



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 TfNSW/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:	Laing O'Rourke
Project:	Sydney Metro City and Southwest - Northern Corridor Works Project
Application Title: (e.g. Smith St trenching works)	Mid-Week 36: Portion 7a – Installation of steel at footings locations and survey of services on Mowbray Road March 5 th – March 9 th 2018 (4 nights)
Application Number:	NCW-008
Application Date:	Revision 1 - 13/02/18 Revision 2 – 1/03/2018
Planning Approval:	SSI 15_7400
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?	No. The proposed works do not have potential to impact on heritage items, threatened species, populations or endangered ecological communities.



Part 2: Details

<p>Describe the proposed Minor Works: Including work methodologies, site location(s) and site description(s) (e.g. landscape type, waterways, etc.).</p>	<p>The scope of work involves the installation of steel masts onto concrete footings of overhead wire structures in the rail corridor between chainages 10.600km to 11.200km (between Albert Avenue and Nelson Street) to the south of Chatswood Station. Works will commence on 5th March 2018 and conclude 9th March 2018 (2300 – 0400 each night for 4 nights).</p> <p>Footings works are located in the rail corridor and require no trains running and high voltage power to be isolated. If these works were to occur during standard construction hours then personnel would be at risk of being struck by trains and electrocution. Works may occur on multiple footings at the same time, however works will be staged so that they will not be undertaken on adjoining footings at the same time. This is to mitigate noise impacts and limit site congestion. Works on each footing may take between 1 and 3 hours.</p> <p>Survey works on Mowbray Road bridge are required to be undertaken on the road to access services surrounding the bridge. As such traffic control will be required to be in place. In order to minimise the impact to local traffic these works will be conducted at night. These works will occur for 4 nights with traffic control to be in place from 2300-0400 hours each night.</p> <p>Traffic control will be in place on Drake Street and Hopetoun Avenue to ensure access for construction vehicles is maintained. Traffic Control Plans, approved by Willoughby City Council will be implemented.</p> <p>Deliveries of major components associated with the possession works will occur during standard construction hours. All other deliveries will relate to emergency/unforeseen items and will be delivered by light commercial vehicles as required via the approved site access points.</p> <p>The work activities are as follows:</p> <p>Midweek 36 (05/03/2018 – 09/03/2018): 2300 Monday – 0400 Friday Installation of steel masts on footings locations at chainages 11+584US, 11+511US, 11+450US, 11+424US, 11+224US, 11+281US & 11+281 DS.</p> <ul style="list-style-type: none"> - Crane truck will lift steel into place above footing location - Steel to be guided to location - Hand tools to be used to fix steel to location - Steel mast and footing to be surveyed following installation <p>Survey of Mowbray Road bridge to record service locations.</p> <ul style="list-style-type: none"> - Traffic control to be installed on Mowbray Rd and surrounding streets - Surveyors to undertake a topographic survey and services pick up either side of the bridge - Surveyors to the access service location man holes and Ground Penetrating Radar (GPR) inspect each location for size and type of service at that location <p>Works locations and traffic control plans has also been included in Appendix 1.</p>
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<p>Planned Commencement Date:</p>	<p>5 March 2018</p>
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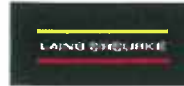
<p>Local Sensitivities: Describe the presence (if any) of local sensitive environmental areas and community receptors.</p>	<p>Community – Residents off Albert Avenue, Ellis Street, Chapman Avenue, Gordon Avenue and Hopetoun Ave have direct line of site to the works. Site access would be via the site access gate to the rail corridor on Drake Street and Hopetoun Avenue.</p>
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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.

