

Pre-Construction Minor Works Approval Form

Minor Works are defined as any low impact activities that are undertaken prior to the commencement of 'construction' as defined in the project's applicable planning approval. However, if Minor Works affect or potentially affect heritage items, threatened species, populations or endangered ecological communities, these works are defined as 'construction' unless otherwise determined by the applicable planning authority.

Minor Works approvals do not remove any obligation to comply with the project's applicable planning approval conditions (including requirements prior to 'any works' commencing) or obtain any other applicable permits, licenses, or approvals as necessary.

This application and all supporting information must be submitted to Sydney Metro/the Environmental Representative as one (1) PDF file at least 10 business days prior to the commencement of the proposed Minor Works.

Part 1: Application

Contractor:	Metro Trains Sydney
Project:	Sydney Metro City & Southwest
Application Title: (e.g. Smith St trenching works)	Chatswood to Sydenham Trial Running
Application Number:	1
Application Date:	27/05/2024
Planning Approval:	CSSI 7400 Chatswood to Sydenham
Minor Works Categories: <ul style="list-style-type: none"> Highlight as applicable. If Items 4, 8 or 11 are applicable, this form must be endorsed by an Environmental Representative. 	<ol style="list-style-type: none"> Survey, survey facilitation and investigations works (including road and building dilapidation survey works, drilling and excavation). Treatment of contaminated sites. Establishment of ancillary facilities (excluding demolition), including construction of ancillary facility access roads and providing facility utilities. Operation of ancillary facilities that have minimal impact on the environment and community. Minor 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. 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 monitoring undertaken in association with other Minor Works to ensure there is no impact on heritage items. Any other activities that have minimal environmental impact, including construction of minor access roads, temporary relocation of pedestrian and cycle paths and the provision of property access.

Planning Authority Determination:

Will the proposed works affect or have the potential to affect heritage items, threatened species, populations or endangered ecological communities?

These proposed works do not affect or have potential to affect heritage items, threatened species, populations, or endangered ecological communities. In accordance with the above minor work category #11, these MWA will need to be approved by the Environmental Representative.

Part 2: Details

Describe the proposed Minor Works:


Including work methodologies, site location(s) and site description(s) (e.g. landscape type, waterways, etc.).

MTS will run a series of timetable running and operational tests along the Sydney Metro Chatswood to City network. This will involve running a full timetable service replicating the service offering when the Chatswood to Sydenham section of Sydney Metro opens. This includes real-life scenarios with station staff and a small number of scenarios with volunteers acting as passengers. All expected station announcements will be played except in areas accessible to the public (e.g. shared areas of Central and Sydenham). All maintenance activities will take place as they would if the railway was fully operational, and some maintenance activities will also form Trial Running Scenarios.

Metro trains will operate on the track network from the Chatswood dive site to the Marrickville dive site every 4 minutes during peak hours, and every 5 minutes off peak. The timetable will also operate as per normal operating times; therefore, trains will operate from a 4:00am start time to a 1:00am finish time every day.

Maintenance of existing buildings and structures will also be worked on during this period as the project nears completion for first passenger services. These will also operate at the same time the trains are operating. Each Metro station will be handed over to MTS in batches and therefore inspections and maintenance will operate as MTS takes over each station. This could include maintenance of the station boxes, offices, bathrooms, elevators, escalators, entry/exits and various structures within the stations themselves (e.g. doors, walls, art works)

The map below shows the location and route of the Chatswood to Sydenham Metro alignment with each station marked out. Please note Pitt Street Metro Station has now been named Gadigal Metro Station.

	 <p>May 29, 2024, and scheduled to operate for 62 days. However, this date and duration are subject to change.</p> <p>There are several residential and commercial properties located adjacent to the track. These properties may be sensitive to excessive noise and vibration, especially at the Chatswood and Marrickville dive sites.</p>
<p>Planned Commencement Date:</p> <p>Local Sensitivities: Describe the presence (if any) of local sensitive environmental areas and community receptors</p>	

Part 3: Environmental Risk Assessment and Management

Prepare an Environmental Risk Assessment (in accordance with the [Sydney Metro Risk Management Standard](#)) and an Environmental Control Map for the proposed Minor Works and attach as Appendix 1.

If an Environmental Risk Assessment and/or an Environmental Control Map for the proposed Minor Works is/are already contained in existing documentation, attach the relevant section(s) as Appendix 1.

Documentation: List any existing documents (including those referenced above) that the proposed Minor Works will be undertaken in accordance with and attach as Appendix 2 (e.g. plans, procedures, etc.).	<p>The Environmental Control Maps and Risk Assessment for the Chatswood and Marrickville Dive sites are appended in Appendix 1.</p> <p>Existing Documents that the proposed Minor Works will be undertaken in accordance with are listed below:</p> <ul style="list-style-type: none"> • The MTS CSW Operations Phase Environment and Sustainability Plan • The Sydney Metro City and Southwest – Dynamic Train Testing CNVIS (Appendix 2) • The MTS CSW Operational Heritage Management Plan – Due to be completed and submitted by the 11th of June 2024. • The OpCo2 Community Communications Strategy • Sydney Metro City & Southwest Out of Hours Work Strategy/Protocol.
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Part 4: Workforce Notification

How will the environmental and community risks and associated mitigation measures of the proposed Minor Works be communicated to the contractor's workforce?	<p>Environment and community risk will be mitigated by constant communication via toolbox talks, HSEQ alerts and via inductions for any new staff working on the proposed Minor Works. These inductions will include relevant HSE aspects and risks associated with the work. Any works will be undertaken in accordance with the relevant safe work method process applicable to the project.</p>
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Part 5: Community Consultation

What community consultation has been undertaken already?	<p>Community notifications have been made by Sydney Metro via Construction Notices for each station and dive site in April 2024. See Appendix 3 for these notifications.</p>
What community consultation is planned to be undertaken?	<p>These Construction Notices will be updated monthly during the Minor Works process and whenever any immediate consultation needs to be made due to any impacts that arise during the Trial Running phase. Train testing is also included in the station works notifications. Trial running activity through Sydney Metro station sites will be communicated as required in line with the Sydney Metro Overarching Community Communications Strategy.</p> <p>The Construction Notice's for the Chatswood and Marrickville Dive sites are appended in Appendix 3</p> <p>Out of hours Emergency Works may also need to be carried out during Trial Running due to unforeseen crisis's and/or potential injury/loss of life, damage of loss of property or to prevent environmental harm (CoA E44 in CSSI 7400). On becoming aware of the need for emergency construction in accordance with Condition E44 in CSSI 7400, MTS will notify the Acoustics Advisor (AA), the Sydney Metro Environmental Representative and the Environment Protection Authority (EPA) (if an EPL applies) of the need for those activities or work. MTS will also use best endeavours to notify all affected sensitive receivers of the likely impact and duration of those works. This is all covered in the Sydney Metro City & Southwest Out of Hours Work Strategy/Protocol.</p>
If drafted already, attach applicable Community Notification as Appendix 3.	


Part 6: Contact Details

Nominate contractor's project manager, environmental and communications contact(s).

Name:	Majid El-Khatib	Position:	Director of Operational Readiness	Phone:	0448 751 518
	Amanda Calvez		General Manager Safety, Quality, Risk & Environment		0439 889 055
	Sandra Bellingham		Director Corporate Relations & Communications		0484 824 711

Part 7: Signature

This signature acknowledges that the proposed Minor Works will be undertaken in accordance with this application, have minimal environmental impact and are not defined as 'construction' in accordance with the applicable planning approval.

Name:	Peter Scioscia		
Signature:		Date:	28/5/2024

Determination Page

(Sydney Metro/Environmental Representative Use Only)

12. Endorsement/Approval

These signatures represent formal endorsement/approval for the proposed Minor Works to commence in accordance with this application and the applicable planning approval requirements (subject to any determination from the applicable planning authority as may be required by the planning approval conditions).

