA must be provided with access to the results on request.	Section 8.3 Refer to Parramatta, Clyde and Westmead DNVIS'
C18	With the exception of any Construction Monitoring Programs expressly nominated by the Planning Secretary to be endorsed by the ER, all Construction Monitoring Programs must be submitted to the Planning Secretary for approval.	Section 8.3
C19	The Construction Monitoring Programs not requiring the Planning Secretary's approval must obtain the endorsement of the ER as being in accordance with the conditions of approval and all undertakings made in the documents listed in Condition A1 of this schedule. Any of these Construction Monitoring Programs must be submitted to the ER for endorsement at least one (1) month before the commencement of construction or where construction is phased no later than one (1) month before the commencement of that phase.	Section 8.3
C20	Any of the Construction Monitoring Programs which require Planning Secretary approval must be endorsed by the ER and then submitted to the Planning Secretary for approval at least one (1) month before the commencement of construction or where construction is phased no later than one (1) month before the commencement of that phase.	Section 8.3
C21	Unless otherwise agreed with the Planning Secretary, construction must not commence until the Planning Secretary has approved, or the ER has endorsed (whichever is applicable), all of the required Construction Monitoring Programs and all relevant baseline data for the specific construction activity has been collected.	Section 8.3
C22	The Construction Monitoring Programs, as approved by the Planning Secretary or the ER has endorsed (whichever is applicable), including any minor amendments approved by the ER, must be implemented for the duration of construction and for any longer period set out in the monitoring program or specified by the Planning Secretary or the ER (whichever is applicable), whichever is the greater.	Section 8.3
C23	The results of the Construction Monitoring Programs must be submitted to the Planning Secretary, ER and relevant regulatory agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program. Note: Where a relevant CEMP Sub-plan exists, the relevant Construction Monitoring Program may be incorporated into that CEMP Sub-plan.	Section 8.3.3
D14	Before installing protective site boundary hoarding or equipment used for vibration and noise monitoring at any Heritage item identified in the documents listed in Condition A1 of this schedule, the advice of a suitably qualified and experienced built heritage expert must be obtained and implemented to ensure any such work does not have an adverse impact on the heritage significance of the item. The installation must also consider and avoid impacts to potential historical archaeology and seek advice from the Excavation Director approved under Condition D27.	Section 8.3.5
D34	A detailed land use survey must be undertaken to confirm sensitive receivers (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	Section 7.3 Appendix B - Sensitive Receivers Appendix C – Site Plans and Monitoring Locations

CoA	Relevant Requirement	Where addressed
	ground-borne noise in that area. The results of the survey must be included in the Noise and Vibration CEMP Sub-plan required under Condition C5 of this schedule.	
D35	Work must only be undertaken during the following hours: (a) 7:00am to 6:00pm Mondays to Fridays, inclusive; (b) 8:00am to 6:00pm Saturdays; and (c) at no time on Sundays or public holidays.	Section 5
D36	Except as permitted by an EPL, highly noise intensive work that results 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.	Section 5

CoA	Relevant Requirement	Where addressed
D37	Notwithstanding Conditions D35 and D36 of this schedule 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. On becoming aware of the need for emergency work in accordance with (a)(ii) above, the AA, 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. (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 LAFmax(15 minute) noise levels no more than 15 dB(A) above the rating background level at any residence; or (iii) 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). (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 D38 of this schedule; or (iii) negotiated agreements with directly affected residents and sensitive land user(s). (d) By Prescribed Activity, including: (i) tunnelling (excluding cut and cover tunnelling and surface works) are permitted 24 hours a day, seven days a week; or (ii) concrete batching at the Clyde construction site is permitted 24 hours a day, seven days a week; or (iii) delivery of material that is required to be delivered outside of standard construction hours in Condition D35 of this schedule to directly support tunnelling activities, except between the hours 10:00 pm and 7:00 am to / from the Five Dock and Westmead construction sites and to / from Burwood North construction site using any roads / streets other than directly from Parramatta Road; or (iv) haulage of spoil except between the hours of 10:00 pm and 7:00 am to / from the Five Dock and Westmead construction sites and to / from Burwood North construction site using any roads / streets other than directly from Parramatta Road; or (v) work within an acoustic shed where there is no exceedance of noise levels under Low impact circumstances identified in (b) above, unless otherwise agreed by the Planning Secretary. Note: Tunnelling does not include station box excavation.	Section 5

CoA	Relevant Requirement	Where addressed
D38	An Out-of-Hours Work Protocol must be prepared to identify a process for the consideration, management and approval of work which are outside the hours defined in Conditions D35 and D36 of this schedule. The Protocol must be approved by the Planning Secretary before commencement of the out-of-hours work. The Protocol must be prepared in consultation with the ER, AA and EPA. The Protocol must provide: (a) identification of low and high-risk activities and an approval process that considers the risk of activities, proposed mitigation, management, and coordination, including where: (i) the ER and AA review all proposed out-of-hours activities and confirm their risk levels; (ii) low risk activities can be approved by the ER in consultation with the AA; and (iii) high risk activities that are approved by the Planning Secretary; (b) a process for the consideration of out-of-hours work against the relevant NML and vibration criteria; (c) 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 D50 of this schedule. 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; (d) 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 (e) 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 D37(b) of this schedule are met. Note: Out-of-hours work is any work that occurs outside the construction hours identified in Condition D35 and D36 of this schedule.	Section 5.3
D39	All reasonable and feasible mitigation measures must be implemented with the aim of achieving the following construction noise management levels and vibration criteria: (a) construction 'Noise affected' noise management levels established using the Interim Construction Noise Guideline (DECC, 2009); (b) vibration criteria established using the Assessing vibration: a technical guideline (DEC, 2006) (for human exposure); (c) Australian Standard AS 2187.2 - 2006 "Explosives - Storage and Use - Use of Explosives" (for human exposure); (d) BS 7385 Part 2-1993 "Evaluation and measurement for vibration in buildings Part 2" as they are "applicable to Australian conditions"; and (e) the vibration limits set out in the German Standard DIN 4150-3: Structural Vibration- effects of vibration on structures (for structural damage for structurally unsound heritage items). Any work identified as exceeding the noise management levels and / or vibration criteria must be managed in accordance with the Noise and Vibration CEMP Sub-plan. Note: The ICNG identifies 'particularly annoying' activities that require the addition of 5 dB(A) to the predicted level before comparing to the construction Noise Management Level.	Section 6 Section 8.4.1 Parramatta, Clyde and Westmead DNVIS'

CoA	Relevant Requirement	Where addressed
D40	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 D38 of this schedule.	Section 8.4.1 Parramatta, Clyde and Westmead DNVIS'
D41	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 8.4.1 Parramatta, Clyde and Westmead DNVIS'
D42	Industry best practice construction methods must be implemented where reasonably practicable to ensure that noise levels are minimised around sensitive land user(s). Practices must include, but are not limited to: (a) use of regularly serviced low sound power equipment; (b) temporary noise barriers (including the arrangement of plant and equipment) around noisy equipment and activities such as rock hammering and concrete cutting; and (c) use of alternative construction and demolition techniques.	Section 8.4.1 Parramatta, Clyde and Westmead DNVIS'
D43	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 D39 and D40 of this schedule at any residence outside construction hours identified in Condition D35 of this schedule, or where receivers will be highly noise affected. The DNVIS must include specific mitigation measures identified through consultation with affected sensitive land user(s) and the mitigation measures must be implemented for the duration of the works. A copy of the DNVIS must be provided to the AA and ER before the commencement of the associated works. The Planning Secretary and the EPA may request a copy (ies) of the DNVIS.	Section 7.1 Parramatta, Clyde and Westmead DNVIS'
D44	DNVIS must be prepared for each construction site before construction noise and vibration impacts commence and include specific mitigation measures identified through consultation with affected sensitive land users.	Section 7.1 Parramatta, Clyde and Westmead DNVIS'
D45	Owners and occupiers of properties at risk of exceeding the screening criteria for cosmetic damage must be notified before works that generate vibration commences in the vicinity of those properties. If the potential exceedance is to occur more than once or extend over a period of 24 hours, owners and occupiers are to be provided a schedule of potential exceedances on a monthly basis for the duration of the potential exceedances, unless otherwise agreed by the owner and occupier. These properties must be identified and considered in the Noise and Vibration CEMP Subplan.	Section 8.4.3 Parramatta, Clyde and Westmead DNVIS'
D46	Vibration testing must be conducted during vibration generating activities that have the potential to impact on Heritage items to identify minimum working distances to prevent cosmetic damage. In the event that the vibration testing and attended monitoring shows that the preferred values for vibration are likely to be exceeded, the Proponent must review the construction methodology and, if necessary, implement additional mitigation measures. Such measures must include, but not be limited to, review or modification of excavation techniques.	Section 8.4.3 Parramatta, Clyde and Westmead DNVIS'

CoA	Relevant Requirement	Where addressed
D47	The Proponent must seek the advice of a heritage specialist on methods and locations for installing equipment used for vibration, movement and noise monitoring at Heritage items.	Section 8.3.5 Parramatta, Clyde and Westmead DNVIS'
D49	If a Heritage item is found to be structurally unsound (following inspection) a more conservative cosmetic damage criterion of 2.5 mm/s peak component particle velocity (from DIN 4150) must be applied.	Section 6.3.2 Parramatta, Clyde and Westmead DNVIS'
D50	All work undertaken for the delivery of Stage 1 of the CSSI, including those undertaken by third parties (such as utility relocations), must be coordinated to ensure respite periods are provided. The Proponent must: (a) reschedule any work to provide respite to impacted noise sensitive receivers so that the respite is achieved in accordance with Condition D51 of this schedule; or (b) consider the provision of alternative respite or mitigation to impacted noise sensitive receivers; and (c) provide documentary evidence to the AA in support of any decision made by the Proponent in relation to respite or mitigation. The consideration of respite must also include all other approved Critical SSI, SSI and SSD projects which may cause cumulative and / or consecutive impacts at receivers affected by the delivery of Stage 1 of the CSSI.	Section 5.3
D51	In order to undertake out-of-hours work outside the work hours specified under Condition D35 of this schedule, 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 D39 (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 AA, EPA and the Planning Secretary. 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 5.3
D59	The utilities and services (hereafter "services") potentially affected by construction must be identified to determine requirements for diversion, protection and / or support. Alterations to services must be determined by negotiation between the Proponent and the service providers. Disruption to services resulting from construction must be avoided, wherever possible, and advised to customers where it is not possible.	Section 8.3.8
D63	Appropriate equipment to monitor areas in proximity of construction sites and the tunnel route during construction must be installed with particular reference to at risk buildings, structures and utilities identified in the condition surveys required by Condition D60 of this schedule and / or geotechnical analysis as required. If monitoring during construction indicate exceedance of the vibration criteria identified in the DNVIS prepared under Condition D43 of this schedule, then all construction affecting settlement must cease immediately and must not resume until fully rectified or a revised method of construction is established that will ensure protection of affected buildings.	Section 8.3.2 & Section 8.3.7

5.2 Revised Environmental Mitigation Measures

The list of mitigation measures and performance outcomes presented in Chapter 27 of the Environmental Impact Statement have been revised on the basis of submissions received and additional assessment work carried out. In some cases new measures have been added, while in others, the wording of existing measures has been adjusted. **Table 3** provides the REMMs applicable to the scope of this CNVMP.

Table 3: Revised Environmental Mitigation Measures

Condition	Relevant Requirement	Where addressed
NV01	Further engagement and consultation would be carried out with: • The affected communities to understand their preferences for mitigation and management measures. • 'Other sensitive 'receivers such as schools, medical facilities or places of worship to understand periods in which they are more sensitive to impacts. Based on this consultation, appropriate mitigation and management options would be considered and implemented where feasible and reasonable to minimise the impacts.	Section 8.4.1 Parramatta, Clyde and Westmead DNVIS'
NV02	Alternative construction methodologies and measures that minimise noise and vibration levels during noise intensive works would be investigated and implemented where feasible and reasonable. This would include consideration of: • The use of hydraulic concrete shears in lieu of hammers/rock breakers • Sequencing works to shield noise sensitive receivers by retaining building wall elements • Locating demolition load out areas away from the nearby noise sensitive receivers • Providing respite periods for noise intensive works • Minimising structural-borne noise to adjacent buildings including separating the structural connection prior to demolition through saw-cutting and propping, using hand held splitters and pulverisers or hand demolition • Installing sound barrier screening to scaffolding facing noise sensitive neighbours • Using portable noise barriers around particularly noisy equipment, such as concrete saws • Modifying demolition works sequencing / hours to minimise impacts during peak pedestrian times and / or adjoining neighbour outdoor activity periods.	Section 8.4.1 Parramatta, Clyde and Westmead DNVIS'
NV03	Appropriate respite would be provided to affected receivers in accordance with the Sydney Metro Construction Noise and Vibration Standard. This would include consideration of impacts from Stage 1 utility and power supply works when determining appropriate respite periods for affected receivers. When determining appropriate respite, the need to efficiently undertake construction would be balanced against the communities' preferred noise and vibration management approach.	Section 8.4.1 Parramatta, Clyde and Westmead DNVIS'
NV04	The use of noise intensive equipment at construction sites with 'moderate' and 'high' out-of-hours noise management level exceedances would be scheduled for standard construction hours, where feasible and reasonable. Where this is not feasible and reasonable, the works would be undertaken as early as possible in each work shift.	Section 8.4.1 Parramatta, Clyde and Westmead DNVIS'

Condition	Relevant Requirement	Where addressed
NV05	Air brake silencers would be used on heavy vehicles that access construction sites multiple times per night or over multiple nights.	Section 8.4.1 Parramatta, Clyde and Westmead DNVIS'
NV06	Perimeter site hoarding would be designed with consideration of on-site heavy vehicle movements with the aim of minimising sleep disturbance impacts.	Section 8.4.1 Parramatta, Clyde and Westmead DNVIS'
NV07	Long term construction site support equipment and machinery would be low noise emitting and suitable for use in residential areas, where feasible and reasonable. Examples include: • Low noise water pumps for use in water treatment facilities • Low noise generators and compressors • Low noise air conditioner units for use of amenities buildings.	Section 8.4.1 Parramatta, Clyde and Westmead DNVIS'
NV09	Feasible and reasonable measures would be implemented to minimise ground-borne noise where exceedances are predicted. This may require implementation of less ground-borne noise and less vibration intensive alternative construction methodologies.	Section 8.4.1 Parramatta, Clyde and Westmead DNVIS'
NV14	Further assessment of construction traffic would be completed during detailed design, including consideration of the potential for exceedances of the NSW Road Noise Policy base criteria (where greater than 2 dB increases are predicted). The potential impacts would be managed using the following approaches, where feasible and reasonable: • On-site spoil storage capacity would be maximised to reduce the need for truck movements during sensitive times • Vehicle movements would be redirected away from sensitive receiver areas and scheduled during less sensitive times • The speed of vehicles would be limited and the use of engine compression brakes would be avoided • Heavy vehicles would not be permitted to idle near sensitive receivers.	Refer to Parramatta, Clyde and Westmead DNVIS'
NV15	Consultation with the owners and operators of the horse stables near the Clyde stabling and maintenance facility construction site would be carried out so that potential impacts to horses are appropriately managed.	Section 8.4.1 Clyde DNVIS
NV16	Where vibration levels are predicted to exceed the screening criteria, a more detailed assessment of the structure (in consultation with a structural engineer) and vibration monitoring would be carried out to ensure vibration levels remain below appropriate limits for that structure. For heritage items, the more detailed assessment would specifically consider the heritage values of the structure in consultation with a heritage specialist to ensure sensitive heritage fabric is adequately monitored and managed.	Section 6.3
NV18	The likelihood of cumulative construction noise impacts would be reviewed during detailed design when detailed construction schedules are available. Co-ordination would occur between potentially interacting projects to minimise concurrent or consecutive works in the same areas, where possible. Specific mitigation strategies would be developed to manage impacts. Depending on the nature of the impact, this could involve adjustments to construction program or activities of Sydney Metro West or of other construction projects.	Refer to Parramatta, Clyde and Westmead DNVIS'

5.3 Sydney Metro Requirements

Sydney Metro Requirements for the works are provided in Volume 4A – General Specification. The relevant requirements for this CNVMP are listed in **Table 4** below:

Table 4: Relevant Sydney Metro Requirements

SMR E	Relevant requirement	Where addressed
SM-W-PCE-PS-197	The Contractor must minimise environmental impacts, including noise, vibration and dust impacts on adjacent and nearby properties including implementing methodologies that produce the lowest environmental impacts.	Section 8.4.1 Parramatta, Clyde and Westmead DNVIS'
SM-W-PCE-PS-198	The Contractor must implement, where reasonable and feasible, demolition methodologies that limit the use of hydraulic hammers, rock breakers, and other appliances that emit high noise levels and vibrations.	Section 8.4.1 Section 8.4.5 Parramatta, Clyde and Westmead DNVIS'
SM-W-PCE-PS-199, SM-W-PCE-PS-200, SM-W-PCE-PS-201, SM-W-PCE-PS-202, SM-W-PCE-PS-203, SM-W-PCE-PS-204, SM-W-PCE-PS-205	The Contractor's demolition methodologies must be consistent with the requirements of the Sydney Metro Construction, Noise and Vibration Standard (CNVS) v4.3 and include: (i) the use of concrete shear/pulveriser attachments as the primary demolition method for concrete walls and suspended concrete slabs; (ii) sequencing the demolition work to shield noise sensitive neighbours from high noise levels by retaining wall elements adjoining/shielding those properties to the end of the demolition sequence (i.e. floor by floor leaving the perimeter wall that aids noise screening to the end etc.); (iii) locating demolition load out areas such that noise emissions are projected away from sensitive noise receptors (e.g. childcare centres, dental and medical suites, forecourt retail, etc.); (iv) measures to minimise structural-borne noise to buildings that are connected, or to buildings where the cavity between buildings is/or likely to be bridged. Measures should include separating the structural connections prior to demolition through sawcutting / propping, using hand held splitters/pulverisers or hand demolition in short respite periods; (v) installation of sound barrier screening such as Echo Barrier ™ or approved equal to all scaffolding facing noise sensitive neighbours; (vi) modifying demolition work sequencing and or hours to reduce noise emissions during peak pedestrian and adjoining neighbour outdoor activities and movements where reasonable and feasible.	Section 8.4.1 Section 8.4.5 Parramatta, Clyde and Westmead DNVIS'

6 HOURS OF WORK

6.1 Indicative Construction Program

An overview of the construction program applicable to Delta's scope of works is presented in **Figure 5**. Works on all Sites shall occur concurrently subject to Hours of Work requirements presented in Section 5.2.

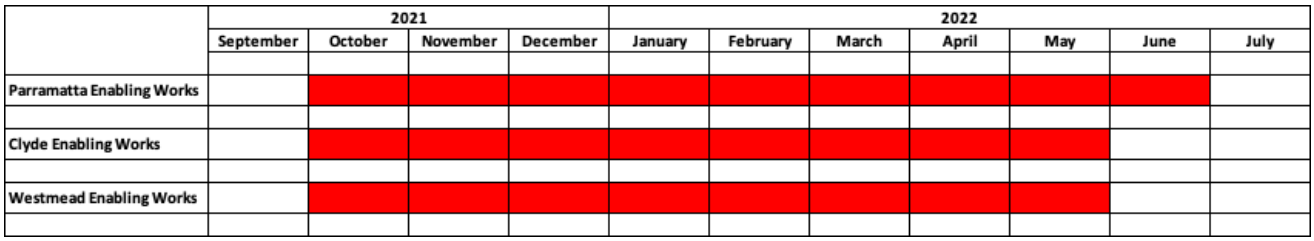

Figure 5: Construction Program

6.2 Hours of Work

Pursuant to *CoA D35*, work shall be undertaken during the following standard construction hours:

(a) 7:00am to 6:00pm Mondays to Fridays, inclusive;

(b) 8:00am to 6:00pm Saturdays; and

(c) at no time on Sundays or public holidays.

Pursuant to *CoA D36*, except as permitted by an EPL, highly noise intensive work that results 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.

Pursuant to *CoA D37*, notwithstanding CoA D35 and D36, 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.

On becoming aware of the need for emergency work in accordance with (a)(ii) above, the AA, 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.

(b) Low impact, including:

i. construction that causes $L_{Aeq(15\ minute)}$ 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 $L_{AFmax(15\ minute)}$ noise levels no more than 15 dB(A) above the rating background level at any residence; or

iii. 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).

(c) By Approval, including:

i. where different construction hours are permitted or required under an EPL in force 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 D38 of this schedule; or

iii. negotiated agreements with directly affected residents and sensitive land user(s).

(d) By Prescribed Activity, including:

i. tunnelling (excluding cut and cover tunnelling and surface works) are permitted 24 hours a day, seven days a week; or

ii. concrete batching at the Clyde construction site is permitted 24 hours a day, seven days a week; or

iii. delivery of material that is required to be delivered outside of standard construction hours in Condition D35 of this schedule to directly support tunnelling activities, except between the hours 10:00 pm and 7:00 am to / from the Five Dock and Westmead construction sites and to / from Burwood North construction site using any roads / streets other than directly from Parramatta Road; or

iv. haulage of spoil except between the hours of 10:00 pm and 7:00 am to / from the Five Dock and Westmead construction sites and to / from Burwood North construction site using any roads / streets other than directly from Parramatta Road; or

v. work within an acoustic shed where there is no exceedance of noise levels under Low impact circumstances identified in (b) above, unless otherwise agreed by the Planning Secretary.

Note: Tunnelling does not include station box excavation.

All work undertaken for the delivery of Stage 1 of the CSSI, including those undertaken by third parties (such as utility relocations), must be coordinated to ensure respite periods are provided. The Proponent must:

(a) reschedule any work to provide respite to impacted noise sensitive receivers so that the respite is achieved in accordance with Condition D51 of this schedule; or

(b) consider the provision of alternative respite or mitigation to impacted noise sensitive receivers; and

(c) provide documentary evidence to the AA in support of any decision made by the Proponent in relation to respite or mitigation.

The consideration of respite must also include all other approved Critical SSI, SSI and SSD projects which may cause cumulative and / or consecutive impacts at receivers affected by the delivery of Stage 1 of the CSSI.

6.3 Out of Hours Works (OOHW) Protocol

This Out-of-Hours Work (OOHW) Protocol applies specifically to Delta's scope of works as defined in Section 2.2 for the Sydney Metro West - Concept and Stage 1 (SSI 10038) project. This Protocol defines the process for assessment and approval of work undertaken outside standard construction hours defined in Conditions of Approval D35 and D36 (out-of-hours work) that is not subject to an Environment Protection Licence (EPL).

This Protocol has been prepared in accordance with Condition of Approval D38 for all works proposed to be undertaken outside of approved construction hours, excluding those considered 'Low Impact' under Condition of Approval D37(b).

6.3.1 Process Overview

An overview of the process for gaining approval of OOH Work is presented in **Figure 6** below. Key items to be addressed within the application for OOH Work is discussed further in Section 5.3.2.

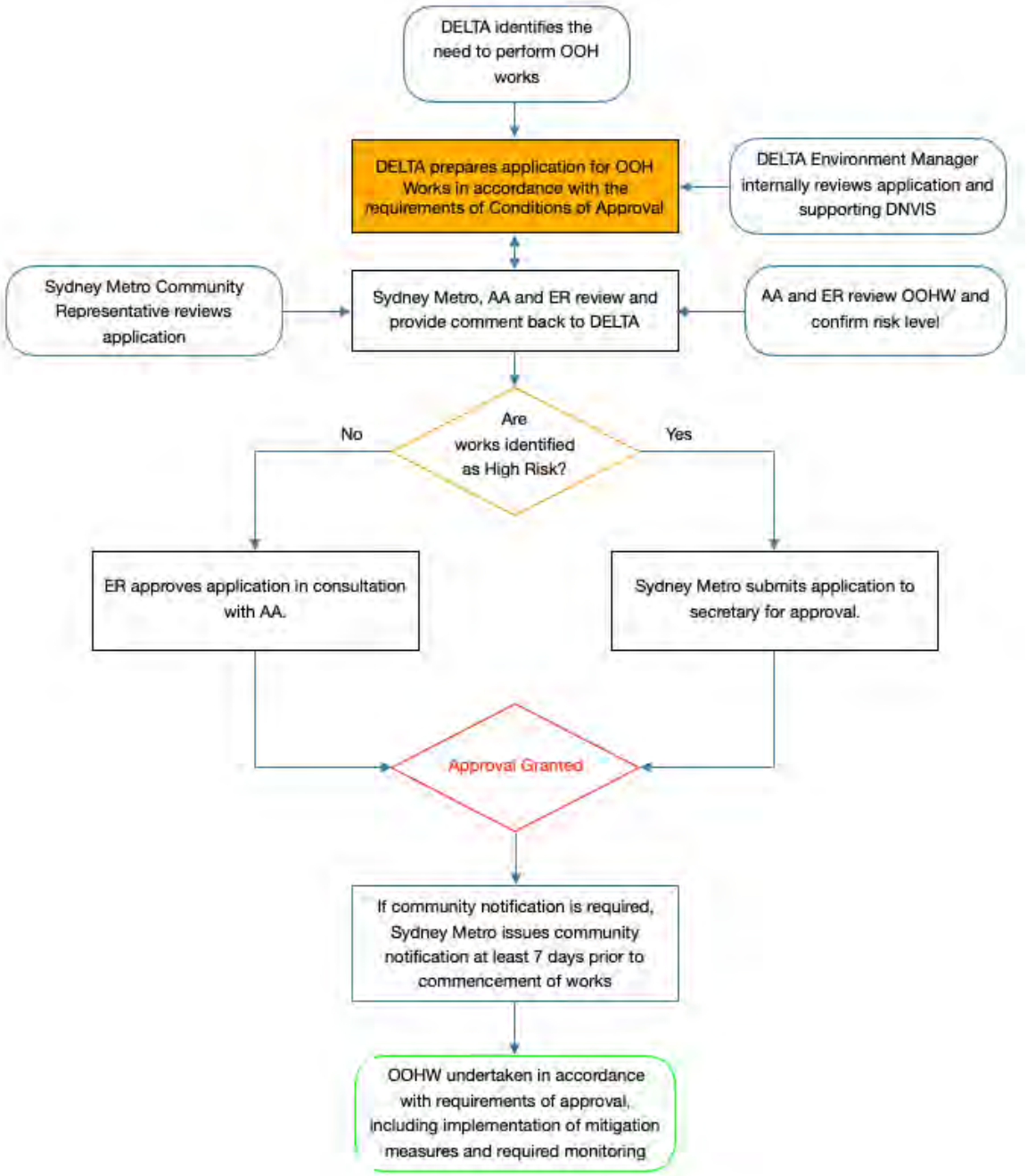

Figure 6: Out-of-Hours Works Approval Process

6.3.2 Specific Requirements of OOHW Application

The following items shall be addressed as part of any application for OOH Works:

1. Identify the activities to be conducted under the OOHW application including:
    - A detailed description of the works including methodologies
    - No. and type of plant/equipment to be used
    - A map indicating location of works, plant/equipment locations and sensitive receivers (including distance to nearest sensitive receiver for noisiest plant/equipment)
    - Proposed dates and times where works are anticipated to be undertaken outside standard hours
    - Justification of the need for OOH Works including why works cannot occur during standard construction hours defined in **Conditions of Approval D35** and **D36**
2. Conduct a quantitative noise assessment of the OOHW
    - Establish Rating Background Levels (RBLs) and Noise Management Levels (NMLs).
    - Predict the anticipated noise levels by way of a preliminary quantitative noise assessment in accordance with the *Interim Construction Noise Guideline* (DECC, 2009)
    - Compare predicted noise levels against NMLs taking into account the impacts of Standard Mitigation Measures identified in Section 8.4.1 of this CNVMP
    - Where the preliminary noise assessment identifies that the OOH Work may exceed the NMLs, vibration criteria and / or ground-borne noise levels specified in **CoA D39** and **D40** at any residence outside construction hours identified in **CoA D35**, or where receivers will be highly noise affected, a Detailed Noise and Vibration Impact Statement (DNVIS) shall be prepared by a suitably qualified person. The **DNVIS** must include specific mitigation measures identified through consultation with affected sensitive land user(s) and the mitigation measures must be implemented for the duration of the works. A copy of the **DNVIS** must be provided to the **AA** and **ER** before the commencement of the associated works. The Planning Secretary and the EPA may request a copy (ies) of the **DNVIS**.
3. Identify low and high-risk activities noting the following:
    - the **ER** and **AA** must review all proposed out-of-hours activities and confirm their risk levels;
    - low risk activities can be approved by the **ER** in consultation with the **AA**;
    - high risk activities require the approval of the Planning Secretary;
4. Identify any requirements for Additional Mitigation Measures in accordance with Section 8.4.2 of this CNVMP noting:
    - Appropriate mitigation measures must be adopted in consultation with the community at each affected location
    - Respite periods shall be provided consistent with the requirements of **CoA D50** and 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 D39 (including the circumstances of when respite or relocation offers will be available and details about how the affected community can access these offers).

      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.
    - Mitigation 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

- The outcomes of the community consultation, the identified respite periods and the scheduling of the likely out-of-hours work must be provided to the AA, EPA and the Planning Secretary.

Following approval of OOH Works, arrangements shall be made to provide notification of the OOH Works to all affected sensitive receivers and the Planning Secretary.

7 CONSTRUCTION NOISE AND VIBRATION CRITERIA

7.1 Airborne Noise Management Levels

7.1.1 Interim Construction Noise Guideline

The Construction Noise and Vibration Standard for the project refers to Noise Management Levels as outlined in the DECC's *Interim Construction Noise Guideline (ICNG)*. The ICNG stipulates NML's that are based on the Rating Background Level (RBL) plus an additional allowance dependent on the time of day. This data is reproduced in **Table 5**.

Table 5: ICNG Noise Criteria

Time of Day	Management Level $L_{Aeq\ (15\ min)}$*	How to apply
Recommended standard hours: Monday to Friday 7am to 6pm Saturday 8am to 1pm No work on Sundays / Public Holidays	Noise affected RBL + 10 dB	• The noise affected level represents the point above which there may be some community reaction to noise. • Where the predicted or measured $L_{Aeq\ (15\ min)}$ is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. • The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.
	Highly noise affected 75 dB(A)	The highly noise affected level represents the point above which there may be strong community reaction to noise. • Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account: 1. times identified by the community when they are less sensitive to noise (such as before and after school for works near schools, or mid-morning or mid-afternoon for works near residences 2. if the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside recommended standard hours	Noise affected RBL + 5 dB	• A strong justification would typically be required for works outside the recommended standard hours. • The proponent should apply all feasible and reasonable work practices to meet the noise affected level. • Where all feasible and reasonable practices have been applied and noise is more than 5 dB(A) above the noise affected level, the proponent should negotiate with the community. • For guidance on negotiating agreements see section 7.2.2.

*Noise levels apply at the property boundary that is most exposed to construction noise, and at a height of 1.5 m above ground level. If the property boundary is more than 30 m from the residence, the location for measuring or predicting noise levels is at the most noise-affected point within 30 m of the residence. Noise levels may be higher at upper floors of the noise affected residence.

Due to COVID-19 lockdown restrictions in place at the time of writing, attending the site for the purpose of establishing Rating Background Levels has not been possible. Further, RBL monitoring undertaken during COVID lockdowns would not be considered a true representation of the acoustic environment during normal working conditions. As such,

RBL data has been sourced from the project EIS. RBL data and site-specific NMLs for residential receivers are presented in the Detailed Noise and Vibration Impact Statement for each site.

For 'Other' non-residential noise sensitive receivers, project-specific $L_{Aeq(15minute)}$ Noise Management Levels from the ICNG are provided in **Table 6**.

Table 6: ICNG Noise Criteria for 'Other' Sensitive Receivers

Land Use	Management Level $L_{Aeq\ (15\ min)}$ (Applied when the land is in use)
Classrooms at schools and other education institutions	Internal noise level of 45dB(A)
Hospital wards and operating theatres	Internal noise level of 45dB(A)
Places of worship	Internal noise level of 45dB(A)
Active recreation areas (characterised by sporting activities and activities which generate their own noise or focus for participants, making them less sensitive to external noise intrusion)	External noise level of 65dB(A)
Passive recreation areas (characterised by contemplative activities that generate little noise and where bene ts are compromised by external noise intrusion, e.g. reading, meditation) Stables (Rosehill Gardens)	External noise level of 60dB(A)
Community centres	Depends on the intended use of the centre. Refer to the recommended 'maximum' internal levels in Australian Standard 2107 – Acoustics – Recommended design sound levels and reverberation times for building interiors for specific uses.

Other noise-sensitive businesses require separate project specific noise goals. The Interim Construction Noise Guideline recommends that the internal construction noise levels at these premises are determined based on the 'maximum' internal levels presented in AS 2107. These recommended 'maximum 'internal noise levels are provided in **Table 7**.

Table 7: AS2107 Noise Criteria for 'Other' Sensitive Receivers

Description	Time Period	AS2107 Classification	Recommended 'Maximum' Internal L_{Aeq} (15 min)
Hotel	Daytime and evening	Bars and lounges	50
	Night-time	Sleeping areas (hotels near major roads)	40
Cafe	When in use	Coffee bar	50
Bar/Restaurant	When in use	Bars and lounges / Restaurant	50
Library	When in use	Reading areas	45
Recording studio	When in use	Music recording studios	25
Theatre / Auditorium	When in use	Drama theatres	30

Commercial and industrial premises

NMLs for commercial and industrial premises have been set based on the Interim Construction Noise Guidelines, as follows:

- $L_{Aeq(15\ minute)}$ 70 dB(A) for Commercial premises, including offices, retail outlets and small commercial premises; and
- $L_{Aeq(15\ minute)}$ 75 dB(A) for Industrial premises.

For both land use types, the external noise levels should be assessed at the most affected occupied point on the premises.

Notwithstanding the above, at no time can noise generated by construction exceed the National Standard for exposure to noise in the occupational environment of an eight-hour equivalent continuous A-weighted sound pressure level of $L_{Aeq,(8h),}$ of 85dB(A) for any employee working at a location near the CSSI.

7.1.2 Project Conditions

Pursuant to *CoA D41*, 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

Pursuant to *CoA D42*, industry best practice construction methods must be implemented where reasonably practicable to ensure that noise levels are minimised around sensitive land user(s). Practices must include, but are not limited to:

(a) use of regularly serviced low sound power equipment;

(b) temporary noise barriers (including the arrangement of plant and equipment) around noisy equipment and activities such as rock hammering and concrete cutting; and

(c) use of alternative construction and demolition techniques

7.2 Ground-borne Noise Management Levels

Pursuant to *CoA D40*, all reasonable and feasible mitigation measures must be applied when the residential ground-borne noise levels exceed those presented in **Table 8**. The mitigation measures must be outlined in the Noise and Vibration CEMP Sub-plan, including in any Out-of-Hours Work Protocol, required by CoA D38.