<p>Documentation: List any existing documents (including those referenced above) that the proposed Minor Works will be undertaken in</p>	<ul style="list-style-type: none"> - Sydney Metro Construction Environmental Management Framework - Sydney Metro City and Southwest, Chatswood to Sydenham, Planning approval SSI 15_7400
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accordance with and attach as Appendix 2 (e.g. plans, procedures, etc.).	
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?	All workers will undertake NCW Project specific induction. In addition, there will be a pre-start briefing undertaken by the worksite manager at the start of shift for all work groups. This will detail the environmental and community risks and mitigation measures.
Part 5: Community Consultation	
What community consultation has been undertaken already?	None for these specific minor works activities.
What community consultation is planned to be undertaken?	Out-of-hours notification will be distributed a minimum of 7 days prior to works commencing.
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:	Tony Deacy	Position:	Project Manager	Phone:	0467 762 987
	Chris Standing		Environmental Manager		0431 338 578
	Helena Johansson		Communications and Stakeholders Manager (Sydney Metro)		0466 545 189
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:	Chris Standing				
Signature:				Date:	1/03/18



Determination Page

(TfNSW/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).

	TfNSW Principal Manager, Communication & Engagement – Endorsement (required for all applications)	TfNSW Principal Manager, Sustainability, Environment & 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:	HELENA JOHANSSON	FIL CERONE	Erran Woodward
Date:	5/3/18	5/3/18	2/03/18
Comments:			Supporting letter attached as Appendix 4 if necessary.
Conditions:			Supporting letter attached as Appendix 4 if necessary.
<input checked="" type="checkbox"/> Approved (by TfNSW)			
<input type="checkbox"/> Endorsed (by Environmental Representative)			
<input type="checkbox"/> Rejected			



Appendix 1: Environmental Risk Assessment and Environmental Control Map.

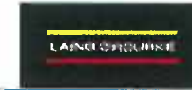
Risk Assessment Rankings: >17 = Extreme 10 - 16 = High 5 - 9 = Medium 1 - 4 = Low

Issues or activities that represent an Extreme risk after the application of control measures are not to be undertaken

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		P X	C =	Risk		P X	C =	Risk
Approvals and Licensing								
Not identifying appropriate approvals / licenses required or proceeding without them.	Works delayed, infringements, prosecution and reputational loss.	P	3	M	Planning approval has been granted for the Sydney Metro - Chatswood to Sydenham works (SSD 15_7400). This minor works application is being completed to ensure appropriate documentation is completed to manage environmental risk of the project. Only works with minimal impact are being undertaken.	U	1	L
Noise								
Noise from installation of OHW structures	Disturbance to residents or neighbouring businesses. Potential for complaints.	P	3	M	Control measures as per Community Consultation Strategy (CCS) are to be implemented. Consult with the community in relation to upcoming activities that may result in concern (completed by Sydney Metro). Silenced lighting towers and equipment will be used where practical. An existing noise barrier runs along the rail corridor. Additional acoustic blankets will be used to mitigate noisiest activities. In the event of noise monitoring indicating noise levels exceeding predicted levels during evening and night periods, the team will be required to	U	3	M



					change work practices, such as reducing the number of plant/equipment operating concurrently. Refer to OOHW application 009 for details on additional controls.			
Vibration								
Vibration intensive activities undertaken on the site in proximity to sensitive heritage structures and community.	Damage to listed heritage items. Disruption, annoyance and nuisance to residents. Potential damage to adjacent residential and commercial residences and structures. Disruption to businesses as a result of vibration nuisance	U	4	M	Consult with potentially affected parties prior to commencement of works for any activities that may create vibration impacts caused by the works. No heritage structures within close proximity of proposed minor works. No vibration intensive works to be undertaken.	R	3	M
Water Quality, Erosion & Sedimentation								
Sediment laden runoff from investigation works leaving site.	Degradation of local watercourses. Increased turbidity in local water ways resulting in impact on aquatic life. Fines for sediment escaping site.	U	3	M	Control measures as per Environmental Control Map (ECM). All vehicle wheels to be cleaned prior to exiting site.	R	3	L
Non-compliant water from investigation works discharged from site	Non-compliant water entering stormwater system waterways (i.e. polluting - not compliant with discharge criteria).	P	3	M	No water discharge anticipated for minor works. Erosion and Sediment Controls to be maintained for the duration of works. If water discharge is required, Sydney Metro Water Discharge or Reuse Approval form to be utilised. Form to be approved by LORAC Environmental Manager prior to discharge.	U	2	L
Ground water	Ground water entering excavations Without appropriate safeguards onsite could lead to ground water contamination	U	2	L	No excavation to be undertaken during these works that are predicted to impact groundwater. Note: Groundwater levels are predicted to be 10-30 meters below ground level. Sydney Metro EIS – Groundwater and geology, Chapter 17.	R	1	L