	Director Project Communications – Endorsement (required for all applications)	Director Environment, Sustainability & Planning – Approval (required for all applications)	Environmental Representative – Endorsement (required as necessary in accordance with the applicable planning approval, optional for all other circumstances)
Signature:			
Name:	James Porter	Fil Cerone	Maulik Bapodara
Date:	29/05/24	29 May 24	29/05/2024
Comments:			As agreed with SM, the Operation Heritage Management Sub-Plan is being revised and to be finalised. There is a low heritage risk for trial running.
Conditions:			
<input type="checkbox"/>	Approved (by Sydney Metro)		
<input checked="" type="checkbox"/>	Endorsed (by Environmental Representative)		
<input type="checkbox"/>	Rejected		

Appendix 1: Environmental Risk Assessment and Environmental Control Map

RISK NUMBER	RISK EVENT	CATEGORY	CAUSES	CONSEQUENCES	CONTROLS/TREATMENTS	CONSEQUENCE LEVEL	LIKELIHOOD	RISK RATING
	Noise and Vibration							
1	Excessive noise from surface repair or maintenance works.	Surface Works	Repair and maintenance works (including tamping, ballast cleaning, etc) are undertaken without: - proper notification to the community; - implementation of mitigation measures.	- Public complaint; - Infringement notice from regulators; - Loss of reputation; - EPA applies stricter requirements to Maintenance & Repair works through the EPL (potentially restricting operating hours).	- Modelling to be conducted to identify possible sensitive receivers, measures to be put in place to mitigate. - Community notification of maintenance and repair works to be undertaken in accordance with EPL provisions and Deed requirements; - Mitigation measures to be implemented, including respite, as determined through noise assessment. Noise and Vibration Management Plan - Implementing control measures from the Construction Noise and Vibration Management Plan	C3	L5	Medium

2	Vibration from maintenance works within proximity to receivers.	Surface Works	Repair and maintenance works (including tamping, ballast cleaning, etc) are undertaken without:	- Public complaint;	- Modelling to be conducted to identify possible sensitive receivers, measures to be put in place to mitigate.	C4	L5	Low
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			- proper notification to the community; - implementation of mitigation measures.	- Cosmetic damage; - Structural damage; - Infringement notice from regulators; - EPA applies stricter requirements to Maintenance & Repair works through the EPL (potentially restricting operating hours).	- Community notification of repair and maintenance works to be undertaken in accordance with EPL provisions and Deed requirements; Mitigation measures to be implemented, including respite, as determined by Vibration assessment - Greater separation of vibratory works were possible Noise and Vibration Management Plan - Implementing control measures from the Construction Noise and Vibration Management Plan			
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3	Ground borne Noise is greater than the Operational Noise and Vibration models predicted in Noise and Vibration Management Plan	Tunnel Operation	<ul style="list-style-type: none"> - Modelling used during D&C Phase had incorrect inputs; - The "as built" Project did not meet the design requirements for regenerated noise - The operation of the railway systems are not as envisaged during design development 	<ul style="list-style-type: none"> - Public complaint; - Infringement notice from regulators; - Breach of the MCoA leading to fines or stop works order from DP&E; - Loss of reputation; - EPA applies stricter requirements to the 	<ul style="list-style-type: none"> - Performance criteria established in ROMs - Operations undertaken in compliance with ROMs Noise and Vibration Management Plan	C4	L5	Low
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			operation of the Project;					
			- Requirement to undertake major works to reconstruct the Project to the required standards.					

Soil and Water								
4	Contamination of water through spills of fuels or chemicals.	All Works.	<ul style="list-style-type: none"> - Plant & equipment failure - Accidental spill - Inappropriate storage - Unapproved release of impacted water - Refuelling not appropriately controlled - Spill kit not available 	<ul style="list-style-type: none"> - Pollution of watercourse and stormwater; - Infringement notice; - Reputational damage; - Clean-up costs. 	OPESP <ul style="list-style-type: none"> - Refuelling Procedures; - Spill Management Procedure; - Provision of Spill Kits at set locations, and mobile Spill Kits for stations - Training of all staff and workforce; - Incident Response Procedures; - Detention Basin Management Procedure; and - Water quality and watercourse monitoring. 	C4	L5	Low
5	Utility strike (water or sewer) during repair or maintenance works causes a release of water	Surface Works	<ul style="list-style-type: none"> - Accidental strike of service as located on plan; - Utility is marked on plans in the wrong location; or 	<ul style="list-style-type: none"> - Pollution of watercourse and stormwater; - Disruption to service provision; 	OPESP <ul style="list-style-type: none"> - Excavation permit system to be implemented 	C4	L5	Low

	to the surrounding environment.		<ul style="list-style-type: none"> - Service not formerly identified by any means of investigation discovered and damaged. 	<ul style="list-style-type: none"> - Infringement notice; - Reputational damage; - Clean-up costs. 	<ul style="list-style-type: none"> - Spill Management Procedure; - Provision of Spill Kits at set locations, and mobile spill kits for sites outside of the RTRF; - Training of all staff and workforce; - Incident Response Procedures. 			
6	Unforeseen water inflows into the tunnel require additional discharge	Environment and Sustainability	<ul style="list-style-type: none"> - Settlement and/or damage to tunnel causing additional groundwater inflow - Damaged water service draining to tunnel 	<ul style="list-style-type: none"> - Delay as WTP operation is amended to allow for increased discharge - Infringement notice from EPA for discharge of water(s) in contravention of the EPL - Stop train operations (depending on volume entering tunnel). 	<ul style="list-style-type: none"> - Settlement monitoring previously undertaken - Work method planning takes into consideration existing services - CCS monitoring performance of pumps and WTP 	C4	L5	Low
7	Impacts to water quality from discharge of untreated groundwater.	Environment and Sustainability	<ul style="list-style-type: none"> - WTP failure 	<ul style="list-style-type: none"> - Pollution of watercourse and stormwater; - Impacts to aquatic flora and fauna; 	<ul style="list-style-type: none"> - OPESP - Refuelling Procedures; 	C4	L5	Low

			<ul style="list-style-type: none"> - CCS monitoring not identifying water quality impact 					
			<ul style="list-style-type: none"> - Unauthorised discharge 	<ul style="list-style-type: none"> - Infringement notice; 	<ul style="list-style-type: none"> - Spill Management Procedure; 			
				<ul style="list-style-type: none"> - Reputational damage; - Clean-up costs. 	<ul style="list-style-type: none"> - Provision of Spill Kits at set locations, and mobile spill kits for sites outside of the RTRF; - Training of all staff and workforce; - Incident Response Procedures; - Detention Basin Management Procedure; and - Water quality and watercourse monitoring. 			

8	Pollution of watercourses from discharge of sediment laden or otherwise contaminated stormwater runoff.	Environment and Sustainability	Rainfall event larger than the design capacity of the permanent built drainage facilities.	<ul style="list-style-type: none"> - Impacts to aquatic flora and fauna; - Infringement notice; - Reputational damage; - Clean-up costs 	<ul style="list-style-type: none"> - Refuelling Procedures; - Spill Management Procedure; - Provision of Spill Kits - Training of relevant staff and workforce; - Incident Response Procedures; - Detention Basin Management Procedure; and - Water quality and watercourse monitoring. 	C4	L5	Low
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9	Ongoing water table drawdown, settlement / ground movement, bed cracking / surface flow loss from previous tunnelling activities & excavations.	Tunnel	- Ongoing settlement of ground and inflows around the project infrastructure	- Flooding of infrastructure assets - Impact to natural flow and GDEs	- Previous settlement monitoring - Site inspection - Watercourse inspections	C4	L5	Low
10	Impacts from flood risk to stations and other rail infrastructure.	Environment and Sustainability	- Rainfall events beyond the design capacity of the final built infrastructure.	- Flooding of stations and other assets; - Damage to infrastructure; - Impacts on operations; - Risk to human safety and life;	- Previous flood assessments - Prevent impacts on drainage systems and watercourses through work planning - Temporary flooding controls./ diversions	C4	L5	Low
11	Uncontrolled water discharge from Operational Water Treatment Plant at SMTF-S.	Environment and Sustainability	Rainfall event larger than the design capacity of the permanent built treatment facilities.	Damage to infrastructure. Impacts to operations Infringement Notice	OPESP OEMP	C3	L5	Medium

Heritage								
12	Identification of unidentified indigenous or non-indigenous objects and places during repair and maintenance works.	Environment and Sustainability	<ul style="list-style-type: none"> - Previously unidentified heritage item discovered during works 	<ul style="list-style-type: none"> - Damage to heritage item. - Delay to works while item is investigated and properly archived. - Infringement notice. - Reputational damage. 	Heritage Management Plan - Unexpected Heritage Finds Procedure (including hold point to cease works where archaeological finds are encountered).	C4	L6	Low
Traffic and Transport								
13	Potential impacts on the local and regional road network during operation	Traffic & Transport	<ul style="list-style-type: none"> - Poorly designed precinct roads - Traffic volumes during peak periods - Commuter reliance on car use to get to stations 	Complaints - Accidents and injuries	Traffic and Transport Management Plan - Traffic monitoring (by Sydney Metro TfNSW) - Encourage alternative modes of transport for commuters and staff - Sydney Metro Construction Traffic Management Framework (Section 2)	C4	L4	Medium

14	Safety of pedestrians and cyclists within and around the station precincts	Traffic & Transport	<ul style="list-style-type: none"> - Footpaths and corridors access is impacted - Poor connections and signage - Staff not providing access to cyclists 	<ul style="list-style-type: none"> - Complaints - accidents and injuries - reputational damage 	<ul style="list-style-type: none"> - Clear footpaths and corridors for active modes of transport - Maintain design and Provision of facilities for cyclists - Lighting and security provisions around stations and managed precinct areas 	C4	L5	Low
				<ul style="list-style-type: none"> - Greater reliance on vehicles and further traffic generation 				
	Air Quality							
15	Dust emissions from repair or maintenance works, in particular those involving the moving of ballast	Surface Works	<ul style="list-style-type: none"> - Improper execution of surface works without appropriate mitigation. - Failure to implement dust suppression during works. - Excessive dry / windy weather rendering the ground and ballast dry and dusty. 	<ul style="list-style-type: none"> - Community complaints; - Visual haze; - Respiratory complaints; - Infringement notice; 	<ul style="list-style-type: none"> OPESP Dust Management practices EWMS to include dust mitigation methods, including such things as: 	C4	L5	Low