Table 8: ICNG NMLs for Ground-borne Noise

Land Use	Noise Management Level $L_{Aeq\ (15\ min)}$
Evening 6pm - 10pm	Internal LAeq(15min) of 40dB(A)
Night-time 10pm - 7am	Internal LAeq(15min) of 35dB(A)

7.3 Construction Vibration

Pursuant to *CoA D39*, all reasonable and feasible mitigation measures must be implemented with the aim of achieving vibration criteria outlined in a number of Australian and international standards and guidelines for both human comfort and for structural damage. It is noted however that human comfort criteria is unnecessarily conservative and not generally applied for short-term construction works. Notwithstanding, an overview of vibration assessment according to Human Comfort criteria is provided below. The Human Comfort criteria provides a sound basis for understanding the likelihood of vibration-related complaints which may arise as a result of construction activities on the project.

7.3.1 Human Comfort Criteria

German Standard DIN 4150 Part 2 - 1975 presents information on the degree of human perception of various levels of motion and is summarised in **Table 9**.

Table 9: Peak Vibration Levels and Human Perception of Motion

Approximate Vibration Level	Degree of Perception
0.10 mm/s	Not felt
0.15 mm/s	Threshold of perception
0.35 mm/s	Barely noticeable
1 mm/s	Noticeable
2.2 mm/s	Easily noticeable
6 mm/s	Strongly noticeable
14 mm/s	Very strongly noticeable

For the purposes of assessing human comfort, vibration is categorised as either continuous, impulsive or intermittent. The NSW EPA's publication "Assessing Vibration: A Technical Guideline" gives the following definitions for these categories:

Continuous Vibration continues uninterrupted for a defined period (usually throughout daytime and/or night-time). This type of vibration is assessed on the basis of weighted rms acceleration values presented in **Table 10.**

Impulsive vibration is a rapid build up to a peak followed by a damped decay that may or may not involve several cycles of vibration (depending on frequency and damping). It can also consist of a sudden application of several cycles at approximately the same amplitude, providing that the duration is short, typically less than 2 seconds. Impulsive vibration

(no more than three occurrences in an assessment period) is assessed on the basis of acceleration values presented in **Table 10**. Note that this does not apply to blast-induced vibration which instead is assessed according to ANZECC (1990).

Intermittent vibration can be defined as interrupted periods of continuous (e.g. a drill) or repeated periods of impulsive vibration (e.g. a pile driver), or continuous vibration that varies significantly in magnitude. It may originate from impulse sources (e.g. pile drivers and forging presses) or repetitive sources (e.g. pavement breakers), or sources which operate intermittently, but which would produce continuous vibration if operated continuously (for example, intermittent machinery, railway trains and traffic passing by). This type of vibration is assessed on the basis of vibration dose values in **Table 11**.

Table 10: Preferred and Maximum weighted rms values for continuous and impulsive vibrations acceleration (m/s^2) 1-80 Hz

Location	Assessment Period	Preferred Values		Maximum Values	
		z-axis	x- and y- axes	z- axis	x- and y- axes
Continuous Vibration					
Critical areas[2]	Day- or night-time	0.0050	0.0036	0.010	0.0072
Residences	Daytime	0.010	0.0071	0.020	0.014
Offices, schools, educational institutions and places of worship	Day- or night-time	0.020	0.014	0.040	0.028
Workshops	Day- or night-time	0.04	0.029	0.080	0.058
Impulsive vibration					
Critical areas[2]	Day- or night-time	0.0050	0.0036	0.010	0.0072
Residences	Daytime	0.30	0.21	0.60	0.42
	Night-time	0.10	0.071	0.20	0.14
Offices, schools, educational institutions and places of worship	Day- or night-time	0.64	0.46	1.28	0.92
Workshops	Day- or night-time	0.64	0.46	1.28	0.92

1. Daytime is 7.00 am to 10.00 pm and night-time is 10.00 pm to 7.00 am.
2. Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring. There may be cases where sensitive equipment or delicate tasks require more stringent criteria than the human comfort criteria specified above. Stipulation of such criteria is outside the scope of this policy, and other guidance documents (e.g. relevant standards) should be referred to. Source: BS 6472-1992

Table 11: Acceptable vibration dose values for intermittent vibration ($m/s^{1.75}$)

Location	Daytime[1]		Night-time[1]	
	Preferred value	Maximum value	Preferred value	Maximum value
Critical areas[2]	0.10	0.20	0.10	0.20
Residences	0.20	0.40	0.13	0.26
Offices, schools, educational institutions and places of worship	0.40	0.8	0.40	0.80
Workshops	0.80	1.60	0.80	1.60

[1] Daytime is 7.00 am to 10.00 pm and night-time is 10.00 pm to 7.00 am.

[2] Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring. These criteria are only indicative and there may be a need to assess intermittent values against the continuous or impulsive criteria for critical areas. Source: BS 6472-1992.

7.3.2 Damage Criteria

British Standard 7385: Part 2 1993 suggests levels of vibration at which 'cosmetic', 'minor 'and 'major 'damage may occur. This standard is based on data collated from a wide range of national and international sources which collectively saw relatively few cases of damage caused by vibration. BS7385 suggests that vibration levels up to the cosmetic damage level are considered 'safe' and have produced no observable damage for particular building types.

For the purposes of this standard, damage includes minor non-structural effects such as hairline cracks on drywall surfaces, hairline cracks in mortar joints and cement render, enlargement of existing cracks and separation of partitions or intermediate walls from load bearing walls.

BS7385, reproduced in **Table 12,** is based on peak particle velocity and specifies damage criteria for transient vibration within the range of frequencies usually encountered in buildings, being 4Hz to 250Hz.

Table 12: BS7385: Part 2 Damage Criteria

Group	Type of Structure	Damage Level	Peak component particle velocity, mm/s		
			4 Hz - 15 Hz	15 Hz - 40 Hz	40 Hz and above
1	Reinforced or framed structures Industrial and heavy commercial buildings	Cosmetic	50		
		Minor	100		
		Major	200		
2	Unreinforced or light framed structures Residential or light commercial type buildings	Cosmetic	15 to 20	20 to 50	50
		Minor	30 to 40	40 to 100	100
		Major	60 to 80	80 to 200	200

Where dynamic loading caused by continuous vibration may result in magnification of vibration through a building structure the guideline values may need to be reduced by up to 50 per cent. Rock breaking, rock hammering and sheet piling activities are considered to have the potential to cause dynamic loading in some structures (eg residences).

For construction activities involving intermittent vibration sources such as rock breakers, piling rigs, vibratory rollers, excavators and the like, the predominant vibration energy occurs at frequencies greater than 4 Hz (and usually in the 10 Hz to 100 Hz range). On this basis, and consistent with the guidance from BS 7385, the following conservative vibration damage screening level per receiver type have been adopted for the project:

- Reinforced or framed structures: **25.0 mm/s**
- Unreinforced or light framed structures: **7.5 mm/s**

With regards to heritage items, BS7385 states that "a building of historical value should not (unless it is structurally unsound) be assumed to be more sensitive". Therefore it is reasonable to apply the General Criteria above subject to satisfactory assessment of the following:

1. The structural condition of the building (in consultation with a structural engineer where required); and
2. The heritage values of the structure in consultation with a heritage specialist to ensure sensitive heritage fabric is adequately monitored and managed.

Where a heritage item is found to be structurally unsound, a more conservative cosmetic damage criterion of **2.5mm/s** peak component particle velocity must be applied.

Pursuant to REMM NV16, where vibration levels are predicted to exceed the screening criteria, a more detailed assessment of the structure and attended vibration monitoring would be carried out to ensure vibration levels remain below appropriate limits for that structure. Further, owners and occupiers of properties at risk of exceeding the screening criteria for cosmetic damage must be notified in accordance with the requirements of CoA D45 before works that generate vibration commence. Structures predicted to exceed the screening criteria are identified in Appendix B - Sensitive Receivers.

8 NOISE AND VIBRATION ASSESSMENT

8.1 Detailed Noise and Vibration Impact Statements

The Sydney Metro Construction Noise and Vibration Standard (CNVS) requires quantitative assessments of noise and vibration impacts to be undertaken during delivery by the Principal Contractor, in this case Delta, to verify impacts and better inform how to mitigate impacts. Such assessments are called Detailed Noise and Vibration Impact Statements (DNVIS). The DNVIS' applicable to Delta's scope of work take the form of a Location Specific assessment which identify construction scenarios that are specific to a location and detail the actual construction methodology (including size and type of equipment to be used). The DNVIS documents prepared under this CNVMP are identified in the Table 13.

Table 13: DNVIS Prepared Under this Plan

Works	Site	DNVIS Document
Demolition	Parramatta Station site	0121-023-02 DNVIS - Sydney Metro - Parramatta
	Clyde Station Site	0121-023-03 DNVIS - Sydney Metro - Clyde
	Westmead Station Site	0121-023-04 DNVIS - Sydney Metro - Westmead

In all cases the overriding objective of noise and vibration assessments is to firstly identify impact reduction techniques to reduce noise and vibration impacts below the NML using Standard Mitigation Measures (refer to Section 8.4) so that the reliance upon impact offset measures (Additional Mitigation Measures) is removed or minimised.

8.2 Assessment Methodology

Section 3.1 of the Sydney Metro CNVS provides information on the requirements for a DNVIS. For all DNVIS reports the noise impacts are to be assessed based on construction scenarios. A construction scenario relating to noise impact is essentially a construction activity which is made up of the required plant and equipment, thus each DNVIS document is made up of a number of construction scenarios. In undertaking an assessment of the noise (and vibration) impact from a construction scenario(s) a number of steps are to be taken. These steps are outlined in Table 14 along with notes on how this CNVMP (and the DNVIS' which underpin this CNVMP) address each requirement.

Table 14: Assessment Methodology

Step		Notes
1	Identify all Noise and Vibration Sensitive Receivers (NSRs) which may be affected by the project.	Refer to Section 7.3 of this document and individual DNVIS'.
2	Conduct background noise monitoring at representative NSRs to determine the rating background noise levels (RBLs) in accordance with the procedures presented in the EPA's Noise Policy for Industry, where RBLs have not been established in previous project stages.	Due to COVID-19 lockdown restrictions in place at the time of writing, attending site for the purpose of establishing RBLs was not possible. Further, RBL monitoring undertaken during COVID-19 lockdowns would not be considered a true representation of the acoustic environment during normal working conditions. As such, RBL data has been sourced from the project EIS.
3	Determine the appropriate noise and vibration management levels of each NSR.	Refer to Section 6 of this document and individual DNVIS'
4	Determine the source noise levels (Sound Power Levels) of each noise generating plant and equipment item required to undertake the construction scenario. Note: Sound Power Levels for each plant and equipment would be less than the maximum allowable levels found in Table 13 and Table 14 of the CNVS.	Refer to Table 15: Construction Activities and Equipment Noise and individual DNVIS'
5	Clearly indicate which mitigation measures identified in Section 4 have been/are to be incorporated into the noise assessment. Noise mitigation measures to be implemented will vary for reasons such as safety and space constraints, these are to be identified and the calculations adjusted accordingly.	Refer to section titled "Construction Activities and Sources of Noise" within individual DNVIS'
6	For location specific construction scenarios and where applicable for generic scenarios, include the effects of noise shielding provided by site offices, residential fences, noise barriers or natural topographic features. Where applicable include the effects of noise reflections and ground attenuation.	Refer to section titled "Construction Activities and Sources of Noise" within individual DNVIS'
8	Calculate the L_{Aeq} noise or range of levels from construction scenarios at sensitive receiver groups, with the use of noise contour maps where appropriate and/or at 10 m, 25 m, 50 m, 75 m,100 m and 200 m for more general construction activities.	It was agreed in the management plan review meeting held on 16/092021 with AA, ER and other Sydney Metro representatives that contours were not required. Instead all receivers have been assessed to a distance beyond which noise impacts are considered negligible.
9	Compare these against the goals identified for each NSR and identify predicted exceedances.	Refer to section titled "Airborne Noise Predictions" within individual DNVIS'
10	For night-time activities, calculate exceedances over the: o $L_{Aeq,15min}$ 40 dB(A) or the prevailing RBL plus 5 dB, whichever is the greater, and o L_{AFmax} 52 dB(A) or the prevailing RBL plus 15 dB, whichever is the greater. Where exceedances are predicted to occur, undertake a detailed maximum noise level event assessment in accordance with the Noise Policy for Industry (EPA, 2017).	As no night-time activities are planned as part of Delta's scope of works, this step has been omitted. Any night-time works shall be assessed as part of an application for OOH Works.

Step		Notes
11	On completion of all DNVIS reports for the subjective classification of the noise impact is to be evaluated and documented as: o Low Impact o Moderate Impact o High Impact	Refer to section titled "Impact Classification" within individual DNVIS'

8.3 Sensitive Receivers

CoA D34 requires that a detailed land use survey must be undertaken to confirm sensitive receivers (including critical working areas such as operating theatres and precision laboratories) potentially exposed to construction noise and vibration and construction ground-borne noise. Due to COVID-19 lockdown restrictions in place at the time of writing, sensitive receivers were identified in the first instance through a desktop study of information presented in the Sydney Metro EIS. This information was subsequently confirmed using Nearmap and street view information. Sensitive receivers were also cross-checked against the Sydney Metro Small Business Engagement Plan, as well as Parramatta Light Rail project information for the Parramatta site. The list of sensitive receivers can be found in Appendix B - Sensitive Receivers and the relevant DNVIS for that site.

As per Section 3.1 of the Sydney Metro CNVS, a subjective classification of the noise & vibration impact has been evaluated for each sensitive receiver and documented as:

- Low Impact
- Moderate Impact
- High Impact

The classifications were determined on a case-by-case basis using the metrics defined in the CNVS, including:

- The location of the works in relation to the NSR's with consideration of the noise attenuation features such as distance to NSR's, noise barriers, attenuation factor of NSR's windows and elements, Topographical features etc.
- The type and sensitivity of the NSR's:
    - Lower impact: e.g. commercial buildings/scattered residential (low density)
    - Moderate impact: eg standard residential (typical density)
    - High impact: e.g residential home for elderly/high density unit blocks/persistent complainers/residents deemed to have "construction noise fatigue", highly sensitive commercial (jewellers, etc.) or health applications e.g. operating theatres, MRI's, Psychotherapy units, Audio & video production studios etc. and schools/childcare centres.
- Predicted noise and vibration levels and extent of noise exceedance above Noise Management Level
- The type of and intensity of noise emitted from works (ie tonal or impulsive):
    - Lower Impact: No high noise and/or vibration intensive activities
    - Moderate Impact: Short/intermittent high noise and/or vibration intensive activities
    - High Impact: Prolonged high noise and/or vibration intensive activities.
- The duration of any OOHW required.

Site plans illustrating the location and impact classification of sensitive receivers can be found in **Appendix B** - Sensitive Receivers and the relevant DNVIS for that site.

8.4 Cumulative Impacts

Potential cumulative noise and vibration impacts exists where other major construction projects occur concurrently with and in close proximity to works on Sydney Metro West sites. Potential cumulative impacts have been identified for the Parramatta site as a result of the Parramatta Light Rail project, and a number of other commercial developments in the area. This is discussed further in the relevant DNVIS.

8.5 Construction Activities and Sources of Noise

The degree of noise impact on adjacent sensitive receivers from demolition activities is highly dependent on the type and size of machinery used. A list of construction activities to be undertaken and the associated machinery is provided in **Table 15**.

Table 15: Construction Activities and Equipment Noise

Equipment	Construction Activity	Assumed Sound Power* Level dB(A)
2T Excavators	Strip Out	88
5T Excavators	Strip Out	93
5T Excavators w/hammer	Structural Demolition	113
12T Excavators w/hammer	Structural Demolition	115
47T Excavators w/hammer	Structural Demolition	118
47T Excavators w/hydraulic shears/pulverisers/bucket	Structural Demolition	106
Mustang Bobcats	Strip Out	110
Concrete Saw	Structural Demolition	113
Trucks	Transport	105
Concrete Cutters	Structural Demolition	119

8.6 Airborne Noise Predictions

Using the sound power levels stated in **Table 15**, predicted noise levels have been calculated at representative locations around each site based on the distance between noise-emitting activities and the closest sensitive receivers for that site. Predictions assume that equipment is operating at the nearest point of works to the sensitive receiver and therefore represent worst-case scenarios.

Where prediction of internal noise levels are required, it is necessary to make an assessment of the degree of noise reduction between the outdoor and indoor environment. This assessment is made according to noise reduction values listed in **Table 16**.

Table 16: Typical Noise Reduction Values

Building Environment	Noise Reduction
Most building types - with windows open	10dB
Most building types - with windows closed	20dB
Commercial buildings - non-opening double-glazed windows, etc.	25-30dB

Results of noise modelling are detailed in the relevant DNVIS.

8.7 Vibration Predictions

Vibration at the nearest sensitive receivers (adjacent to the building foundation) has been estimated using the formula from the FTA's Guideline "Transit Noise and Vibration Impact Assessment".

$$PPV_{Receiver} = PPV_{Ref} \times \left(\frac{d_{ref}}{d}\right)^{1.5}$$

Where: $PPV_{Receiver}$ = peak particle velocity at the receiver in mm/s
PPV_{Ref} = peak particle velocity of the source, measured at the reference distance (7.6 m)

d_{ref} = reference distance for the vibration source (7.6 m)
d = horizontal distance from the source to the receiver (m)

The values of PPV_{Ref} are based on a review of current literature and are provided in **Table 17** for reference.

Table 17: Reference PPVs

Equipment	PPV @ 7.6m (mm/s)
2T Excavators	2.5
5T Excavators	2.9
12T Excavators	3.3
20T Excavators w/hammer	5.1
47T Excavators w/hammer	7.6
12T Excavators w/hydraulic shears/pulverisers	1.8
20T Excavators w/hydraulic shears/pulverisers	2.5
47T Excavators w/hydraulic shears/pulverisers	3.3
Mustang Bobcats	0.3
Powered Hand Tools	0.2
Trucks	1.9

A detailed assessment of vibration impacts for each site is presented in the relevant DNVIS. Where possible, predictions of ground vibration will be confirmed through site trials. These trials will involve commencement of high-impact works away from sensitive receivers with monitoring in place. Monitoring will continue as works approach the sensitive receiver thus enabling validation of vibration predictions whilst minimising impact on the sensitive receiver.

8.8 Ground-borne Noise

As demolition works do not generally involve ground excavation, ground-borne noise is expected to be an issue only where sensitive receivers adjoin or are otherwise directly coupled to the works (structure-borne noise). Structure-borne noise has been identified as a potential issue for some receivers adjacent to the Parramatta site. This is detailed further in the relevant DNVIS.

Where possible, predictions of structure-borne noise at sensitive receivers will be confirmed through site trials. These trials will involve commencement of noise-intrusive activities away from the sensitive receiver with monitoring in place. Monitoring will continue as works approach the sensitive receiver thus enabling validation of noise predictions whilst minimising impact on the sensitive receiver.

9 NOISE AND VIBRATION MANAGEMENT

9.1 Community Communication and Consultation

CoA B1 stipulates that the Overarching Community Communication Strategy must be implemented for the duration of the work. This document is attached in Appendix D – Sydney Metro Overarching Community Communications Strategy.

Pursuant to REMM NV01, further engagement and consultation shall be carried out with:

- affected communities to understand their preferences for mitigation and management measures.
- Other sensitive receivers such as schools, medical facilities or places of worship to understand periods in which they are more sensitive to impacts.

Pursuant to CoA D41, 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.

Records of consultation and details of site-specific mitigation measures resulting from such consultation is provided in the relevant DNVIS'.

9.2 Complaints Management System

CoA B2 stipulates that "A Complaints Management System must be prepared before the commencement of any works in respect of the CSSI and be implemented and maintained for the duration of works and for a minimum for 12 months following completion of construction of the CSSI."

Sydney Metro have retained responsibility for this process, which is outlined in the document "*Sydney Metro Construction Complaints Management System*", attached in Appendix E. Delta's role is to support Sydney Metro in managing complaints from the community. Specifically, Delta's responsibilities include:

- Answer all phone calls transferred by the call centre from the community information line (calls to be answered by a team member 24/7, not an answering machine while construction activities are occurring).
- Develop and implement procedures for managing and resolving stakeholder and community complaints directed to the contractor in accordance with the Construction Complaints Management System (this document). and the relevant projects 'Conditions of Approval.
- Investigate and determine the source of a complaint immediately, including an initial call to the complainant (when received by phone or where a telephone number was provided or available on Consultation Manager).
- Provide an initial verbal response to all complaints within two hours (where a phone number is provided or available on Consultation Manager) from the time of the complaint unless the enquirer agrees otherwise.
- Provide a written response to emails, letters/faxes within 24 hours (or verbally within two hours if a phone number is provided or available on Consultation Manager).
- Keep the complainant informed of the process until the complaint is resolved.
- Provide feedback to requests for information from the Sydney Metro Project Communications team or the Community Complaints Commissioner within two hours.
- Comply with advice, guidance and processes as suggested from the Sydney Metro Project Communications team and/or the Environmental Representative, Acoustic Advisor or mediator in relation to the resolution of a complaint prior to the escalation of a complaint, at all stages of complaint management, inclusive of when a complaint has been escalated.
- Take all actions and implement all measures inclusive of those recommendations made during any escalation or review process to prevent the reoccurrence of the complaint.
- Close out complaints within agreed timeframe (with complainant).
- Escalate complaints in accordance with the Construction Complaints Management System.
- Report to the Sydney Metro Project Communications team and the Environmental Representative on a daily basis. Record all complaints on Consultation Manager in accordance with Consultation Manager data entry procedure within 24 hours. Details should include how it was managed and closed out.

9.3 Environmental Monitoring, Auditing & Reporting

9.3.1 Methodology

In accordance with Conditions of Approval C14 and C16, a noise and vibration construction monitoring program must be prepared. Real-time noise and vibration monitoring shall be undertaken by a specialist consultant using permanent monitor installations at key sensitive receivers around each site. It is proposed to implement an automated monitoring system whereby monitor data is instantly and automatically uploaded to a central server via the 3-4G network. Data shall be accessible by way of an online gateway whereby users can log on to the system and interrogate monitors in real-time and view a full history of results for each location. The demolition contractor will grant access to the online monitoring gateway to key stakeholders including, but not limited to, the construction team, Proponent, ER, AA, EPA and DPIE.

For the avoidance of doubt, the real-time monitoring system will be installed prior to works commencing and will be active 24 hours a day, 7 days a week, thus satisfying the requirements of Condition of Approval C16(b).

Monitoring shall be conducted in accordance with the requirements in the Construction Noise and Vibration Standard for the project.

9.3.2 Monitoring Locations

Due to the significant number of sensitive receivers across the project, it is not feasible to monitor at every sensitive receiver, thus necessitating the rationalisation of sensitive receivers with like characteristics into 'noise catchment areas' (NCAs) that can be represented by a single monitor. For the purpose of simplicity, NCA's have been defined according to their general direction relative to the sites i.e. North, East, South and West. A permanent monitor installation shall be established at a location that is generally representative of each NCA as a whole, ensuring that the monitor location adequately represents the noise environment at the worst affected receiver. This is generally achieved by locating the monitor at the closest point of the NCA to the demolition works. Further, the grouping of multiple sensitive receivers into NCAs for the purpose of practical monitoring will necessitate the supplementation of long term unattended monitoring with both short term unattended and attended monitoring. This is discussed further in Section 8.3.4.

Long term unattended monitoring locations have been determined with reference to the requirements of the Construction Noise and Vibration Standard for the project as defined below.

Noise

Where it has been predicted that noise levels may be in excess of the nominated construction noise goals at a noise sensitive receiver, noise monitoring would be conducted at:

- the affected receiver; or
- if more than one affected receiver has been identified, at the nearest affected receiver; or
- where the nearest affected receiver refuses noise monitoring on their property, at the nearest point to that receiver within the site boundary or at another suitable location determined by Osterman.

Vibration

Where it is anticipated that an item of plant will exceed cosmetic damage criteria, vibration monitoring would be required at the nearest affected receiver. Where it is anticipated that an item of plant will exceed the human response / ground borne noise criteria and concerns have been raised regarding vibration, vibration monitoring would also be required at the receiver(s) under question. Proposed permanent monitor locations are detailed in Appendix C. Note that not all monitoring locations will be active concurrently.

9.3.3 Reporting

All monitoring results will be compiled into a compliance report by Osterman and forwarded to Delta's Environment Manager and site project manager on a weekly basis for assessment against the nominated goals. Reports shall be submitted within one week of being undertaken or at weekly intervals for continuous monitoring. Delta's Environment Manager will manage the wider dissemination of all compliance reports, and such reports shall be made available upon request to all authorised parties. The reports are to be submitted to the planning secretary, ER, AA and other relevant regulatory agencies. The monitoring reports are to be sent to DPIE on a quarterly basis by the Delta environmental manager.

All noise and vibration monitoring results are to be presented in pillar chart form with the daily results from each monitoring point presented as a separate graph. A criteria line is to be clearly marked on the graph so any non-compliance is clearly visible on the charts. A summary page is to follow every report, summarising the number of non-compliances for each monitoring point for the monitoring period.

All compliance reports will be stored on Delta's project server for no less than 7 years after project completion. All noise and vibration monitoring results are stored on the Osterman INFRA Net online database for 10 years.

9.3.4 Attended Monitoring

Unattended long term monitoring may be supplemented with attended monitoring where required to:

- Validate the estimates of structure borne noise and vibration
- Validate the estimates of internal noise levels via the facade (and thus the degree of facade sound insulation), where applicable
- Determine relationships between permanent monitor locations and other affected receivers such as upper floors in a building, etc.
- Where complaints are received, additional monitoring may be conducted at the specific location of complaint.

Operator-attended noise monitoring will be conducted for a minimum of 15 minutes at each location during the demolition works. Where a longer monitoring duration is required, measurements shall be made in consecutive 15-minute periods.

9.3.5 Heritage Structures

A heritage consultant will be engaged to provide specialist advice on heritage matters. This includes advice on methods and locations for installing equipment used for vibration, movement and noise monitoring of heritage-listed structures. Details of monitoring requirements as stipulated by the heritage consultant will be provided in the relevant DNVIS documents.

Pursuant to CoA D14, before installing protective site boundary hoarding or equipment used for vibration and noise monitoring at any Heritage item identified in the documents listed in Condition A1 of this schedule, the advice of a suitably qualified and experienced built heritage expert must be obtained and implemented to ensure any such work does not have an adverse impact on the heritage significance of the item. The installation must also consider and avoid impacts to potential historical archaeology and seek advice from the Excavation Director approved under Condition D27.

9.3.6 Plant Noise Audits

All significant noise-generating items of plant shall have noise audits conducted upon arrival on site, and at 6-month intervals thereafter, to ensure compliance with the Maximum Allowable Plant Sound Power Levels listed in Table 13 of the Sydney Metro Construction Noise and Vibration Standard (CNVS). The following process for plant noise audits shall apply:

- Measurements of Sound Pressure Level (SPL) at 7 m (with plant or equipment stationary) shall be undertaken using procedures that are consistent with the requirements of Australian Standard AS2012 1990 Acoustics Measurement of Airborne Noise Emitted by Earthmoving Machinery and Agricultural Tractors Stationary Test Condition Part 1: Determination of Compliance with Limits for Exterior Noise.
- Measurements of Sound Power Level (SWL) shall be determined using procedures that are consistent with the requirements of International Standard ISO9614-2 1996 Acoustics Determination of sound power levels of noise sources using sound intensity - Part 2: Measurement by scanning.
- If measuring the SPL at 7 m of moving plant, compliance measurements would be guided by the requirements of Australian Standard AS2012 1977 Method for Measurement of Airborne Noise From Agricultural Tractors and Earthmoving Machinery.
- For all measurements, the plant or equipment under test would be measured while operating under typical operating conditions. If this is not practical, it may be appropriate to conduct a stationary test at high idle.
- In the case of an exceedance in sound power levels the item of plant would either be replaced, or the advice of an acoustic consultant would be sought to provide suitable mitigation measures, which may include:
  - ensuring all bolts are tightened and no parts are loose
  - cleaning and/or lubricating moving parts
  - replacing old or worn parts
  - implementing additional or upgrading existing muffling devices
  - building enclosures around items of stationary plant (e.g. pumps or generators).
- A register of measured sound power levels for each item of plant would be kept for reference where future noise audits are conducted. The register would be reviewed annually in conjunction with the CNVS and corresponding revisions made to the Sound Power Levels presented in Section 4.3 of the CNVS to represent contemporary plant noise emission levels.

9.3.7 Warning Systems

The INFRA Monitoring System used on this project features a number of real time alerts and alarms that enable instant notification where limits are approached or exceeded. Where vibration-intensive works are planned to occur in close proximity to sensitive receivers, and works are expected to approach the limits for cosmetic damage, monitoring equipment shall be equipped with visual and/or audible alarms that are triggered when the levels of vibration exceed the control criteria presented in **Table 18**.

Table 18: Operator Warning and Halt Levels

Structure	Site Control Criteria (PPV in any Orthogonal Direction)	
	Operator Warning Level	Operator Halt Level
Reinforced or framed structures	20 mm/s	25 mm/s
Unreinforced or light framed structures	5 mm/s	7.5 mm/s
Heritage structures (Structurally sound)	5 mm/s	7.5 mm/s
Heritage structures (Structurally unsound)	2mm/s	2.5mm/s

The INFRA system is also able to send text messages to key project stakeholders when certain limits are approached or exceeded. Where works cause activation of the alert/alarm system, the following shall occur:

A. Works are to cease immediately until the cause of the trigger can be identified.

B. Once identified, a revised approach to the works shall be determined by site management in accordance with this CNVMP. This shall include revision of the suitability and effectiveness of mitigation measures employed, and implementation of additional mitigation measures as appropriate.

C. The revised approach shall be implemented ensuring that levels are monitored closely for an initial period as appropriate. This may require the use of additional monitors where necessary.

9.3.8 Dilapidation Surveys

Pursuant to Section 6.5 of the CNVS, if demolition works have the potential to cause damage through vibration to nearby public utilities, structures, buildings and their contents, an Existing Condition Inspection of these items shall be undertaken in accordance with AS 4349.1 "*Inspection of Buildings*". The potential to cause damage is defined as any property at risk of exceeding the cosmetic damage screening criteria presented in Section 6.3.2 of this document.

In the case of utilities or services, dilapidation surveys shall also assess any requirement for diversion, protection and / or support. Alterations to services must be determined by negotiation between the Proponent and the service providers. Disruption to services resulting from construction must be avoided, wherever possible, and advised to customers where it is not possible.

It is noted that a number of properties on zero boundary with the Parramatta site meet this criteria and are identified in **Appendix B** - Sensitive Receivers. These properties as a minimum shall be subject to Existing Condition Inspections.

Prior to conducting the Existing Condition Inspections, the property owners will be advised of the inspection scope and methodology and the process for making a property damage claim. A register of all properties inspected (including any properties where owners refused the inspection offer) is provided in **Appendix G** – Condition Survey Register.

The findings of all dilapidation surveys conducted for each Sydney Metro construction site shall be compiled into a report to be forwarded to the construction contractor and project manager. Follow-up Condition Inspections would be required at the completion of certain major works (eg completion of shaft bulk excavation works).

9.3.9 Record Keeping

Appropriate records shall be kept of the following:

- Site inspections, audits, monitoring, reviews or remedial actions;
- Documentation as required by performance conditions, approvals, licences and legislation;
- Modifications to site environmental documentation (eg CEMP, sub-plans and procedures); and
- Other records as required by this Construction Environmental Management Framework.

Such records shall be accessible on the relevant work site for the duration of works.

9.4 Mitigation Measures

9.4.1 Standard Mitigation Measures

Table 19 sets out an indicative list of standard noise and vibration mitigation measures that shall be adopted on the project. All reasonable and feasible mitigation measures must be implemented with the aim of achieving the construction noise management levels and vibration criteria defined in CoA D39. Further, all reasonable and feasible mitigation measures must be applied when the residential ground-borne noise levels defined in CoA D40 are exceeded.

Table 19: Noise and Vibration Mitigation Measures

Action Required	Details
Management	
Consultation regarding mitigation measures	Further engagement and consultation would be carried out with: • The affected communities to understand their preferences for mitigation and management measures. • 'Other sensitive 'receivers such as schools, medical facilities or places of worship to understand periods in which they are more sensitive to impacts. Based on this consultation, appropriate mitigation and management options would be considered and implemented where feasible and reasonable to minimise the impacts. Consultation with the owners and operators of the horse stables near the Clyde stabling and maintenance facility construction site would be carried out so that potential impacts to horses are appropriately managed.
Consultation regarding scheduling	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. Consultation with the owners and operators of the horse stables near the Clyde stabling and maintenance facility construction site would be carried out so that potential impacts to horses are appropriately managed.
Implement community consultation measures	• Periodic Notification (monthly letterbox drop) detailing all upcoming construction activities at least 14 days prior to commencement of relevant works • Website • Project information and construction response telephone line • Email distribution list • Place Managers • Operate in accordance with the Overarching Community Communications Strategy (OCCS)
Register of Noise Sensitive Receivers	A register of all noise and vibration sensitive receivers (NSRs) would be kept on site. The register would include the following details for each NSR: • Address of receiver

Action Required	Details
Management	
	• Category of receiver (e.g. Residential, Commercial etc.) • Contact name and phone number
Complaints handling	All complaints handling would be in accordance with the Sydney Metro Construction Complaints Management System.
Site inductions	All employees, contractors and subcontractors are to receive an environmental induction. The induction must at least include: • All relevant project specific and standard noise and vibration mitigation measures • Relevant licence and approval conditions • Permissible hours of work • Any limitations on high noise generating activities • Location of nearest sensitive receivers • Construction employee parking areas • Designated loading/unloading areas and procedures • Site opening/closing times (including deliveries) • Environmental incident procedures
Behavioural practices	• No swearing or unnecessary shouting or loud stereos/radios; on site. • No dropping of materials from height; throwing of metal items; and slamming of doors. • No excessive revving of plant and vehicle engines • Controlled release of compressed air. • Turn off machinery when not in use
Monitoring	A noise monitoring program is to be carried out for the duration of the works in accordance with the Construction Noise and Vibration Management Plan and any approval and licence conditions.
Attended vibration measurements	Attended vibration measurements are required at the commencement of vibration generating activities to confirm that vibration levels satisfy the criteria for that vibration generating activity. Where there is potential for exceedances of the criteria further vibration site law investigations would be undertaken to determine the site-specific safe working distances for that vibration generating activity. Continuous vibration monitoring with audible and visible alarms would be conducted at the nearest sensitive receivers whenever vibration generating activities need to take place inside the applicable safe-working distances.
Construction methodology	Industry best practice construction methods must be implemented where reasonably practicable to ensure that noise levels are minimised around sensitive land user(s). Practices must include, but are not limited to: a) use of regularly serviced low sound power equipment; b) temporary noise barriers (including the arrangement of plant and equipment) around noisy equipment and activities such as rock hammering and concrete cutting; and c) use of alternative construction and demolition techniques.
Alternative construction and demolition techniques	Alternative construction methodologies and measures that minimise noise and vibration levels during noise intensive works would be investigated and implemented where feasible and reasonable. This would include consideration of: • The use of hydraulic concrete shears and pulverisers in lieu of hammers/rock breakers • Sequencing works to shield noise sensitive receivers by retaining building wall elements • Locating demolition load out areas away from the nearby noise sensitive receivers • Providing respite periods for noise intensive works • Minimising structural-borne noise to adjacent buildings including separating the structural connection prior to demolition through saw-cutting and propping, using hand held splitters and pulverisers or hand demolition • Installing sound barrier screening to scaffolding facing noise sensitive neighbours • Using portable noise barriers around particularly noisy equipment, such as concrete saws • Modifying demolition works sequencing / hours to minimise impacts during peak pedestrian times and / or adjoining neighbour outdoor activity periods.
Ground-borne Noise	Feasible and reasonable measures would be implemented to minimise ground-borne noise where exceedances are predicted. This may require implementation of less ground-borne noise and less vibration intensive alternative construction methodologies.
Condition surveys	Condition surveys shall be carried out where there is potential to cause damage through vibration to nearby public utilities, structures, buildings and their contents. The potential to cause damage is defined as any property at risk of exceeding the cosmetic damage screening criteria.
Structural Assessment	Where vibration levels are predicted to exceed the screening criteria, a more detailed assessment of the structure (in consultation with a structural engineer) and vibration monitoring would be carried out to ensure vibration levels remain below appropriate limits for that structure. For heritage items, the more detailed assessment would specifically consider the heritage values of the structure in consultation with a heritage specialist to ensure sensitive heritage fabric is adequately monitored and managed.