Waste								
Waste disposal during works.	Incorrect disposal of waste, further costs incurred for classifications and disposal, fines may be issued.	P	2	M	Waste will be transferred to licenced waste facility only. Ensure accurate waste records are retained. Removal of wastes from the site would only be undertaken by a licensed contractor as required by the POEO Act and with appropriate approvals, if required, for contaminated materials, etc. All material that requires off-site disposal to be appropriately classified against the Waste Classification Guidelines (EPA, 2014).	R	2	L
Contamination								
Potential for discovery of unexpected contaminated spoil during investigation works involving excavation and drilling.	Health effects resulting from airborne contamination, e.g. asbestos. Complaints received from odours.	P	3	M	If contaminated soil is encountered, all works are to stop in the vicinity of the find and investigations commence. Occupational hygienist in attendance on site. Induct personnel on location, type, nature and concentration of contaminants on site if found.	U	2	L
Hazardous Materials								
Storage of hazardous substances, leaking plant and equipment and spillage from refuelling.	Localised ground contamination / pollution of stormwater and requiring clean-up and/or receiving fines. Risk of igniting volatile substances.	U	3	M	No fuels or hazardous materials to be stored on site for minor works. Spill kits to be onsite when using plant/equipment. No major servicing of equipment to be undertaken onsite. Pre-mobilisation checks on all plant/equipment to come to site, including check of fuel and hydraulic leaks.	R	3	L



Biodiversity								
Vegetation trimming / clearing required outside approved work area.	Unauthorised works / removal of vegetation outside defined work area, possibility of removing threatened species, fines incurred.	R	3	L	No vegetation removal/trimming to be undertaken as part of the minor works.	R	1	L
Clearing and grubbing of vegetation within work site.	Erosion of soils, uncontrolled runoff, sediment deposited into surrounding vegetated areas and watercourses, and invasion of weeds. Wrong vegetation removed. Potential for injury to native fauna.	R	3	L	No vegetation removal/trimming to be undertaken as part of the minor works.	R	1	L
Air Quality								
General works	Dust activity in close proximity to residential and commercial premises, complaints received.	U	3	M	No dust generation is expected during these works. Spoil stockpiles to be covered to prevent wind erosion and dust.	R	2	L
Exhaust from plant and equipment.	Emissions resulting in air pollution.	U	3	M	Well maintained plant/ equipment and pre-start checks and servicing. Non-complaint vehicles removed from site / repaired.	R	2	L
Heritage								
Unexpected heritage items encountered.	Work delays, additional studies, approvals required, damage to heritage item.	P	3	M	General inductions on heritage management 'stop-works' protocol. If suspected heritage item encountered. Works to stop immediately and Environmental Manager contacted. Unexpected finds of heritage items must be reported to LOR Environmental Manager and Sydney Metro. The site is to be isolated and investigated by a heritage consultant. Approval to proceed required prior to re-commencing works.	U	2	M