				- Reputational damage.	- inspection and observation for dust during work - Dust suppression to be fitted to equipment as required; - Wash-down of plant and services; - Education program for personnel to instruct on correct mitigation measures; - Street sweepers and water carts to be used to clean hard surfaces where required			
16	Capped asbestos at SMTF-S failure	Surface Works	Improper management of the hazard.	Accidents and Injuries Infringement notice	EMP	C4	L5	Low
	Ecology							
18	Impacts to threatened flora species during surface repair and maintenance works.	Surface Works	- Accidental clearing of threatened species; - Damage to root/ drip zone, of threatened tree species.	- Infringement notice; - Reputational damage.	OPESP - Vegetation Management Procedure.	C4	L6	Low

19	Impacts to threatened fauna species from noise, light spill and collision.	Surface Works	<ul style="list-style-type: none"> - Impact with maintenance and repair vehicles; - Impact with trains; - Light spill affecting the habits of nocturnal species. 	<ul style="list-style-type: none"> - Impact to health and life of fauna species increasing the chance of extinction. - Infringement notice; - Reputational damage. 	<p>OPESP</p> <ul style="list-style-type: none"> - Fauna Handling Procedure 	C4	L6	Low
20	Weed invasion .	Surface Works	<ul style="list-style-type: none"> - Failure to manage weed proliferation within the Operational Project boundaries 	<ul style="list-style-type: none"> - Spread of weeds leading to increased maintenance costs. 	<p>OPESP</p> <ul style="list-style-type: none"> - Weed Management Procedure. - Vegetation Management Procedure 	C4	L6	Low
21	Impacts to aquatic ecosystems from water discharge at SMTF-S Water Treatment Plant	Surface Works	<ul style="list-style-type: none"> - Release of water that is polluted (highly turbid or containing other pollutants) into natural watercourses. - WTP monitoring not identifying pollutants 	<ul style="list-style-type: none"> - Pollution of waterways; - Failure to comply with S.120 of the POEO Act; 	<p>OPESP</p> <ul style="list-style-type: none"> - WTP processes 	C4	L5	Low
			<ul style="list-style-type: none"> - WTP failure - Unauthorised discharge 	<ul style="list-style-type: none"> - Damage to health/ life of aquatic flora and fauna; 	<ul style="list-style-type: none"> - EPL; 			

				<ul style="list-style-type: none"> - Infringement notice; - Reputational damage; - Clean up costs. 	Waste tracking and disposal			
Waste and Resource Management								
22	Excessive waste directed to landfill.	Governance	<ul style="list-style-type: none"> - Unforeseen major repair or maintenance works requiring substantial demolition of NRT infrastructure. - Failure to follow waste management protocols for waste management from: offices; maintenance facilities; etc. 	<ul style="list-style-type: none"> - Failure to meet Deed requirements; - Failure to meet ISCA requirements; - Failure to meet MCoA requirements, resulting in infringement notice; - Reputational damage; - Increased cost associated with purchasing extra water. 	Compliance with: OPESP - Waste and Resource Management Procedure.	C4	L4	Medium

23			- Failure to follow waste management protocols		Compliance with: - CEMP;	C4	L4	Medium
	Mismanagement of waste materials.	Environment and Sustainability	for waste management from: offices; maintenance facilities; etc.	- Infringement notice for improper disposal of waste.	- Waste and Resource Management Procedure, including: * Waste classification sampling; * Waste tracking dockets.			
Greenhouse Gas and Climate Change Adaptation								
24	Emissions of greenhouse gases during operation contributing to climate change.		- Increased use of electricity during operation; - Failure to source adequate volumes of green power.	- Contributing to climate change impacts due to increased emissions.	Compliance with: OPESP Procurement Procedures; Sustainability initiatives for water reuse and energy use (reduce/offset); Carbon & Energy Management Plan	C4	L5	Low
25	Impact of climate change on rail operations and infrastructure.		-Heat sensitive components impacted by increase in hot days		OPESP	C4	L5	Low

			- Increase storm events and rainfall intensity		- Procurement Procedures; - Sustainability initiatives for water reuse and energy use (reduce/offset); Carbon & Energy Management Plan		
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	Community and Communications							
26	The community not being communicated any information regarding the Sydney Metro Trial Running		<div>- Incidents occurring due to the community not understanding/knowing what is occurring with the Sydney Metro Network</div> <div>- Complaints from the public due to the community not understanding/knowing what is occurring with the Sydney Metro Network</div>	-Environmental incidents occurring from the public not understating what is occurring with the network. E.g. Noise and vibration complaints.	<div>Compliance with:</div> <div>Sydney Metro CSW Overarching Community Strategy</div> <div>MTS' Community Communications Strategy and SCIP.</div>	C4	L5	Low

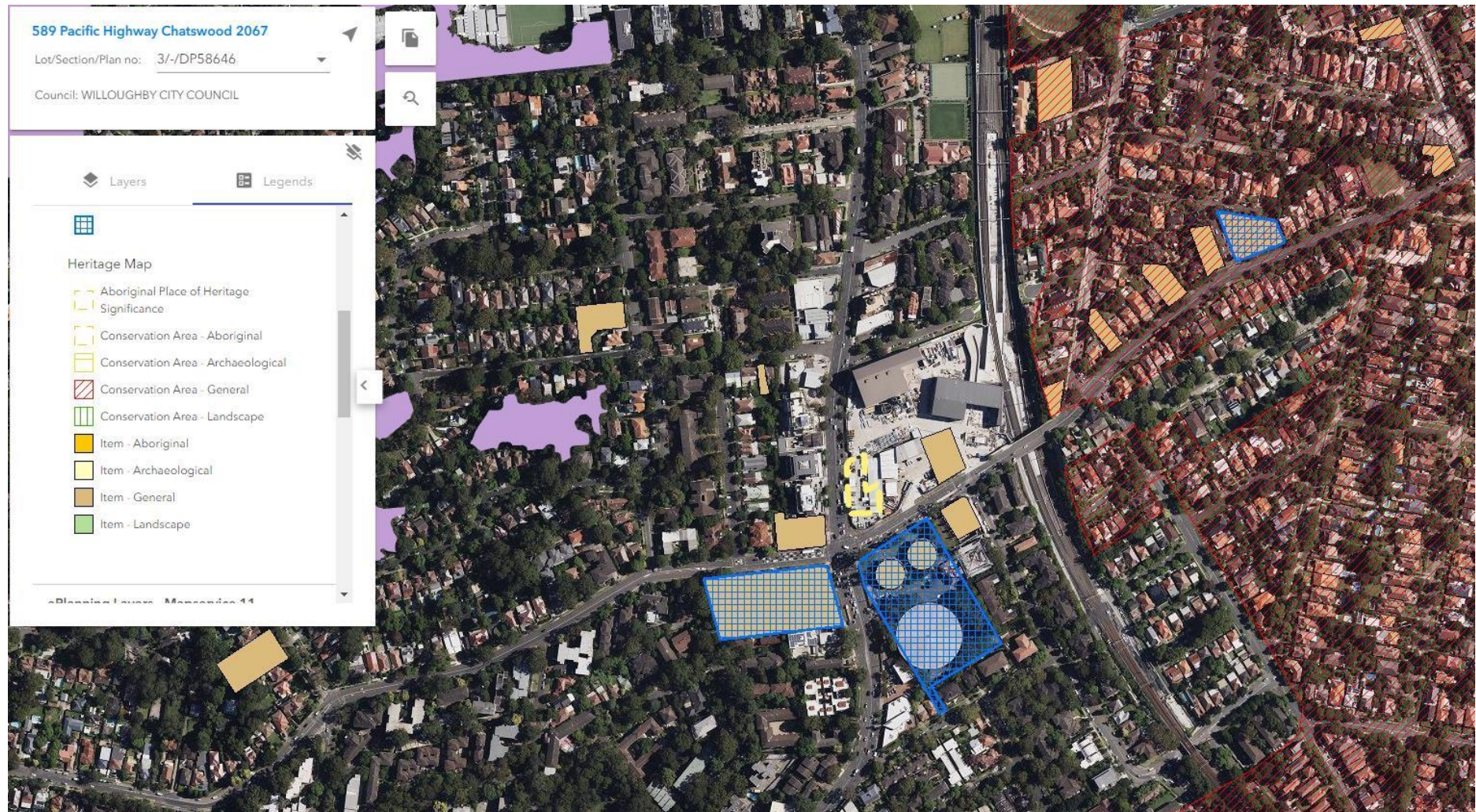
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Metro Body of Knowledge (MBoK)

(Uncontrolled when printed)



Chatswood Dive Site Spatial View Map



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Metro Body of Knowledge (MBoK)

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Marrickville Dive Site and Water Treatment Plant Spatial View Map



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Metro Body of Knowledge (MBoK)

(Uncontrolled when printed)