Action Required	Details
Management	
Scheduling	Where feasible and reasonable, construction would be carried out during the standard daytime working hours. Work generating high noise and/or vibration levels would be scheduled during less sensitive time periods.
Scheduling	The use of noise intensive equipment at construction sites with 'moderate' and 'high' out-of-hours noise management level exceedances would be scheduled for standard construction hours, where feasible and reasonable. Where this is not feasible and reasonable, the works would be undertaken as early as possible in each work shift.
Construction respite period	High noise and vibration generating activities[1] may only be carried out in continuous blocks, not exceeding 3 hours each, with a minimum respite period of one hour between each block[2]. [1]Includes jack and rock hammering, sheet and pile driving, rock breaking and vibratory rolling [2]Any period during which there is less than a 60 minutes respite between ceasing and recommencing works
Source Controls	
Equipment selection - General	Use quieter and less vibration emitting construction methods where feasible and reasonable. For example, when piling is required, bored piles rather than impact-driven piles will minimise noise and vibration impacts. Similarly, diaphragm wall construction techniques, in lieu of sheet piling, will have significant noise and vibration benefits.
Equipment selection – Residential areas	Long term construction site support equipment and machinery would be low noise emitting and suitable for use in residential areas, where feasible and reasonable. Examples include: • Low noise water pumps for use in water treatment facilities • Low noise generators and compressors • Low noise air conditioner units for use of amenities buildings.
Maximum noise levels	The noise levels of plant and equipment must have operating Sound Power Levels compliant with the criteria in Table 13 of the CNVS.
Rental plant and equipment	The noise levels of plant and equipment items are to be considered in rental decisions and in any case cannot be used on site unless compliant with the criteria in Table 13 of the CNVS.
Plan worksites and activities to minimise noise and vibration	Plan traffic flow, parking and loading/unloading areas to minimise reversing movements within the site.
Non-tonal reversing alarms	Non-tonal reversing beepers (or an equivalent mechanism) must be fitted and used on all construction vehicles and mobile plant regularly used on site and for any out of hours work.
Minimise disturbance arising from delivery of goods to construction sites	• Loading and unloading of materials/deliveries is to occur as far as possible from NSRs • Select site access points and roads as far as possible away from NSRs • Dedicated loading/unloading areas to be shielded if close to NSRs • Delivery vehicles to be fitted with straps rather than chains for unloading, wherever feasible and reasonable
Path Controls	
Shield stationary noise sources such as pumps, compressors, fans etc	Stationary noise sources would be enclosed or shielded whilst ensuring that the occupational health and safety of workers is maintained. Appendix F of AS 2436: 1981 lists materials suitable for shielding.
Shield sensitive receivers from noisy activities	Use structures to shield residential receivers from noise such as site shed placement; earth bunds; fencing; erection of operational stage noise barriers (where practicable) and consideration of site topography when situating plant.

With regards to **REMM NV05**, on the basis that heavy vehicles will access sites primarily within standard construction hours, the requirement for airbrake silencers to be fitted to heavy vehicles that access construction sites multiple times per night or over multiple nights would be considered as part of an application for Out-of-Hours Works.

With regards to **REMM NV06**, site hoarding has been designed on the basis that heavy vehicles will access sites primarily within standard construction hours. Standard A-Class hoarding with a nominal noise reduction factor of 10db is therefore considered adequate for the purpose of minimising sleep disturbance impacts. Alternative mitigation measures for minimising sleep disturbance impacts would be considered as part of an application for Out-of-Hours Works.

9.4.2 Additional Mitigation Measures

Based on the Construction Noise and Vibration Standard, **Table 20**, **Table 21** and **Table 22** outline the additional mitigation measures that shall be adopted where exceedance of imposed limits is expected. Refer to for an explanation of the abbreviation codes used.

Table 20: Airborne Noise - Additional Mitigation Measures

Time Period		Mitigation Measures $L_{Aeq\ (15\ min)}$ above RBL			
		0 to 10 dB(A) (Noticeable)	10 to 20 dB(A) Clearly Audible	20 to 30 dB(A) Moderately Intrusive	>30 dB(A) Highly Intrusive
Standard	Mon - Fri (7am - 6pm)	-	LB	LB, M, SN	LB, M, SN
	Sat (8am - 1pm)				
	Sun/Pub Hol (Nil)				
OOHW Period 1	Mon - Fri (6pm - 10pm)	LB	LB, M	LB, M, SN, RO	LB, M, SN, IB, PC, RO
	Sat (7am - 8am) & (1pm - 10pm)				
	Sun/Pub Hol (8am - 6pm)				
OOHW Period 2	Mon - Fri (10pm - 7am)	LB	LB, M, SN, RO	LB, M, SN, IB, PC, RO, AA	LB, M, SN, IB, PC, RO, AA
	Sat (10pm - 8am)				
	Sun/Pub Hol (6pm - 7am)				

Table 21: Ground-borne Noise - Additional Mitigation Measures

Time Period		Mitigation Measures Predicted $L_{Aeq\ (15\ min)}$ noise level exceedance		
		0 to 10 dB(A) Clearly Audible	10 to 20 dB(A) Moderately Intrusive	20 to 30 dB(A) Highly Intrusive
Standard	Mon - Fri (7am - 6pm)	No NML for GBN during standard hours, refer to Table 22		
	Sat (8am - 1pm)			
	Sun/Pub Hol (Nil)			
OOHW Period 1	Mon - Fri (6pm - 10pm)	LB	LB, M, SN	LB, M, SN, IB, PC, RO
	Sat (7am - 8am) & (1pm - 10pm)			
	Sun/Pub Hol (8am - 6pm)			
OOHW Period 2	Mon - Fri (10pm - 7am)	LB, M, SN	LB, M, SN, IB, PC, RO, AA	LB, M, SN, IB, PC, RO, AA
	Sat (10pm - 8am)			
	Sun/Pub Hol (6pm - 7am)			

Table 22: Vibration - Additional Mitigation Measures

Time Period		Mitigation Measures Predicted vibration exceeds limits
Standard	Mon - Fri (7am - 6pm)	LB, M, RO
	Sat (8am - 1pm)	
	Sun/Pub Hol (Nil)	
OOHW Period 1	Mon - Fri (6pm - 10pm)	LB, M, IB, PC, RO, SN
	Sat (7am - 8am) & (1pm - 10pm)	
	Sun/Pub Hol (8am - 6pm)	
OOHW Period 2	Mon - Fri (10pm - 7am)	LB, M, IB, PC, RO, SN, AA
	Sat (10pm - 8am)	
	Sun/Pub Hol (6pm - 7am)	

Table 23: Additional Mitigation Measures Abbreviations

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 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.	IB
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	LB

Measure	Description	Abbreviation
	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.	
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

9.4.3 Site-specific Mitigation Measures

Condition of Approval D44 states that specific mitigation measures must be identified through consultation with affected sensitive receivers. Due to COVID-19 lockdown restrictions in place at the time of writing, consultation is still ongoing and shall be added to **Appendix F** – Consultation Register as it occurs. This section shall be updated as new mitigation measures are identified.

Table 24: Site-specific Noise and Vibration Mitigation Measures

Action Required	Details
Various	Refer to Individual DNVIS' for Parramatta, Clyde and Westmead
Per Condition of Approval D45	Owners and occupiers of properties at risk of exceeding the screening criteria for cosmetic damage have been identified in Appendix B - Sensitive Receivers. These receivers must be notified before works that generate vibration commences in the vicinity of those properties. If the potential exceedance is to occur more than once or extend over a period of 24 hours, owners and occupiers are to be provided a schedule of potential exceedances on a monthly basis for the duration of the potential exceedances, unless otherwise agreed by the owner and occupier.
Per Condition of Approval D46	Vibration testing must be conducted during vibration generating activities that have the potential to impact on Heritage items to identify minimum working distances to prevent cosmetic damage. In the event that the vibration testing and attended monitoring shows that the preferred values for vibration are likely to be exceeded, the Proponent must review the construction methodology and, if necessary, implement additional mitigation measures. Such measures must include, but not be limited to, review or modification of excavation techniques. Heritage properties identified under this requirement are listed in in Appendix B - Sensitive Receivers and include Roxy Theatre, Convict Drain, Kia Ora and heritage shops at 43-47 George St at Parramatta, and the RTA Depot at Clyde.

9.4.4 Sensitive Periods

Condition of approval D41 requires that noise generating works must not be timetabled within sensitive periods at affected community, religious, educational institutions and other noise and vibration sensitive businesses. Examples include exams at nearby schools and performances at theatres. Delta shall liaise with Sydney Metro place managers to determine times and locations where this may affect the works and will implement respite at specific times where reasonable and practical.

9.4.5 Construction Methodology

Pursuant to CoA D42, Delta shall adopt industry best practice demolition methods where reasonably practicable to ensure that noise levels are minimised around sensitive receivers. Practices include, but are not limited to:

(a) use of regularly serviced low sound power equipment;
(b) temporary noise barriers (including the arrangement of plant and equipment) around noisy equipment and activities such as rock hammering and concrete cutting; and
(c) use of alternative construction and demolition techniques

With regards to point (c) alternative demolition techniques are identified in Section 6.4.1 - Standard Mitigation Measures.

9.4.6 SMART Principles

Issues requiring management during construction shall be managed through SMART principles.

SMART principles are defined as:

- Specific: Well defined, clear, and unambiguous
- Measurable: With specific criteria that measure progress toward the accomplishment of the goal
- Achievable: Attainable and not impossible to achieve
- Realistic: Within reach, realistic, and relevant
- Timely: With a clearly defined timeline, including a starting date and a target date.

In particular, SMART principles shall be applied to the development of any site-specific mitigation measures intended to minimise the impacts of noise and vibration on sensitive recievers.

9.5 Hold Points

Hold Points relevant to the management of noise and vibration shall be implemented by Delta throughout the Project, beyond which approval is required to proceed. Hold Points are provided in **Table 25**, based on initial risk assessments and legislative requirements for stop work. Additional Hold Points may be required based on further risk assessments or changes in legislative requirements and will be included in any updates to this CNVMP.

Table 25: Hold Points

Hold Point	Release of Hold Point	Released by
Pre-construction minor works	Minor Works Approval	Environmental and Sustainability Manager
Out-of-hours works	Approved OOHW permit	Environmental and Sustainability Manager
Works identified to affect buildings	Building condition survey	Appropriate nominated professional
Works identified to affect buildings	Monitoring systems installed and operational	Appropriate nominated professional

10 CNVMP REVIEW

This CNVMP shall be periodically reviewed and updated to maintain relevance to construction activities and compliance with legislative requirements. This shall occur, as a minimum, every 6 months - in line with the annual revision of the Construction Noise and Vibration Standard for the project. The CNVMP shall also be reviewed and, where necessary, amended in the following circumstances:

- Whenever there are major changes in construction methodology
- To address exceedances or non-compliances if investigations determine changes are required to prevent reoccurrences
- Where consultation with employees, contractors or regulators identify a better way of doing things;
- To take into account changes to the environment or generally accepted environmental management practices, new risks to the environment, any hazardous substances, contamination or changes in law;
- Where requested or required by the AA or ER for the project
- In response to internal or external audits or management reviews.

Further, this document shall be updated where changes are required as a result of any future Detailed Noise and Vibration Impact Statement.

Minor amendments of this plan shall be endorsed by the ER, or otherwise by the Planning Secretary where amendments are not deemed minor.

11 REFERENCES

Additional guidelines and standards relating to the management of construction noise and vibration from this project include:

- Australian Standard AS/NZS 2107, 2000, Acoustics - Recommended design sound levels and reverberation times for building interiors
- Australian Standard AS2436, 1981, Guide to Noise Control on Construction, Maintenance and Demolition Sites
- British Standard BS 6472, 2008, Evaluation of human exposure to vibration in buildings (1- 80Hz)
- British Standard 7385: Part 2, 1993, Evaluation and measurement of vibration in buildings
- Department of Environment and Climate Change, 2009, Interim Construction Noise Guideline (ICNG)
- Department of Planning, Industry and Environment, 2021, Sydney Metro West - Concept and Stage 1 Conditions of Approval
- Federal Transit Administration, 2006, Transit Noise and Vibration Impact Assessment
- German Standard DIN4150, 1999, Structural vibration Part 3: Effects of vibration on Structures
- NSW Dept. of Environment, Climate Change and Water, 2011, Road Noise Policy
- NSW Environment Protection Authority, 2017, Noise Policy for Industry
- NSW Department of Environment and Conservation, 2006, Assessing vibration: a technical guideline
- Roads and Traffic Authority, 2001, Environmental Noise Management Manual (ENMM)
- Sydney Metro, 2020, Sydney Metro Construction Noise and Vibration Standard
- Sydney Metro, 2020, Sydney Metro West Westmead to The Bays and Sydney CBD – Environmental Impact Statement
- Sydney Metro, 2020, Sydney Metro West Westmead to The Bays and Sydney CBD - Submissions Report

APPENDICES

Appendix A - Glossary of Terms

Term	Definition
AA	Acoustic Advisor
Absorption Coefficient α	The absorption coefficient of a material, usually measured for each octave or third-octave band and ranging between zero and one. For example, a value of 0.85 for an octave band means that 85% of the sound energy within that octave band is absorbed on coming into contact with the material. Conversely, a low value below about 0.1 means the material is acoustically reflective.
Adverse weather	Weather effects that enhance noise (particularly wind and temperature inversions) occurring at a site for a significant period of time. In the NSW INP this occurs when wind occurs for more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of nights in winter.
Active recreation	Active recreation area, characterised by sporting activities and activities which generate their own noise or focus for participants, making them less sensitive to external noise intrusion, e.g. school playground, golf course
Air-borne noise	Noise which is fundamentally transmitted by way of the air and can be attenuated by the use of barriers and walls placed physically between the noise source and receiver.
Alternate Solution	An Alternative Solution is a design that complies with the relevant Performance Requirements of the National Construction Code other than by using Deemed-to-Satisfy Provisions.
Ambient noise	The all-encompassing noise associated within a given environment at a given time, usually composed of sound from all sources near and far.
Amenity	A desirable or useful feature or facility of a building or place.
AS	Australian Standard
Assessment period	The time period in which an assessment is made. e.g. Day 7am-6pm, Evening 6pm-10pm, Night 10pm-7am.
Assessment Point	A location at which a noise or vibration measurement is taken or estimated.
Attenuation	The reduction in the level of sound or vibration.
Audible Range	The limits of frequency which are audible or heard as sound. The normal hearing in young adults detects ranges from 20 Hz to 20 kHz, although some people can detect sound with frequencies outside these limits.
A-weighting	A filter applied to the sound recording made by a microphone to approximate the response of the human ear.
Background noise	Background noise is the term used to describe the underlying level of noise present in the ambient noise, measured in the absence of the noise under investigation. It is described as the average of the minimum noise levels measured on a sound level meter and is measured statistically as the A-weighted noise level exceeded for ninety percent of a sample period. This is represented as the LA90 noise level if measured as an overall level or an L90 noise level when measured in octave or third-octave bands.
Barrier (Noise)	A natural or constructed physical barrier which impedes the propagation of sound and includes fences, walls, earth mounds or berms and buildings.
BS	British Standard
CNVS	Construction Noise and Vibration Standard
DNVIS	Detailed Noise and Vibration Impact Statement
CNVMP	Construction Noise and Vibration Management Plan

Term	Definition
Decibel [dB]	The units of sound measurement. The following are examples of the decibel readings of every day sounds: 0dB The faintest sound we can hear, defined as 20 micro Pascal 30dB A quiet library or in a quiet location in the country 45dB Typical office space. Ambience in the city at night 60dB CBD mall at lunchtime 70dB The sound of a car passing on the street 80dB Loud music played at home 90dB The sound of a truck passing on the street 100dB The sound of a rock band 115dB Limit of sound permitted in industry 120dB Deafening
dB(A)	A-weighted decibel. The A- weighting noise filter simulates the response of the human ear at relatively low levels, where the ear is not as effective in hearing low frequency sounds as it is in hearing high frequency sounds. That is, low frequency sounds of the same dB level are not heard as loud as high frequency sounds. The sound level meter replicates the human response of the ear by using an electronic filter which is called the “A” filter. A sound level measured with this filter is denoted as dB(A). Practically all noise is measured using the A filter.
dB(C)	C-weighted decibels. The C-weighting noise filter simulates the response of the human ear at relatively high levels, where the human ear is nearly equally effective at hearing from mid- low frequency (63Hz) to mid-high frequency (4kHz), but is less effective outside these frequencies. The dB(C) level is not widely used but has some applications.
DECC	NSW Department of Environment and Climate Change
DIN	German Standard
DPIE	NSW Department of Planning, Industry and Environment
EPA	NSW Environment Protection Authority
ER	Environmental Representative
Field Test	A test of the sound insulation performance in-situ. See also 'Laboratory Test' The sound insulation performance between building spaces can be measured by conducting a field test, for example, early during the construction stage or on completion. A field test is conducted in a non-ideal acoustic environment. It is generally not possible to measure the performance of an individual building element accurately as the results can be affected by numerous field conditions.
Fluctuating Noise	Noise that varies continuously to an appreciable extent over the period of observation.
Free-field	An environment in which there are no acoustic reflective surfaces. Free field noise measurements are carried out outdoors at least 3.5m from any acoustic reflecting structures other than the ground.
Frequency	Frequency is synonymous to pitch. Sounds have a pitch which is peculiar to the nature of the sound generator. For example, the sound of a tiny bell has a high pitch and the sound of a bass drum has a low pitch. Frequency or pitch can be measured on a scale in units of Hertz or Hz.
Ground-borne noise	Vibration propagated through the ground and then radiated as noise by vibrating building elements such as wall and floor surfaces. This noise is more noticeable in rooms that are well insulated from other airborne noise. An example would be vibration transmitted from an underground rail line radiating as sound in a bedroom of a building located above.
Habitable Area	Includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room, home theatre and sunroom. Excludes a bathroom, laundry, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, photographic darkroom, clothes drying room, and other spaces of a specialised nature occupied neither frequently nor for extended periods.

Term	Definition
Heavy Vehicle	A truck, transporter or other vehicle with a gross weight above a specified level (for example: over 8 tonnes).
High Noise Impact Works	Grinding metal, concrete or masonry, rock drilling, line drilling, smooth drum vibratory rolling, bitumen milling and profiling, jackhammering, rock-hammering or rock breaking, impact piling and other work occurring on surfaces that generates noise with impulsive, intermittent, tonal or low frequency characteristics.
Impact Noise	The noise in a room, caused by impact or collision of an object onto the walls or the floor. Typical sources of impact noise are footsteps on the floor above a tenancy and the slamming of doors on cupboards mounted on the common wall between tenancies.
Impulsive noise	Having a high peak of short duration or a sequence of such peaks. A sequence of impulses in rapid succession is termed repetitive impulsive noise.
INP	NSW Industrial Noise Policy, EPA 1999
Intermittent noise	The level suddenly drops to that of the background noise several times during the period of observation. The time during which the noise remains at levels different from that of the ambient is one second or more.
Intrusive noise	Refers to noise that intrudes above the background level by more than 5 dB(A).
ISEPP	State Environmental Planning Policy (Infrastructure), NSW, 2007
ISEPP Guideline	Development Near Rail Corridors and Busy Roads - Interim Guideline, NSW Department of Planning, December 2008
L1	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L10	The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.
L10(1hr)	The L10 level measured over a 1 hour period.
L10(18hr)	The arithmetic average of the L10(1hr) levels for the 18 hour period between 6am and 12 midnight on a normal working day.
L90	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L90 noise level expressed in units of dB(A).
LAeq or Leq	The “equivalent noise level” is the summation of noise events and integrated over a selected period of time, which would produce the same energy as a fluctuating sound level. When A- weighted, this is written as the L_{Aeq}.
LAeq(1hr)	The L_{Aeq} noise level for a one-hour period. In the context of the NSW EPA’s Road Noise Policy it represents the highest tenth percentile hourly A-weighted L_{eq} during the period 7am to 10pm, or 10pm to 7am (whichever is relevant).
LAeq(8hr)	The L_{Aeq} noise level for the period 10pm to 6am.
LAeq(9hr)	The L_{Aeq} noise level for the period 10pm to 7am.
LAeq(15hr)	The L_{Aeq} noise level for the period 7am to 10pm.
LAeq (24hr)	The L_{Aeq} noise level during a 24 hour period, usually from midnight to midnight.
Lmax	The maximum sound pressure level measured over a given period. When A-weighted, this is usually written as the L_{Amax}.
Lmin	The minimum sound pressure level measured over a given period. When A-weighted, this is usually written as the L_{Amin}.
Laboratory Test	The performance of a building element when measured in a laboratory. The sound insulation performance of a building element installed in a building however can differ from its laboratory performance for many reasons including the quality of workmanship, the size and shape of the space in which the measurement is conducted, flanking paths and the specific characteristics of the material used which may vary from batch to batch.

Term	Definition
Loudness	A rise of 10 dB in sound level corresponds approximately to a doubling of subjective loudness. That is, a sound of 85 dB is twice as loud as a sound of 75 dB which is twice as loud as a sound of 65 dB and so on. That is, the sound of 85 dB is four times or 400% the loudness of a sound of 65 dB.
Microphone	An electro-acoustic transducer which receives an acoustic signal and delivers a corresponding electric signal.
NCA	Noise Catchment Area. An area of study within which the noise environment is substantially constant.
Noise	Unwanted sound
Noise affected level	Definition as stated in the ICNG: "The noise affected level represents the point above which there may be some community reaction to noise." Listed as RBL + 10dB for Standard Hours and RBL + 5dB Outside Standard Work Hours.
Passive recreation	Area specifically reserved for passive recreation, characterised by contemplative activities that generate little noise and where benefits are compromised by external noise intrusion e.g. reading, meditation
Reflection	Sound wave reflected from a solid object obscuring its path.
Reverberation Time	The time (in seconds) it takes for a noise signal within a confined space to decay by 60dB. The longer the reverberation time (usually denoted as RT60), the more echoic a room. Longer reverberation times generally result in higher noise levels within spaces.
RMS	Root Mean Square value representing the average value of a signal.
Rw	Weighted Sound Reduction Index A measure of the sound insulation performance of a building element. It is measured in very controlled conditions in a laboratory. The term supersedes the value STC which was used in older versions of the Building Code of Australa. Rw is measured and calculated using the procedure in ISO 717-1. The related field measurement is the DnT,w. he higher the value the better the acoustic performance of the building element.
R'w	Weighted Apparent Sound Reduction Index. As for Rw but measured in-situ and therefore subject to the inherent accuracies involved in such a measurement. The higher the value the better the acoustic performance of the building element.
RNP	Road Noise Policy, NSW, March 2011
SEL	Sound Exposure Level (SEL) is the constant sound level which, if maintained for a period of 1 second would have the same acoustic energy as the measured noise event. SEL noise measurements are useful as they can be converted to obtain Leq sound levels over any period of time and can be used for predicting noise at various locations.
Sound	A fluctuation of air pressure which is propagated as a wave through air.
Sound Absorption	The ability of a material to absorb sound energy by conversion to thermal energy.
Sound Insulation	Sound insulation refers to the ability of a construction or building element to limit noise transmission through the building element. The sound insulation of a material can be described by the Rw and the sound insulation between two rooms can be described by the DnT,w.
Sound level meter	An instrument consisting of a microphone, amplifier and indicating device, having a declared performance and designed to measure sound pressure levels.
Sound power level	Ten times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power of 1 pico watt.

Term	Definition
Sound Pressure Level	The level of noise, usually expressed in decibels, as measured by a standard sound level meter with a microphone referenced to 20 mico Pascal.
STC	Sound Transmission Class A measure of the sound insulation performance of a building element. It is measured in controlled conditions in a laboratory. The term has been superseded by Rw.
Structure-borne Noise	Audible noise generated by vibration induced in the ground and/or a structure. Vibration can be generated by impact or by solid contact with a vibrating machine. Structure-borne noise cannot be attenuated by barriers or walls but requires the isolation of the vibration source itself. This can be achieved using a resilient element placed between the vibration source and its support such as rubber, neoprene or springs or by physical separation (using an air gap for example). Examples of structure-borne noise include the noise of trains in underground tunnels heard to a listener above the ground, the sound of footsteps on the floor above a listener and the sound of a lift car passing in a shaft. See also 'Impact Noise'.
Transmission Loss	The sound level difference between one room or area and another, usually of sound transmitted through an intervening partition or wall. Also the vibration level difference between one point and another. For example, if the sound level on one side of a wall is 100dB and 65dB on the other it is said that the transmission loss of the wall is 35dB. If the transmission loss is normalised or standardised, it then becomes the Rw or R'w or DnT,w.

Appendix B - Sensitive Receivers

Parramatta

ID	Receiver	Address	Category	Heritage	Predicted Vibration Exceedance
1	Roxy Theatre	69 George Street, Parramatta	Other – Theatre	Yes	Potential
2	Various Eateries	71 George St	Other – Café		
3	MBE	29 George St	Commercial		
	Office Suites	75 George St	Commercial		
4	EY Building Decco Cafe	25 Smith St	Commercial		Yes
5	Convict Drain	SE Corner of Site	Subsurface Drain	Yes	Potential
6	Kia Ora	62-64 Macquarie St	Commercial	Yes	Potential
7	Manaeesh Bakery & Pizza	46 Macquarie St	Commercial		
8	Vision in White Bridal	44 Macquarie St	Commercial		
	Medical Centre	42 Macquarie St	Commercial		
	Vacant	40 Macquarie St	Commercial		
	Bendigo Bank	198 Church St	Commercial	Yes	
	Chemist Warehouse	202 Church St	Commercial		
	Just 4 Fun	210 Church St	Commercial		
9	TSG Tobbacconist Smart Dollar	216 Church St	Commercial		Yes
10	Pharmacy 4 Less CK Design Habitation Design Scram Escape Rooms	240 Church St	Commercial		Yes
11	Optix	242 Church St	Commercial		Yes
12	Golden Tree Massage	256 Church St	Commercial		
	Dlux Jewellers	260 Church St	Commercial		
	Destination Roll Tax Tips 7 Eleven	262 Church St	Commercial		
13	Romeo's IGA St George	37-39 George St	Commercial		Yes
14	Lead College	37-39 George St	Education		Yes
15	Max Tax Salon Al Eman Barber PTE Institute High Cut Hairdresser	43-47 George St	Commercial	Yes	Yes
16	Westpac	264 Church St	Commercial	Yes	
	Mayfair Plaza Arcade	26 George St	Commercial		
17	Office Building	28 George St	Commercial		
	George St Dental Dragon House	38-40 George St	Commercial		
	Tax Today	42 George St	Commercial		
	Vacant	46 George St	Commercial		
	Mixed Retail Arcade Office Suites	48-50 George St	Commercial	Yes	
	In the Mood For Thai Astor Legal Litsas and Co Accountant	52-56 George St	Commercial (Not residential as indicated in EIS)	Yes	
18	The Optical Co Pacific Smiles Dental Office Suites	80 George St	Commercial		
	Story Factory	90 George St	Commercial		
	Raine & Horne	33 Smith St	Commercial		
19	Western Sydney Uni	100 George St	Education		
20	Reggio Emilia ELC	100 George St	Other - Childcare		
21	Office Suites	20 Smith St	Commercial		
	Office Suites	18 Smith St	Commercial		
	Office Suites	10-14 Smith St	Commercial		
22	Arthur Phillip High School	Cnr Smith & Macquarie Streets	Educational		
23	Western Sydney University	169 Macquarie Street	Educational		
24	3 Parramatta Square	153 Macquarie St	Commercial		

ID	Receiver	Address	Category	Heritage	Predicted Vibration Exceedance
	Parramatta Mission	119A Macquarie St	Commercial		
25	Leigh Memorial Church	119 Macquarie Street	Other - Place of Worship	Yes	
26	Double Mac Café iFade Barber Red Lobster Cafe	186-190 Macquarie St	Commercial		
27	Centenary Square	Cnr Church and Macquarie St	Passive Recreation		
28	Former Chophouse Restaurant	83 Macquarie St	Commercial		
29	Coffee Emporium Dallas Newsagency Peter Wynns Culture Kings	197 Church St	Commercial		
30	IMB Bank Richmond School of Business	207 Church St	Commercial		
31	University of New England	211 Church Street	Educational	Yes	
32	Unknown	215 Church St	Commercial	Yes	
33	Formerly ANZ	219 Church St	Commercial		
	Surplus City	223 Church St	Commercial		
	La Roue Café Lichaa Menswear Forward Legal CBA	235 Church St	Commercial		
34	Urban Tactical	239 Church St	Commercial		

Clyde

ID	Receiver	Address	Category	Heritage	Predicted Vibration Exceedance
1	NCA01 - Rosehill Gardens Stables	North of Unwin St, Rosehill	Other – Passive Recreation		
2	NCA02 - East	Shirley St, Rosehill	Industrial		
3	NCA03 - South	Martha St, Clyde	Industrial		
4	NCA04 - West	West of James Ruse Dr	Residential		
5	Downer Depot Office	1 Unwin St, Rosehill	Commercial		
6	Veolia Building	2 Unwin St, Rosehill	Commercial	Yes	
7	RTA Depot	Unwin St, Rosehill	Heritage Structure	Yes	Potential
8	Hy-tec Concrete Depot	10 Shirley St, Rosehill	Industrial		

Westmead

ID	Receiver	Address	Category	Heritage	Predicted Vibration Exceedance
1	NCA01	Residential receivers to the east of Hassall St	Residential		
2	NCA02	Residential receivers to the south of Bailey St	Residential		
3	NCA03	Residential receivers to the west of Hawkesbury Rd	Residential		
4	NCA04	Residential receivers to the north of Railway Pde	Residential		
5	Westmead Public School	Hawkesbury Rd, Westmead	Educational	Partial	
6	Westmead Train Station	Alexandra Avenue, Westmead	Public Building		
7	Health Precinct	Hawkesbury Rd, Westmead	Other - Medical		

Appendix C – Site Plans and Monitoring Locations

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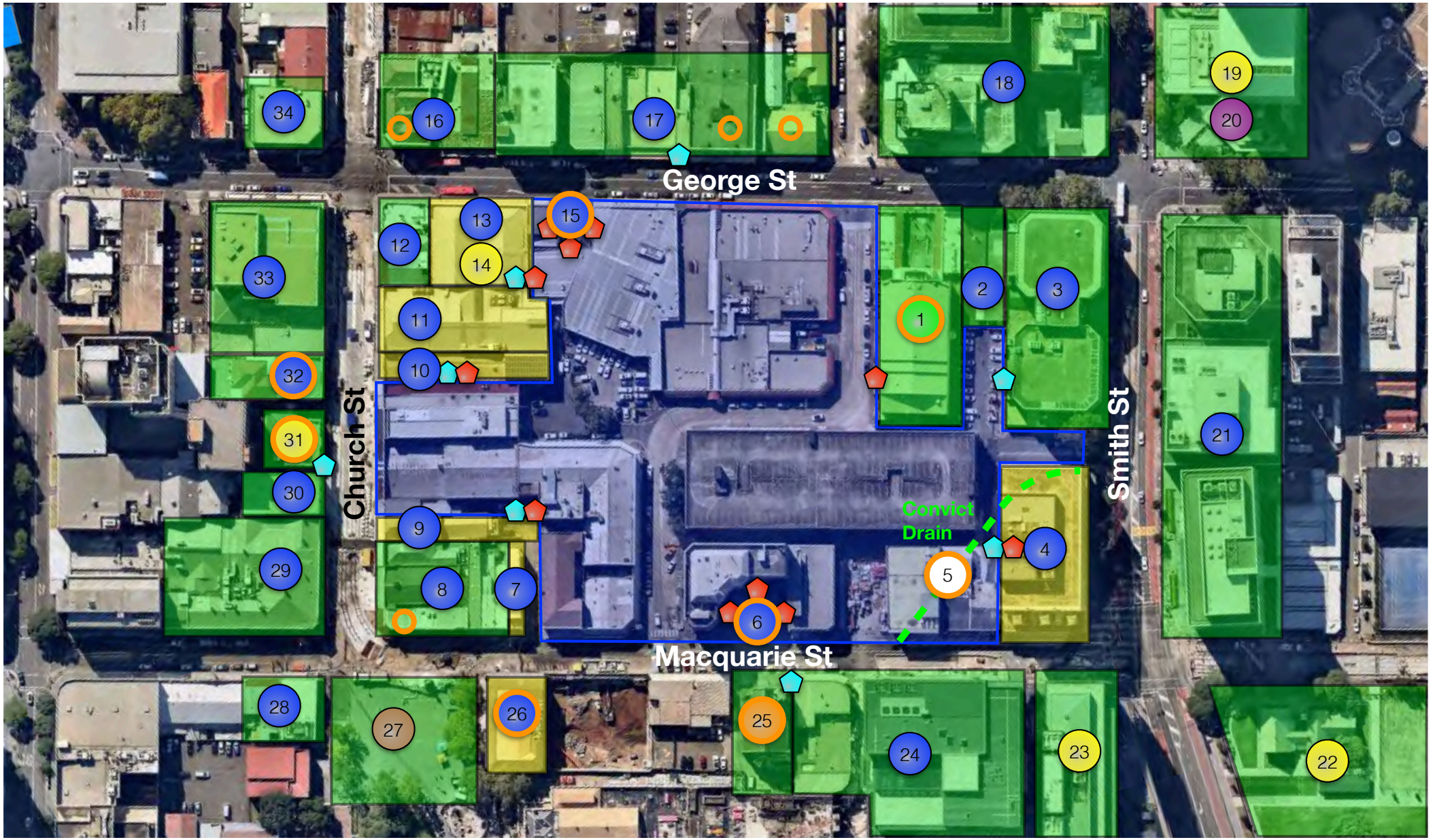

Impact Category

- Low Impact
- Moderate Impact
- High Impact
- Demolition Zone

Monitoring Category

- Noise
- Regenerated Noise
- Vibration
- Noise & Vibration

Sensitive Receiver Category

- Commercial
- Residential
- Educational
- Other - Theatre
- Childcare
- Place of worship
- Passive Recreation
- Heritage

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Sydney Metro Demolition - Parramatta
Noise and Vibration Sensitive Receivers

Date: 18/09/2021
Created by: MDS
Project No: 0121 023

N

Impact Category

- Low Impact
- Moderate Impact
- High Impact
- Demolition Zone

Monitoring Category

- Noise
- Regenerated Noise
- Vibration
- Noise & Vibration

Sensitive Receiver Category

- Commercial
- Residential
- Educational
- Industrial
- Childcare
- Place of worship
- Passive Recreation
- Heritage

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Sydney Metro Demolition - Clyde
Noise and Vibration Sensitive Receivers

Date: 17/09/2021
Created by: MDS
Project No: 0121 023

N

Impact Category

- Low Impact
- Moderate Impact
- High Impact
- Demolition Zone

Monitoring Category

- Noise
- Regenerated Noise
- Vibration
- Noise & Vibration

Sensitive Receiver Category

- Commercial
- Residential
- Educational
- Childcare
- Place of worship
- Public Building
- Heritage

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Sydney Metro Demolition - Westmead
Noise and Vibration Sensitive Receivers

Date: 17/09/2021
Created by: MDS
Project No: 0121 023

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Appendix D – Sydney Metro Overarching Community Communications Strategy

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Overarching Community Communications Strategy (OCCS)

A framework for communication and engagement during construction

Project:	Sydney Metro	**Date:**	12 April 2021
Group:	Project Communication	**Status:**	FINAL
Author:	Michelle Delaat	**Revision:**	2.2
Company:	Sydney Metro	**File number:**	
File name:	Overarching Community Communication Strategy (OCCS)		

Revision	Revision date	Status	Brief reason for update	Name/ position/ company	Author/ Reviewer/ Approver	Signature
1	17/7/20		JOa	A/Deputy Executive Director Communications & Engagement	[redacted]	[redacted]
2	05/08/20		Updated roles and responsibilities for independent advisors	A/Deputy Executive Director Communications & Engagement	[redacted]	[redacted]
2.1	28/10/20		Remove reference to Transport for NSW Good Neighbour Policy	A/Deputy Executive Director Communications & Engagement	[redacted]	[redacted]
2.2	07/04/2021		Minor changes including references in line with Sydney Metro West planning approval for SSI 10038	A/Director, Project Communication, Sydney Metro West	[redacted]	[redacted]

Table of Contents

1 Introduction

1.1. Sydney Metro

Sydney's new world-scale metro system is the biggest program of public transport infrastructure currently under construction in Australia and the largest urban rail infrastructure investment in the nation's history.