					<p>The site is to be isolated and investigated by a heritage consultant.</p> <p>Approval to proceed required prior to re-commencing works.</p> <p>Label any known heritage items on Environmental Control Maps.</p>				
Flora & Fauna									
Removal of flora without approval.	Failure to identify flora prior to removal.	R	3	L	No vegetation removal/trimming to be undertaken as part of these minor works.	R	1	L	
Traffic									
Loss of on-street car parking in adjacent residential streets and commercial areas during investigation works.	Loss of parking availability to adjacent residential and commercial properties could result in community complaints.	P	3	M	<p>Community notifications will be provided to residents within the distribution area of the project who may be affected by traffic movements (at the discretion of Sydney Metro based on information within this Minor Works Assessment).</p> <p>Site vehicles shall be parked within the rail corridor and not affect public parking area.</p> <p>Temporary lane closure on one side of both Drake Street and Hopetoun Ave required for deliveries. Traffic Control Plans, approved by Willoughby City Council, will be implemented.</p> <p>Temporary road closure of Mowbray Road required for survey works subject to RMS approval. A contraflow arrangement under traffic control for Mowbray Road will be implemented.</p>	U	3	L	
Management of heavy vehicles / access routes.	Complaints from sensitive receivers due to increased level and frequency of noise.	P	4	M	<p>Deliveries of plant and materials shall be undertaken outside of peak periods where possible.</p> <p>Site vehicles shall be parked within the rail corridor and not affect public parking areas.</p> <p>Scheduled road movements shall be minimised where possible.</p>	U	3	L	

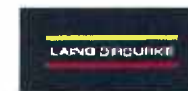


					<p>Oversized deliveries would be undertaken in accordance with the requirements of NSW Police or Roads and Maritime Services.</p> <p>Heavy vehicle access routes given to contractors/suppliers/deliveries.</p> <p>Community notifications will be provided to residents within the distribution area of the project who may be affected by traffic movements, including heavy vehicle movements (at the discretion of Sydney Metro based on information within this Minor Works Assessment).</p> <p>Pedestrian management with traffic controller in place where required.</p>			
Truck deliveries out of normal working hours (un-approved).	Noise impact to community / potential complaints.	P	3	M	<p>Induction on approved working hours for deliveries.</p> <p>Communication of delivery times to suppliers.</p> <p>Community Notifications on project activities occurring locally.</p> <p>Approved traffic/access routes.</p> <p>Planning and staging of works in approved hours as much as practical (emergency/unforeseen items out of hours only).</p>	U	3	M
Resources and Energy Use								
Energy consumption by plant and equipment.	Inappropriate energy use, waste of energy resources, energy wastage costs, increased greenhouse gas emissions.	U	2	L	<p>No idling of plant equipment where possible onsite.</p> <p>Equipment / plant equipment inspections must be undertaken prior to use on site.</p>	R	2	L
Resource usage (e.g. building materials, water, fuels, packaging), waste generation and disposal	Depletion of resources due to wastage (e.g. wastage of water / no recycling, poor management of procurement, ineffective removal of off-cuts, waste, i.e. no recycling).	U	2	L	<p>Only sufficient materials to complete the works will be procured.</p>	U	2	L



For each identified issue, consider the 'maximum credible' (not absolute worst case) risk that could result with **minimal or no controls** other than existing and using normal work practices.

Note: Any one of the listed consequences must result in the use of the applicable consequence grading.