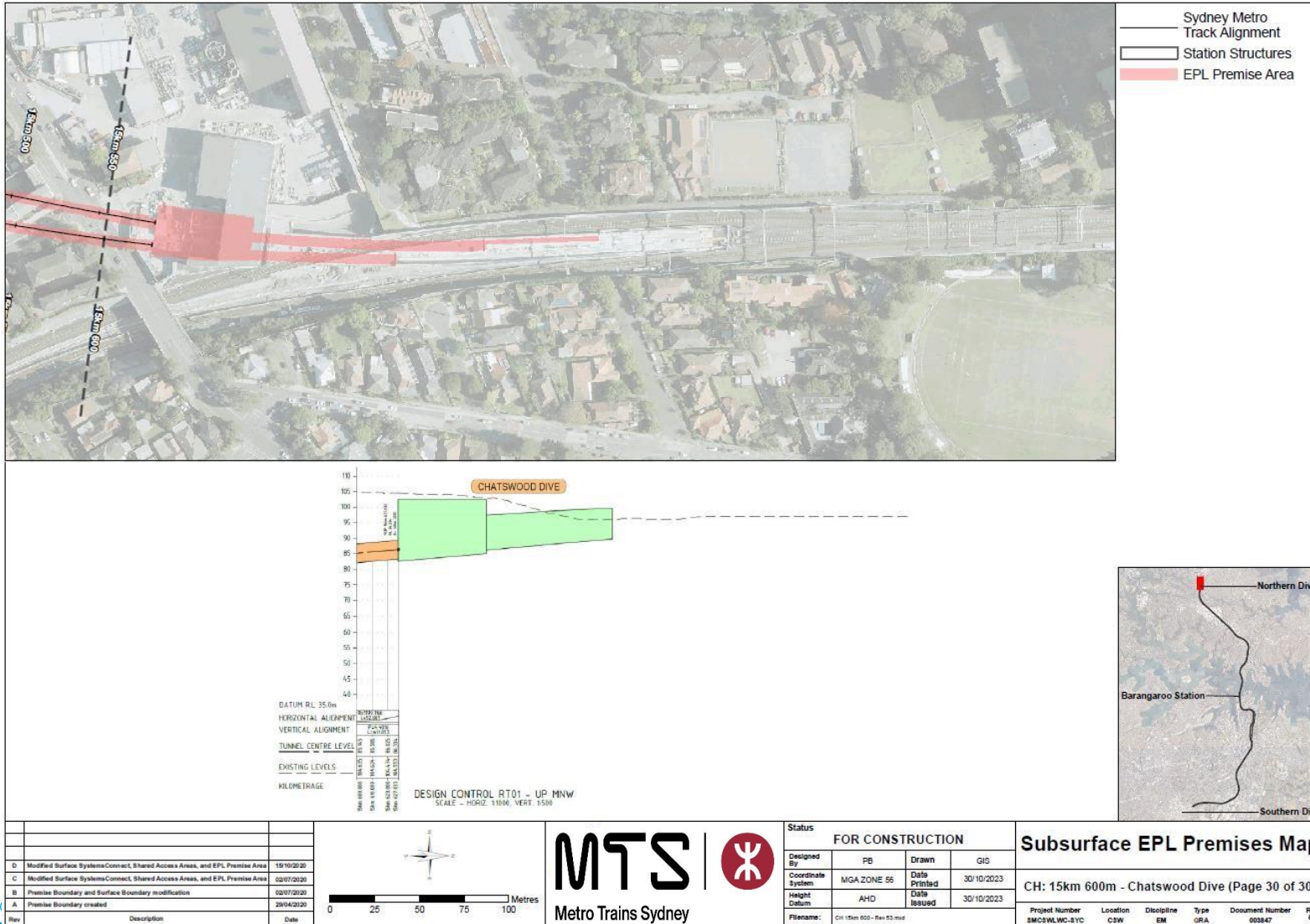


Chatswood Dive Site Location – Subsurface.

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Metro Body of Knowledge (MBoK)

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MTS-MWA-01-Pre-Construction Minor Works Approval Form-

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All other relevant Sydney Metro Chatswood to Sydenham Maps such as any location operated under the EPL and other Subsurface Maps will be provided on the Environmental section of MTS' website located at this link here: <https://metrotrains-sydney.com.au/environment/>

Appendix 2: Environmental Management Documentation

Sydney Metro City and Southwest – Trial Running CNVIS



APPROVAL

CITY & SOUTHWEST ACOUSTICS ADVISOR

Review of:	Sydney Metro City and Southwest – Dynamic Train Testing CNVIS	Document reference:	TN498-02F01 Trial Running CNVIS (r5)
Prepared by:	Daniel Weston Acoustics Advisor		Prepared by Renzo Tonin & Associates Pty Ltd
Date of issue:	22 May 2024		22 May 2024

As approved Acoustics Advisor for the Sydney Metro City & Southwest project, and as required under A27 (d) of the project approval conditions (SSI 15-7400), I have reviewed and provided comment on the Construction Noise and Vibration Impact Statement (CNVIS) for dynamic train testing activities (revision 5).

I am satisfied that the CNVIS is technically valid and includes appropriate noise and vibration mitigation and management. On this basis, I endorse the CNVIS referenced herein.

A handwritten signature in black ink, appearing to read "D. Weston".

Daniel Weston, City & Southwest Acoustics Advisor

28 May 2024

TN498-02F01 Trial Running CNVIS (r5)

Metro Trains Sydney Pty Ltd
47 Tallawong Road
Tallawong NSW 2762

Sydney Metro City and Southwest – Dynamic Train Testing CNVIS

1. Introduction

1.1. Overview of works

Renzo Tonin & Associates was engaged by Metro Trains Sydney to prepare a Construction Noise and Vibration Impact Statement (CNVIS) for the Trial Running and System Performance Testing on the Sydney Metro City and Southwest (SMCSW) project. The proposed trial-running activities will be undertaken along the entire alignment between Chatswood and Sydenham. The works assessed in this report address noise associated with the surface track train operations at Chatswood and Sydenham.

The works are anticipated to commence in late May 2024 and continue for 62 days, without any backup period, followed by two weeks of System Performance Testing at the same times of operation. trial-running is scheduled to be undertaken as per the 2024 opening timetable. As such, there will be activity during and outside standard construction hours. Since the SMCSW project is still in the construction stage, this CNVIS has been prepared to assess the potential construction noise and vibration impacts associated with the proposed trial-running activities. The potential noise impacts are assessed in accordance with the requirements of the Interim Construction Noise Guideline (EPA, 2009) (ICNG) and the Transport for NSW Construction Noise and Vibration Strategy (CNVS). The Metro Trains Sydney Pty Ltd Environment Protection License (EPL 21247 dated 4/8/23) provides construction noise and vibration criteria that are similar to those in SSI 7400 and the Interim Construction Noise Guideline. All relevant construction noise and vibration activities in EPL 21247 are addressed in this assessment.

1.2. Justification for OOH construction works

Trial-running is a fixed requirement of the project, and it will follow the operating timetable of the project upon commencement of operations. As such, trial-running must occur during and outside standard construction hours. For Friday and Saturday, it will take place from 4:00 am to 2:30 am. On other days, it will take place from 4:00 am to midnight.

2. Construction noise assessment

2.1. OOH works noise criteria

2.1.1. Interim Construction Noise Guideline

Table 2 of the ICNG sets out the construction noise management levels (CNMLs) for residences during and outside recommended standard construction hours. Standard construction hours on Saturday have been adjusted in SSI 7400 Mod 9 to 8am to 6pm (refer E38) which would apply to trial running activities. Table 2-1 is based on Table 2 from the ICNG.

Table 2-1: Summary of CNMLs from the ICNG

Time of day	Management level $L_{Aeq}(15\text{minute})$ ¹
Recommended standard hours: Monday to Friday 7 am to 6 pm	Noise affected RBL + 10 dB
Saturday 8 am to 6 pm No work on Sundays or public holidays	Highly noise affected 75 dB(A)
Outside recommended standard hours	Noise affected RBL + 5 dB
Note: 1. 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 from the residence.	

2.2. RBLs and Noise Catchment Areas

The Environmental Impact Statement¹ (EIS) identified the project Noise Catchment Areas (NCAs) and their respective RBLs based on unattended noise monitoring. The relevant NCAs are provided in Table 2-2. See APPENDIX C for maps showing the relevant NCAs, taken from the EIS.

Table 2-2: Summary of project RBLs in each NCA

Precinct	NCA	RBL, dB(A)		
		Day	Evening	Night
Chatswood dive site	NCA01	41	40	35
	NCA02	41	40	35
	NCA03	50	47	39
	NCA05	63	60	45
	NCA04	42	41	34
Marrickville dive site	NCA32	58	52	38
	NCA33	52	43	38

¹ Chatswood to Sydenham Environmental Impact Statement Technical Paper 2: Noise and Vibration, dated 28 April 2016.

2.3. Inputs and assumptions

The Chatswood to Sydenham Rail Operation Airborne Noise Review² (ANR) was composed to outline the methodology, the inputs and assumptions, and the results of the noise modelling and assessment, for the SMCSW Project.

Table 2-3 provides a summary of the noise modelling inputs used in the ANR and additional information relating to this assessment.