A key part of delivering the NSW Government's Future Transport 2056 priorities, this customer-focused fully-accessible metro service will help grow the state's economy and help create vibrant places and communities. Sydney Metro has responsibility for delivering great places around metro stations so that precincts are designed, developed, activated and managed in line with the metro system to ensure the best outcomes for customers and communities.

Sydney Metro works collaboratively and in partnership with the Australian Government to deliver Sydney Metro – Western Sydney Airport which is a jointly-funded project.

1.2. Transforming Sydney

Sydney Metro is transforming Sydney, cutting travel times, reducing congestion and making it easier and faster to get around Australia's biggest city.

This new world-class mass transit system will evolve with the city it will serve for generations to come. Metro rail will catalyse development in Greater Western Sydney and serve as the transport spine for new communities.

Global Sydney's population will pass 6 million by 2036; an extra 1.7 million people will progressively move into to Australia's biggest city, which will support an extra 840,000 jobs and 680,000 homes.

Sydney Metro will help boost economic productivity by bringing new jobs and new educational opportunities closer to home.

Designed with customers at its centre, stations will be quick and easy to get in and out of, trains will be fast, safe and reliable, and technology will keep customers connected at every step of the journey.

Sydney Metro will integrate with new communities and transform existing urban centres.

1.3. Future Transport

In October 2017, the NSW Government announced Future Transport 2056 – Transport for NSW's 40-year blueprint for the future of the NSW transport system.

To support the Greater Sydney Commission's Greater Sydney Region Plan, the new transport strategy aims to improve public transport so that – by 2056 – 70 per cent of people will live within 30 minutes of work, study and entertainment.

Future Transport 2056 is a comprehensive strategy to ensure travel is more personal, integrated, accessible, safe, reliable and sustainable.

There are three parts to the strategy: programs that are committed to or funded by the NSW Government over the next 10 years; those that are under investigation; and visionary projects

in the 20 year-plus timeframe that are being identified now for future consideration as the population grows.

More information about Future Transport 2056 is available at:
https://future.transport.nsw.gov.au/

1.4. Sydney Metro values

At Sydney Metro our vision and values guide us in our interactions with each other, our stakeholders and our partners.

Our Vision is “Transforming Sydney with a world class metro”, and our Mission is to deliver Sydney a connected metro service: providing more choice to customers and opportunities for our communities now and in the future.

Culture is a critical enabler of an organisation’s success. To help develop a strong organisational culture, Sydney Metro has established a set of values that guides its approach to the procurement and delivery of Sydney Metro. These values are:

Figure 1: Sydney Metro Core Values

Sydney Metro has an expectation that contractors will adhere and uphold these values in their dealings with Sydney Metro, other contractors and stakeholders. Our values support us working together to achieve agreed outcomes supporting the delivery of our projects across our many diverse communities.

Sydney Metro has a number of programs and initiatives in place to embed these values and recognise individuals and teams for consistently demonstrating them.

1.5. Sydney Metro community and stakeholder engagement

We meet communities where they are based so we can build strong relationships and create opportunities for meaningful engagement.

Sydney Metro creates successful engagement outcomes by working closely and cooperatively with the community, Federal, State and local government, contractors, advisors, other service providers and key stakeholders.

Sydney Metro has been working with stakeholders and communities every step of the way since 2011, adapting to community needs and refining our approach to delivering community and stakeholder engagement to achieve better outcomes.

Key to the ongoing success of our engagement program has been a commitment to building personal relationships through face-to-face and digital engagement, supported by effective action and collaboration within multidisciplinary project teams.

Sydney Metro understands that the community and stakeholders want to communicate and access information in ways that are convenient and accessible. Our communication approach

continues to evolve to ensure our diverse communities have access to a variety of platforms that ensure a personalised approach to community engagement. Sydney Metro will continue to monitor the communication landscape to provide best practice solutions to engagement.

1.6. Our neighbours

New metro stations are a catalyst for development, regeneration and renewal of neighbourhoods, bringing to life placemaking opportunities. It can be exciting to watch the metro station and local precinct come to life but we also know that communities located immediately near construction sites will be more likely to notice construction works and associated impacts, and may potentially find the cumulative changes happening in their local area difficult to comprehend.

Sydney Metro's communication and engagement approach places particular emphasis on these communities whether they are residents, businesses, schools and childcare centres, or places of worship.

Sydney Metro has extensive experience working with a range of businesses located near our construction sites, and we ensure that tailored communication solutions are provided. Our approach ensures businesses are provided with engagement solutions for their type of business, operational hours of work and size of the organisation.

1.7. A new project delivery landscape

Sydney is growing and the NSW Government is delivering projects to reduce traffic congestion and improve public transport.

Sydney Metro is committed to working closely with other nearby projects, local councils, Federal and State Government agencies, and our stakeholders to manage and coordinate construction activities and traffic to help minimise impacts on the community.

Sydney Metro works with other nearby projects to enable close coordination of communication, sharing of information to streamline engagement, and assist the community to understand projects more holistically in their area.

1.8. Fostering strong relationships throughout the project lifecycle

Sydney Metro works with the community and its stakeholders throughout project development, planning, and project delivery. At all stages of this project lifecycle, Sydney Metro ensures engagement is open and transparent ensuring goodwill is established and strong relationships formed.

Sydney Metro will work with its delivery partners to ensure project commitments and community and stakeholder needs established during the planning phases are continued and considered during the delivery phase.

1.9. Statutory planning context

The delivery of the Sydney Metro network are predominately considered State significant infrastructure (SSI) projects under Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) requiring preparation and public exhibition of an Environmental Impact Statement and approval from the NSW Minister for Planning and Public

Spaces. The Minister for Planning and Public Spaces may approve the projects subject to conditions of approval.

In addition to approval under the EP&A Act, some Sydney Metro projects may also require assessment and approval under Commonwealth legislation, such as the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). Specifically, Sydney Metro Western Sydney Airport also requires approval under the Commonwealth *Airports Act 1996* (Airports Act) for all works located within the footprint of Western Sydney International (Nancy Bird-Walton) Airport.

Sydney Metro projects associated with the delivery of integrated stations and precinct developments are generally subject to assessment and approval as State significant development (SSD) in accordance with Division 4.7 of the EP&A Act.

This Overarching Community Communication Strategy (OCCS) and the commitments provided within this strategy are intended to form part of any relevant planning approval for Sydney Metro projects. Following the approval of projects, contractor-specific community communication strategies will be prepared in accordance with this overarching strategy and any relevant project-specific conditions of approval.

1.10. Integrated stations and precinct developments

New metro stations create opportunities to provide for community needs in consideration of the future vision, relevant planning controls and local character of each area.

An integrated station and precinct development is made up of the metro station and building(s) above and/or around the station. Once built, these developments could deliver a range of uses like community facilities, new homes and green spaces, shops, restaurants and commercial office spaces.

All future integrated station and precinct developments would be subject to separate planning approval processes that would include community and stakeholder engagement in line with this OCCS and any statutory requirements of a State Significant Development.

Where required, early engagement would be undertaken with key project stakeholders to support the development of a two-way dialogue in relation to integrated station and precinct developments ahead of relevant planning approval processes.

2. About this plan

The Overarching Community Communication Strategy (OCCS) has been prepared to guide Sydney Metro's approach to stakeholder and community liaison including engagement with communities, stakeholders and businesses. This plan is intended to be used as a framework for community engagement across all Sydney Metro projects and contracts.

The OCCS considers all work activities and packages for Sydney Metro and its projects for the duration of work, and 12 months following the completion of construction.

Sydney Metro is responsible for the development and implementation of the OCCS to ensure there is a coordinated approach to stakeholder, business and community liaison across the entire program of work for Sydney Metro.

Contract specific Community Communication Strategies (CCS) will be developed by appointed project delivery communication teams (PDCT) to address contract and site specific needs of the community, stakeholders and businesses. These strategies will reflect the requirements of the OCCS (this plan) and they will adhere to the requirements outlined in the relevant contract specification – Stakeholder and Community Engagement, along with requirements identified in any relevant planning approval and/or environmental protection licence.

The OCCS and CCS' are supported by a Construction Complaints Management System (CCMS) which outlines the framework for managing complaints, enquiries and escalation processes throughout the project lifecycle. The CCMS also outlines the process for reporting complaints.

The Small Business Owners Engagement Plan (SBOEP) is a stand-alone plan which supports these strategies.

Figure 2: Communication strategy hierarchy

The communication strategy hierarchy is supported by the procedures and processes outlined in Section 8 and the Sydney Metro Integrated Management System's Communication and Engagement Management Plan, which outlines Sydney Metro's approach to stakeholder management, public affairs, public communication and strategic partnerships.

2.1. Accountabilities

The Deputy Executive Director Communication and Engagement, or delegate, is accountable for this document. Accountability includes authorising the document, monitoring its effectiveness, and performing a formal document review.

Members of the team including Sydney Metro staff, contractors, subcontractors and consultants are accountable for ensuring the requirements of this plan are implemented within their area of responsibility. This document will be reviewed and reissued annually.

2.2. Purpose

This OCCS will guide Sydney Metro's interactions with stakeholders and the community and will outline the:

- Approach, objectives, principals, and tools to be used
- Team structure, roles and responsibilities
- Communication protocols and procedures to be followed
- Key stakeholders
- Approach to low impact works or preparatory activities
- Approach to reporting and evaluation
- The commitments provided in this plan are intended to form part of, and satisfy the obligations of, any relevant planning approval for Sydney Metro projects.

2.3. Communication and engagement approach

Sydney Metro is committed to establishing genuine relationships with stakeholders and the community. This is underpinned by the belief that effective communication is a crucial element in the successful delivery of all our projects.

Sydney Metro recognises the diverse engagement and information needs of the community and stakeholders and commits to robust and transparent engagement processes that are inclusive in nature.

The International Association for Public Participation (IAP2) is used to guide engagement during different project phases with an emphasis on inform, consult and active participation levels as appropriate. The levels of consultation outlined in the spectrum are provided as a guide only, and the Project team will ensure an individual approach is taken when engaging with each stakeholder.

The spectrum may be considered in engagement with members of the community, stakeholders including Government agencies, members of parliament and public sector stakeholders.

Figure 3: The IAP2 public participation spectrum

2.4. Place managers

Sydney Metro ensures a personal approach is undertaken when undertaking community engagement by having dedicated community relations specialists called place managers. Their role is to act as a single, direct contact between members of the community and the project team.
Sydney Metro also has personal managers to provide support throughout any property acquisition process. Their role is to work closely with property owners or tenants and to make sure the process is as easy as possible.

2.5. Objectives

Sydney Metro's corporate strategic objectives are:

- Manage customer and community expectations
- Integration of 'place'
- Record infrastructure investment
- Technological change
- Drive towards long-term financial sustainability.

The Sydney Metro project communication and engagement objectives are to:

- Minimise project impacts on stakeholders and the community where possible
- Minimise project impacts on local businesses recognising specific needs and requirements

- Provide adequate, timely and coordinated stakeholder and community communication and engagement
- Assist stakeholders and the community in their understanding of project construction including activities to be undertaken by project delivery partners and their objectives, benefits, potential impacts and expected outcomes
- Appropriately address stakeholder and community issues
- Provide consistency across our external communication activities and interfaces with stakeholders during delivery of all Sydney Metro projects
- Coordinate approach to manage project enquiries and complaints with interface projects where appropriate
- Act as a conduit and advocate between the project team and the broader community.

2.6. Roles and responsibilities

Figure 4 below demonstrates throughout the project lifecycle, Sydney Metro will begin engaging with the community and stakeholders in the early strategic planning stages of the project and will continue this relationship through to commissioning, and operation of metro services after which point some of these stakeholders and community members will become customers of Sydney Metro.

The project lifecycle can involve several project phases occurring concurrently. Understanding this assists Sydney Metro and the PDCT(s) to work together to ensure communication is clear and consistent across the different facets of the project.

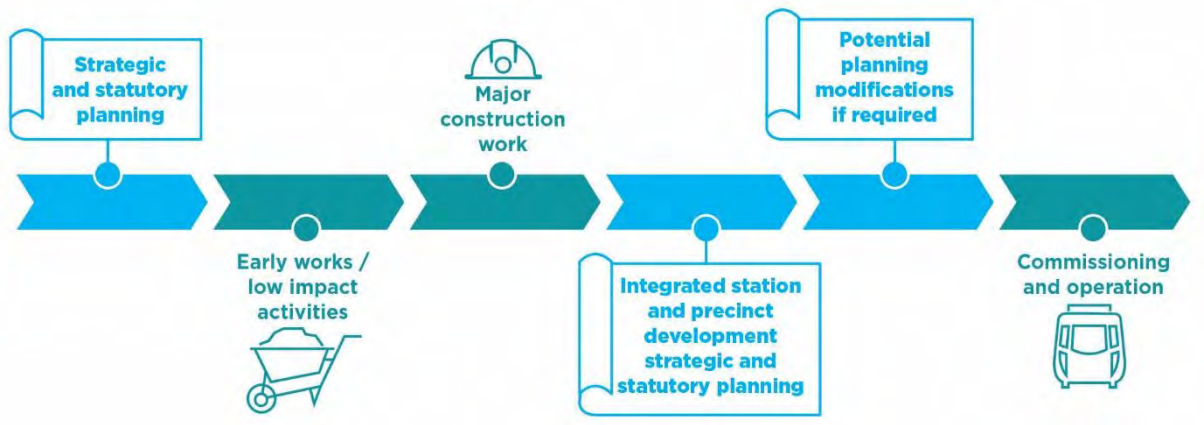

Figure 4: Potential stakeholder and community engagement touchpoints through the project lifecycle

Figure 5 below outlines key responsibilities of Sydney Metro, and the PDCTs during project planning and delivery. Figure 5 is intended as a guide, noting there would be times when responsibilities would overlap particularly in the pre-construction phase and in the transition between statutory planning and construction communication. The full suite of delivery partner responsibilities for the PDCT will be outlined in the contract General Specification – Stakeholder and Community Engagement.

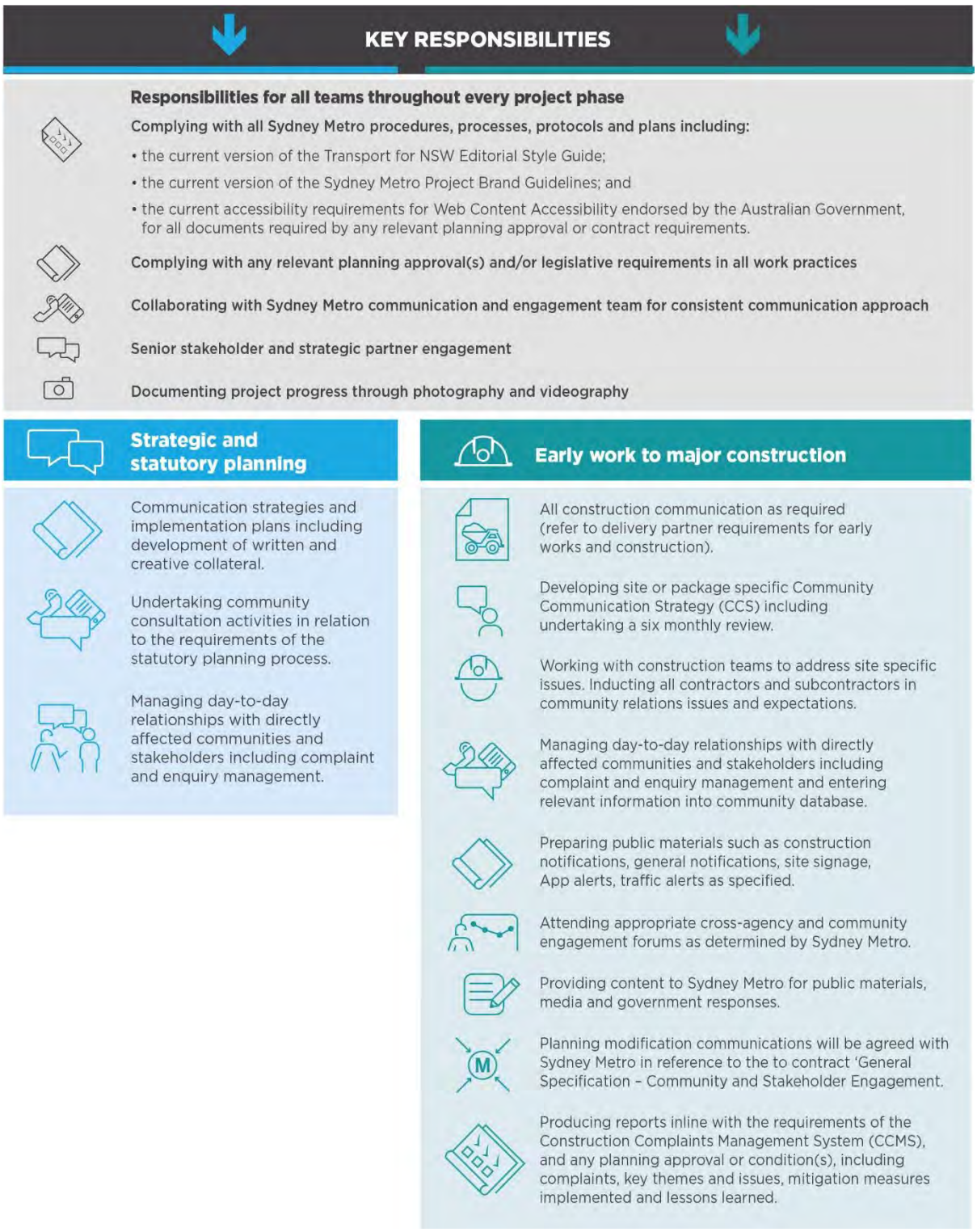

Figure 5: Responsibilities during planning and construction

Table 1: Roles and responsibilities in the planning and delivery phases of the project.

Role	Responsibility
Environmental Representative	A suitably qualified and experienced Environmental Representative is independent of the design and construction personnel and responsible for advising the Department of Planning, Industry and Environment on the environmental performance of projects. The Environmental Representative is engaged by the Sydney Metro for the duration of construction of the project and approved by the Secretary of the Department of Planning, Industry and Environment. The Environmental Representative may provide advice to the Sydney Metro Communication and Engagement team in relation to environmental performance and mitigation measures. Provide an independent review to help resolve complaints about construction issues where a resolution has been unable to be reached by the PDCT and the Sydney Metro project team.
Acoustic Advisor, if required according to planning approval	A suitably qualified and experienced Acoustic Advisor is independent of the design and construction personnel and responsible for advising the Department of Planning, Industry and Environment specifically on noise and vibration performance of the project. The Acoustic Advisor is engaged by Sydney Metro for the duration of construction of the project and approved by the Secretary of the Department of Planning, Industry and Environment. The Acoustic Advisor may provide advice to the Sydney Metro Communication and Engagement team in relations to acoustic performance and mitigation measures.
Independent property impact assessment panel, if required according to planning approval	An independent panel may provide assistance in the resolution of property damage concerns following investigation by Sydney Metro and technical specialists in consultation with the affected property owner.
Western Sydney Airport or Airport Environment Officer, if required according to planning approval	Western Sydney Airport is the lessee of Western Sydney International (Nancy Bird-Walton) Airport and have responsibility for the site. An Airport Environment Officer is responsible for the day to day regulatory oversight of compliance with the Commonwealth *Airport (Environment Protection) Regulations 1997* (AEPRs) at Western Sydney International (Nancy Bird-Walton) Airport and will have a role in relation to works for Sydney Metro – Western Sydney Airport on this site.
Other project technical specialists	Provide subject matter technical expertise for the duration of construction, or as otherwise agreed by the Secretary of the Department of Industry, Planning and Environment. This scope will include but not limited to: construction, noise, vibration, tunnelling and general project related issues.
Independent mediation	Upon the recommendation of the Director, Project Communication or the Environmental Representative, provide independent mediation to

service(s) (engaged as required)	help resolve complaints about construction issues where a resolution has been unable to be reached by the PDCT and/or the Sydney Metro project team. Any mediator engaged by Sydney Metro, to assist in resolving a complaint, would be required to hold suitable qualifications and have experience mediating similar matters.
Deputy Executive Director Communication & Engagement	Overall responsibility for defining, developing and implementing the strategic direction of Sydney Metro in respect of all communication and engagement activities.
Director Project Communications	Responsible and accountable for authorising all communication and engagement documents, monitoring their effectiveness and performing formal document review.
Sydney Metro Communication and Engagement Team	This team's key accountabilities and responsibilities include: • Communication and engagement • Stakeholder management • Public affairs • Public communication • Strategic partnerships • Project communications.
Project Communication teams (Sydney Metro and PDCT)	• Develop and/or implement this Overarching Community Communications Strategy • Provide place managers to engage with the local community during the design, planning approval and early work/low impact/major construction activity stages • Develop and implement project communication plans • Develop external facing project communication collateral • Proactively identify potential issues and work cooperatively to develop agreed management strategies.

2.7. Roles and responsibilities for complaint management during construction

The CCMS will outline the framework for managing complaints, enquiries and escalation processes throughout the project lifecycle.

Complaints are first managed by the PDCT and any unresolved complaints may then be escalated to Sydney Metro.

The Director, Project Communications is the designated complaints handling management representative for the escalation of complaints for independent review. Complaints would only be escalated for independent review following a full and thorough investigation by the PDCT and Sydney Metro. The Director, Project Communication may also refer a complaint to independent mediation at any stage in the complaint management process.

Following any escalation for independent review, the Environmental Representative would make an assessment on the adequacy of Sydney Metro's response to the complaint in accordance with this plan, the CCMS and the project's planning and assessment process, in consideration of what is fair and reasonable.

Following this review the Environmental Representative would either make a recommendation to close the complaint and notify the Secretary or provide recommendations for consideration by Sydney Metro on any additional actions that could be undertaken to assist in resolving the complaint.

The Environmental Representative may also refer any reasonable and unresolved complaint for independent mediation, at which time a qualified mediator would be engaged by the project. This process is outlined in figure 6.

This process does not apply to complaints specifically relating to the Western Sydney Airport site which would be managed and escalated to Western Sydney Airport in accordance with the CCMS.

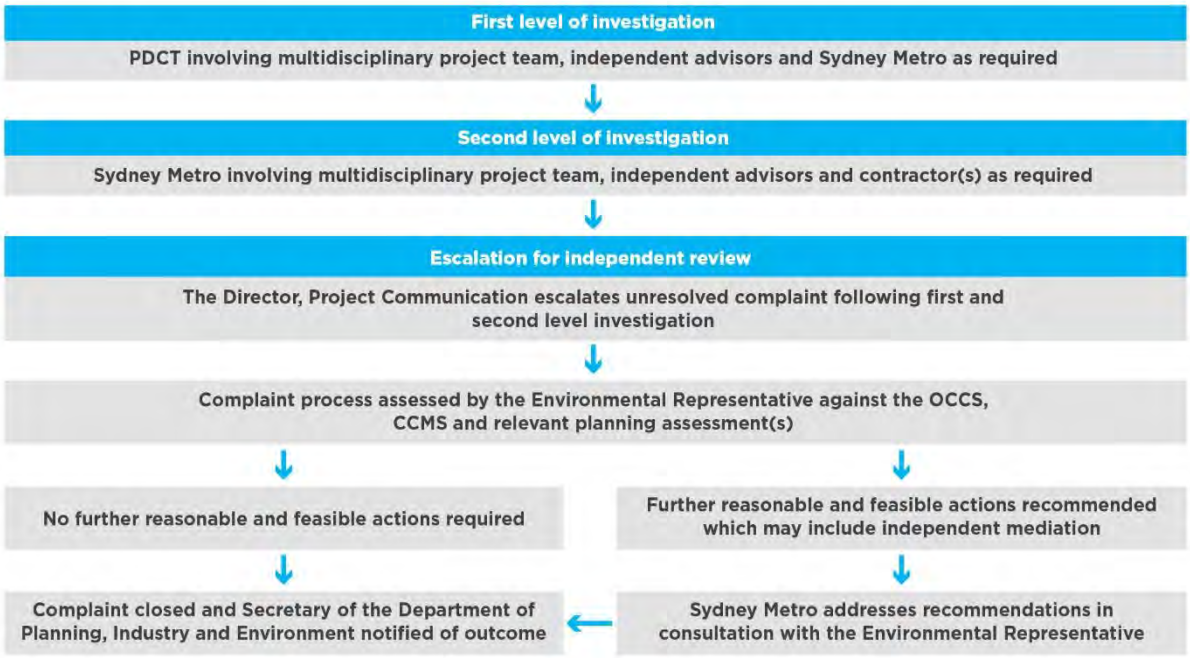

Figure 6: complaint escalation process for Sydney Metro

3. Our stakeholders

3.1. Our relationships

Effective relationships and consistent and accountable communication practices are crucial to the successful delivery of Sydney Metro. Sydney Metro is committed to providing proactive and positive interactions with all our stakeholders during the delivery of our projects. Our stakeholders include:

- Our colleagues across Transport for NSW
- Local, State and Federal government departments and agencies
- Media
- Industry partners
- Precinct partners and city deal partners
- Broader network users and customers
- The community across Sydney, including businesses.

Table 2: Sydney Metro stakeholders (as relevant to each Sydney Metro project)

Sector	Stakeholders
Community	Neighbours Residents and residents groups Businesses and business groups Property owners and tenants Business owners and tenants Land owners Interest groups Education and religious facilities Transport users Owners and managers of local social infrastructure and community facilities
	Peak community groups
	Multicultural support groups
Government	Federal Minister for Infrastructure, Transport and Regional Development Federal Minister for Population, Cities and Urban Infrastructure
	NSW Minister for Transport and Roads NSW Minister for Jobs, Investment, Tourism and Western Sydney

Sector	Stakeholders
	State elected members and their electoral offices Local elected members Local Council General Managers/CEOs
	Department of Infrastructure, Transport, Regional Development and Communications Department of Energy and Environment Western Sydney Airport
	Transport for NSW Department of Planning, Industry and Environment Infrastructure NSW Department of Premier and Cabinet NSW Treasury Port Authority of NSW NSW Health Department of Family and Community Services Department of Education Schools Infrastructure NSW Western City Aerotropolis Authority Planning Partnership Office Western Sydney City Deal Delivery Office
	Council officers Emergency services – Police – Ambulance – NSW Fire and Rescue – Rural Fire Services – State Emergency Services
Neighbouring projects	Parramatta Light Rail Western Harbour Tunnel and Beaches Link WestConnex Rozelle Interchange Westmead redevelopment Glebe Island Multi-User facility Revitalisation of Blackwattle Bay and the new Fish Market Western Sydney International Airport M12 Motorway

Sector	Stakeholders
Service providers	Sydney Water Water NSW Power utilities Telecommunication providers Local Councils
Industry	Academic institutions Contractors Peak bodies Transport associations Transport experts Unions
Precinct partners, City Deal partners	Local Councils State Government agencies Federal Government agencies Government-owned corporations
Media	All media

4. Our communities

Sydney Metro recognises that our projects are undertaken across a range of diverse communities and our information needs to be accessible for all people. The project will continue to monitor, adapt and review communication streams, key messages and audiences to continue to connect with people in ways that are meaningful to them.

4.1. Community demographics

Sydney Metro uses area demographics and census data to better understand the communities in which we operate. The information we gather ensures we provide accessible information to people from all backgrounds including:

- People with languages other than English (LOTE)
- Culturally and linguistically diverse communities (CALD)
- Vulnerable communities
- Aboriginal and Torres Strait Islander Communities (ATSI)
- Diverse communities.

The PDCT CCS must demonstrate how their communication approach will use tools and strategies that meet the needs of their diverse communities. Specific tools outlined below should be considered as appropriate.

4.2. Working with culturally and linguistically diver (CALD) and languages other than English (LOTE) communities

The following processes and communication tools can be used to improve accessibility and outreach with people who come from CALD and LOTE backgrounds:

- Providing project information on the Sydney Metro website which can be translated into 58 different languages
- Working closely with local councils and community groups to utilise existing CALD relationships
- Continued outreach with targeted CALD community groups, and face-to-face meetings and briefings with CALD communities as required
- Advertising project milestones in foreign language newspapers
- Translating project milestone factsheets and newsletters into targeted languages
- Ensuring that foreign language submissions can be received
- Providing translators for meetings and engagements as required.

4.3. Working with vulnerable communities

Sydney Metro recognises that a range of community members may be vulnerable in relation to disabilities and health, age, employment and housing status, among other issues.

The following processes, communication tools and approaches would be used to improve accessibility and outreach with vulnerable communities:

- Engage with relevant support organisations to keep vulnerable communities informed of work occurring
- Training construction personal that all interactions with vulnerable people should be respectful and courteous
- Where required provide regular updates to rough sleepers about construction timing and impacts
- Businesses impacted by people sleeping rough who may have been displaced by construction should also be kept informed and engaged.

Sydney Metro endorses the NSW Government approach to homelessness by incorporating the Sydney Metro Protocol for Homelessness within all community communication strategies.

4.4. Working with Aboriginal and Torres Strait Islander (ATSI) communities

The following key focus areas have been developed by the Transport for NSW Reconciliation Action Plan (RAP), and will be reflected and incorporated in all engagement objectives and activities undertaken by Sydney Metro:

- Build and strengthen relationships
- Respect and celebrate culture.

The following processes and communication tools can be used to improve accessibility and outreach with ATSI communities:

- Working collaboratively and respectfully with our Aboriginal and Torres Strait Islander staff, Aboriginal Peak Bodies, and with the communities in which we operate
- Continue working with our key stakeholders to further build upon existing relationships, and seek to invest in new partnerships to support our progress in delivering meaningful outcomes for Aboriginal and Torres Strait Islander peoples whist delivering on our core business.

4.5. Working with diverse communities

Sydney Metro will continue to review its communication tools to ensure inclusive community engagement and the varied information requirements of our communities and stakeholders is prioritised.

The following processes and communication tools can be used to improve accessibility and outreach with diverse communities:

- Web and digital based engagement tools allowing people to engage with the project at a time that is convenient to them
- Using multiple communication platforms to enhance communication reach, for example printed notifications, face-to-face doorknocks and email
- Ensuring communities are providing with convenient options to access the project team such as providing multiple times for community information sessions and a 1800 number 24 hour a day, seven days a week
- Harnessing a place management approach to understand the specific needs of communities and tailor communication accordingly.

All Sydney Metro communication materials will adhere to Web Content Accessibility Guidelines (WCAG 2.0).

5. Businesses

Sydney Metro would work with local businesses within project catchments to ensure communication and engagement is tailored to their specific needs.

Sydney Metro's overarching approach to business engagement is to:

- Identify and document potentially impacted businesses prior to project commencement
- Provide early advice to businesses of upcoming projects
- Provide businesses with information about the project and its long terms benefits
- Provide businesses with information about construction progress
- Ensure businesses understand the scope of the works and mitigation measures contractors can provide
- Ensure businesses understand the proposed timing of the works
- Consult with businesses and take steps to minimise potential impacts
- Ensure the project team understands the operational requirements and sensitivities of businesses around each site.