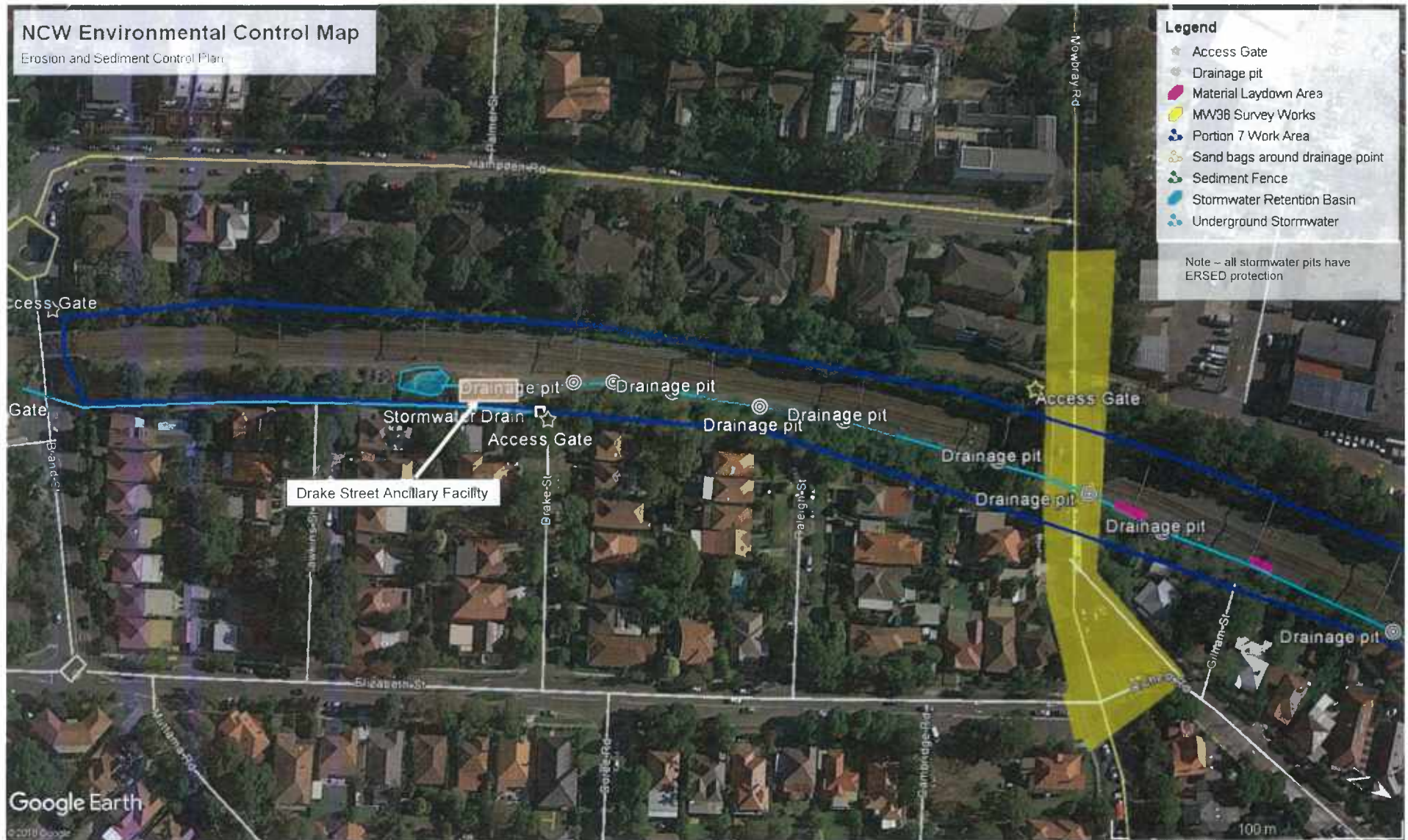
Probability:	Consequence:
5 = Certain 4 = Likely 3 = Possible 2 = Unlikely 1 = Rare	5 = Severe 4 = Major 3 = Moderate 2 = Minor 1 = Incidental
1- 4 Acceptable 5 - 9 Acceptable with control measures 10 - 16 Requires the implementation of best practice 17 and Above = UNACCEPTABLE	