Table 2-3: Summary of noise modelling inputs

Input	Value	Source
Sydney Metro train reference noise levels (ballast track)	L _{AE} 85 dB(A), L _{AFmax,95%} 82 dB(A) at 80km/h, 15 m from track	NWRLSRT-MET-SRT-NA-REP-000006 P02
Turnout correction	+6 dB to L _{AE} and L _{AFmax,95%}	NWRLSRT-MET-SRT-NA-REP-000006 P02
Bridge noise correction	+2 dB for Albert Avenue +8 dB for Brand Street	NWRLSRT-MET-SRT-NA-REP-000006 P02
Train speed profile	As per Appendix A of the ANR. See APPENDIX B.	NWRLSRT-MET-SRT-NA-REP-000006 P02
Track type	+6 dB for slab track	NWRLSRT-MET-SRT-NA-REP-000006 P02
Noise barriers	As per Section 5.7 of the ANR	NWRLSRT-MET-SRT-NA-REP-000006 P02
Rail traffic	See Table 2-4	NWRLSRT-MET-SRT-NA-REP-000006 P02
Ground type	Hard ground	NWRLSRT-MET-SRT-NA-REP-000006 P02
Receiver height	1.5 m above ground or floor level	NWRLSRT-MET-SRT-NA-REP-000006 P02
Floor height	3 m per floor level	NWRLSRT-MET-SRT-NA-REP-000006 P02
OOH works dates	Late May 2024 (start date TBC), to continue for 60 days	Metro Trains Sydney, 29/04/2024
OOH works period	2024 build timetable (see Table 2-4)	Metro Trains Sydney, 29/04/2024
OOH works test area	Surface track sections at Chatswood and Metro Trains Sydney, 29/04/2024 Sydenham	

Table 2-4 is extracted from Table 9 of the ANR, and provides a summary of the train movements used in the operational noise assessment for the project. Operational noise modelling in the ANR was based on the "2036 build" scenario. The trial-running is to follow the same timetable as the "2024 build" scenario. **Table 2-4: Train movements, sourced from the ANR**

Scenario	Train movements			
	Day ¹		Night ²	
	Up	Down	Up	Down
2024 build	225	225	27	27

Scenario	Train movements			
	Day ¹		Night ²	
	Up	Down	Up	Down
2036 build	263	263	27	27
Note:	2. Day is 7 am – 10 pm 3. Night is 10 pm – 7 am			

Appendix B of the ANR provides predicted noise levels for the 2036 build scenario, with and without mitigation. For this CNVIS, the noise predictions for the mitigated design are referenced.

For the Year 2024 scenario applicable to the proposed trial running activities, the $L_{Aeq(15\text{hour})}$ noise levels are 0.7 dB(A) lower than the Year 2036 predictions and the $L_{Aeq(9\text{hour})}$ and $L_{AFmax,95\%}$ noise levels are the same as the Year 2036 predictions.

3. Predicted noise levels

3.1. $L_{Aeq(15\text{minute})}$ noise levels

Table 3-1 provides a summary of the predicted $L_{Aeq(15\text{-minute})}$ noise levels from the ANR at the most affected receiver in each relevant NCA compared with the CNMLs from the ICNG. Predicted noise levels have been adjusted to reflect rail traffic volumes for the 2024 build scenario, which is the Trial-running scenario. For the purpose of this assessment, the $L_{Aeq(\text{period})}$ noise levels are assumed to be the same as the $L_{Aeq(15\text{-minute})}$ noise levels during the respective daytime and night-time periods.

Table 3-1: Summary of predicted exceedances for the most affected receiver

ICNG CNMLs, $L_{Aeq(15\text{minute})}$, dB(A)		Predicted noise level		Exceedance, dB(A)		Additional management to be implemented ³			measures	
NCA (RBL + 5) ¹		$L_{Aeq(15\text{minute})}$, dB(A)		Standard hours (day) 7 am-6 pm		OOHW Period 1 (evening)	OOHW Period 2 (night)	Standard hours (day)	OOHW Period 1 (evening)	OOHW Period 2 (night)
Day	Evening	Night	Day	Night	Day	Night	Day	Evening	Night	Day

² NWRLSRT-MET-SRT-NA-REP-000006, revision P02, dated 27 November 2020.

<div> <div>10 pm-7</div> <div>6 pm-10 pm am</div> </div>										
NCA01	46	45	40	61	55	15	16	15	PN	PN, V, RO, SN, AA, RP, DR
NCA02	46	45	40	66	60	20	21	20	PN	PN, V, SN, RO, RP, DR, AA, RP, DR
NCA03	55	52	44	66	61	11	14	17	PN	PN, V, RO, SN, AA, RP, DR
NCA04	47	46	39	48	43	1	2	4	PN	PN, V, SN
NCA05	68	65	50	45	40	-	-	-	PN	-
NCA32	63	57	43	64	61	6	12	23	PN	PN, V, RO, SN, AA, RP, DR
NCA33	57	48	43	47	44	-	4	6	PN	PN, V, SN
NCA34	64	58	46	53	50	-	-	9	PN	PN, V, SN
ICNG CNMLs, L _{Aeq(15minute)} , dB(A) NCA (RBL + 5) ¹		Predicted noise level L _{Aeq(15minute)} ² , dB(A)		Exceedance, dB(A)				Additional management measures to be implemented ³		
Day	Evening	Night	Day	Night	Standard hours (day) 7 am-6 pm	OOHW Period 1 (evening)	OOHW Period 2 (night) 6 pm-10 pm 10 pm-7 am	Standard hours (day)	OOHW Period 1 (evening)	OOHW Period 2 (night)
Note: 1. RBLs taken from the EIS.										
2. The predicted facade noise levels from the ANR have been adjusted to free-field noise levels to allow direct comparison with construction noise targets.										
3. Additional management measures taken from the TfNSW Construction Noise and Vibration Strategy ³										
PN = Project notification										
V = Verification monitoring										
RP = Respite period										
AA = Alternative accommodation										
SN = Specific notification, individual briefings, or phone call										
DR = Duration reduction										
RO = Project-specific respite offer										

3.2. Sleep disturbance

The ICNG recommends that where construction works are planned to extend over more than two consecutive nights, maximum noise levels and the extent and frequency of maximum noise level events exceeding the RBL should be considered.

³ Transport for NSW Construction Noise and Vibration Strategy, Version 4.1, dated 24 April 2019

To assess the likelihood of sleep disturbance, an initial screening level of $(L_{Amax} \text{ or } LA_{1(1min)}) \leq LA_{90(15min)} + 15$ dB(A) is used.

Where there are noise events found to exceed the initial screening level, further analysis is made to identify:

- the likely number of events that might occur during the night assessment period
- whether events exceed an 'awakening reaction' level of 55dBA L_{Amax} (internal) that equates to NML of L_{Amax} 65 dB(A) (assuming open windows).

Table 3-1 provides a summary of the $L_{AFmax,95\%}$ predicted noise levels from the ANR at the most affected receiver in each relevant NCA compared with the NML of RBL + 15 dB(A) or 55 dB(A).

Table 3-2: Summary of predicted L_{Amax} noise levels compared with NMLs

NCA	NML L_{AFmax} , dB(A) (night RBL + 15) ¹		Predicted L_{Amax} noise level, dB(A) ²
	Screening	Maximum	
NCA01	55	65	79
NCA02	55	65	84
NCA03	55	65	85
NCA04	55	65	67
NCA05	60	65	61

NCA	NML L_{AFmax} , dB(A) (night RBL + 15) ¹		Predicted L_{Amax} noise level, dB(A) ²
	Screening	Maximum	
NCA32	55	65	82
NCA33	55	65	64
NCA34	56	65	68

Note:

1. RBL taken from the EIS. NML set as RBL + 15 dB(A) or 55 dB(A) if lower
2. The predicted facade noise levels from the ANR have been adjusted to free-field noise levels to allow direct comparison with construction noise targets.

4. Discussion of results

Regarding the $L_{Aeq(15minute)}$ noise levels in Table 3-1, there are several large exceedances of the CNMLs.

The ICNG defines the terms “feasible” and “reasonable” in terms of their application as abatement measures. A work practice is feasible if it is capable of being put into practice or engineered and is practical to build given project constraints such as safety and maintenance requirements.

Selecting reasonable measures from those that are feasible involves making a judgement to determine whether the overall noise benefits outweigh the overall adverse social, economic and environmental effects, including the cost of the measure.

The noise impact during trial running will be identical to the noise impact during the operation stage of the project, which has been designed for and allowed for in the Planning Approval. Following the commencement of the operations, T&C will be undertaken to verify the noise levels. Given that the trial running will continue for 62 days, with no backup, and follow a schedule identical to the operation of the project, it would not be reasonable to implement additional mitigation measures such as respite periods (RP) or alternative accommodation (AA). Project notification (PN) would be the only feasible and reasonable additional mitigation measure among those detailed in the CNVS. The actual noise levels will be verified through measurement and additional feasible and reasonable mitigation will be considered as a part of the testing and commissioning process where noise levels above the predictions are identified.