The PDCT CCS must include at a minimum the identification and details of specific businesses located within 50 metres of each relevant construction site.

PDCTs must identify the specific needs of each business, any potential impacts associated with construction works, and proposed mitigation measures. These measures must also address if there is a need for translation or cultural and other specialists.

The PDCT CCS must also outline the approach and timing of holding regular business forums at each construction site.

Evaluation and monitoring of business engagement is outlined in section 11.

5.1. Small Business Owners Engagement Plan

The Sydney Metro PDCT will provide assistance if required to small business owners located within 50 metres of a Sydney Metro construction site, where they may be potentially impacted by construction activities. For the purposes of this program, a 'small business' is defined as a business that employs fewer than 20 people.

Sydney Metro activities to support to eligible businesses may include:

- Small business education and mentoring
- Activation events
- Business engagement events
- Marketing and promotion.

6. Communication tools

Sydney Metro uses a range of communication and engagement tools to ensure project information reaches a wide variety of people likely to be impacted by the project. Using a variety of tools provides our communities with options to engage with the project in ways that suit their needs and lifestyle.

When planning communication strategies the PDCT must consider the requirements of the General Specification – Stakeholder and Community Engagement along with the specific needs of their community as identified in their CCS. The CCS should then outline the specific tools used to reach their identified stakeholders.

The following communication tools matrix is provided as a guide only and other communication tools may be used with prior approval from the Director, Project Communication. CALD communication tools are also included in the table below.

Sydney Metro will provide a suite of project specific templates to the PDCT to assist in the development of communication collateral.

Table 3: Sydney Metro communication and engagement tools

Tool	Explanation and purpose	Responsibility
Community contact tools		
Community information line	Operational 24 hours a day and included on all public communication materials. Translation services are available for those with English as a second language.	SM
Community email address	This allows stakeholders and the community to have access to the project teams and to provide feedback and ask questions. All communication materials and the website will include the community email address. During construction, emails will be redirected to relevant PDCTs as required.	SM
Community post box	All stakeholders can use the postal address: PO Box K659, Haymarket NSW 1240 for all Sydney Metro enquires.	SM
CALD Translation services	All communication will promote our translation services for those with English as a second language.	SM
Information tools		
Newsletters	Printed and web accessible online site-specific newsletters will include information on: • construction progress	SM/PDCT

Tool	Explanation and purpose	Responsibility
	• upcoming construction stages and milestones • environmental management achievements • community involvement achievements • three month look-ahead • community contact information. Newsletters will be distributed to local communities, stakeholders and businesses and made available of the Sydney Metro website.	
Sydney Metro direct mail email updates	The community, stakeholders and businesses will be offered the opportunity to register to receive Sydney Metro milestone updates.	SM
Construction email updates	The community, stakeholders and businesses will be offered the opportunity to register to receive construction updates.	PDCT
Fact sheets	Printed and/or web accessible fact sheets will be used as required to explain key aspects of Sydney Metro to the community and our stakeholders.	PDCT
Photography and videography	Photos and videos will be used to record the construction process and assist with explaining aspects of Sydney Metro to stakeholders and the community. Images and footage will be used in notifications, newsletters, on the Sydney Metro website, presentations and reports as required.	SM/PDCT
Information videos	Information videos can be used to highlight key project milestones, construction information or elements of the statutory planning process	SM/PDCT
Site signage and hoarding banners	Site signage and hoarding banners will identify Sydney Metro and provide contact information.	SM/PDCT
CALD Newsletters and fact sheets	Translating project milestone factsheets and newsletters into targeted languages where required.	SM/PDCT
Online tools		
Sydney Metro website	Information about the project will be uploaded to the Sydney Metro website. The website will be referenced in all communication materials as a source of information and will be updated on a regular basis. Information will include:	SM

Tool	Explanation and purpose	Responsibility
	• Description of the Sydney Metro • Project information including: – description, current status and timing – newsletters – notifications – up-to-date project information – graphics and images on the project background and progress – copies of relevant reports – photos, images and maps – links to documents as required under the relevant projects Conditions of Approval – a link to Sydney Metro contractor webpages. • Contact information • Email subscription service • The Sydney Metro website is translatable into 58 different languages using the Google translate function at the bottom of the home page.	
Project interactive portal	Sydney Metro may establish and maintain an online portal for the project displaying key project information including: • statutory planning information • project map(s) • graphics and images of the project • newsletters and other project information • specific project information displays • contact information.	SM
Contractor webpage	Each contractor will establish and maintain a web site to upload and maintain information to be published. Including copies of community, environmental, sustainability, transport, traffic and noise and vibration reports and plans. A link will be provided to the Sydney Metro website.	PDCT
Social media	Facebook, Twitter and Instagram may be used to provide updates to stakeholders. Stakeholders should be offered the opportunity to join social media feeds via public materials produced for Sydney Metro.	SM
CALD	Updating the Sydney Metro website with project information, which can be translated into 58 different languages.	SM/PDCT

Tool	Explanation and purpose	Responsibility
Sydney Metro and Contractor website	Ensuring that foreign language submissions can be received.	
Face-to-face and interactive tools		
Mobile information displays	Mobile information displays can be used at locations like community events, shopping centres and local public spaces to provide information about Sydney Metro, statutory planning processes or construction.	SM/PDCT
Virtual information rooms	Virtual information displays can be used to highlight project milestones, provide information about construction or statutory planning processes.	SM/PDCT
Door knock meetings	Individual door knock meetings will be used as required to discuss potential impacts of Sydney Metro with highly impacted stakeholders, especially residents, businesses directly neighbouring construction sites and owners or managers of nearby social infrastructure or community facilities.	SM/PDCT
In person and/or virtual meetings with individuals or groups	Stakeholder meetings will be used as required to discuss Sydney Metro activities including work in progress and upcoming work or any issues in connection with the activities.	SM/PDCT
Site visits	Site visits will be used where appropriate to inform select stakeholders about the progress of Sydney Metro and any key milestones or activities taking place.	SM/PDCT
In person and/or virtual presentations and forums	Presentations and forums will be used where appropriate to inform stakeholders about the progress of Sydney Metro and any key milestones or activities taking place.	SM/PDCT
In person and/or community and business based forums	Forums will be used to focus on key environmental management issues relating to construction activities with impacted community and business stakeholders.	SM/PDCT
CALD In persons and/or virtual tools	Providing translators for virtual and/or in person meetings and engagements as required. Working closely with local councils and community groups to utilise existing CALD relationships.	SM/PDCT

Tool	Explanation and purpose	Responsibility
	Continued outreach with targeted CALD community groups, and virtual and/or face-to-face meetings and briefings with CALD communities as required.	
CALD Presentations	Presentations will also be offered to local CALD community groups in multiple languages by bi-lingual team members or external translators.	SM/PDCT
Notifications		
Emergency works – notification letter	An emergency works* – notification letter will be used to advise properties immediately adjacent to or impacted by emergency works, within two hours of door knock commencing work. Notifications must be delivered by the PDCT, issued on Sydney Metro letterhead and include the following: • scope of work • location of work • hours of work • duration of activity • type of equipment to be used • likely impacts including noise, vibration, traffic, access and dust • mitigation measures • contact information. **Work required to repair damaged utilities and/or make an area safe after an incident outside standard construction hours.*	PDCT
7 day notification - Community Signage	Signage will be erected at least 7 days prior to any activity with the potential to impact stakeholders or the community. This includes: • work in public areas such as a park • making changes to pedestrian routes • impacting on cycle ways • changing traffic conditions • disrupting access to bus stops. Signage could include A-frames, mobile Variable Message Sign (VMS), hoarding or similar and be placed at either end of the corridor of work.	PDCT
7 day - Traffic alert email	Traffic alert email will be sent at least 7 days prior to any works requiring changes to traffic. Recipients should include:	PDCT

Tool	Explanation and purpose	Responsibility
	• relevant authorities • transport operators (including bus, coach and taxi operators). The notification audience and content will be guided by the Traffic and Transport Liaison Group and Traffic Management Plans.	
7 day – utility notification	A notification will be sent to relevant utility service authorities at least 7 days before utility service work, to provide detailed information for their relevant call centre messaging.	PDCT
Notification letter	Notification letters will be used to advise the community and stakeholders of any activity with the potential to cause impacts. The notification should be sent at least 7 days prior to the activity occurring to an area of 100 metres around the construction site for day works and 200 metres around the site for night works. Wherever possible works notifications should be combined for the month to include all proposed site activities. Following up communication should be implemented for night works including the use of email, door knock or MetroConnect App reminders. Notifications are required for: • start of construction • significant milestones • changes to scope of work • night works • changes to traffic conditions • modifications to pedestrian routes, cycle ways and bus stops • out of hours work • changes to residential or business access • changes or disruptions to utility services • investigation activities. Notifications will be issued on Sydney Metro letterhead and include the following: • scope of work • location of work • hours of work • duration of activity • type of equipment to be used	PDCT

Tool	Explanation and purpose	Responsibility
	• likely impacts including noise, vibration, traffic, access and dust • mitigation measures • contact information.	
Advertisements	Display advertisements will be used to notify the community prior to the start of construction, update on construction activity, notify of exhibitions and events and announce Sydney Metro and milestones. Advertisements will be used as required, to fulfil the requirements of any planning approval, or licences and that required by law. Advertisements in local newspapers, if possible (that cover the geographical areas of the contractor's activities) will be used to notify of significant traffic management changes, detours, traffic disruptions and work outside any working hours contained in the environmental documents at least **7 days before** any detour, disruption or change occurs.	SM
Notification email	Email notifications via community engagement database distribution lists are utilised once on the ground notification distribution has been completed.	SM/PDCT
MetroConnect App	A native digital application may be utilised to provide brief construction information updates to the community. Stakeholders will be offered the opportunity to sign up for 'App' updates.	SM
CALD Advertisements	Advertising project milestones in foreign language newspapers.	SM
Briefings and media		
MP, local elected members and Ministerial briefings	MP, Local elected members and Ministerial briefings will be used to update these stakeholders on major Sydney Metro milestones.	SM
Media briefings and releases	Media releases, briefings and events will be used to update the community on major Sydney Metro milestones.	SM
Schools		
School education program	A school education program developed by Sydney Metro will be used to engage with primary and high school students.	SM

Tool	Explanation and purpose	Responsibility
Other requirements		
Site inductions	Site inductions will include communication and engagement requirements to ensure all members of the Sydney Metro and contractor teams are aware and respectful of our residential and business neighbours.	PDCT
Community engagement database	A web-based program used for the collection and recording of details regarding stakeholder and community contact and correspondence.	PDCT
Communication Interface Coordination Group	Members would include communications representatives from interfacing projects with project sites shared or adjacent to Sydney Metro. The role of the Communications Interface Coordination Group is to: • Establish relationships between communications teams from interfacing projects to facilitate effective handling of enquiries and complaints where relevant. • Provide an update on current and upcoming milestones, construction program and stakeholder and community issues. • Provide a forum to exchange information and coordinate communication and consultation activities to ensure a consistent approach to stakeholders, the community and others is delivered.	SM/PDCT

7. Site establishment communication

Establishing relationships with stakeholders and the community, including determining suitable forums for engagement is a key priority prior to site establishment for construction. During this stage of engagement the PDCT should prioritise face-to face communication as much as possible. Sydney Metro will provide support for these activities as outlined in Table 4.

Table 4: Pre-construction engagement priorities

Activity	Responsibility
Pre-construction communication planning	
Prepare Community Communication (CCS) DRAFT in accordance with the General Specification – Stakeholder and Community Engagement, planning approval and environmental protection licence requirements	Project Delivery Communication Team
Set up site specific community email and 1800 phone number to receive correspondence	Project Delivery Communication Team
Set up project delivery webpage	Project Delivery Communication Team
Set up communication management system	Project Delivery Communication Team
Prepare start of construction advertisement	Sydney Metro
Establish area coordination groups	Sydney Metro
Early site engagement/post planning approval	
Ministerial, stakeholder and government agency briefings	Sydney Metro
Council briefings	Sydney Metro / Project Delivery Communication Team
Prepare and seek approval from Sydney Metro for introductory communication material for community engagement	Project Delivery Communication Team
Initial doorknock and introductory material delivered and follow up meetings established for consultation	Project Delivery Communication Team
Conduct initial consultation with neighbouring properties, businesses and stakeholders to establish specific needs	Project Delivery Communication Team
Refine CCS and submit to Sydney Metro	Project Delivery Communication Team
Establish forums for business and community engagement based on needs assessment	Project Delivery Communication Team
Publish start of construction advertisement	Sydney Metro
Host coordination meeting with relevant projects	Sydney Metro / Project Delivery Communication Team
Pre-construction engagement	
Prepare and distribute introductory newsletter and email noting early engagement outcomes, project update, and forums available to attend prior to construction starting	Project Delivery Communication Team
Prepare and seek approval for forum collateral including project A0 boards, factsheets and presentations	Project Delivery Communication Team
Hold first forums (prior to construction starting) inviting relevant local project representatives at each site	Project Delivery Communication Team
Erect temporary site signage and shadecloth (prior to hoarding being erected)	Project Delivery Communication Team

KEY

Sydney Metro

Project Delivery Communication Team

8. Managing issues

8.1. Issue identification

It would be expected that the PDCT would work collaboratively with SM during pre-construction communication planning to understand the key themes arising from the environmental assessment process. This includes gaining knowledge of the relevant environmental impact statement(s) or other planning approvals documentation, key mitigation measures, potential cumulative impacts, community or stakeholder issues raised during the statutory planning process.

Sydney Metro expects the PDCT would appoint dedicated place managers and use the following methods during early site engagement, pre-construction engagement and delivery to identify potential issues for their communities:

- Gather information about community, stakeholder and business needs and requirements to guide delivery communication approaches.
- Build relationships with local communities, stakeholders and businesses, particularly those in close proximity to the site with a priority on personal and face-to-face communication to encourage open communication about concerns.
- Communicate early and often providing accurate information about upcoming project works and potential impacts.
- Share information with other projects in the area (see cumulative impacts).

The PDCT would be expected to work collaboratively with their environmental and construction counterparts, the Sydney Metro project implementation group, the project Environmental Representative and/or Airport Environment Officer to understand potential issues and agree on appropriate management approaches prior to escalating any issues as per the Sydney Metro Construction Complaints Management System.

The CCS must identify strategies for proactively identifying issues and appropriate mitigation measures.

8.2. Tools to manage issues

There are a number of tools available to assist projects in managing issues relating to construction and environmental impacts. These can be found in the following plans:

- Construction Environmental Management Framework
- Construction Traffic Management Framework
- Construction Noise and Vibration Standard
- Applicable contract specific management plans.

8.3. Key issues and mitigation measures

The following communication and mitigation measures are considered a guide to managing potential issues. The PDCT must identify the unique issues related to individuals and outline tailored mitigation measures which would also incorporate mitigation measures from the project's relevant planning approvals documentation.

Table 5: Key issues and mitigation measures

Issue	Communication and mitigation measures
Information about construction	
• Lack of information • Coordination with other Transport Agencies • Temporary station closures at locations along the alignment where train possessions occur • Train replacement services	• Regular notifications and newsletters (including contributing to other project notifications including Sydney Trains notifications for work during possessions) • One on one meetings on request • Doorknocks as required - both prior to works and as stakeholder checks after works • Attend stakeholder meetings to communicate Project information to their client base • Community contact facilities • Coordinate with projects and existing transport operations in close proximity to Sydney Metro works, regarding replacement services and temporary transport plans
• Coordination of information for tenants and property owners (including business owners)	• Strata/building managers and owners notified of scheduled and emergency work in the area when necessary • Meetings arranged with strata/building managers and owners • Strata/building managers and owners informed of works before they commence • Coordinate communications through the Communication Interface Control Group • Implement the Small Business Owners Engagement Plan as required

Issue	Communication and mitigation measures
Utility relocation and continuity of supply	
 • Utility works affecting footpath or road access	• Detailed briefings for businesses potentially affected • Timing works, particularly service cutovers, to minimise potential impacts • Provide alternative service where necessary to maintain essential supply
Visual amenity and visibility	
 • Impacts to visual amenity (overlooking or directly next door to sites) • Vandalism of site hoarding • Visibility of retail signage and shopfronts	• Retain vegetation where possible or for as long as practical • Protection of trees to be retained • Hoarding designed in line with Sydney Metro Brand Style Guidelines • Prompt graffiti removal from hoarding, buildings, plant and surroundings kept well maintained and clean • Hoarding designed to maximise visibility of retail signage and shopfronts. • Explore opportunities for signage and wayfinding to maintain business visibility • Implement Small Business Owners Plan to promote local businesses
Cumulative impacts	
 • Multiple works in the one location • Adjacent projects	• Coordinate communications through the Communication Interface Control Group
Transport interruptions	
 • Temporary station closures	• Rail replacement services • Advertisements, notifications and station attendants redirecting passengers to alternative services

Issue	Communication and mitigation measures
Noise and vibration	
• **Effects on sensitive receivers** • **Effects on sensitive equipment** • **Effects on quiet enjoyment (particularly for food and beverage businesses)** • **Construction traffic noise (deliveries and spoil movements)** • **Vibration generated by construction activities**	• Early engagement with neighbouring stakeholders on likely noise and vibration impacts • Implementation of mitigation measures in the Construction Noise and Vibration Management Plan, Minor Works Approval, Out of Hours Approval and other documents and plans where relevant • Noise minimised through use of appropriate plant, tools and techniques and adaptive programming, where possible. Information on specific noise and vibration reduction outcomes for each site can be found in the relevant Construction Noise and Vibration Impact Statement. Noise reduction strategies to be implemented with consideration given hours of operation and sensitive periods. • High impact noise works staged with respite periods as required by any applicable Environment Protection Licence or planning approval • Temporary noise screens used around equipment, where appropriate • Staff induction and toolbox meetings prior to noisy activities to highlight acceptable work force behaviour • Noise and or vibration monitoring offered in response to complaints • Vibration monitoring undertaken on any adjoining heritage structures if outlined in the relevant Construction Noise and Vibration Impact Statement • Referral to Small Business Owners Engagement Plan for advice on small business complaints where appropriate
Dust	
• **Dust generated by construction activities** • **Concern about health impacts of dust**	• Dust minimised by using water carts, water sprayers, street sweepers, chemical and organic ground cover, hard stands and limiting activities on windy days where necessary

Issue	Communication and mitigation measures
Access	
• Access for deliveries and customers • Traffic changes on local roads • Impacts to local street parking • Traffic modifications including changes to footpaths • Utility works affecting footpath or road access	• Coordination of works with deliveries and business priorities, where possible • Installation of suitable signage to direct pedestrians, delivery drivers and customers where appropriate
Construction traffic	
• Heavy vehicle movements on local roads	• Implement site specific Traffic Management Plans • Coordinate traffic management in accordance with Construction Traffic Management Plan (CTMP) • Construction traffic movements minimised in peak times, where possible • Heavy vehicle specific access and egress locations and routes to minimise local congestion • Truck driver toolbox meetings on localised conditions • Out of hours deliveries to minimise impacts of oversized vehicles on local roads • Traffic Control Group
Property acquisition	
• Concerns about property acquisition	• Personal Manager involvement and support • Detailed meetings with supporting Centre for Property Acquisition information and Sydney Metro newsletters and fact sheets
Property impacts	
• Concerns about potential property damage • Potential effects of vibration and settlement	• Property Condition Surveys offered where eligible in line with relevant Construction Noise and Vibration Impact Statement (CNVIS) for each site • Vibration modelling information • Distribute fact sheets • Protection of heritage items using hoarding

Issue	Communication and mitigation measures
Access	
• Access for deliveries and customers • Traffic changes on local roads • Impacts to local street parking • Traffic modifications including changes to footpaths • Utility works affecting footpath or road access	• Coordination of works with deliveries and business priorities, where possible • Installation of suitable signage to direct pedestrians, delivery drivers and customers where appropriate
Construction traffic	
• Heavy vehicle movements on local roads	• Implement site specific Traffic Management Plans • Coordinate traffic management with the Sydney Coordination Office • Construction traffic movements minimised in peak times, where possible • Heavy vehicle specific access and egress locations and routes to minimise local congestion • Truck driver toolbox meetings on localised conditions • Out of hours deliveries to minimise impacts of oversized vehicles on local roads • Traffic Control Group
Property acquisition	
• Concerns about property acquisition	• Personal Manager involvement and support • Detailed meetings with supporting Centre for Property Acquisition information and Sydney Metro newsletters and fact sheets
Property impacts	
• Concerns about potential property damage • Potential effects of vibration and settlement	• Property Condition Surveys offered where eligible in line with relevant CNVIS for each site • Vibration modelling information • Distribute fact sheets • Protection of heritage items using hoarding

9. Cumulative impacts

Sydney Metro will ensure coordination with interfacing projects to manage community and stakeholder issues.

Sydney Metro recognises that communities and stakeholders may be experiencing or have experienced impacts relating to other projects in their local area. This section outlines approaches to ensure cumulative impacts are considered in communication and engagement.

On the Sydney Metro – Western Sydney Airport project, coordination with Western Sydney Airport is essential for issues raised about work on sites within shared project areas.

9.1. Coordination for effective communication

Sydney Metro will host Communications Interface Coordination Groups for areas where projects interface. The purpose of these groups will be to provide a forum for exchange of information, understand any emerging concerns across the projects and to coordinate communication and engagement activities as appropriate.

Coordination and consultation with other projects will generally include:

- Provision of regular updates about the detailed construction program, construction sites and haul routes.
- Coordination of traffic notifications between projects.
- Coordination of engagement activities such as community information sessions, newsletters and notifications and complaint resolution.

This approach will support a range of other coordination forums to address coordinating works with traffic and noise impacts and identifying potential conflicts in construction programs.

All enquiries and complaints made by the community and stakeholders will be managed in accordance with the Sydney Metro Construction Complaints Management System. It would be expected that the place manager on call would have general knowledge of other projects in the area to provide a personal approach and knowledge of who the complainant should contact for further information.

All phone calls to the Sydney Metro's call centre, will be managed in accordance with the Sydney Metro call handling procedure. Community enquires that do not relate to Sydney Metro projects, will be forwarded to the relevant project.

Figure 7 illustrates the process for complaint and enquiry management across projects in similar areas.

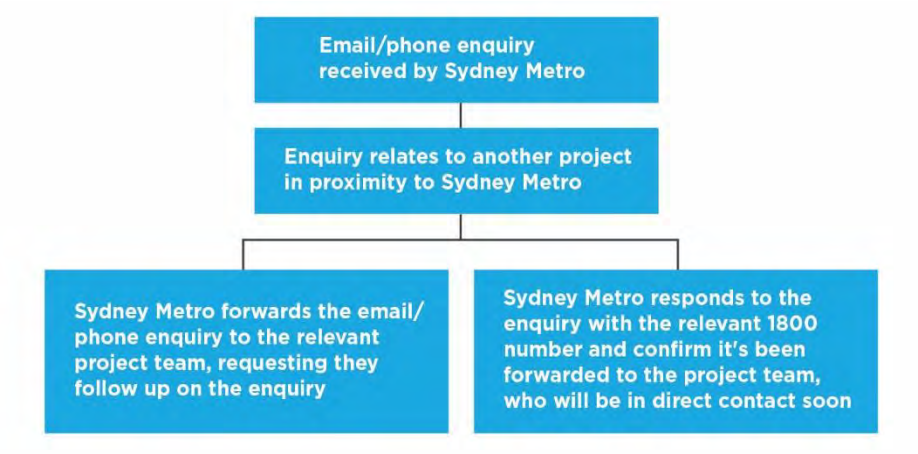

Figure 7: Project related email / phone coordination

9.2. Occurrence of cumulative impacts

The PDCT CCS must identify projects that Sydney Metro may interface within their project area including further opportunities for coordinated communication.

This may include:

- Other parts of Transport for NSW
- Local Councils
- State Government agencies
- Federal Government agencies
- Western Sydney Airport
- Sydney Coordination Office
- Department of Planning, Industry and Environment
- Sydney Trains
- NSW Trains
- Sydney Buses
- Sydney Water
- Water NSW
- Port Authority of NSW
- Sydney Motorways Corporation
- Emergency service providers
- Utility providers
- Construction contractors.

10. Crisis and incident communication processes

In the unlikely event that a crisis or incident occurs, crisis communications management will be in place. Any communication management system prepared by the PDCT as part of the Emergency Management Plan should align with Sydney Metro's Crisis Communications Plan.

Contract teams are required to invite the Director, Communications and the Deputy Executive Director, Communication and Engagement to attend and participate in formal incident and crisis communication exercises when they are conducted.

The CCS must reflect Sydney Metro's Crisis Communications Management Plan and Incident notification process.

The PDCT has the following responsibilities in relation to crisis communication:

- Immediately notify the Director, Communications within 10 minutes of any incident or issue that may have an impact on the community, environment, personnel, subcontractors or other stakeholders or may attract the attention of the media, the Minister for Transport, a local MP, council or the broader community. For any other incidents notify the Director, Communications within one hour of the incident occurring.
- Obtain approval from the Director, Communications before contacting or providing information to any person, other than that which is required to directly manage the incident or to comply with Law, including stakeholders, the media or the public.
- Make available suitably qualified and experienced personnel to support the Director, Communications in responding to the community, the media and other stakeholders.
- Provide all necessary communications materials that may need to be disseminated as a result of such incidents.

11. Monitoring, evaluation and reporting

The PDCT is responsible for monitoring the effectiveness of strategies to inform and to minimise impacts of construction on the community, including businesses. The PDCT is required to provide detailed information to Sydney Metro each month on performance criteria outlined in this plan and the site specific CCS including:

- Enquiry and complaint trends and how lessons learned are being applied across the project to avoid issues recurring, highlighting sensitive receivers and small businesses.
- The status of complaints and details of any escalation required.
- Communication tools used to engage with stakeholders and the community including doorknocks, meetings, presentations, notifications and newsletters.

11.1 Audit and review – site specific CCS'

This document will be reviewed and reissued annually.

Evaluation of the performance and effectiveness of the site specific PDCT CCS' will be undertaken every six months or as required. Key elements of the evaluation will include examining the adequacy of the PDCT CCS and its implementation in achieving the intent of the consultation as evidenced by the items in table 6.

Table 6: Six monthly CCS audit requirements

Performance Parameters	Measures	Reporting
Identifying all potential local community, businesses and stakeholders that may be impacted by or have an interest in the project (based on the stakeholder categories provided in this plan)	Inclusion in the PDCT CCS of: • A thorough stakeholder scan of local community, businesses and stakeholders including maps.	Accurate and up-to-date listings of local businesses noting changes of leases and ownership at least every six months.
Appropriateness of communication and engagement tools	Inclusion in the PDCT CCS of: • A communication tool matrix and/or table detailing communication tools to be used for which stakeholders and why.	Communication matrix and/or table to be updated at least every six months to adjust approach to community needs and lessons learned.
Identifying appropriate mitigation measures to address issues	Inclusion in the PDCT CCS of: • Mitigation measures that would be used in response to identified issues • A detailed complaint investigation process to ensure mitigation	Appropriateness of mitigation measures to accommodate community needs and lessons learned to be reviewed at least every six months and the

	measures are considered before escalating complaints to the next level (as per the CCMS).	PDCT CCS to be updated accordingly.
Cumulative impacts process	Inclusion of: • Identified nearby projects and tools/forums to engage with projects • Processes for coordination of communication, including project collateral and face-to-face events.	Nearby project information to be reviewed regularly and updated as part of the PDCT CCS review, included any new processes, at least every six months.

11.1. Audit and review - businesses

The PDCT is required to compile monitoring data on a bi-annual basis and include lessons learned based on the items in table 7.

Table 7: Six monthly monitoring program and performance measures for businesses

Performance Parameters	Measures	Monitoring	Reporting
Awareness of construction activity and likely impacts.	• Notifications issued within required timeframes on 100% of occasions, unless otherwise agreed with Sydney Metro. • Number of business briefings, building-based information sessions and face-to-face meetings prior to works. • The objective is to make contact via these measures with 100% of businesses within 50 metres prior to works that have the potential to impact the owners.	• Records in community engagement database on number and timing of notifications. • Records in community engagement database on number of (and attendance at) briefings, information sessions and completed doorknocks/face-to-face meetings. • Feedback from meetings, presentations and briefings (documented in community engagement database).	• Number of notifications issued. • Percentage of notifications issued on time. • Number of briefings, information sessions and completed doorknocks. • Percentage of businesses within 50 metres contacted prior to works. • Number of complaints received from businesses relating to lack of information about construction activities and impacts. • Lessons learned.

		• Records in community engagement database on complaints received from businesses relating to lack of information about construction activities and impacts.	
Measures implemented to maintain business vehicle and pedestrian access, parking, visibility and amenity during construction activity.	• Potential issues identified in advance and mitigation measures implemented in consultation with affected businesses to address access, parking, visibility and/or amenity issues. • The objective is 100% implementation of agreed mitigation measures relating to access, parking, visibility and other amenity aspects.	• Consultation with businesses on potential impacts and mitigation measures (documented in community engagement database). • Feedback on effectiveness of mitigation measures (documented in community engagement database). • Records in community engagement database on complaints received from businesses relating to vehicle and pedestrian access, parking, visibility and amenity, including details of any repeat complaints about the same issue.	• Number of businesses with mitigation measures agreed in advance to address access, parking, visibility or amenity issues. • Percentage of businesses where mitigation measures were implemented as agreed. • Details of mitigation measures implemented. • Business feedback on effectiveness of mitigation measures. • Number of repeat complaints received from businesses relating to vehicle and pedestrian access, parking, visibility and amenity. • Lessons learned.
Agreed measures to minimise noise and vibration impacts on noise and vibration sensitive businesses.	• Agreed mitigations implemented, including agreed respite, work methods, proactive engagement and ongoing communication. • Businesses identified as potentially affected	• Consultation with businesses on noise and vibration impacts and mitigation measures documented in community engagement database.	• Number of businesses with agreed mitigation measures to address noise and vibration impacts. • Summary of non-standard mitigation measures implemented. • Number of referrals to Sydney Metro.

	by high noise for extended periods, and requests for at property treatment or relocation, referred to Sydney Metro if all negotiated solutions offered under the scope of the contract fail to provide an acceptable solution to the impacted businesses. • The objective is for zero referrals to Sydney Metro over a six-month timeframe during standard construction.	• Documentation of affected businesses impacts and mitigation measures in site specific Construction Noise and Vibration Impact Statement reports. • Feedback on effectiveness of mitigation measures (documented in community engagement database). • Records of businesses referred to Sydney Metro for additional assessment / treatment. • Records in community engagement database on noise and vibration complaints from businesses.	• Number of repeat complaints from noise sensitive receivers relating to noise and vibration impacts. • Lessons learned.

12 Low impact or preparatory activities process

12.1 Purpose

This implementation process describes the approach Sydney Metro will use to manage engagement and ongoing consultation with stakeholders, and the community and businesses with an interest in, or potentially affected by Sydney Metro low impact or preparatory activities.

Low impact work is generally defined within State significant infrastructure conditions of approval for Sydney Metro projects as work that is not considered main construction works but will support main construction activities. Preparatory activities is a term defined within the Western Sydney Airport Plan and may apply to the variation to the Airport Plan for on-airport works for Sydney Metro – Western Sydney Airport. Each of these terms are described in more detail in table 8 below.

This low impact or preparatory activities plan must be implemented in conjunction with the overarching requirements outlined in this strategy.

12.2 Relationship to plans

The intention of this low impact or preparatory activities implementation process is to cover low impact or preparatory activities prior to the main construction works starting. Low impact activities may be conducted by Sydney Metro or its Contractors.

At the commencement of Construction, Contractor activities will be covered by the PDCT Community Communication Strategy.

12.3 Low impact and preparatory activities

For the purposes of this process, low impact activities are defined as:

- Survey, survey facilitation and investigations works (including geotechnical investigations, road and building dilapidation survey works, drilling and excavation).
- Treatment of contaminated sites.
- Establishment of ancillary facilities including construction of ancillary facility access roads and providing facility utilities.
- Operation of ancillary facilities that have minimal impact on the environment and community.
- Clearing and relocation of vegetation (including native).
- Installation of mitigation measures, including erosion and sediment controls, temporary exclusion fencing for sensitive areas and acoustic treatments.
- Property acquisition adjustment works, including installation of property fencing and utility relocation and adjustments to properties.

- Utility relocation and connections that have minimal impact on the environment and community.

- Maintenance of existing buildings and structures.
- Archaeological testing under the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010) or archaeological salvage and clearance undertaken in association with other Low Impact Work to ensure there is no impact on heritage items.
- Any other activities that have minimal environmental impact.

Preparatory activities are generally defined in the Western Sydney Airport Plan as the following:

- Day to day site and property management activities
- Site investigations, surveys (including dilapidation surveys), monitoring and related works (e.g. geotechnical or other investigative drilling, excavation, or salvage)
- Establishing construction work sites, site offices, plant and equipment, and related site mobilisation activities (including access points, access tracks and other minor access works, and safety and security measures such as fencing but excluding bulk earthworks)
- Enabling preparatory activities such as demolition or relocation of existing structures (including buildings, services, utilities and roads) and the disinterment of human remains
- Any other activities which are determined Preparatory Activities.

Prior to low impact or preparatory activities taking place, a pre-construction work form will be completed for approval by the PDCT.

12.4 Monitoring and reporting

Due to the short-term and intermittent nature of low impact activities to businesses, business monitoring as outlined in Section 8 of this OCCS will not be undertaken for work covered by section 12.

Feedback received during proactive doorknocks and incoming correspondence (emails and phone calls) will be informally monitored and any dissatisfaction from businesses recorded and managed in accordance with the Construction Complaints Management System in the first instance. Complaints are reported on daily through the Daily Complaints Report and quarterly in the Construction Compliance Report.