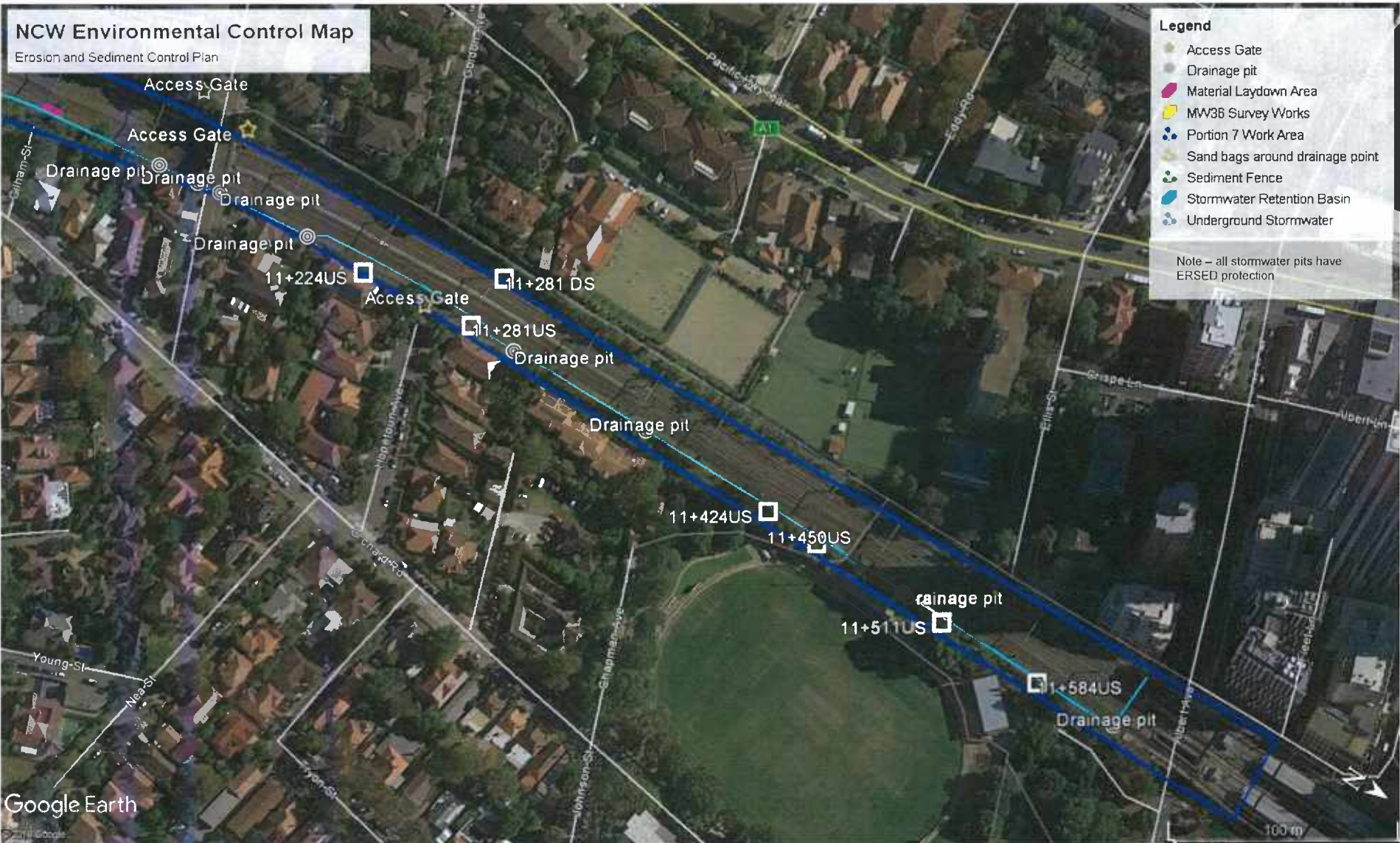
5	Certain	<ul style="list-style-type: none"> Common or repeating occurrence Consequence can reasonably be expected to occur in life of Project. 	5	Severe	<ul style="list-style-type: none"> Major pollution incident causing significant and widespread damage or potential to health or the environment Persistent reduction in ecosystem function and value. Ongoing disruption and loss of protected species. Major prosecution likely, outcome in excess of \$500,000
4	Likely	<ul style="list-style-type: none"> Known to have occurred / "has happened" Conditions may allow the consequence to occur on the Project during its lifetime The event has occurred within the Business Unit within the previous 5 years. 	4	Major	<ul style="list-style-type: none"> Significant widespread and persistent changes to habitat, species or environmental media Significant pollution incident causing damage or potential damage to health or the environment external to the site. Potential for prosecution. Potential outcome between \$50,000 - \$500,000 Numerous substantial complaints Actual material environmental harm
3	Possible	<ul style="list-style-type: none"> Could occur / "heard of it happening" Exceptional conditions may allow consequences to occur on the Project, or has occurred nationally within the Australian Business. 	3	Moderate	<ul style="list-style-type: none"> Localised irreversible habitat loss or effects on habitat, species or environmental media Reportable incident to the relevant environmental regulator or other authority. Demonstrated breach of legislative, licence or guideline requirements. Likely infringement notice or fine, potential for prosecution up to \$50,000. Will cause complaints.
2	Unlikely	<ul style="list-style-type: none"> Not likely to occur Reasonable to expect that the consequence will not occur on the Project. Has occurred in industry but not in Business Unit. 	2	Minor	<ul style="list-style-type: none"> Localised degradation of habitat or short term impacts to habitat, species or environmental media. Pollution incident that marginally exceeds licence conditions or guidelines for acceptable pollution. Fine unlikely. Potential for complaints.