Regarding potential sleep disturbance, the predicted L_{Amax} noise levels are higher than the screening and maximum levels at the nearest residential receivers in some NCAs. Similarly to the case presented above, Trial-running will replicate the operational scenario, and maximum noise level events have been designed for and allowed by the Planning Approval. Notwithstanding, additional mitigation measures such as PN and V will be implemented as a precautionary measure to help manage community expectations around noise as the project transitions to trial running. Other measures can also be implemented such as Safety, Health and Environment (SH&E) Alerts and construction notices.

Note also that the ICNG is generally written with a view to construction activities such as drilling, hammering or earthmoving. The fact that the project is not yet in the operational phase means that the Trial running constitutes a construction activity, and the ICNG does not cover rail noise.

5. Conclusion

Renzo Tonin & Associates was engaged by Metro Trains Sydney to prepare a CNVIS for the proposed Trial-running activities. The proposed Trial-running activities will include surface track operations at Chatswood and Sydenham. The works are anticipated to commence in late May 2024 and continue for 60 days, during and outside standard construction hours. Noise impacts from the Trial running works have been assessed against the NMLs in the ICNG. Based on the operational noise predictions in the ANR, the Trial-running works are likely to exceed the NMLs in the ICNG. However, the Trial-running will replicate the operating conditions of the project, which has been designed for and allowed by the Planning Approval.

Safety, Health and Environment (SH&E) Alerts shall be prepared as required for distribution within the MTS network, where appropriate. SH&E Alerts shall be raised at the discretion of the Environment & Sustainability Advisor. The messages shall be sent via the rail industry worker procedure. For Trial running, the MTS communication team will coordinate with Sydney Metro to send the construction notices out to the public.

Document control

Date		Non-issued	Issued	Prepared	Instructed revision	Reviewed /
		Revision	history	revision	Authorised	
07.05.2024	First Issue	0	1	J. Iaconis	C. Weber	C. Weber
13.05.2024	Addressing ER and AA	-	2	S. Dixit	C. Weber	C. Weber comments
16.05.2024	Updated CNVIS addressing the ER and AA comments	-	3	S. Dixit	C. Weber	C. Weber
20.05.2024	Updated CNVIS addressing the ER and AA comments	-	4	S. Dixit	C. Weber	C. Weber
21.05.2024	Final CNVIS addressing the ER	-	5	S. Dixit	C. Weber	C. Weber and AA comments
File Path: R:\AssocSydProjects\TN451-TN500\TN498 cw ONVMP for SMCSW\1 Docs\02 - Dynamic Train Testing\TN498-02F01 Trial Running CNVIS (r5).docx						

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This document is issued subject to review and authorisation by the suitably qualified and experienced person named in the last column above. If no name appears, this document shall be considered as preliminary or draft only and no reliance shall be placed upon it other than for information to be verified later.

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We have derived data in this report from information sourced from the Client (if any) and/or available in the public domain at the time or times outlined in this report. The passage of time, manifestation of latent conditions or impacts of future events may require further examination and re-evaluation of the data, findings, observations and conclusions expressed in this report.

We have prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law.

The information contained herein is for the purpose of acoustics only. No claims are made and no liability is accepted in respect of design and construction issues falling outside of the specialist field of acoustics engineering including and not limited to structural integrity, fire rating, architectural buildability and fit-for-purpose, waterproofing and the like. Supplementary professional advice should be sought in respect of these issues.

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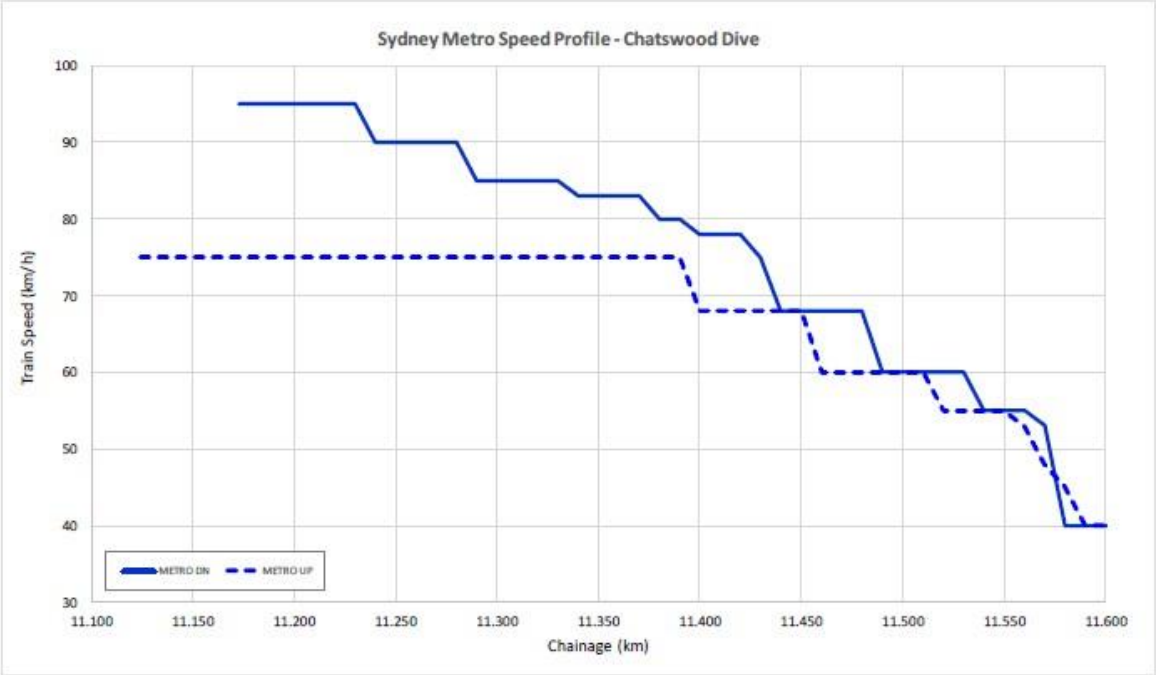
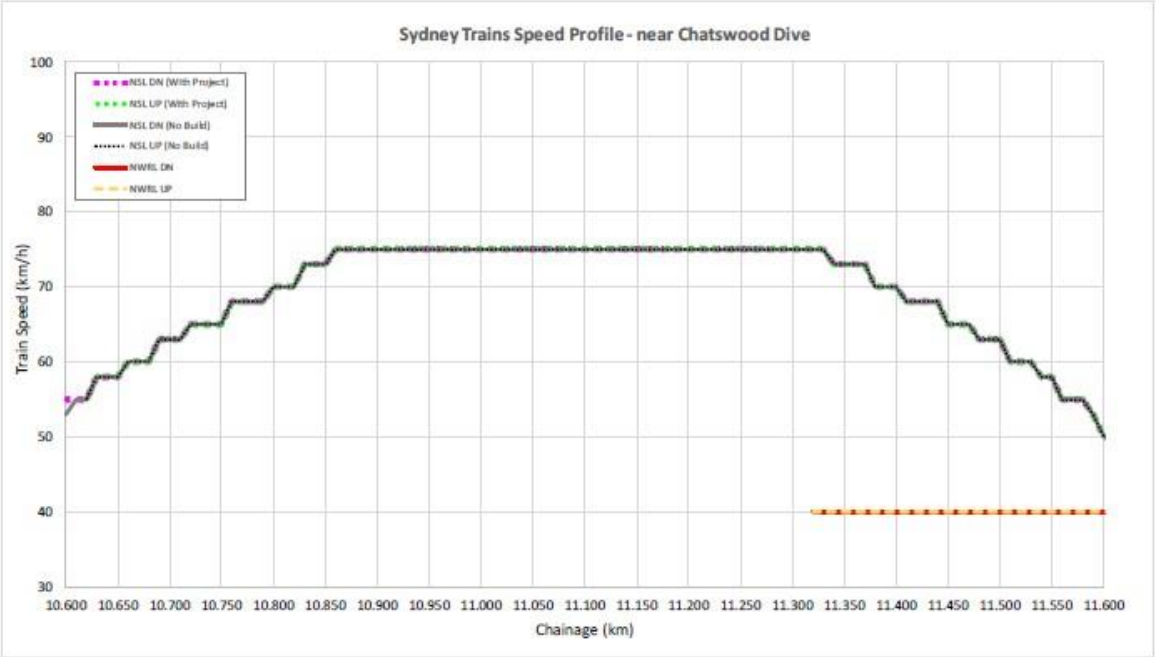
APPENDIX A Glossary of terminology