Table 8: Communication tools for low impact or preparatory activities

Activity	Communication tools	Stakeholder	Timing
Survey and site investigations, including geotechnical investigations	Notification letter[1]	Delivered to properties within 50m or work in standard construction hours, 100m for out of hours work[2]	7 days prior to work starting
	Metro Connect	Sent to stakeholder distribution email lists for	
	Doorknock (if intrusive or loud)	Immediate neighbours	
Site establishment (including vegetation clearing, fencing, controls etc.)	Newsletter	Local council Local member Senior stakeholders Local groups Delivered to properties within 500m	At site establishment As required
	Notification letter	Delivered to properties within 200m for night work and 100m for day work[2] Local groups	7 days prior to work starting
	Site signage Hoarding banners Directional signage	People passing by the site	As required
	Doorknock	Properties within 50m Educational and religious institutions	7 days prior to work starting
Out of hours work	Notification letter[2]	Delivered to properties within 200m[2] Local groups	7 days prior to work starting
	Doorknock	Properties within 50m	7 days prior to work starting
Planned service disruptions	Included in notification letter	Delivered to properties within 200m[2]	7 days prior to disruption

[1] *Where work is undertaken wholly within the rail corridor, during a possession, the notification will be distributed by Sydney Trains. See explanation for 'Work during rail possessions'.*

[2] *This area will expand if the noise assessment shows a wider impact radius.*

Activity	Communication tools	Stakeholder	Timing
Emergency work	Notification letter Doorknock	Affected properties	Within 2 hours
Work during rail possessions	Sydney Trains notification	Sydney Trains delivery area (250m on either side of the rail corridor)	Delivered prior to possession period by Sydney Trains
Construction milestones	Included in notification letter	Delivered to properties within 100m or work in standard construction hours, 200m for out of hours work[2]	7 days prior to new milestone
	Doorknock	Properties within 50m Educational and religious institutions	7 days prior to new milestone
	Briefings	Local council Local member Senior stakeholders Local groups Government agencies Specific businesses as required	As required or requested
Traffic changes, including any public transport changes	Included in notification letter	Delivered to properties within 100m or work in standard construction hours, 200m for out of hours work[2]	7 days prior to work starting 7 days prior to new milestone
	VMS Traffic alert Bus stop notices	Road users	7 days prior to work starting 7 days prior to new milestone
Emergency work	Notification letter Doorknock	Affected properties	Within 2 hours
Transport infrastructure disruptions	Notification letter Bus stop notices Directional signage	Transport users Local council Transport agencies	As required

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Construction Complaints Management System

[SM-20-00139070]

Sydney Metro Construction Complaints Management System

Document Owner:	Communication and Engagement
System Owner:	Michelle Delaat
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1	15/12/2020	Final	N/A	[redacted]	Approver	[redacted]

Table of contents

1. Construction complaints management system

1.1. Document purpose

This document forms part of the Sydney Metro Communication and Engagement Management System. Its purpose is to outline the procedure for managing complaints across Sydney Metro. This includes:

- Receiving complaints
- Classifying complaints
- Responding to complaints
- Escalation
- Mediation
- Recording complaints
- Reporting

This construction complaints management system will be reviewed annually and reissued as required.

1.2. Responsibilities

Complaints handling is the responsibility of all team members who come into contact with the community and stakeholders. The Director, Project Communications is the designated complaints handling management representative for the escalation of complaints.

Table 1: Responsibilities for complaints

Role/Organisation	Responsibility
Environmental Representative	• Assist in resolving complaints in accordance with this document. • Investigate and review any complaint escalated by the Director, Project Communications where a member of the public is not satisfied with the response and provide recommendations to Sydney Metro to assist in resolving the complaint which may include the use of mediation services.
Acoustic Advisor (where required by planning approval)	• Assist in resolving complaints in accordance with this document.
Independent mediation (as required)	• Provide mediation services deemed relevant to any complaint escalated by the Director, Project Communications or the Environmental Representative.

	• Request advice from the Environmental Representative, Acoustic Advisor (if required by planning approval) or any other subject matter expert as required to assist in the effective provision of mediation services.
Sydney Metro Project Communications team	• Manage Sydney Metro 24-hour call centre. • Implement the Construction Complaints Management System (this document). • Treat all people with respect. • Assist people to make a complaint where required. • Provide feedback and suggestions on ways to improve complaint management. • Implement changes arising from complaints and from analysis and evaluation of complaint data as advised by senior managers. • Forward relevant complaints to contractors, Sydney Trains/TfNSW/Parramatta Light Rail/WestConnex/Western Sydney Airport immediately. • Investigate and determine the source of a complaint immediately, including an initial call to the complainant (when received by phone or where a telephone number was provided or available on the community engagement database). • Provide an initial response to all complaints within two hours (where a phone number is provided or available on the community engagement database) from the time of the complaint unless the enquirer agrees otherwise. • Provide a written response to emails, letters/faxes within 24 hours (or verbally within two hours if a phone number is provided or available on the community engagement database). • Keep the complainant informed of the process until the complaint is resolved. • Close out complaints within agreed timeframe (with complainant). • Provide advice and guidance on complaint management to contractors and ensure due diligence applied by contractor(s) to implement recommendations made to mitigate reoccurrence and/or address complaint. • Ensure internal avenues of escalation and review have been exhausted by the relevant contractor(s) and all opportunities have been explored PRIOR to escalation to the Director, Project Communications. • Ensure all avenues of internal escalation are utilised and considered by Sydney Metro. • Escalate complaints in accordance with Construction Complaints Management System (this document). • Record all complaints on the community engagement database in accordance with data entry procedure within 24 hours. Details should include how it was managed and closed out.
Contractor delivery communication teams	• Answer all phone calls transferred by the call centre from the community information line (calls to be answered by a team member 24/7, not an answering machine, while construction activities are occurring). • Develop and implement procedures for managing and resolving stakeholder and community complaints directed to the contractor in accordance with the Construction Complaints Management System (this document) and the relevant projects' Conditions of Approval. Refer complaints not associated with contractor activities to the Sydney Metro Project Communications team immediately. • Investigate and determine the source of a complaint immediately, including an initial call to the complainant (when received by phone or where a telephone number was provided or available on the community engagement database).

	• Provide an initial verbal response to all complaints within two hours (where a phone number is provided or available on the community engagement database) from the time of the complaint unless the enquirer agrees otherwise. • Provide a written response to emails, letters/faxes within 24 hours (or verbally within two hours if a phone number is provided or available on the community engagement database). • Keep the complainant informed of the process until the complaint is resolved. • Provide feedback to requests for information from the Sydney Metro Project Communications team or the Environmental Representative, Acoustic Advisor or mediator within two hours. • Comply with advice, guidance and processes as suggested from the Sydney Metro Project Communications team and/or the Environmental Representative, Acoustic Advisor or mediator in relation to the resolution of a complaint prior to the escalation of a complaint, at all stages of complaint management, inclusive of when a complaint has been escalated. • Take all actions and implement all measures inclusive of those recommendations made during any escalation or review process to prevent the reoccurrence of a complaint. • Close out complaints within agreed timeframe (with complainant). • Escalate complaints in accordance with the Construction Complaints Management System (this document). • Report to the Sydney Metro Project Communications team and the Environmental Representative on a daily basis. Record all complaints on the community engagement database in accordance with the data entry procedure within 24 hours. Details should include how it was managed and closed out.
Sydney Trains/TfNSW/Parramatta Light Rail/WestConnex/Western Sydney Airport	• Refer complaints received directly in relation to Sydney Metro work back to Sydney Metro for investigation and resolution. • Assist in resolving complaints where work may overlap in the rail corridor.
Western Sydney Airport	• Refer complaints received directly in relation to Sydney Metro work back to Sydney Metro for investigation and resolution. • Assist in resolving complaints where work may overlap in the rail corridor. • Investigate and review any complaint escalated by the Director, Project Communications where a member of the public is not satisfied with the response and provide recommendations to Sydney Metro to assist in resolving the complaint which may include the use of mediation services.
Department of Planning, Industry and Environment and NSW Environment Protection Authority and local Councils	• Refer complaints received directly in relation to Sydney Metro work back to Sydney Metro for investigation and resolution in the first instance.

1.3. Conditions of approval

Each project's approval is expected to have requirements around complaints handling including the creation of a Construction Complaints Management System. This document fulfils these requirements for Approvals related to the following projects:

- Sydney Metro West
- Sydney International Speedway
- Sydney Metro Western Sydney Airport

1.4. Complaints handling

Sydney Metro's approach to managing complaints is based on the following guiding principles:

1.4.1. Accessibility

All Sydney Metro public materials will direct stakeholders wishing to make a complaint to use our:

- Community information line
- Community email address
- Project postal address
- Form on the Sydney Metro website.

1.4.2. Responsiveness

Our responsibilities for complaint handling include:

- Investigate and determine the source of a complaint immediately, including an immediate call to the complainant (when received by phone).
- Provide an initial response to all complaints within two hours (where a phone number is provided or available on the community engagement database) from the time of the complaint unless the enquirer agrees otherwise.
- Keep the complainant informed of the process until Sydney Metro believes the complaint has been responded to completely.

1.4.3. Confidentiality

Personal information that identifies individuals will only be disclosed or used by Sydney Metro as permitted under the relevant privacy laws, secrecy provisions and any relevant confidentiality obligations. Sydney Metro may disclose complainant information to its

contractors, employees and agents and other third parties as necessary from time to time in accordance with the Sydney Metro Privacy Notice.

A stakeholder's contact information along with their complaint will be recorded for the purposes of addressing their complaint. Should they wish to remain anonymous, the complaint will be registered under an 'Anonymous' stakeholder for recording keeping and reporting purposes.

Any process undertaken by the independent advisors will be subject to confidentiality provisions. These provisions will be explained to all parties involved.

1.4.4. Continual improvement

This Construction Complaints Management System will be reviewed and reissued annually, or as required. Review of processes and customer feedback will be incorporated to ensure improvement.

2. Receiving complaints

Sydney Metro has established the following tools for receiving complaints from the community. At a minimum, the telephone number, the postal address and the email address will be provided on the Sydney Metro website.

Contractors will be encouraged to develop other innovative ways to distribute these tools to the community.

Table 2: Community contact tools

Tools	Explanation and purpose
Community information line	This allows stakeholders and the community to have access to the project teams 24 hours a day during construction. All communication materials and the website will include the community information line number. During construction, calls will be redirected to relevant contractors as required. • Sydney Metro West – 1800 612 173 • Sydney International Speedway – 1800 612 173 • Sydney Metro - Western Sydney Airport – 1800 717 703

Tools	Explanation and purpose
Community email address	This allows stakeholders and the community to have access to the project teams. All communication materials and the website will include the community email address. During construction, emails will be redirected to relevant contractors as required. • Sydney Metro West – sydneymetrowest@transport.nsw.gov.au • Sydney International Speedway - sydneymetrowest@transport.nsw.gov.au • Sydney Metro - Western Sydney Airport – sydneymetrowsa@transport.nsw.gov.au
Community post box	This central postal address allows stakeholders and the community to have access to the project teams. The website will include a central Sydney Metro community postal address. Correspondence will be redirected to relevant project teams and contractors as required. • Sydney Metro - PO Box K659, Haymarket, NSW 1240
Sydney Metro website	Information about the project will be available on the Sydney Metro website. The website will be referenced in all communication materials as a source of information and will be updated on a regular basis. Information will include: • Project information including: – Description of the project, current status and timing – Newsletters – Notifications – Up-to-date project information – Graphics and images on the project background and progress – Copies of relevant reports – Photos, images and maps – Links to documents as required under the relevant projects Conditions of Approval – A link to Sydney Metro contractor webpages • Contact information and web form available at: sydneymetro.info/get-touch

3. Classification of complaints

The Australian and New Zealand Standard Guidelines for complaint management in organisations AS/NZS 10002:2014 (AS/NZS Complaint Management Standard) defines complaints as an:

Expression of dissatisfaction made to or about an organisation, related to its products, services, staff or the handling of a complaint, where a response or resolution is explicitly or implicitly expected or legally required.

Based upon this standard a complaint includes:

- A complaint about conduct, service or product
- An internal review of a complaint – request a review of the merits of a decision
- An internal review about how a complaint was handled
- An external review of a complaint or how the complaint was handled

Sydney Metro classifies complaints into two categories for reporting purposes:

- Unavoidable complaints
- Avoidable complaints.

The main aim of these complaint categories is to record complaints received, but not unfairly penalise our contractors for complaints received about works they have approval to do.

3.1. Unavoidable complaints

Unavoidable complaints include a stakeholder's opposition to the project or government policy or complaints about issues that are within project planning approvals.

For example:

- A complaint about noise generated at night when planning approval has been granted for night works and noise generated is within approved criteria.
- A complaint about how traffic is being controlled when the approved Traffic Management Plan is being implemented.

3.2. Avoidable complaints

Complaints about issues outside planning approval, or a commitment that has been given to the community or stakeholders. These commitments may be contained in staff inductions or written notifications.

For example:

- A complaint about noise at night where work is being performed outside of approved criteria. For example: work outside of approved (or notified) construction hours or approved noise levels.
- A complaint about how traffic is being controlled. Only applies when the approved Traffic Management Plan is not being implemented.
- A complaint about poor worker behaviour, for example: littering, swearing, poor driving behaviour, when an induction has specified that behaviour is not acceptable.

3.3. Determining an unavoidable complaint

When categorising a complaint as 'unavoidable' evidence should be referred to in the complaint notes about why the complaint has been categorised this way.

Sydney Metro can provide contractors with advice and guidance on the types of evidence required to be recorded within the community engagement database.

3.4. Resolving classification

If the Sydney Metro Project Communications team and the contractor cannot agree on a classification of unavoidable, the Independent Environment Representative may assist in classifying the complaint as it relates to the planning approval or commitments given to the community.

4. Responding to complaints

4.1. Receiving a complaint

Upon receipt of a complaint, details of the complaint will be recorded within the community engagement database. Accurate records will be maintained regarding receipt, handling and outcomes of complaints received.

All complainants should be informed in general terms of:

- The complaints processes and procedures that the organisation will follow in relation to the complaint
- The likely timeframes for completing tasks relating to the complaint
- The responsibility of the organisation in relation to the complaint and the person making the complaint.

It is important to outline what is expected from complainants. Complainants have responsibility to:

- Clearly identify their issues of complaint
- Provide all relevant information about their complaint
- Cooperate with any requests for information or inquiries
- Act honestly
- Treat the people handling their complaint with courtesy and respect.

For on-airport works, Sydney Metro will notify Western Sydney Airport that a complaint has been received.

4.2. Managing unreasonable complaint conduct

Unreasonable conduct by a complainant can be defined as any behaviour by a current or former complainant that, due to its nature or frequency, raises health, safety, resource or equity issues for relevant parties. The parties that may be detrimentally affected include the organisation responsible for handling the complaint, the person managing the complaint, the person dealing directly with the complainant, the person making the complaint and other complainants and services.

Unreasonable conduct may take the form of unreasonable persistence, unreasonable demands, and unreasonable lack of cooperation, unreasonable arguments and unreasonable behaviour inclusive of but not limited to aggressive, abusive and threatening behaviour.

Unreasonable conduct by complainants will result in referral to senior management for the recommendation of strategies being implemented to manage the behavior. Complainants will be advised of the strategy that will establish limits and conditions regarding acceptable and unacceptable conduct and how their complaints will be managed.

The recording and response to complaints received by unreasonable complainants will also be the subject of modification.

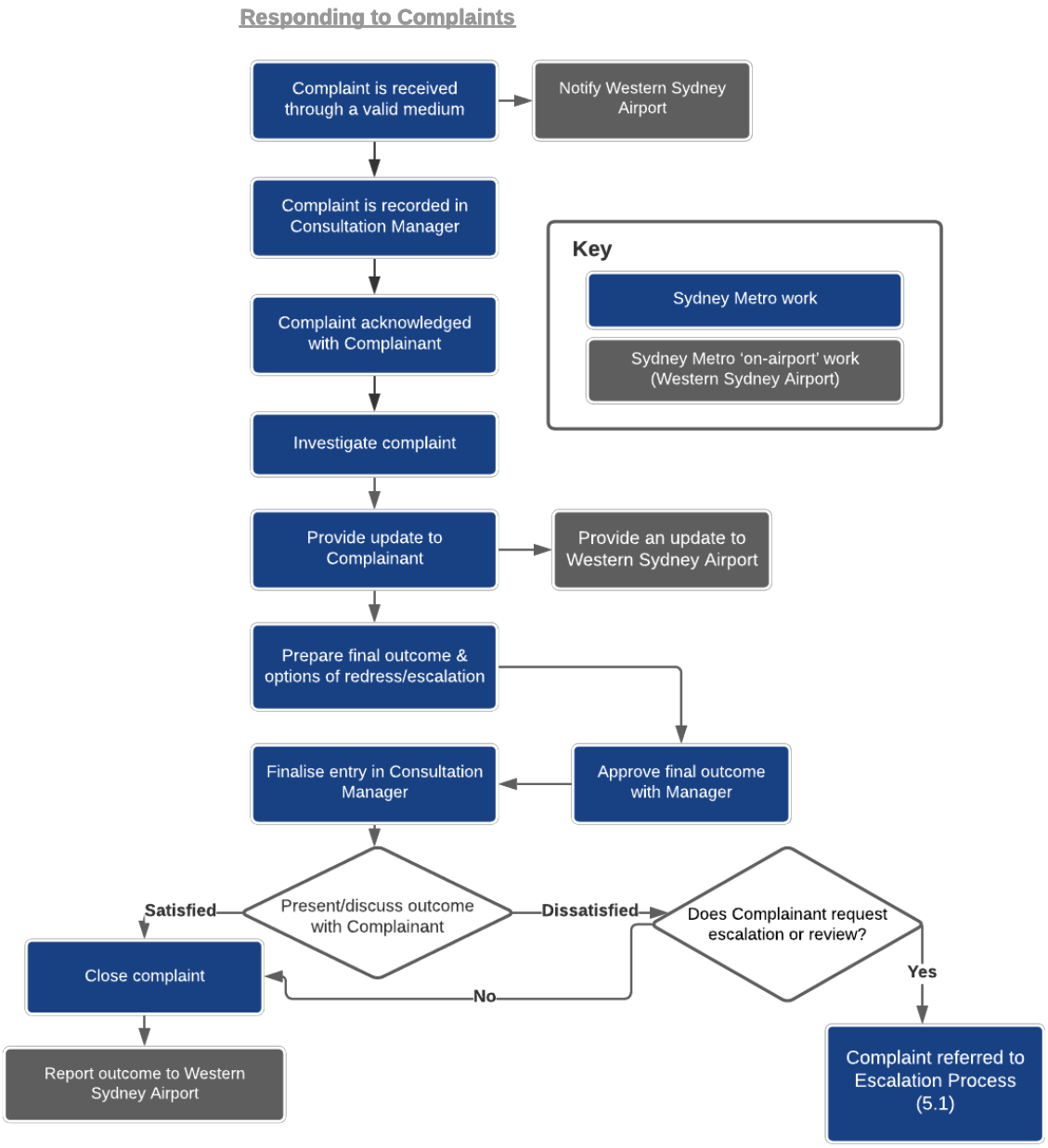
4.3. Referring complaints

Regardless of how a complaint is received, it must be referred to the most appropriate agency as soon as it is received. The following table outlines the referral process:

Table 3: Guideline for referring complaints

Type of complaint	Description	Referred to
Early construction works	Complaint is about early works activities or the early works contractor	Place Manager, Early Works or contractor representative
Construction site specific	Complaint is about construction work, behaviour or activities at/or around a Sydney Metro construction site (except early construction works)	Relevant construction contractor representative
Overall project or government policy	Complaint about the need for the project, the projects procedures, the approval process, or TfNSW policy position	Sydney Metro Director, Project Communications
Media	Complaint has come via a member of a media organisation	Sydney Metro Director, Project Communications
Government or ministerial enquiry	Complaint has come via a member of a local, state or federal government body, government department or ministerial department	Sydney Metro Director, Project Communications
Unrelated to Sydney Metro	Complaint is unrelated to Sydney Metro	Sydney Metro Communications Manager
Precinct Planning	Complaint related to precinct planning around Sydney Metro station sites	Sydney Metro Senior Communications Manager
Relates to other TfNSW projects	Complaint is unrelated to Sydney Metro but relates to other areas of TfNSW or other TfNSW projects	Relevant area of TfNSW
Relates to NSW Government projects	Complaint is received by Sydney Metro that relates to other areas of NSW Government or NSW Government projects	Relevant area of NSW Government
Relates to Sydney Trains	A complaint received by Sydney Metro that relates to work being done by Sydney Trains in the same vicinity during a possession	Relevant area of Sydney Trains
Relates to Western Sydney Airport	A complaint received by Sydney Metro that relates to work being undertaken by Western Sydney Airport within the airport site	Wester Sydney Airport Project Communications

4.4. Responding to complaints



5. Complaint escalation process

5.1. When to escalate a complaint

Complaints may be subject to an internal escalation process in circumstances when:

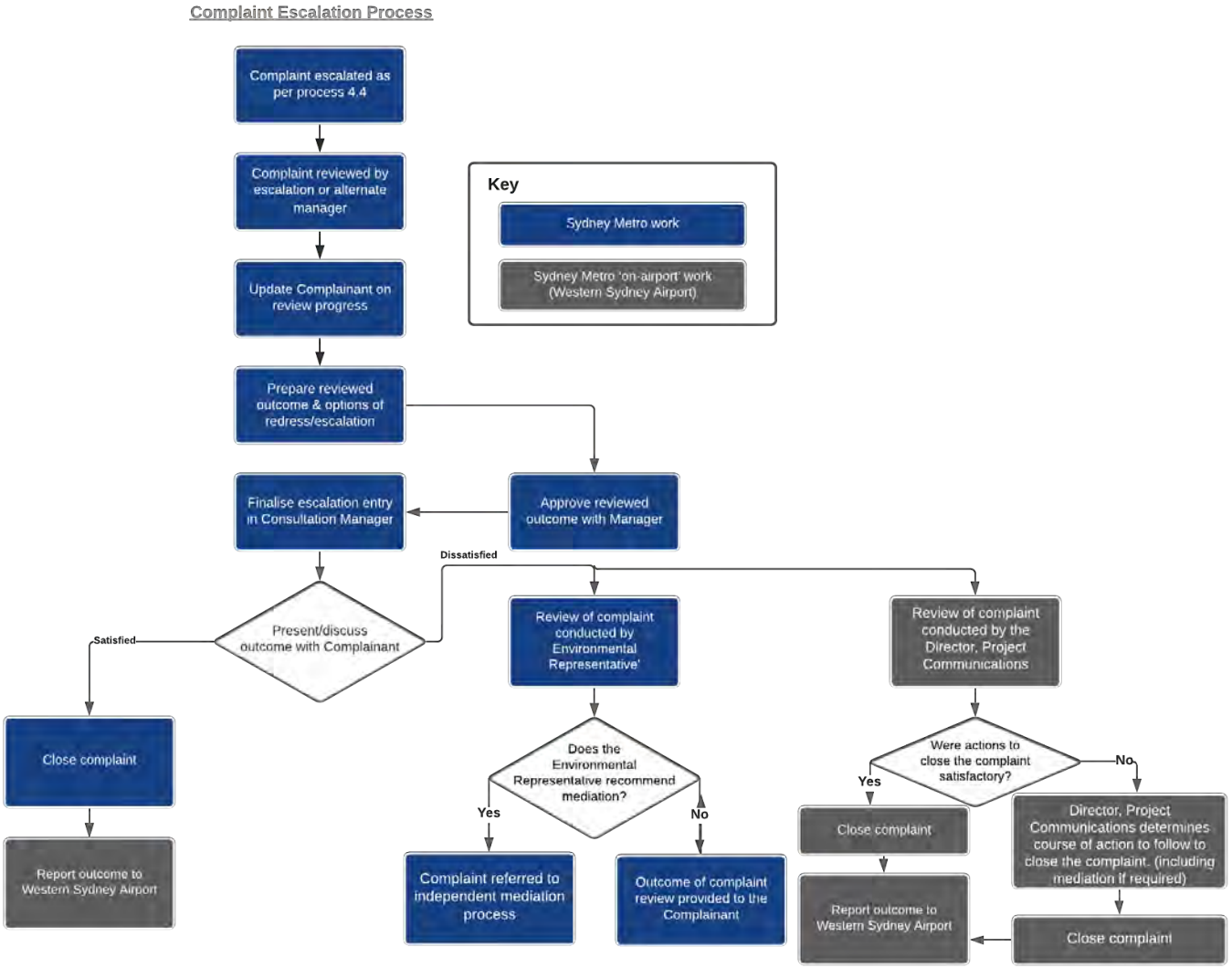
- The complaint cannot be resolved using the procedure in section 4, within a reasonable timeframe agreed to by the complainant.
- The nature of the complaint falls into one of the following categories:
    - An activity generates three complaints within a 24-hour period (separate complainants).
    - Any construction site receives three different complaints within a 24-hour period.
    - A single complainant reports three or more complaints within a three day period.
    - A complainant threatens to escalate their issue to the media or government representative.
    - The complaint was avoidable.
    - The complaint relates to a compliance matter.

Complainants will work with Sydney Metro management representatives and any other internal or external subject matter experts with the view to working together to resolve their complaint.

The contractor will be required to satisfy Sydney Metro representatives that considerations and recommendations have been implemented and all avenues available to them have been exhausted prior to seeking further escalation.

For on-airport works, if the complainant is dissatisfied with the outcome of their complaint, the complaint will be escalated to the Sydney Metro – Western Sydney Airport Director, Project Communications for review. The Sydney Metro Western Sydney Airport Director, Project Communications will advise if actions to address the complaint is satisfactory or alternatively, recommend a course of action to follow and then close the complaint. Sydney Metro will inform Western Sydney Airport of the outcome of the complaint.

5.1.1. How to escalate a complaint



5.2. Role of Environmental Representative

The Environmental Representative would assist the contractor and Sydney Metro teams in resolving complaints in accordance with this document.

Unresolved complaints may also be escalated to the Environmental Representative for independent review of the complaint handling process and outcome.

The Environmental Representative would not consider issues such as:

- Property acquisition where other dispute processes are provided for
- Where clear government policy and associated resolution processes are available
- Where the matter is not within the scope of the project.

To undertake an escalated review, the Environmental Representative would:

- Receive a brief from the nominated Sydney Metro complaint management representative
- Review all complaint records
- Review any supporting technical data relating to the complaint – for example noise monitoring information.

The Environmental Representative would then make an assessment on the adequacy of Sydney Metro's response to the complaint in accordance with this document and the project's planning and assessment process, in consideration of what is fair and reasonable.

Following this review the Environmental Representative would either make a recommendation to close the complaint and notify the Secretary or would provide recommendations for consideration by Sydney Metro on any additional actions that could be undertaken to assist in resolving the complaint.

The Environmental Representative may also refer any reasonable and unresolved complaint for independent mediation.

5.3. Role of independent mediation

In some circumstances, a complaint may be referred for independent mediation.

The role of independent mediation is to assist in facilitating communication between parties in conflict with the view to guiding/assisting these parties to reach a voluntary mutually agreeable outcome to a dispute. It is acknowledged that the role of independent mediation is to mediate and not arbitrate. A mediator can actively encourage and facilitate discussion to move toward an outcome, however cannot order or decide an outcome for the parties.

Issues and complaint escalation to independent mediation would be at the recommendation of the Environmental Representative following a thorough review of the complaint information in consideration of the project planning and assessment process.

The Director, Project Communication may also refer a complaint to independent mediation at any point in the complaint management process.

Generally complaints requesting to change an approved project scope of works and/or works operating within project approvals would not be referred for mediation and a complaint would only be referred for mediation once. An independent mediator would provide information as to the mediation process during initial consultation, these actions would be dependent upon the type of issue, however may include;

- Establishing expectations upon the expected behaviour and involvement of all parties
- Through facilitation or other process(es) to provide guidance, skills transfer and other services that aim to assist with any internal escalation mechanism
- Meet with the complainant, Sydney Metro and the contractor team to understand concerns and suggest/implement methods as appropriate with the view to providing an opportunity to resolve and/or work through issues
- Seek involvement of various internal and external subject matter experts such as, but not limited to, the Environmental Representative and/or the Acoustic Advisor (if required by project approval)
- Provide recommendations or next steps that clearly reflect input from the input provided by all parties.

Any independent mediator engaged by Sydney Metro would hold suitable qualifications, and have experience in mediating disputes of a similar nature.

In instances where a complainant remains unsatisfied, the Secretary will be advised.

5.3.1. Complaints related to compliance

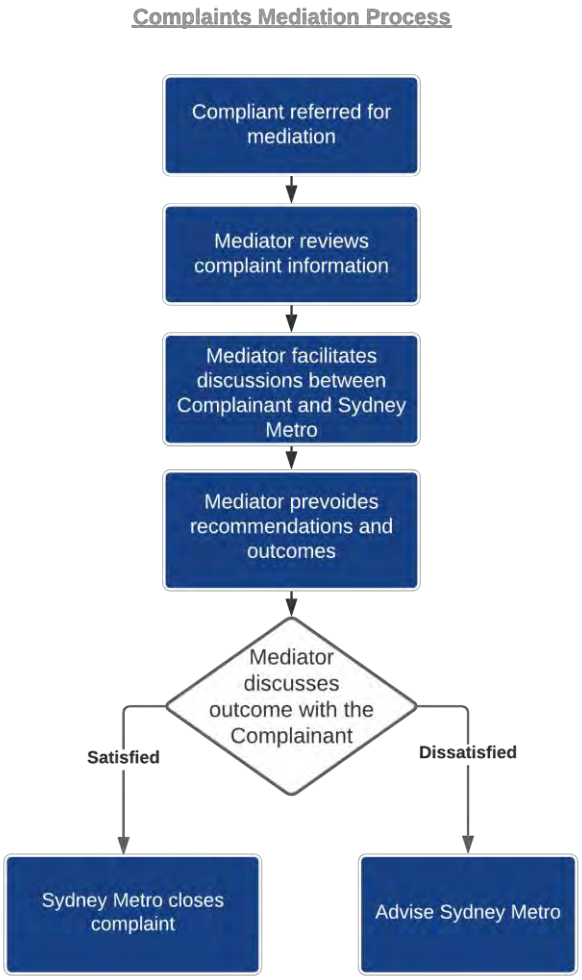
Where a complaint relates to an actual or potential non-compliance with the planning approvals, Sydney Metro will undertake its own investigation into the alleged non-compliance, in accordance with program-wide procedures and this may involve the Environmental Representative. Should a non-compliance be identified this would be communicated to Department of Planning, Industry and Environment.

Additionally:

- Where there is a dispute between the Environmental Representative, Sydney Metro and third parties that a non-compliance is not being appropriately investigated or managed, Sydney Metro will communicate this to DPIE
- Where there is contention that the running of the independent complaint review process itself is non-compliant, Sydney Metro will also investigate this and advise DPIE accordingly.

DPIE may undertake its own investigation at its discretion on the above. Where DPIE receives notice from a third party of a potential non-compliance, DPIE may communicate this to Sydney Metro for further investigation.

5.3.2. How to refer a complaint to mediation



6. Complaints Register

In accordance with project planning approvals, all complaints are recorded within a complaints register. For the purposes of Sydney Metro, complaints are recorded on the community engagement database. The Complaints Register will be provided to the Secretary upon request, within the timeframe stated in the request.

6.1. Complaint identification number

A unique identification number should be assigned to each new complaint to help track the complaint in the community engagement database. The complaint identification number is

created using the date (Year/Month/Day) and first four letters of the complainant's surname (or 'ANON' where the stakeholder does not want their contact details recorded).

For example, this is the complaint identification number for a complaint from 'Smith' on the 22 October 2016.

1	6	1	0	2	2	S	M	I	T

6.2. Community engagement database

All complaints must be recorded in the community engagement database in accordance with the data entry procedure. This is necessary to enable management of the complaint and monitoring of response times. Contractors should use the template provided by Sydney Metro for data entry into the community engagement database.

7. Reporting on complaints

7.1. Daily reporting to Sydney Metro

Contractors are required to report daily on complaints, providing complaint details for the previous 24 hour period - 12 noon to 12 noon - by 2pm each weekday. A daily complaint report will then be issued to a range of Government and Project related representatives. Sydney Metro will provide contractors with advice and guidance as to the required content of daily reporting.

7.2. Reporting to the NSW EPA

Reporting requirements to the NSW EPA are outlined in the individual contractors Environment Protection Licences.

Sydney Trains will report annually to the NSW EPA and include any relevant Sydney Metro information of its contractors who have worked under the Sydney Trains Environment Protection Licence during the reporting period.

7.3. Monthly reporting to Sydney Metro

All complaints should be reported on a monthly basis to Sydney Metro. Sydney Metro will provide contractors with details of the minimum reporting requirements.

7.4. Reporting on on-airport works

Sydney Metro will report on complaints received about on-airport works to Western Sydney Airport.

Appendix F – Consultation Register

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Minutes of Workshop

SMW Parramatta and Clyde Early Works Stakeholder Consultation Workshop

Date:	Wednesday, 8 Sept 2021	**Times:**	10:00am – 12:00pm
Venue:	Microsoft Teams		
Chairperson:	[redacted]	**Minutes:**	[redacted]

Attendees:		
[redacted]	Project Manager	Delta Group
	Environment Manager	Delta Group
	Acoustic Advisor	Acoustic Studio
	Environmental Representative	Healthy Buildings International
	Environmental Representative (Alternate)	Healthy Buildings International
	Senior Comms Manager – Early Works	Sydney Metro
	Communications Place Manager	Sydney Metro
	Communications Place Manager	Sydney Metro
	Project Manager, Interface	Sydney Metro (Chair)
	Demolition & General Works Manager	Sydney Metro
	Senior Manager, Environment	Sydney Metro
	Manager, Environment	Sydney Metro
	Senior Advisor Acoustics	Sydney Metro
	Interface Manager	Sydney Metro
	Interface Handover Manager	Sydney Metro
	Environmental Coordinator	Sydney Metro
	Project Engineer	Sydney Metro
	Senior Team Leader Planning	NSW DPIE EES
	Senior Conservation Planning Officer	NSW DPIE EES
	Fisheries Manager, Coastal Systems Unit	DPI Fisheries
	Transport Planning Manager, City Strategy	City of Parramatta
	PDHPE Coordinator	City of Parramatta
	Team Leader, Environ. Health Compliance	City of Parramatta
	Snr Natural Resource Officer, Flood Plain	NSW DPIE EES
	Flood Engineer, Water Floodplains & Coast	NSW DPIE EES
	Noise & Vibration Consulting Engineer	Osterman Consult
Apologies:		
[redacted]	Senior Advisor, Heritage	Sydney Metro
	Environment Officer, Heritage	Sydney Metro
	Unit Head, Regional Operations	NSW EPA
Absent:		
[redacted]	Project Interface Engagement Coordinator	Sydney Metro

[redacted]	Acoustic Advisor (alternate)	Acoustic Studio
	Senior Communications Manager - West	Sydney Metro
	Operations Officer	NSW EPA
	Operations Assistant	NSW EPA
	Senior Operations Officer	NSW EPA
	Manager Health and Building Services	City of Parramatta
Distribution:		
All above.		