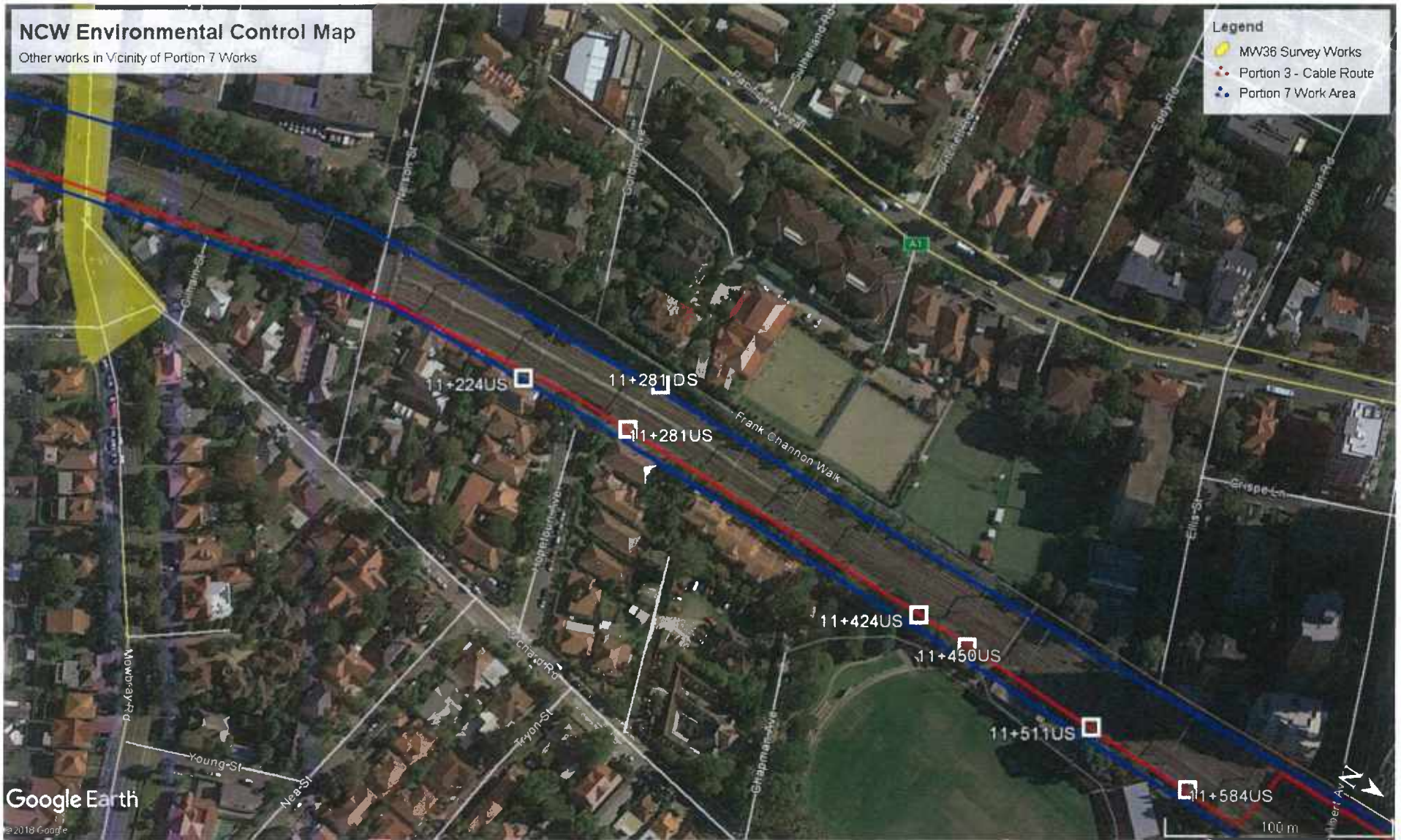


1	Rare	<ul style="list-style-type: none"> – Practically impossible – Not known to have occurred in industry or unheard of. 	1	Incidental	<ul style="list-style-type: none"> – Localised or short term effects on habitat, species or environmental media. – Fully contained on site and can be fully remediated. Little potential for fine or complaints. – Insignificant or trivial incident 	
Probability ▶		CERTAIN	LIKELY	POSSIBLE	UNLIKELY	RARE
▼ Consequence		5	4	3	2	1
5 – Severe		25	20	15	10	5
4 – Major		20	16	12	8	4
3 – Moderate		15	12	9	6	3
2 – Minor		10	8	6	4	2
1 – Incidental		5	4	3	2	1





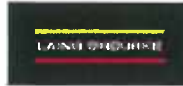






(Uncontrolled when printed)

Environmental Control Map		
ID	Environmental Aspect	Description
1	Project	<ul style="list-style-type: none"> This ECM applies to Pre-Construction Minor Works for Portion 7a delivered under Northern Corridor Works (Enabling works for Sydney Metro City and Southwest, Chatswood to Sydenham).
2	Site Access	<ul style="list-style-type: none"> Site access will be from existing Hopetoun Ave and Drake St rail corridor access gate.
3	Program of works	<ul style="list-style-type: none"> Works will commence at 2300 and finish at 0400 each night for four nights from Monday the 5/03/2018 to the 09/03/2018