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

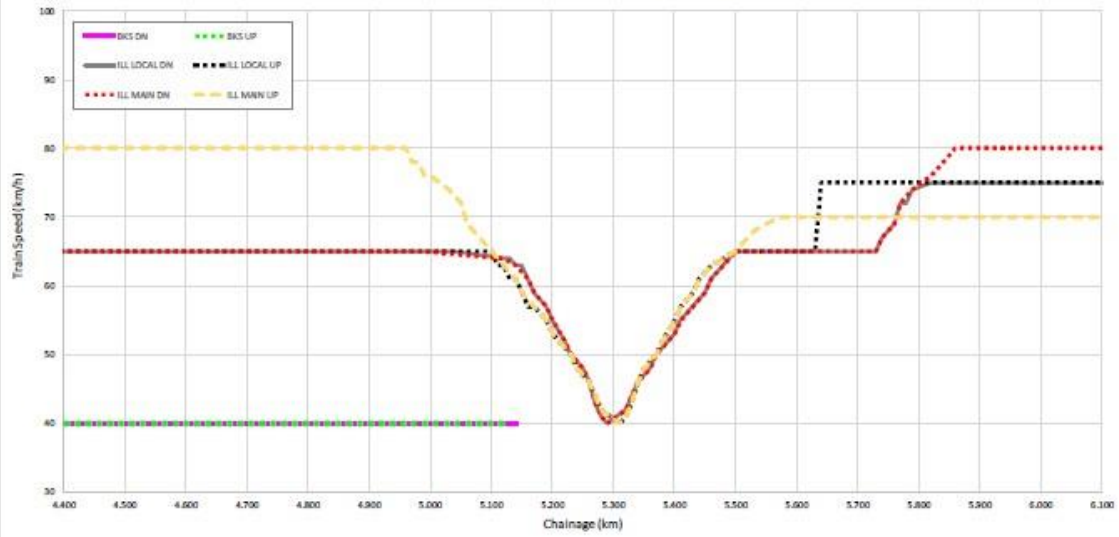
Adverse weather	Weather effects that enhance noise (that is, wind and temperature inversions) that occur at a site for a significant period of time (that is, wind occurring more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of the nights in winter).
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.
Assessment period	The period in a day over which assessments are made.
Assessment point	A point at which noise measurements are taken or estimated. A point at which noise measurements are taken or estimated.
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, when extraneous noise is removed. 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 L90 noise level (see below).
Decibel [dB]	<p>The units that sound is measured in. The following are examples of the decibel readings of every day sounds:</p> <p>0dB The faintest sound we can hear</p> <p>30dB A quiet library or in a quiet location in the country</p> <p>45dB Typical office space. Ambience in the city at night</p> <p>60dB CBD mall at lunch time</p> <p>70dB The sound of a car passing on the street</p> <p>80dB Loud music played at home</p> <p>90dB The sound of a truck passing on the street</p> <p>100dB The sound of a rock band</p> <p>115dB Limit of sound permitted in industry</p> <p>120dB Deafening</p>
dB(A)	A-weighted decibels. 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 switched on 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.
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.
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.
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.
L _{Max}	The maximum sound pressure level measured over a given period.
L _{Min}	The minimum sound pressure level measured over a given period.

L ₁	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L ₁₀	The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.
L ₉₀	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).
Leq	The "equivalent noise level" is the summation of noise events and integrated over a selected period of time.
Reflection	Sound wave changed in direction of propagation due to a solid object obscuring its path.
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 through its conversion into thermal energy.
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 pressure level	The level of noise, usually expressed in decibels, as measured by a standard sound level meter with a microphone.
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.
Tonal noise	Containing a prominent frequency and characterised by a definite pitch.

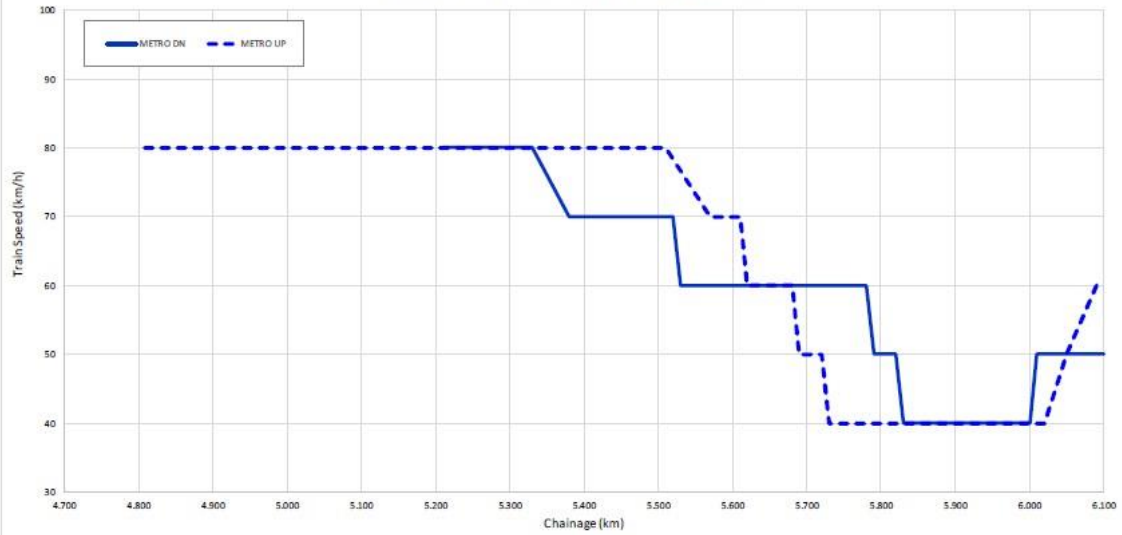
APPENDIX B Train speed profiles



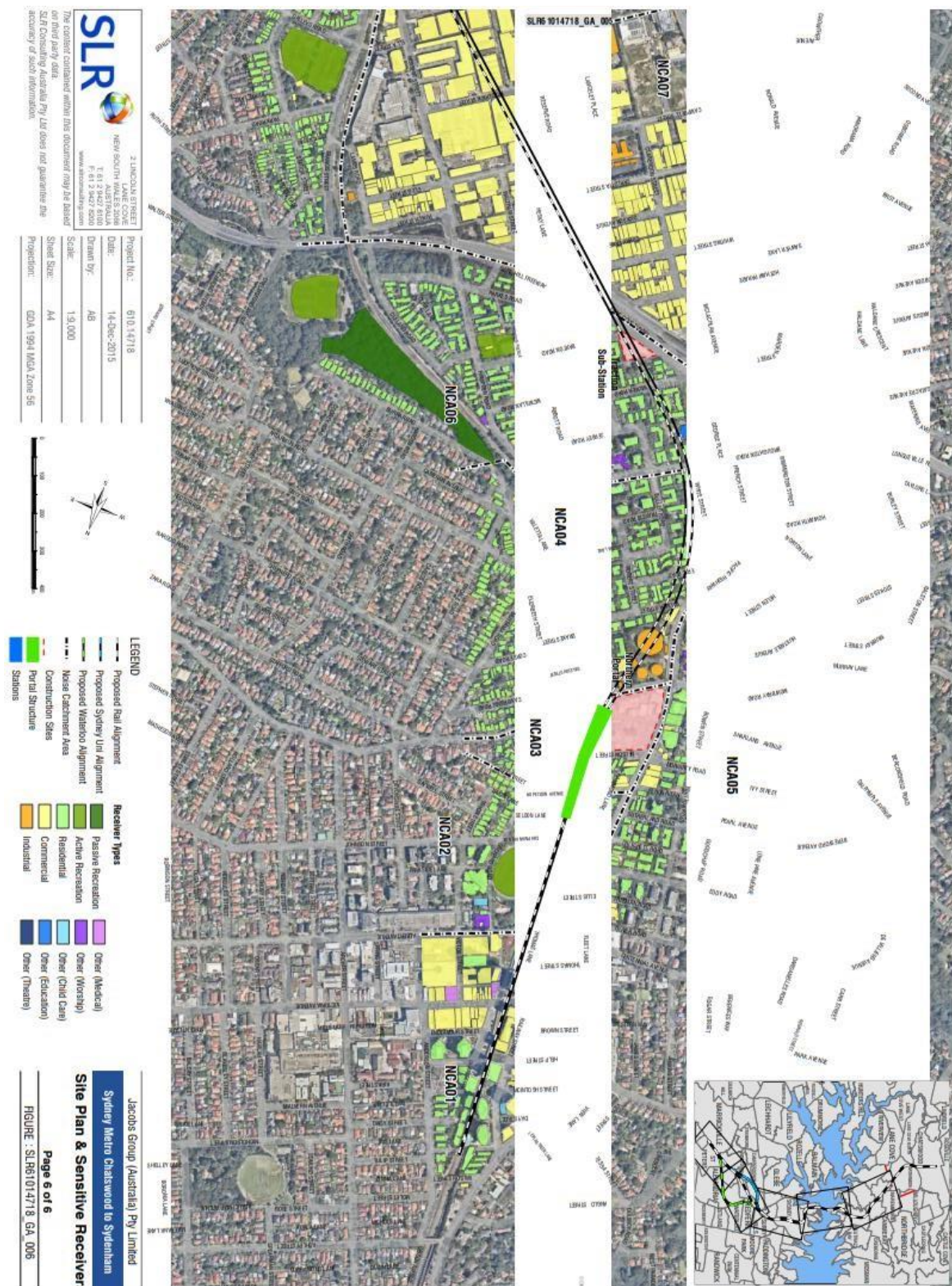
Sydney Trains Speed Profile Marrickville Dive



Sydney Metro Speed Profile - Marrickville Dive



APPENDIX C



Project update – Northern Connection and Chatswood Dive Site

April 2024

Sydney Metro is Australia’s biggest public transport project.