Please note: any actions listed in these minutes are not directions under the Project Deed

Item	Time	Agenda item	For Action	Due
1.	**10:00am**	**Welcome and Introductions**		
1.1	PK held the Acknowledgement of Country		Note	-
1.2	PK provided a brief overview of the consultation process		Note	-
2.	**10:10am**	**Project Overview**		
2.1	JI provided a strategic overview of Sydney Metro West Stage 1		Note	-
2.2	JI listed the post-exhibition milestones and EIS determination		Note	-
2.3	JI presented the planning process update (Slide 7)		Note	-
2.4	JI listed the workshop objectives **Question by Stakeholder: Susan Harrison, NSW DPIE EES** SH asked for clarity regarding the yellow outline of site boundaries on maps (Slide 6). Was the expectation is that the sites will be cleared and levelled? **Response by John Ierokis, Sydney Metro:** Yes. The contractor will clear and level the sites down to slab level.		Note	-
2.5	AL outlined the Phase C scope, key deliverables and demolition program which is scheduled to start at the end of October 2021. Works are to continue until October 2022, with cable pulling scheduled for December 2021 and restoration in early 2022 (Slide 8) Each site will involve the Principal Contractor occupying the blocks, undertaking all items of demolition activities to lowest slab, service & utility disconnections, service relocation retrenching and, strip and remediate various hazardous materials including asbestos, lead, dust PCB. A specialist subcontractor will be engaged for air monitoring in order to receive clearance, then the removal of soft furnishings will occur. The Principal Contractor will occupy footpaths outside of Standard Construction Hours to remove awnings. All demolition rubble is to be contained within site boundaries. Slide 9: The expected site possession date is Thursday 21 October 2021. The first couple of weeks will involve site establishment including set up of site amenities, fencing and hoarding, completed by late October-early November. Slide 10: Scope of works Slide 11: Parramatta Site: will engage with the archaeologist in order to undertake early investigations Slide 12: Westmead site: all buildings and trees, footings and driveways are to be removed, essentially Delta will flatten the site		Note	-

Item	Time	Agenda item	For Action	Due
		Question by Stakeholder: Josi Hollywood, DPI Fisheries Please discuss protection of riparian zones in Clyde. **Response by: Wayne Duffy, Delta Group:** We will cover that later on in the presentation		
3.	**10:20am**	**Site Establishment Management Plan and Q&A**		
3.1		Slide 13: AL and WD from Delta Group presented their approach to site establishment and management (SEMP). Points covered in presentation include: SEMP Objectives SEMP Requirements Slide 14: Scope of Works for site establishment includes site setup, heritage ecologist walks, heritage salvage, Noise & Vibration (N&V) assessments, erection of hoarding Slide 15: Site plans, site access at Clyde Slide 16: All figures are in plan, includes setting up site amenities and traffic routes within site Slide 17: Site establishment: Clyde Slide 18: Site establishment: Parramatta Slide 19: Site establishment: Westmead Slide 20: Sensitive receivers: Clyde, divided up into mainly industrial and residential sensitive receivers Slide 20: Sensitive receivers: Parramatta, mixed used sensitive receivers Slide 21: Sensitive receivers: Westmead Slide 23: Noise & Vibration. DNVIS has been prepared Slide 24: Visual amenity, soil and water – have had, to date, limited access to site due to COVID restrictions Slide 25: Biodiversity – no removal of vegetation is required. Minor tree trimming for hoarding or fencing is fairly limited, will also do required salvage of heritage items Slide 26: Project Induction, toolbox talks, prestart meetings, training & awareness	Note	-
3.2		**Question by stakeholder: [redacted] City of Parramatta:** Is all demolition material hauled off-site? Is any demolition material stored on site? **Response by: [redacted] Delta Group:** There will be some storage of demolition material on site prior to its removal, however this will not be long term. We will generate, stockpile, clean and screen, then all materials will be removed from site. *No further questions from stakeholders.*	Note	-
4.	**10:31am**	**Construction Environmental Management Plan (Main Document) and Q&A**		
4.1		WD presented the main document in the Construction Environmental Management Plan (CEMP) suite and Delta Group's overarching principles of environmental management.	Note	-

Item	Time	Agenda item	For Action	Due
		Presentation covered the following topic areas: Slide 28: Scope of CEMP – takes into account EIS, the SSI10038 SMW approval, SM CEMF requirements and all relevant legislation, guidelines and standards Slide 30: Objectives – outlines how Delta will manage their works to manage the environment and impacts to Sensitive Receivers Slide 31: Key Roles and responsibilities: - External (Environmental Representative, Acoustic Advisor) - Sydney Metro (Environmental Management, Community Engagement), - Delta (managers including senior, construction, environmental, site supervisor, wider project team and environmental consultants). - Sydney Metro appointed advisors; Osterman for Noise & Vibration; Occupational Hygienist Flora and Fauna, ecologist on board to completed pre and post-inspections Slide 32: Regulatory Requirements and Compliance, waste management Slide 33: Environmental Control Maps (ECMs) are a key component of the CEMP. They provide details to the site team, currently in development. Indicates location of micro-bats or their habitat, any heritage, ERSED controls. Details Noise and Vibration mitigation measures and where air monitors will be installed. Not as detailed due to COVID restrictions but this will change in next couple of days as access to site is made available. Slide 34: Training and Awareness: ECMs are to be incorporated into Toolbox talks to ensure that Delta's scope is addressed. Slide 35: Communication: SM have an internal team that looks after community engagement. Delta will feed any and all required information back into that team to ensure community notification is undertaken in a timely manner. Delta Project website will have project management plans. Project has a dedicated 24-hr complaints line and 1800 cards. Site noticeboard installed at each site will include these details as well. Slide 36: Incident and Emergency Management: Delta have their own processes but will also include Sydney Metro's processes. Slide 37: Monitoring, inspections and auditing: inspections will generally occur on a weekly or fortnightly basis; Environment Review Group inspections will also be scheduled Slide 38: Environmental Aspects Management: The requirement for specific sub-plans have been identified. Those that require external consultation review are Noise & Vibration, Flora & Flora and Heritage Sub-plans. Slide 39: Air quality: Demolition is Delta Group's specialty. It's important to protect the environment but equally important to protect the health of workers. Environmental Management is taken very seriously by Delta Group. Slide 40: Parramatta: three air quality monitors to be installed in indicative locations. Will provide real time data and alerts to stakeholders. Slide 41: Clyde: one air quality monitor to be installed and it will be located nearest to residential properties. It would be moved with the works to be adjacent to the works. Similar approach to be implemented for Westmead. Slide 42: Waste: Delta Group intends to divert of 95% of non-hazardous waste. This will be achieved by both on- and off-site segregation, depending on site logistics. Waste will be disposed to licenced facilities. Materials likely to be encountered include Asbestos Containing Materials (ACM) materials as well as lead paint. These, amongst other waste types, will be classified managed, tracked and disposed of accordingly		

Item	Time	Agenda item	For Action	Due
		Slide 43: Surface Water management: not much water is expected on site therefore not much surface exposure management by ERSED measures is envisioned to be required. Clyde has the closest waterway system which will still need to be considered. JI – To clarify about management plans or documents being placed on project websites: Any plans or documents (i.e. forms) that are developed by Sydney Metro will be on Sydney Metro website. Any plans (i.e. management) or documents that are developed by Delta will be made available on the Delta Group website. *No questions from stakeholders.*		
5.	**10:50am**	**Short Break**		
		Break for 5 mins – back at 10.55am	-	-
6.	**10:55am**	**Noise and Vibration Management Plan and Q&A**		
6.1		MDS presented the management of noise and vibration (N&V) impacts during construction. Presentation slides covered: Slide 46: N&V Management Purpose and Objectives Slide 47: Requirements (MCoA) for N&V are very extensive, about 17 Conditions of Approval. In addition conditions relating to CEMF, CNVS, ICNG, as well as a range of other Australian and international requirements will also be applicable Slide 48: Construction Hours: Although Out of Hours (OOH) Works are not expected there may be a possibility of them occurring. In that case MCoA 37 LIW or D39 OOHs Protocol will apply Slide 49: OOH protocol required just in case even though it's not envisioned to be required. OOH assessed by ER and AA. OOH Works are subject to specific DNVIS for those works. Slide 50: Noise receivers: Clyde – residential receivers to west, industrial receivers to south and east, stables to the north. Commercial receivers to NE are the most sensitive receivers. Slight potential of exceedances on the boundary. Clyde is considered to be fairly low impact overall, a couple of heritage structures are located in the vicinity. Demolition is mainly on structures within the site itself. Slide 51: Noise receivers – Parramatta: Close to commercial receivers, no immediate residential receivers, impacts were considered low to medium (10-20m within site boundary). Vibration impact is of very minimal concern. Zero boundary receivers (i.e. those that share a common boundary) has potential for regenerated airborne noise which diminishes very quickly when you step away from boundary. Parramatta light rail on Macquarie street has potential for impacts (cumulative impacts) however these impacts are considered to be fairly minor. PLR consultation has been undertaken and is ongoing. Additional Mitigation Measures identified include letterbox (LB) drops and Specific Notification (SN) ahead of time. Slide 52: Noise Receivers – Westmead: Very different situation in terms of Sensitive Receivers to Parramatta: primarily residential receivers to east, south and west, moderate impact expected but again assessed where works are closest point to receivers (i.e. boundary). School is located to southwest of the site. Slide 53: Noise Criteria – RBLS and NMLs have been taken from SMW SSI10038 EIS. Due to COVID there are no updated calculations however there shouldn't be a great change expected in levels	Note	-

Item	Time	Agenda item	For Action	Due
		Slide 54: Vibration Criteria – human comfort is not applicable as short term works. Slide 55: Vibration Criteria including Safe Working distance Slide 56: DNVIS – individually done for each of the sites based on scope of works, and noise generating activities: ○ Scope of works ○ Receivers ○ Activity ○ Objectives ○ Assessment ○ mitigations Slide 57: Construction noise and vibration prediction tool ○ Worst case impact ○ Equipment ○ Location		
6.2		**Question by stakeholder: [redacted] Acoustic Studio** Mark, can you comment on educational receivers near the Parramatta site? For example, University of New England? **Extension to question by stakeholder: [redacted] Healthy Buildings International** ... and childcare and churches? **Response by: Mark Della Sabina, Osterman:** An early learning centre was identified in Parramatta to the north east of the site, on the corner of George and Smith Streets. Given the distance from the child care centre, shielding by existing buildings and the fact that no works are occurring in that area, it was determined to be minimal or negligible noise impacts and compliant for childcare. The University is located in the southeast corner to our site. Because of the type of building and with consideration to façade reduction, noise impacts of University of NEW England were determined to be low. On the other side of Smith Street, a building appears to looks like an old church, it is not used for classes. That building is empty for most of the time. On west side of Smith Street is a multi-level building, impacts of external noise to internal environment is considered to be low/ minimal and within criteria. South to Macquarie St, South from Macquarie Street there is also has a church. It is deemed low impact for two reasons. 1) When calculations were complete, the potential noise levels do exceed, however, only that is for when the church is in use. That church is currently closed due to Covid restrictions. 2) When the church is open, services are only run on Sundays. We won't operate then (will only work during Standard Construction Hours) so it is considered low impact. **Comment by [redacted], Sydney Metro:** The Church on Macquarie Street is a drop-in centre for homeless 'Mission Australia' **Response by: [redacted], Osterman:** That is a good note. A caveat I would place on our work. We have been affected by COVID therefore we haven't been able to do proper ground-	Note	-

Item	Time	Agenda item	For Action	Due
		truthing. Disclaimer that we have sourced our information from the EIS and done a lot of google and desktop research to determine latest uses of premises. There might be things like that that are missed at this stage. JI also noted information came from Parramatta Light Rail website and plans as they are recently updated in December 2020 and is publically available. Delta Group have sourced data from many sources. **Note from Stakeholder: [redacted], Parramatta City Council** If you have trouble contacting neighbours, Council is able to assist. **Question by Stakeholder: [redacted], Acoustic Studio** Can you talk about alternative (lower impact) demolition methods too? **Response by: [redacted], Delta Group:** The low impact demolition methods are the adoption of pulverisers or methods that don't involve hammering. Hammering is where the most vibration and noise is generated on site. Delta Group have arranged equipment with pulverisers or sheaths that will allow demolition of structures without hammering methods. This is a significant control for site boundary properties. In regards to regenerated or structure born noise mitigation: We have focused on removing structure connections on boundaries to avoid vibration impacts. **Question by stakeholder: [redacted], Healthy Buildings International** Can you address heritage buildings in the vicinity of Parramatta and specific controls for them? **Response by: [redacted] Delta Group:** To the north there is a heritage group of shops. On Macquarie Street there are building with historical significance. These properties have an extreme proximity to works on site. We will put vibration monitors on those buildings. We will adapt a methodology taking into account the proximity of building. The main thing is that we will be placing monitors on those buildings. Vibration monitors have real time alerts. This means whenever we get a potential exceedance, we get an instant alert sent to a list of people (text and email). When equipment is in that area, if vibration approaches levels of concern, we get a text and works are to cease immediately. We then reassess our methodology to ensure compliance. As they are heritage buildings, we will consult a specialised heritage consultant on how to place monitors to avoid any adverse effects. There is also heritage on the west of Church Street (other side to site). Due to its location it is assessed as nil vibration impact. **Question by stakeholder: [redacted], Sydney Metro** Would you go back to vibration table? In relation to the cosmetic damage and safe working distances there seems to be disconnect with large hydraulic hammer being two metres and medium hammer being 22 metres. Is that an issue?		

Item	Time	Agenda item	For Action	Due
		I think your safe working distances they are too conservative. If you are proposing to meet 7.5 metres per second you will meet that with large hammer at about 4 metres. **Response by: [redacted], Osterman Consult** I agree – this table has been taken from a standard. Our calculations are more consistent with Sydney Metro. This table represents the assessment made of safe working for cosmetic damage. Our calculations are a lot smaller than listed here. This is in our impact statements. I can provide more information on our calculations if you would like. **Question by stakeholder: [redacted], Sydney Metro** The orange dots on schools are of concern in relation to vibration impact (in Westmead) **Response by: [redacted], Osterman Consult** Clarification that the colour was a reference to noise only for moderate impact in Westmead. There may be short periods of medium noise impact. It will be predominantly will be low impact. **Question by stakeholder: [redacted], Healthy Buildings International** Please confirm if Delta proposes to utilise the Construction Orders that provides for extended time on Sundays for works other than high impact. If so, it may impact places of worship and the like that operate on Sundays (OOHs). **Response by: [redacted], Delta Group** OOHW Sunday shifts won't be included. There is no intention to work Sundays at this stage **Question by stakeholder: [redacted], Parramatta City Council** How will you monitor Roxy Theatre vibration? **Response by: [redacted], Osterman Consult** Vibration monitor will be put on Roxy Theatre on the boundary of our site. Essentially management of the Roxy is going to be monitoring the building with real time monitoring system. Our alert level is 75% of absolute level. We will get alerted to a potential exceedance before it occurs. **Question by stakeholder: [redacted], Parramatta City Council** Noted that there are other heritage buildings around site: two on George Street including Lensor Barracks on Horwood Place and George Street intersection to keep in mind. **Response by: [redacted], Osterman Consult** It is important to note that vibration impacts from our works are minimal. Where works occur on the boundary, these properties are the greatest risk. We are using alternate methodologies to mitigate impact i.e. no hammer.		

Item	Time	Agenda item	For Action	Due
		The calculations show where works occur on site boundary that the buffer of surrounding streets mitigates impact. Anything not on our boundary has very minimal vibration impact. **Question by stakeholder: [redacted], Sydney Metro** Please outline Monitoring program scope. **Response by: [redacted], Osterman Consult** Permanent installed monitors providing immediate upload of data are able to look at the trending of data and send a real time text. This is a guide, they don't stay in one location, and monitors will be moved. May be supplemented by short term monitoring, complaints verify predictions, relocate the existing long term monitors. *No further questions from stakeholders.*		
7.	**11:38am**	**Flora and Fauna Management Plan and Q&A**		
7.1		WD presented the management of Flora and Fauna Slide 63: Objectives Slide 64: Potential impacts Slide 65: Clyde: has been identified with the potential for most impacts to flora and fauna. Green indicates riparian zone (i.e. Duck Creek), red indicated potential micro-bats habitat. Mitigation measures may include relocation of bats in consultation with an ecologist. Slide 66: Parramatta: Extent of impact is very limited, basically only street trees will be potentially impacted. Slide 67: Westmead: This site is covered in landscape vegetation from residential landscaping. The whole site will be cleared. Some remnant species are located in the rail corridor but they will not be affected by the Delta Group scope of works. Slide 68: Mitigation Measures – ecologist inspection taking place in next week or so. Slide 69: Inspection / Monitoring & Reporting	Note	-
7.2		**Question by stakeholder: [redacted], NSW DPIE EES** I wanted to confirm that pre-clearance surveys are for all fauna just not threatened species. In addition, that nest boxes will replace any hollows lost. **Response by: [redacted], Delta Group** Yes, it will be a check for all Flora and Fauna in that inspection. Yes, ecologist will identify tree hollows and we will install nest boxes before clearing. **Question by stakeholder: [redacted], DPI Fisheries** In regards to protection of aquatic vegetation, what about the mangroves in Clyde? How will you identify and protect them from demolition works? **Response by: [redacted], Delta Group:** The works won't be impacting the riparian vegetation. Delta Group will install exclusion fencing to maintain exclusion zone from workers and vegetation. The only trees to be removed are on the physical site.	Note	-

Item	Time	Agenda item	For Action	Due
		Question by stakeholder: [redacted], City of Parramatta In terms of riparian vegetation in Clyde, it is also heritage listed (in LEP) as wetlands. It should be noted as a heritage item. **Response by: [redacted], Delta Group:** Noted for management plan **Question by stakeholder: [redacted], NSW DPIE EES** Some buildings are close to vegetation. It is good to have a buffer where you can, that is, not have fencing installed right on the boundary of vegetation. **Response by: [redacted], Delta Group:** Noted for consideration - where we can safely to do so while still allowing work to occur. **Question by stakeholder: [redacted], NSW DPIE EES** In Table 1 of the draft Flora and Fauna management plan: the condition CB8 must be net increase of mature trees in the ratio 2:1. It is indicated in the plan that it is addressed in section 5.4. That section doesn't appear to address it. Will the draft be amended? **Response by: [redacted], Delta Group:** We need a thorough review of cross referencing in our management plans. The ratio of 2:1 will be provided by Sydney Metro. Delta will provide information on what trees have been removed and Sydney Metro will provide the 2:1 offsets. **Comment by [redacted], Sydney Metro:** I confirm that that is correct. Delta will remove trees and provide a list of all removed (type of species and specific location). Sydney Metro will take this information and put into the trailing contracts so the company that builds the stations or stabling yard will have the necessary information to implement the 2:1 reinstatement. **Comment from [redacted], Sydney Metro:** As that is a concept approval condition we could assess it in future EISs. Part off the offset may be brought into future stages of Sydney Metro West. **Response by: [redacted], Delta Group** It is an important part of our scope in that we are capturing that information to allow for future reinstatement. **Question by stakeholder: [redacted], NSW DPIE EES** Can we recommend when replacing to use local native vegetation. Can that be requested? **Response by: [redacted], Sydney Metro** That would be considered. We will use the contractor information to inform replacement. **Question by stakeholder: [redacted], NSW DPIE EES**		

Item	Time	Agenda item	For Action	Due
		Will that information identify if local, native or exotic? **Response by: [redacted], Sydney Metro** To confirm we wouldn't replace with exotics. We will have the opportunity to interface with Council to ensure Council are happy with species replacement etc. *No further questions from stakeholders.*		
8.	**11:45am**	**Heritage Management Plan**		
8.1		AL and WD from Delta Group presented their approach to heritage management (SEMP). Slide 70: Heritage Management – includes retaining facades Slide 71: Non-Aboriginal Heritage – potential impacts Slide 72: Non- Aboriginal Victorian regency, Kia Ora Georgian House reasonable buffer area around building Slide 73: Non-Aboriginal Heritage - Parramatta Mall Slide 74: Aboriginal Heritage – Detail provided about potential impacts and mitigation measures, however fairly low impacts expected **Question by stakeholder: [redacted], City of Parramatta** Regarding aboriginal heritage in Parramatta: this area is identified as high aboriginal sensitivity due to the location of Parramatta sand body. Are you aware of that? **Response by: [redacted], Delta Group:** WD: We are aware of the Parramatta sand body, but excavation for this project is very limited. AL: Our scope includes one excavation services trench. Our scope otherwise is demolition to slab of area only. **Response by [redacted], City of Parramatta** So that's not considered? This is highly sensitive and present on site. Should just identify it. **Response by [redacted], Sydney Metro:** The Parramatta Sand Body will not be interacted with during Delta Group's portion of works. After this package we will undertake test excavation. It will be a separate scope of works and we will interface with you about that. We understand the concern and acknowledge - it is there, important and must be considered. We will provide more detail but it will be following this contract. **Question by stakeholder: [redacted], City of Parramatta** This scope won't have surface excavation? **Response by: [redacted], Sydney Metro** Very minimal surface excavation. Only involves the disconnection and rerouting of services. This is very minimal and will not go to the depth of the sand body. We can refer to our heritage team for more info on that.	**Action**: JI to liaise through PK to set up meeting with Parramatta City Council and Sydney Metro	

Item	Time	Agenda item	For Action	Due
		Action: JI to liaise through PK to set up meeting with Parramatta City Council and Sydney Metro heritage team regarding Parramatta sand body and project. MM noted that excavation of utility services in Delta Groups scope is not on top of sand body. *No further questions from stakeholders.*	heritage team regarding Parramatta sand body and project.	
8.2		**Comment from [redacted], NSW DPIE EES:** John, I think there is value with such a long workshop to break it into 15mins slots so stakeholders can come in and out as needed.		
9.	**12:05pm**	**End of Meeting**		
9.1		The attendees were thanked for their participation by the Chairperson. Consultation closes next Tuesday, 14 September 2021. Minutes were kept by Sydney Metro and will be considered during the amendment of management plans by Delta Group. The minutes of this Consultation Workshop will also be presented as evidence of consultation to the NSW DPIE.	Chair	-

Minutes of Workshop

SMW Parramatta and Clyde Early Works Stakeholder Consultation Workshop

Date:	Thursday, 9 Sept 2021	**Times:**	11:00am – 1:00pm
Venue:	Microsoft Teams		
Chairperson:	[redacted]	**Minutes:**	[redacted]

Attendees:		
[redacted]	Project Manager	Delta Group
	Environment Manager	Delta Group
	Acoustic Advisor	Acoustic Studio
	Environmental Representative	Healthy Buildings International
	Communications Place Manager	Sydney Metro
	Communications Place Manager	Sydney Metro
	Project Manager, Interface	Sydney Metro (Chair)
	Manager, Environment	Sydney Metro
	Environment Officer, Heritage	Sydney Metro
	Environmental Coordinator	Sydney Metro
	Project Interface Engagement Coordinator	Sydney Metro
	Manager, Engineering Services	Cumberland City Council
	Team Leader, Transportation and Traffic	Cumberland City Council
	Coordinator Infrastructure, Place Strategy and Planning	Cumberland City Council
	Landscape Architect	Cumberland City Council
	Senior Environmental Health Officer	Cumberland City Council
	Acting Coordinator Infrastructure Strategy and Planning	Cumberland City Council
	Noise & Vibration Consulting Engineer	Osterman Consult
Apologies:		
[redacted]	Senior Advisor, Heritage	Sydney Metro
Absent:		
[redacted]	Acoustic Advisor (alternate)	Acoustic Studio
	Environmental Representative (alternate)	Healthy Buildings International
	Senior Comms Manager – Early Works	Sydney Metro
	Senior Communications Manager - West	Sydney Metro
	Demolition & General Works Manager	Sydney Metro
	Senior Manager, Environment	Sydney Metro
	Senior Advisor Acoustics	Sydney Metro
	Strategic Planner	Cumberland City Council
	Executive Manager, City Strategy	Cumberland City Council

[redacted]	Executive Assistant to Director Environment & Planning	Cumberland City Council
	Director, Environment and Planning	Cumberland City Council
	Team Leader, Environmental Health	Cumberland City Council
Distribution:		
All above.		

Please note: any actions listed in these minutes are not directions under the Project Deed

Item	Time	Agenda item	For Action	Due
1.	**11:00am**	**Welcome and Introductions**		
1.1	PK held the Acknowledgement of Country		Note	-
1.2	Attendees introduced themselves		Note	-
1.3	PK provided a brief overview of the consultation process		Note	-
2.	**11:09am**	**Project Overview**		
2.1	JI provided a strategic overview of Sydney Metro West Stage 1		Note	-
2.2	JI listed the post-exhibition milestones and EIS determination		Note	-
2.3	JI presented the planning process update (page 7 of presentation) JI included note of closure of consultation period of Thursday, 14 September 2021. Please return comments by this date. **Question by stakeholder: [redacted], Cumberland City Council** What plans are we required to comment on by Tuesday? Has Council received them all? **Response by: [redacted], Sydney Metro** Yes, they were sent to [redacted] **Question by stakeholder: [redacted], Cumberland City Council** We have received heavy vehicle local roads plan, construction management plan, and parking management strategy. Parking management is 22 pages; heavy vehicle is 22 and construction is 23 pages – however they are all belonging to Clyde. We don't have any detail of Westmead. **Response by: [redacted], Sydney Metro** We only require comments on four plans. These may not be the ones of interest to you. We may need to take the request offline. **Question by stakeholder: [redacted], Cumberland City Council** I don't have any relevant documents. Only the ones that belong to Clyde. The Tuesday deadline is too tight when I haven't got the documents to review yet. **Response by: [redacted], Delta Group** Today's workshop will still be useful in regards to getting an understanding of the scope of works		**ACTION:** JI to go back and look at what was sent and whether there was an issue in documents. JI outlined relevant documents that require consultation compared to other	-

Item	Time	Agenda item	For Action	Due
		ACTION: JI to go back and look at what was sent and whether there was an issue in documents. JI outlined relevant documents that require consultation compared to other documents that don't require DPIE submission. FOLLOW UP TO ISSUE DURING MEETING	documents that don't require DPIE submission.	
2.4		JI listed the workshop objectives	Note	-
2.5		AL went through the Phase C scope, key deliverables and demolition program which is scheduled to start at the end of October 2021. Works are to continue until October 2022, with cable pulling scheduled for December 2021 and restoration in early 2022 (Slide 8)	Note	-
3.	**11:22am**	**Site Establishment Management Plan and Q&A**		
3.1		AL and WD from Delta Group presented their approach to site establishment and management (SEMP). Points covered in presentation include: Slide 9: The expected site possession date is Thursday 21 October 2021. The first couple of weeks will involve site establishment including set up of site amenities, fencing and hoarding, completed by late October-early November. **Please note: that some presentation slides have been skipped over as their content does not apply to Cumberland Council. Only the Westmead site is located within the boundaries of Cumberland Council Local Government Area.** Slide 12: Westmead – all buildings are to be removed, footings, trees and vegetation finishing with B-class hoarding around the site. **Question by stakeholder: [redacted], Cumberland City Council** Will Alexandra Avenue be open while demolition activities are being undertaken? **Response by: [redacted] Delta Group** Yes. There may be times during our work, for example, when removing the awning on Hawksbury Road. When undertaking works we will need temporary work zones of footpath and road lane. Similar situation will apply to Hassall Street properties. Slide 13: SEMP Objectives and Requirements Slide 14: Scope of Works for site establishment includes site setup, heritage ecologist walks, heritage salvage, Noise & Vibration (N&V) assessments, erection of hoarding Slide 19: Site establishment – Westmead: will occupy 3 Hassall street as a base for the rest of work area to demolish buildings Slide 21: Sensitive Receivers – Westmead: – predominantly surrounded by residential, school, more detail in Noise & Vibration Slide 23: Noise & Vibration. DNVIS has been prepared Slide 24: Visual amenity and Urban design, soil and water Slide 25: Biodiversity – no vegetation is required to be removed at Westmead.	Note	-

Item	Time	Agenda item	For Action	Due
	Slide 25: Heritage – Salvage is not required or associated with these works Slide 26: Training and Awareness: Project induction and Toolbox talks			
3.2	*No further questions from stakeholders.*		Note	-
4.	**11:35am**	**Construction Environmental Management Plan (Main Document) and Q&A**		
4.1	WD presented the main document in the Construction Environmental Management Plan (CEMP) suite and Delta Group's overarching principles of environmental management. Presentation covered the following topic areas: Slide 29: Scope: Captures relevant guidelines and standards Slide 30: Objectives and targets – outlines how Delta will manage their works to manage the environment and impacts to Sensitive Receivers Slide 31: Key Roles and responsibilities: - External (Environmental Representative, Acoustic Advisor) - Sydney Metro (Environmental Management, Community Engagement), - Delta (managers including senior, construction, environmental, site supervisor, wider project team and environmental consultants). - Sydney Metro appointed advisors; Osterman for Noise & Vibration; Occupational Hygienist Flora and Fauna, ecologist on board to completed pre and post-inspections Slide 32: Regulatory requirements and compliance, waste management Slide 33: Environmental Management Plans and ECMs: These are important tools to identify potential impacts and what mitigation measures are required on site e.g. noise monitoring Slide 34: Training and Awareness: Ensuring that the understanding the impacts of activities is understood by workers Slide 35: Communication & Community Engagement: Sydney Metro to work closely with Delta Group team to engage with community Slide 36: Incident and Emergency Management, The stakeholder team will communicate with council in the event of an emergency or incident Slide 37: Monitoring, inspections and auditing, inspections will generally occur on a weekly or fortnightly basis Slide 38: Environmental Aspects Management: The requirement for specific sub-plans have been identified. Those that require external consultation review are Noise & Vibration, Flora & Flora and Heritage Sub-plans. Slide 39: Air Quality: Management of dust is very important. Demolition is Delta Group's specialty. It's important to protect the environment but equally important to protect the health of workers. Environmental Management is taken very seriously by Delta Group. Air quality for Westmead is yet to be planned in detail but will be the same as what will be in place for Parramatta and Clyde. A very reliable alert system for exceedances is to be installed. Slide 40: Air Monitoring: Will provide alerts, monitoring on site, real time bases. Allows Delta Group to be reactive to any matters that may arise. Slide 42: Waste Management, Delta Group intends to divert of 95% of non-hazardous waste. This will be achieved by both on- and off-site segregation, depending on site logistics. Waste will be disposed to licenced facilities. Materials likely to be encountered include Asbestos		Note	-

Item	Time	Agenda item	For Action	Due
		Containing Materials (ACM) materials as well as lead paint. These, amongst other waste types, will be classified managed, tracked and disposed of accordingly. Slide 43: Surface Water Management. Westmead is fairly limited in regards to natural waterways but just as important is how stormwater is managed. WD noted that COVID has restricted access to site and therefore the ability to ground truth plans. Delta Group will be able to add more detail as COVID restrictions ease. WD noted Delta Group website will have all Delta Group management plans and docs. Sydney Metro website will have all Sydney Metro issued documentation. JI explained that Sydney Metro have done an investigation about management plans. JI offered to email Council right now with missing plans. JI offered to send over Westmead CPAS and CTMP. There is only a construction parking and access plan for Westmead. There is no heavy vehicle for Westmead. AL provided clarity that Delta Group are developing a heavy vehicle plan for Westmead. Delta want to use a different route than the EIS details. This has not been submitted to Sydney Metro yet. This is expected early next week. JI stated that if council would like to receive Sydney Metro can send four consultation packages for plans. Will also add CPAS and CTMP with Westmead included. Who would like to receive directly? Accepted • [redacted] • [redacted] • [redacted] JI confirmed CPAS went out two days ago – have asked for comments on 17 September. SS confirmed the front page says CPAS Clyde. JI thinks the incorrect document has been distributed. In the next 5-10 minutes JI to send these documents. If you do not receive by end of workshop, please raise. **Question by stakeholder: [redacted], Cumberland City Council** CEMP refers to Appendix F for Flora and Fauna Management Plan but it is not included. Sydney Metro you will need to provide this document if you want comments. **ACTION:** JI to investigate documents provided and follow up as necessary. *No further questions from stakeholders.*	**ACTION:** JI to investigate documents provided and follow up as necessary.	
5.	**11:50am**	**Short Break**		

Item	Time	Agenda item	For Action	Due
	Break for 5 mins – back at 11.55am		-	-
6.	**11:57pm**	**Noise and Vibration Management Plan and Q&A**		
6.1	MDS presented the management of noise and vibration impacts during construction. Presentation slides covered: Slide 46: Purpose and objectives. MDS emphasised the point that consultation with community about any particular sensitivities and mitigation mitigations needs to be incorporated as part of planning Slide 47: Requirements (MCoA) for N&V are very extensive, about 17 Conditions of Approval. In addition conditions relating to CEMF, CNVS, ICNG, as well as a range of other Australian and international requirements will also be applicable Slide 48: Construction Hours: Work will be undertaken during standard construction hours. If any work is required out of hours, such as emergency work, the appropriate approvals are required. If Risk levels are assessed and deemed high they will require review by the Secretary. Slide 49: OOH protocol required just in case even though it's not envisioned to be required. OOH assessed by ER and AA. OOH Works are subject to specific DNVIS for those works. Slide 52: Noise Receivers – Westmead: Delta works are considered low impact. Properties have been identified as moderate impact. Further information received after plan development shows receivers will be reclassified to low impact. This is due to type of residences and type of activities. Moderate impact is due to hammering impact. Hammering locations are limited. This allows reallocation of impact for those not located nearby. Noted school will be reclassified to low impact. Ground vibration not perceptible by the closest receivers. Residential received (RR) mostly compliant Slide 53: Noise Criteria – RBLs and NMLs. RBLs sourced from EIS Slide 54: Vibration Criteria: Vibration will be low as there is significant distance from site and nearest sensitive receivers. Minimal hammering, no occupied adjoining buildings. Slide 56: DNVIS – individually done for each of the sites based on scope of works, and noise generating activities: ○ Scope of works ○ Receivers ○ Activity ○ Objectives ○ Assessment ○ mitigations Slide 57: Construction Noise and Vibration prediction Tool: Demolition can be achieved without hammering and pulverisers therefore the predicted worse case impacts to sensitive receivers (SR) will be reassessed	Note	-
6.2	**Question by stakeholder: [redacted], Cumberland City Council** If we do receive a noise concern or complaint do we refer to the Sydney Metro 1800 number or to the Delta website? **Response by: [redacted], Delta Group:** Direct to the Sydney Metro 1800 number. Sydney Metro Communications team, could you please confirm?		Note	-

Item	Time	Agenda item	For Action	Due
		Response by: [redacted], Sydney Metro: Yes, that is correct – any noise complaints, please redirect to the Sydney Metro 1800 hotline and we will respond. MDS added that we have ability to do attended monitoring or use the active monitoring at site to investigate complaint. Monitoring is reported on a weekly basis. Monitor has the ability to send text/email to notify of approaching levels of concerns. *No further questions from stakeholders.*		
6.3		MSD went through their approach to Noise and Vibration monitoring on the project. Presentation covered the following points: • Monitoring Program Scope • Baseline Monitoring Data • Slide 57: Monitoring Methods • Slide 61: Continual Improvement and Corrective Action MSD discussed how monitoring works. Once the 75% trigger level is triggered alerts will be sent to the broader project team.	Note	-
6.4		*No further questions from stakeholders.*	Note	-
7.	**12:16pm**	**Flora and Fauna Management Plan and Q&A**		
7.1		WD presented the management of soil and water impacts during construction and also covered Delta Group's plans for: • Unexpected Contamination finds • Unexpected Acid Sulphate and Potential Acid Sulphate Soil discovery • Spill response procedure • Water discharge procedure Presentation covered the following: Slide 63: Purpose, Objectives and Requirements Slide 64: Potential impacts Slide 67: Existing Environment - Westmead: The site is dominated by residential landscaping. The Ecologist will conduct a pre-inspection of the site, data will be provided to Sydney Metro at the backend of the project of the details of trees removed as Sydney Metro has a 2:1 ratio replacement strategy. No threatened species are anticipated at Westmead. Some remnant species are located in the rail corridor but they will not be affected by the Delta Group scope of works. Slide 68: Mitigation Measures Slide 69: Inspection/ Monitoring and Reporting	Note	-

Item	Time	Agenda item	For Action	Due
7.2		**Notes by [redacted], Sydney Metro:** With regard to the context of the Flora and Fauna scope, the only Endangered Ecological Community (EEC) of concern is within the rail corridor and works will not be undertaken in that area. Main Flora and Fauna management is in the former residential backyards where there are some remnant trees. Adam, do council have any questions or concerns about the removal of trees that were located in the backyards? Is there anything you would like our team to include and address in their plans? **Response by: [redacted] Cumberland City Council** I haven't been able to review the plan yet. It sounded like there will be an ecologist to inspect pre and during when trees are felled to determine if there is any habitat existing in trees and ensure any fauna is managed appropriately. You also mentioned a replacement strategy? **Response by: [redacted], Sydney Metro** Yes, there is a 2:1 replacement strategy across whole project under our approval. Delta Group will do the tree removal but not replacement. Delta Group will provide us post-removal reports. Information that will be included is: how many trees were removed, their species and locations. At the end of the program the station builder will receive that list of trees removed and will action the replacement. They will need to include these replacement trees in the final landscape plan. Part of that would include a presentation to Council to show what we took out and ask what type of species etc. Council would like replaced. We are of the understanding that Council would not want exotics. You may want to swap out native species etc. The replacement that will be done later, in about 9 years' time (2029) **Response by: [redacted], Sydney Metro** This will be captured in the Stage 3 EIS which is currently under consultation with Council. **Response by: [redacted], Cumberland City Council** Yes that's good. We understand this is just demolition but it is good to understand the entire process. However we hope the conversations would start earlier than 9 years' time! There are other trees that aren't prominent but still native that have food and habitat function. We confirm that we are not interested in exotic trees. Removal appears to have an immediate impact. It would be good to know how the replacement strategy will unfold. **Response by: [redacted], Sydney Metro** Near the end of this contract or after Delta Group have completed their Scope of Works we could tell you what was removed and Council can take that information and use it as they wish. We will still do the 2:1 replacement at a later stage. **Question by stakeholder: [redacted], Cumberland City Council** I'm not familiar with what happens in future of this project. More information on that would be good. **Response by: [redacted], Sydney Metro**	Note	-

Item	Time	Agenda item	For Action	Due
		In the future there probably won't be a station building on the station but there will be buildings on the block and the public domain to be handed over to Council. We are still in discussion with Council. This is not far along yet. The 2:1 replacement doesn't mean they all have to go onto this site. It would be a negotiation with Council for where the replacement tree locations are. **Question by [redacted], Sydney Metro** Request confirmation that email (containing correct management plans) sent during this Stakeholder Workshop were received. Confirmation everyone has received. **Question by stakeholder: [redacted], Healthy Buildings International** With the trees, is there any opportunity to provide logs that may be of value to Council? **Response by: [redacted], Delta Group** We could facilitate if there were parts Council wanted to salvage. **Question by stakeholder:[redacted], Cumberland City Council** If some had hollows that were of use for existing areas we could deposit in natural areas. Generally, not for parkland but for a natural area that would be nice. It would depend on if there were hollows inside the tree. That would come from an ecologist conducting an inspection. **Question by stakeholder: [redacted], Healthy Buildings International** How would that progress? Comments on management plan? **Response by: [redacted] Delta Group** I have noted to add to management plan to explore that. **Question by stakeholder: [redacted] Cumberland City Council** That would be good. To have the remnant ones. **Question by [redacted], Sydney Metro** Angus, is there a desire from Delta Group to stump grind the trees on site or take away? **Response by: [redacted], Delta Group** For native trees they will mulch on site, any large trunks or stumps will go off site. The stumps will be cut flush with surrounding land. Some large gums are there and they have a large trunk diameter. We won't mulch these ones on site, we will cut them to manageable sizes and move offsite. **Question by stakeholder: [redacted], Cumberland City Council**		

Item	Time	Agenda item	For Action	Due
		An ecologist will need to inspect the tree hollows initially. They'd be able to see pre mulch and cutting. We'd like to relocate to a natural area if possible. An ecologist will need to view on site before any cutting/mulching, to relocate hollows etc **Question by stakeholder: [redacted], Cumberland City Council** I support the idea to relocate trees that could be salvaged. We have very few in the LGA especially Westmead. Any chance of not mulching and salvaging and relocating according to what Adam has said would be a fantastic outcome. **Response by: [redacted], Sydney Metro** Delta Group can incorporate into plans. **Question by stakeholder: [redacted], Cumberland City Council** It would be good if an ecologist could point out first and contact Council. We don't have any of that kind of information right now, the only way we could find out is via an ecologist inspection. **Response by: [redacted], Delta Group** We will communicate via Sydney Metro and Phil Kelly to reach out to Council if we find anything suitable to relocate. **Question by: [redacted], Delta Group** To clarify, we would relocate hollows as portions of the tree not the entire tee? **Question by stakeholder: [redacted], Cumberland City Council** Yes. However they need to be identified before cutting so we can determine the extent of the hollow to make sure not to cut in wrong spot and allow them to be of useful in relocation. Council would then like to suggest where they will be relocated. *No further questions from stakeholders.*		
8.	**12:45pm**	**Heritage Management Plan**		
8.1		AL and WD from Delta Group presented their approach to heritage management (SEMP). Points covered in presentation include: • Slide 70: Heritage Management • Slide 73: Non-Aboriginal heritage – nothing at Westmead that will require salvage • Slide 74: Aboriginal Heritage		
8.2		Any heritage items found will follow the Unexpected Heritage Finds Protocol should the need arise. No excavation is required in Delta Group's scope of works. Demolition activities is to ground slab level only. *No further questions from stakeholders.*		

Item	Time	Agenda item	For Action	Due

8.3		**Question by stakeholder: [redacted], Healthy Buildings International**
		Could we discuss traffic around the site? Where is site access located?
		
		Extension to question from [redacted], Sydney Metro
		Please also address the parking of construction workers' vehicles.
		
		Response by: [redacted], Delta Group
		AL showed a presentation of site office and vehicle access points. Detailed the following information:
		• Delta will use access points
		  ○ Car park at 143 Hawksbury Road
		  ○ 3 Hassall Street garage
		  ○ 27-29 Bailey street due to large access
		• Workforce will be less than 10-15 workers during hazmat and strip out and structural demolition
		• Site amenities location is indicated on map
		• On site car parking will be dedicated in the site. Also shown on map.
		• Overflow will rely on train station parking
		• No parking available for workers in local streets – this is time zone related.
		
		Question by stakeholder: [redacted], Healthy Buildings International
		I know there is no soil and water management plan required. But what are the controls for water especially when trees are cleared. What erosion sediment controls on site?
		
		Response by: [redacted], Delta Group
		We will need to do ground-truthing when we take over the site.
		Currently we know the site falls towards the north-east. Our heaviest sediment controls will be in the bottom corner. Logs and sediment fences will be utilised. Sediment fences will also be located on the remainder of the site behind A-class hoarding.
		At final handover we won't be able to retain existing vegetation due to our vehicle needs during demolition. They will damage the existing vegetation that is present on site. We will look to apply an appropriate PVA sealant across the site for dust spread once we are gone.
		Once site is unoccupied the sealant product will seal the surface.
		
		Question by stakeholder: [redacted], Healthy Buildings International
		There might be leftover mulch to stabilise the surface?
		
		Response by: [redacted], Delta Group
		Potentially, we will discuss with Sydney Metro about how they want the site left.
		
		Question by stakeholder: [redacted], Cumberland City Council
		I tried to extract the files and it says the files are already existing?		

Item	Time	Agenda item	For Action	Due
	Response by: [redacted], Sydney Metro Every one of the zip files has the same consultation letters. It was one generic letter so you are OK to override that. Each management plan is different. *No further questions from stakeholders.*			
9.	**12:45pm**	**End of Meeting**		
9.1	The attendees were thanked for their participation by the Chairperson Minutes were kept by Sydney Metro and will be considered during the amendment of management plans by Delta Group. The minutes of this Consultation Workshop will also be presented as evidence of consultation to the NSW DPIE.		Chair	-

27 August 2021

Attn: [redacted]
Cumberland City Council
PO Box 42
MERRYLANDS NSW 2160

Dear [redacted],

Sydney Metro West Stage 1
Parramatta and Clyde Early Works Stakeholder Consultation

Sydney Metro West is a new underground metro railway which will double rail capacity between Parramatta and the Sydney CBD, with a target travel time of about 20 minutes between the two centres.

The Department of Planning, Industry and Environment assessed the first Sydney Metro West Environmental Impact Statement and granted approval for the Sydney Metro West Project Concept from Westmead to the Sydney CBD and station excavation and tunnelling between Westmead and The Bays on 11 March, 2021.

To enable construction of the Parramatta metro station and the Stabling and Maintenance Facility at Clyde, early demolition of existing buildings need to be undertaken on these sites before the tunnelling contractor begins their work.

Sydney Metro awarded the contract for the Parramatta and Clyde Early Works to Delta Group. These works are due to commence in October 2021 and completion of the work is expected to occur in October 2022.

As part of the preparation for construction and as required by the relevant planning approval, and in view of timeframes for delivery of the Sydney Metro West, Delta Group are seeking early input and feedback on the Construction Environmental Management Plan (CEMP) and its sub plans.

To achieve timely approvals, we would welcome your feedback on the attached plans by 14 September 2021. Sydney Metro will hold a Stakeholders Workshop on 8 September 2021 where comments on the CEMP and sub plans will be discussed. An invitation to this workshop will be sent to you shortly.

Please contact John Ieroklis (Environment Manager) on 0404 041 829 should you have any questions.

Yours sincerely

[redacted]

[redacted]
Director, Project Environment, Sustainability and Planning, Metro West

[redacted]

From: [redacted]
Sent: Tuesday, 14 September 2021 12:05 PM
To: [redacted]
Subject: FW: Environmental Health Comments RE Westmead Demolition Management Plan Consultation Package for Cumberland City Council

Hello [redacted]
For your records please see comment from Cumberland Council below
Regards
[redacted]

From: [redacted]
Sent: Tuesday, 14 September 2021 9:57 AM
To: [redacted]
Cc: [redacted]
Subject: Environmental Health Comments RE Westmead Demolition Management Plan Consultation Package for Cumberland City Council

[redacted]

Following review of the Site Establishment Management Plan and the Construction Noise and Vibration Management Plan it is considered that the plans adequately address all potential impacts and contingencies and there are no further comments from the Environmental Health Unit.

Kind Regards,
[redacted]

CUMBERLAND CITY COUNCIL

[redacted]
SENIOR ENVIRONMENTAL HEALTH OFFICER

16 Memorial Avenue, PO Box 42 Merrylands NSW 2160
T +61 2 8757 9875
E [redacted]
W www.cumberland.nsw.gov.au

27 August 2021

Attn: [redacted]
NSW Environment Protection Authority
4 Parramatta Square,
12 Darcy Street,
PARRAMATTA NSW 2150

Dear [redacted],

Sydney Metro West Stage 1
Parramatta and Clyde Early Works Stakeholder Consultation

Sydney Metro West is a new underground metro railway which will double rail capacity between Parramatta and the Sydney CBD, with a target travel time of about 20 minutes between the two centres.

The Department of Planning, Industry and Environment assessed the first Sydney Metro West Environmental Impact Statement and granted approval for the Sydney Metro West Project Concept from Westmead to the Sydney CBD and station excavation and tunnelling between Westmead and The Bays on 11 March, 2021.

To enable construction of the Parramatta metro station and the Stabling and Maintenance Facility at Clyde, early demolition of existing buildings need to be undertaken on these sites before the tunnelling contractor begins their work.

Sydney Metro awarded the contract for the Parramatta and Clyde Early Works to Delta Group. These works are due to commence in October 2021 and completion of the work is expected to occur in October 2022.

As part of the preparation for construction and as required by the relevant planning approval, and in view of timeframes for delivery of the Sydney Metro West, Delta Group are seeking early input and feedback on the Construction Environmental Management Plan (CEMP) and its sub plans.

To achieve timely approvals, we would welcome your feedback on the attached plans by 14 September 2021. Sydney Metro will hold a Stakeholders Workshop on 8 September 2021 where comments on the CEMP and sub plans will be discussed. An invitation to this workshop will be sent to you shortly.

Please contact John Ieroklis (Environment Manager) on 0404 041 829 should you have any questions.

Yours sincerely

[redacted]

Director, Project Environment, Sustainability and Planning, Metro West

DOC21/809458

[redacted]
Manager Environment – Operations, Customer and Place Making
Sydney Metro
PO BOX 148
Sydney NSW 2000

Email: [redacted]

ELECTRONIC MAIL
15 September 2021

Dear [redacted],

Sydney Metro West – NSW EPA No comment to Management Plans

Thank you for the request for comment from Sydney Metro requesting the review by the NSW Environment Protection Authority (EPA) of the Noise and Vibration Management Plan for the Parramatta and Clyde Early Works for the Sydney Metro West Project.

The EPA's position on post approval management plans, including the Construction Environment Management Plan (CEMP) or similar, is to encourage the development of such plans to ensure that proponents have determined how they will meet their statutory obligations and designated environmental objectives.

However, we do not approve or endorse these documents as our role is to set environmental objectives for environmental management and not to be directly involved in the development of strategies to achieve those objectives. Therefore we will not be providing comments on the CEMP and associated sub-plans.

The EPA may however request such documents are submitted with Environment Protection Licence applications or variations to ensure compliance with s.45 of the *Protection of the Environment (Operations) Act 1997* and to support those decisions.

Please accept this letter as formal reference in relation to future requests to the EPA for comments on Management Plans for the Sydney Metro West Project. The EPA will be responding to any future requests by email.

If you have any questions in relation to this matter, please contact Afnan Fazli on (02) 8275 1415 or at Afnan.Fazli@epa.nsw.gov.au.

Yours sincerely

[redacted]
Unit Head
Regulatory Operations Metropolitan - West

Phone 131 555 | **TTY** 133 677 | Locked Bag 5022 | 4 Parramatta Square | **info@epa.nsw.gov.au**
Phone +61 2 9995 5555 | **ABN** 43 692 285 758 | Parramatta | 12 Darcy St, Parramatta | **www.epa.nsw.gov.au**
(from outside NSW) | NSW 2124 Australia | NSW 2150 Australia

27 August 2021

Attn: [redacted]
City of Parramatta
PO Box 32
PARRAMATTA NSW 2124

Dear [redacted],

Sydney Metro West Stage 1
Parramatta and Clyde Early Works Stakeholder Consultation

Sydney Metro West is a new underground metro railway which will double rail capacity between Parramatta and the Sydney CBD, with a target travel time of about 20 minutes between the two centres.

The Department of Planning, Industry and Environment assessed the first Sydney Metro West Environmental Impact Statement and granted approval for the Sydney Metro West Project Concept from Westmead to the Sydney CBD and station excavation and tunnelling between Westmead and The Bays on 11 March, 2021.

To enable construction of the Parramatta metro station and the Stabling and Maintenance Facility at Clyde, early demolition of existing buildings need to be undertaken on these sites before the tunnelling contractor begins their work.

Sydney Metro awarded the contract for the Parramatta and Clyde Early Works to Delta Group. These works are due to commence in October 2021 and completion of the work is expected to occur in October 2022.

As part of the preparation for construction and as required by the relevant planning approval, and in view of timeframes for delivery of the Sydney Metro West, Delta Group are seeking early input and feedback on the Construction Environmental Management Plan (CEMP) and its sub plans.

To achieve timely approvals, we would welcome your feedback on the attached plans by 14 September 2021. Sydney Metro will hold a Stakeholders Workshop on 8 September 2021 where comments on the CEMP and sub plans will be discussed. An invitation to this workshop will be sent to you shortly.

Please contact John Ieroklis (Environment Manager) on 0404 041 829 should you have any questions.

Yours sincerely

[redacted]

[redacted]
Director, Project Environment, Sustainability and Planning, Metro West

John Ieroklis

From: [redacted]
Sent: Tuesday, 21 September 2021 11:22 AM
To: [redacted]
Subject: FW: Metro West Clyde and Parramatta Demolition Management Plan Consultation Package for City of Parramatta for comment by 14 September
Attachments: Copy of SMWSDDS-SMD-TX-004371-SMWSDDS - Feedback on Document Comments or Responses.xlsx

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From: [redacted]
Sent: Tuesday, 21 September 2021 11:21 AM
To: [redacted]
Cc: [redacted]
Subject: RE: Metro West Clyde and Parramatta Demolition Management Plan Consultation Package for City of Parramatta for comment by 14 September

Hi [redacted]

Thank you for considering, below and attached, a few LATE comments from City of Parramatta on demolition management plans for Metro West.

Regarding the Flora and Fauna Management Plan
Please see the comment included on the attached comment spreadsheet filled by our Open Spaces and Natural Resources team.

Regarding the Noise and Vibration Management Plan which includes the Noise and Vibration Monitoring Program
Please note the following comment submitted by our Regulatory Services team:

- We note that section 8.2 indicates that the overall complaints management system for the Metro project will be utilised in this demolition stage which includes a 24/7 community hotline for any complaints that are to be transferrable to a Delta team member (not an answering machine) while construction is occurring. This number should also be made available to Council prior to any works commencing so that we can advise our Customer Service representatives in order that complaints are referred appropriately and in a timely manner.

Regarding the Heritage Management Plan
Please note the following comments made by our City Planning team:
Westmead station area

- It is noted that this area is outside of the Parramatta LGA and falls within Cumberland Council LGA. Cumberland Council should be consulted on any issues regarding this area.

Parramatta station area

- It is noted that heritage items within the Parramatta metro station construction site are proposed to be retained and protected including the Victorian Regency terraced shops at 41 – 45 George Street, Kia Ora Georgian house at 64 Macquarie Street and the Convict Drain.

- Items adjoining the site include the Roxy Theatre at 67 – 69 George Street and the Horse Parapet Facade on the corner of Macquarie Streets and Church Streets.
- The management plan appears to identify appropriate measures to protect these items during demolition of surrounding buildings. Measures include particularly the erection of scaffolding with shade cloth around heritage buildings and also relate to vibration control and monitoring.
- However, it should be ensured that the extent of protection of the identified heritage items is not less than the area identified in the heritage maps for the items in Parramatta LEP 2011 and or in the State Heritage Register if relevant.
- There is concern that the Heritage Management Plan does not identify the significant Aboriginal and European archaeology of the site. Whist assurances have been provided that this contract does not involve any significant excavation that could affect the archaeological resources the significant archaeology should be usefully referenced in the Heritage Management Plan.

Clyde construction site

- It is noted that Figure 9 Clyde Site Heritage Items map of the main Delta Group Site Establishment Management Plan correctly identifies the heritage items within the construction area being the RTA Depot on Unwin Street and wetlands. This map is not included in the Heritage Management Plan. Adjoining the property on Shirley Street is the heritage listed Capral Aluminium Building.
- The wetlands listing should be referenced in the Heritage Management plan and measures provided for its protection, including no removal of vegetation.
- It should be ensured that the extent of the area of the RTA depot protected during demolition of buildings at the Clyde construction site is not less than the area shown on the heritage map and included with the Parramatta LEP 2011.

Thank you for consulting with City of Parramatta Council. If you have any queries or which to discuss these comments, please call or write.

Kind regards,

[redacted]
Transport Planning Manager | City Strategy

02 9806 5580 | 0427 840 254

City of Parramatta
126 Church Street, Parramatta NSW 2150
PO Box 32, Parramatta NSW 2124
cityofparramatta.nsw.gov.au

I acknowledge the Traditional Owners of the land I work on, the Darug Peoples, and pay my respects to their Elders past and present.

[redacted]

[redacted]

***[EXTERNAL EMAIL] Stop and think before opening attachments, clicking on links or responding. ***

[redacted]

[redacted]

Subject: RE: Metro West Clyde and Parramatta Demolition Management Plan Consultation Package for City of Parramatta for comment by 14 September

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi [redacted],

I am sorry I am running late on responses to these. But I do have a few comments provided by Council's SMEs that I would like to share.

I will send them through to you as late comments ASAP on Tuesday morning.

Kind regards

[redacted]
Transport Planning Manager | City Strategy

02 9806 5580 | 0427 840 254

City of Parramatta
126 Church Street, Parramatta NSW 2150
PO Box 32, Parramatta NSW 2124
cityofparramatta.nsw.gov.au

I acknowledge the Traditional Owners of the land I work on, the Darug Peoples, and pay my respects to their Elders past and present.

[redacted]

Subject: Metro West Clyde and Parramatta Demolition Management Plan Consultation Package for City of Parramatta for comment by 14 September

***[EXTERNAL EMAIL]** Stop and think before opening attachments, clicking on links or responding. ***

Hello [redacted],

Sydney Metro awarded the contract for the Parramatta and Clyde Demolition to Delta Group. These works are due to commence in October 2021 and completion of the work is expected to occur in October 2022.

Could City of Parramatta Council officers kindly review and provide comments on the attached Management Plans, namely:

- Site Establishment Management Plan
- Noise and Vibration Management Plan which includes the Noise and Vibration Monitoring Program
- Flora and Fauna Management Plan
- Heritage Management Plan

Each .zip file contains:

  - A .pdf copy of the Management Plan
  - A comments table as a spreadsheet
  - A .pdf copy of the consultation letter signed by Stuart Hodgson

To achieve timely approvals, we would welcome your feedback on the attached plans by **14 September 2021** via email to [redacted] Sydney Metro will hold a Stakeholder Workshop on 8 September 2021 where comments on the CEMP and sub plans will be discussed. An invitation to this workshop will be sent to you shortly. If you have any questions, please contact me.

Regards

[redacted]
Manager Project Interface Engagement
Sydney Metro West
M: 0419 847 527
E: [redacted]

Level 43, 680 George Street, SYDNEY 2000
PO Box K659, HAYMARKET, NSW 1240

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Consider the environment. Please don't print this e-mail unless really necessary.

Attachments	Item	Date	Rev	Sts	Raised By	Raised By Company	Commented By	Document Ref	Deed Ref	Comments	Closed-Out	Category
No	58.01	2021-09-27	00	RVW	Diwas Kadyan	Delta	[redacted]	Entire document	N/A	community information line included 1800 612 173	Y	OBS
No	58	2021-09-21	00	RVW	Michael Jollon	Parramatta City Council	John Ieroklis	Entire document	N/A	Comment from City of Parramatta Regulatory Services Team We note that section 8.2 indicates that the overall complaints management system for the Metro project will be utilised in this demolition stage which includes a 24/7 community hotline for any complaints that are to be transferrable to a Delta team member (not an answering machine) while construction is occurring. This number should also be made available to Council prior to any works commencing so that we can advise our Customer Service representatives in order that complaints are referred appropriately and in a timely manner.	Y	OBS

Appendix G – Condition Survey Register

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Property Address and Scope	Date Inspected	Time Inspected	Tentative Booking?	Report Status	Report Number
Clyde					
Heritage wall and small structures on Unwin Street, Clyde	Wednesday, 20 October 2021	11:30:00AM	N/A	Submitted on Team Binder	ADN21308AC
Inspection of the council assets along Unwin Street, Clyde, pertaining to the project site	Tuesday, 12 October 2021	9:30:00 AM	N/A	Submitted on Team Binder	ADN21308V
Parramatta					
25 Smith Street, Parramatta, 9 level commercial building, Internal and External inspection from GroundLevel to L2 only	Tuesday, 28 September 2021	1:00:00 PM	N/A	Submitted on Team Binder	ADN21308C
69 George Street, Parramatta, Roxy Theatre, heritage listed commercial building	Wednesday, 6 October 2021	7:00:00 AM	N/A	Submitted on Team Binder	ADN21308N
41-43 George Street, Parramatta, 2 level heritage listed commercial building, Internal and External	Friday, 1 October 2021	12:00:00 PM	N/A	Submitted on Team Binder	ADN21308L
Basement Carpark 25 Smith Street	Friday, 1 October 2021	10:00:00 AM	N/A	Submitted on Team Binder	ADN21308M
46 Macquarie Street, Parramatta, 2 level commercial building, Internal and External	Tuesday, 28 September 2021	8:45:00 AM	N/A	Submitted on Team Binder	ADN21308A
Inspection of the council assets along George Street, Macquarie Street, Macquarie Lane, Smith Street, and Church Street, and United Lane, Parramatta	Friday, 8 October 2021	6:30:00 AM	N/A	Submitted on Team Binder	ADN21308Q
Dede's Burgers 73 George Street, Parramatta, 1 level commercial building, Internal and External	Thursday, 30 September 2021	10:00:00 AM	N/A	Submitted on Team Binder	ADN21308I
Kulchas n Biryani's 73 George Street, Parramatta, 1 level commercial building, Internal and External	Thursday, 30 September 2021	10:00:00 AM	N/A	Submitted on Team Binder	ADN21308J
71 George Street, Parramatta, 1 level commercial building, Internal and External	Thursday, 30 September 2021	11:30:00 AM	N/A	Submitted on Team Binder	ADN21308K
256 Church Street, Parramatta, 2 level commercial building, Internal and External	Tuesday, 28 September 2021	11:00:00 AM	N/A	Submitted on Team Binder	ADN21308B
TSG Tobacco, 216 Church Street, Parramatta, 2 level heritage listed commercial building, Internal and External	Wednesday, 29 September 2021	1:30:00 PM	N/A	Submitted on Team Binder	ADN21308H
RSC Pilates, 216-218 Church Street, Parramatta	Wednesday, 29 September 2021	1:30:00 PM	N/A	Submitted on Team Binder	ADN21308G
Smart Dollar, 216-218 Church Street, Parramatta	Monday, 18 October 2021	2:30:00 PM	N/A	Submitted on Team Binder	ADN21308AA
210 & 210A Church Street, Parramatta, 2 level heritage listed commercial building, Internal and External	Wednesday, 29 September 2021	11:00:00 AM	N/A	Submitted on Team Binder	ADN21308F
198 Church Street, Parramatta, 2 level heritage listed commercial building, Internal and External	Wednesday, 29 September 2021	9:30:00 AM	N/A	Submitted on Team Binder	ADN21308E
40 Macquarie Street, Parramatta, 2 level commercial building, Internal and External	Wednesday, 29 September 2021	8:00:00 AM	N/A	Submitted on Team Binder	ADN21308D
Cashstop - 252A Church Street, Parramatta, 2 level commercial building, Internal and External	Friday, 8 October 2021	9:00:00 AM	N/A	Submitted on Team Binder	ADN21308P
IDP - 252A Church Street, Parramatta, 2 level commercial building, Internal and External	Tuesday, 12 October 2021	1:30:00 PM	N/A	Submitted on Team Binder	ADN21308Y
62-64 Macquarie Street, Parramatta (Heritage)	Wednesday, 20 October 2021	8:30:00AM	N/A	Submitted on Team Binder	ADN21308AB
Westmead					
152 Hawkesbury Road, Westmead, 1 level residential house, Internal and External	Monday, 18 October 2021	1:00:00 PM	N/A	Submitted on Team Binder	ADN21308Z
154 Hawkesbury Road, Westmead, 1 level residential house, Internal and External	Friday, 8 October 2021	1:00:00 PM	N/A	Submitted on Team Binder	ADN21308O
156 Hawkesbury Road, Westmead, 1 level residential house, Internal and External	Thursday, 28 October 2021	4:00:00PM	N/A	Submitted on Team Binder	ADN21308AE
150 Hawkesbury Road, Westmead - Westmead Public School, partial External inspection	Monday, 11 October 2021	8:00:00 AM	N/A	Submitted on Team Binder	ADN21308R
26-30 Bailey Street, Westmead, 3 level residential building, partial External and common areas as per site mark up, to include undercover parking area	Monday, 11 October 2021	10:30:00 AM	N/A	Submitted on Team Binder	ADN21308T
23-27 Hassall Street, Westmead, 2 level residential building, External and common areas	Wednesday, 13 October 2021	1:00:00 PM	N/A	Submitted on Team Binder	ADN21308X
13-17 Bailey Street, Westmead, 3 level residential building, partial External and common areas	Monday, 11 October 2021	8:30:00 AM	N/A	Submitted on Team Binder	ADN21308S
12 Hassall Street, Westmead, 3 level residential building, partial External and common areas, to include undercover parking area	Wednesday, 13 October 2021	TBC	N/A	Submitted on Team Binder	ADN21308W
Inspection of the footpath along Bailey Street, Hawkesbury Road, Alexandra Avenue and Hassall Street, Westmead	Tuesday, 12 October 2021	8:00:00 AM	N/A	Submitted on Team Binder	ADN21308U
123-129 Hawkesbury Rd	Wednesday, 10 November 2021	TBC	2:00:00PM	TBC	TBC

HBI Healthy Buildings International Pty Ltd
A.C.N. 003 270 693 A.B.N. 39 003 270 693

Suite 2.06, Level 2
29-31 Solent Circuit
Norwest, NSW 2153

Tel: 61 (02) 9659 5433
e-mail: hbi@hbi.com.au
Web: www.hbi.com.au

[redacted]

26 October 2021

Director Sustainability, Environment
& Planning
Metro West
Sydney Metro
Transport for NSW
PO Box K659
HAYMARKET NSW 1240

REF: 201208(C) CNVMP REV4

Dear [redacted]

RE: Sydney Metro Parramatta, Clyde and Westmead Enabling Works: Construction Noise and Vibration Management Sub Plan (CNVMP)

I refer to Sydney Metro's (SM) submission of the following document required by Conditions C5, C16 and C38 of the Sydney Metro West Infrastructure Approval (SSI 10038) which was approved by the Department of Planning, Industry and Environment (DPIE) on 11 March 2021:

- Sydney Metro West, Delta Group Construction Noise and Vibration Management Sub Plan (CNVMP Rev4, dated 25 October 2021).

It is noted that:

- The CNVMP has been developed by Delta for its demolition works to meet the specific requirements of Condition C5 - Construction Noise and Vibration Management Plan and address specific noise and vibration management requirements of the Infrastructure Approval as these relate to demolition at Parramatta, Clyde and Westmead enabling work sites.
- The CNVMP also includes Noise and Vibration Monitoring Program to address the requirements of Conditions C14 to C16;
- The CNVMP also includes an OOHW Protocol to address Condition D38 of the Project Approval.
- Previous versions of the document have been reviewed and updated following comments from the Acoustic Advisor (AA) and ER.
- The AA has endorsed the CNVMP for the above referenced conditions.
- Sydney Metro has also reviewed and commented on the document.

Following the above reviews the document is considered to contain information required by the Conditions of Approval (SSI 10038) including C5, and C14-C16.; and D38.

Noting the above, as the approved Environmental Representative for the Metro West and as required by Conditions A30(d), C8 and C19 the Construction Noise and Vibration Management Plan

(CNVMP Rev 4) is endorsed. The ER confirms consultation has been conducted in relation to Condition D38.

The endorsement is conditional up Delta obtaining and complying with any relevant approval, licence or permit required for the works; complying with relevant Conditions of Approval as they relate to the works; and appropriate notifications being issued prior to the works.

Yours sincerely

[redacted]

[redacted]

Environmental Representative – Sydney Metro West
CC: [redacted]

HBI Healthy Buildings International Pty Ltd
A.C.N. 003 270 693 A.B.N. 39 003 270 693

Suite 2.06, Level 2
29-31 Solent Circuit
Norwest, NSW 2153

Tel: 61 (02) 9659 5433
e-mail: hbi@hbi.com.au
Web: www.hbi.com.au

[redacted]

11 April 2022

Director Sustainability, Environment
& Planning
Metro West
Sydney Metro
Transport for NSW
PO Box K659
HAYMARKET NSW 1240

REF: 201208(C) CNVMP REV6

Dear [redacted]

RE: Sydney Metro Parramatta, Clyde and Westmead Enabling Works: Construction Noise and Vibration Management Sub Plan (CNVMP Rev 6 Dated 9 April 2022)

I refer to Sydney Metro's (SM) submission of the following document required by Conditions C5, C16 and C38 of the Sydney Metro West Infrastructure Approval (SSI 10038) which was approved by the Department of Planning and Environment (DPE) on 11 March 2021:

- Sydney Metro West, Delta Group Construction Noise and Vibration Management Sub Plan (CNVMP Rev6, dated 11 April 2022).

It is noted that:

- The CNVMP has been developed by Delta for its demolition works to meet the specific requirements of Condition C5 - Construction Noise and Vibration Management Plan and address specific noise and vibration management requirements of the Infrastructure Approval as these relate to demolition at Parramatta, Clyde and Westmead enabling work sites.
- This revision of the CNVMP includes the addition of Phase C1 - removal of asbestos contaminated soil at Westmead and Phase C2 - Archaeological test excavations and related investigations at the Parramatta and Clyde sites.
- The CNVMP also includes Noise and Vibration Monitoring Program to address the requirements of Conditions C14 to C16.
- The CNVMP also includes an OOHW Protocol to address Condition D38 of the Project Approval.
- Previous versions of the document have been reviewed and updated following comments from the Acoustic Advisor (AA) and ER.
- The AA has endorsed the CNVMP for the above referenced conditions.
- Sydney Metro has also reviewed and commented on the document.

Following the above reviews the document is considered to contain information required by the Conditions of Approval (SSI 10038) including C5, and C14-C16.; and D38.

Noting the above, as the approved Environmental Representative for the Metro West and as required by Conditions A30(d), C8 and C19 the Construction Noise and Vibration Management Plan (CNVMP Rev 6) is endorsed. The ER confirms consultation has been conducted in relation to Condition D38.

The endorsement is conditional up Delta obtaining and complying with any relevant approval, licence or permit required for the works; complying with relevant Conditions of Approval as they relate to the works; and appropriate notifications being issued prior to the works.

Yours sincerely

[redacted]

[redacted]

Environmental Representative – Sydney Metro West
CC: [redacted]