Services started in May 2019 in the city’s North West with a train every four minutes in the peak. Metro rail will be extended into the CBD in mid-2024, with new metro railway stations at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Gadigal and Waterloo, and new metro platforms at Central, and then onto Bankstown in 2025.

Systems Connect (an unincorporated joint venture between CPB Contractors and UGL Limited) is delivering line-wide work including installing metro rail track, power systems and infrastructure to turn the excavated tunnels into a working railway between Chatswood and Sydenham. Line-wide work also includes the permanent systems, services and buildings required for Sydney Metro operations between Chatswood and Bankstown.

6. Remaining work at Chatswood Dive Site and Northern Connection

Chatswood Dive Site	<ul style="list-style-type: none">• Remediation work including concrete saw-cutting, concrete hammering, excavation, removal of contaminated soil and offsite disposal of the contaminated soil (this work will be carried out by RMA Group, the contractor working on the section of residual land)• Testing and commissioning of services and equipment
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During March 2024, Systems Connect completed the Frank Channon Walk extension and opened the shared path to the community, providing an improved active transport connection between Chatswood and Artarmon. Systems Connect’s work in the area is nearing

Location	Out-of-hours work
----------	-------------------

completion, with remaining activities mostly comprising maintenance, testing and commissioning, as outlined below.

Standard project work hours are Monday to Friday, 7am to 6pm and Saturday, 8am to 6pm.

Location Work during standard hours

Northern Connection rail corridor – 24/7 activities	<ul style="list-style-type: none">Maintenance, testing and commissioning of mechanical and electrical services, including power, communications and signalling equipment and services, ventilation systems and dynamic train testingTrain movements in the rail corridor
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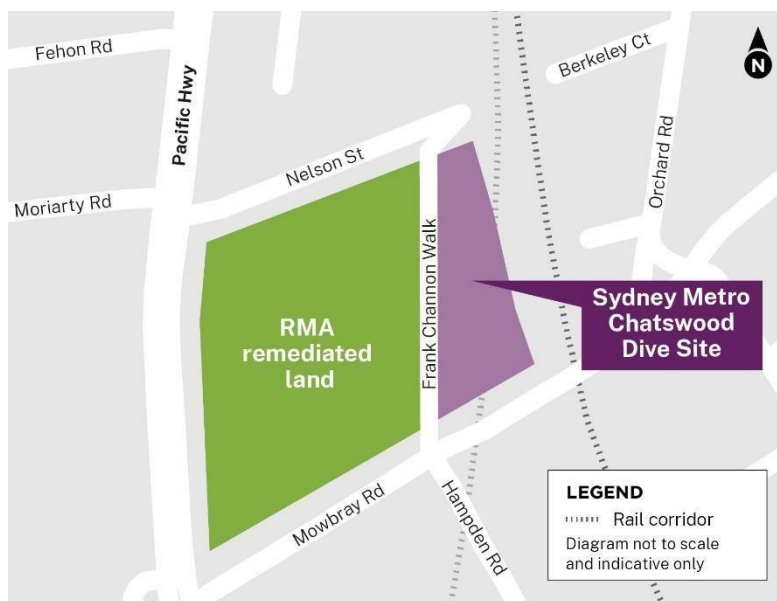
Out-of-hours work (night) work hours – due to the nature of some activities and for the safety of community and workers, some work will occur outside standard construction hours

Chatswood Dive Site – 24/7	<ul style="list-style-type: none">Maintenance, testing and commissioning activities of mechanical and electrical services, including power, activities communications and signalling equipment and systems, ventilation systems and dynamic train testing
----------------------------	---

Northern Connection – 13 and 14 April, 2024 (pending confirmation)	<ul style="list-style-type: none">Fencing rectification and maintenance work <p><i>Further details of work will be provided via our email updates; highly impacted properties will be notified separately</i></p>
--	---

7. What to expect

- Some of this work may be noisy at times. Every effort will be made to reduce the noise and disruption, such as using only the necessary equipment for each task, turning off equipment when not in use and equipping machinery with non-tonal movement alarms.
- Equipment used will include, but not be limited to excavators (including mud bucket and rock hammering equipment), concrete saws, water carts, light and heavy vehicles, dump trucks, elevated work platforms, loaders, hi-



rail vehicles, generators, lighting towers, welding equipment, hand-held and electric tools.

- Some equipment may be transported outside of standard construction hours in line with Transport for NSW requirements for transporting oversized vehicles.

- Trucks will exit the Chatswood Dive site via Mowbray Road on to Pacific Highway.

- Access to the rail corridor will be via our Mowbray Road compound, Drake Street or


Chatswood Station.

- Access to buildings and driveways will be maintained. Where temporary footpath or lane closures are required, signage and traffic control will be in place to assist pedestrians and motorists. We will liaise directly with impacted residents.
- Temporary fencing and barricades may be installed to provide a safe and secure site.

Thank you for your cooperation and understanding while we complete this essential work.

To keep up to date with what is happening in the Chatswood and Artarmon area we encourage you to register for email updates, which provide the latest information about our work, including out-of-hours activities. If you have not already done so, please register for these updates by sending your name, address, email and phone number to linewidemetro@transport.nsw.gov.au, or call us on 1800 171 386.

Contact us

 24-hour Community Information Line **1800 171 386**

 **sydneymetro@transport.nsw.gov.au**

 Sydney Metro City & Southwest, PO Box K659,
Haymarket NSW 1240



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Project update – Marrickville Dive Site and Sydney Metro Trains Facility South

April 2024

Sydney Metro is Australia’s biggest public transport project.

Services started in May 2019 in the city’s North West with a train every four minutes in the peak. Metro rail will be extended into the CBD in mid-2024, with new metro railway stations at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Gadigal and Waterloo, and new metro platforms at Central, and then onto Bankstown in 2025.

Systems Connect (an unincorporated joint venture between CPB Contractors and UGL Limited) is delivering line-wide work including installing metro rail track, power systems and infrastructure to turn the excavated tunnels into a working railway between Chatswood and Sydenham. Line-wide work also includes the permanent systems, services and buildings required for Sydney Metro operations between Chatswood and Bankstown.

At Marrickville, Systems Connect is responsible for the design and construction of Sydney Metro Trains Facility (SMTF) South, the dive buildings and services buildings.

What work are we doing?

Standard project work hours are Monday to Friday, 7am to 6pm and Saturday, 8am to 6pm.

Location	Work during standard hours
Marrickville Dive Site, SMTF South and Sydenham Station	<ul style="list-style-type: none">• Delivery and movement of materials and equipment• Continued installation of equipment, cables and cabinets in the services building, in the yard and at Sydenham Station• Electrical, mechanical, hydraulics and fire services commissioning

- Formwork, reinforcement and concrete delivery, pouring and pumping
- Survey work and workers accessing the tunnels
- Energisation of equipment
- Site demobilisation activities and landscaping work

Out-of-hours (night) work hours – due to the nature of some activities and for the safety of community and workers, some work will occur outside standard construction hours

Location	Out-of-hours work
Marrickville Dive Site and SMTF S building, stabling yard, equipment in the tunnels, rail corridor and the yard and Sydenham Station – 24/7 Maintenance, testing and commissioning activities of	<ul style="list-style-type: none"> • Delivery and movement materials and equipment services • Installation and decommissioning of cables and trackside activities • mechanical and electrical services, including power, communications and signalling equipment and systems, ventilation systems and dynamic train testing. • Telstra cable installation work
• Water treatment plant upgrade work	



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Sundays from 8am to 6pm -
SMTF South services
buildings and the yard, and
within the rail corridor

- Low impact noise activities including crane lifts, formwork, reinforcement, material movement, pumping and concreting, electrical service cable installation, subsoil drainage and testing and commissioning activities

What to expect

- Some of this work will be noisy. Every effort will be made to reduce the noise and disruption. Highly impacted residents will be notified.
- Equipment used will include handheld and electric tools, power drills, vibratory



equipment, rollers, excavators, skid-steer loaders, concrete mixers and pumps, generators, hi-rail equipment (i.e. excavator, trolleys, tugs), bobcats, forklifts, mobile cranes, telehandlers, concrete saw, elevated work platforms, lighting towers, light trucks and heavy vehicles and tippers.

- The project team will take every step possible to minimise noise impacts. A range of measures are in place to meet the project's approval conditions and reduce noise, including noise barriers, using only the necessary equipment for each task, turning off equipment when not in use and equipping machinery with non-tonal movement alarms.
- Some equipment may be transported outside of standard construction hours in line with Transport for NSW requirements for transporting oversized vehicles.
- General construction deliveries and tunnel fit-out will continue 24 hours a day, seven days a week, as per the project's planning approvals. All relevant mitigation measures will be in place to reduce noise impacts where possible.

Thank you for your cooperation and understanding while we complete this essential work.
To keep up to date on our work at the Marrickville Dive Site and SMTF South, please register for updates through linewidemetro@transport.nsw.gov.au or 1800 171 386.

24-hour Community Information Line **1800 171 386**

Contact us



sydneymetro@transport.nsw.gov.au

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