4	General	<ul style="list-style-type: none"> The team will be trained on this ECM, OOHW requirements, general environmental issues, and location of sensitive areas. Works will be subject to inspections by the ER, Sydney Metro Environment and Planning Manager and LOR Environmental Manager. This ECM will be displayed on site sheds. Refer to the endorsed Drake Street Minor Ancillary Facility ECM as approved within MWA006 (Rev05) All lighting to be pointed away from sensitive receivers
5	Contamination	<ul style="list-style-type: none"> Unexpected contamination finds will be managed onsite by occupational hygienist in attendance. All waste to be classified prior to disposal.
6	Air Quality	<ul style="list-style-type: none"> No air quality related issues are expected to be encountered. Stockpiles would be maintained and contained appropriately, which could include covering or regular watering to minimise dust Haul roads will be maintained using dust suppression regularly, particularly in hot and windy conditions Well maintained plant/ equipment and pre-start checks and servicing. Non-complaint vehicles removed from site / repaired.
7	Waste	<ul style="list-style-type: none"> All waste will be transferred to bins located at Drake Street Minor Ancillary Facility and transported to a licenced waste facility. No excavation to be undertaken during these works. Waste will be transferred to licenced waste facility only Removal of wastes from the site would only be undertaken by a licensed contractor as required by the POEO Act and with appropriate approvals, if required, for contaminated materials, etc.
8	Soils and water	<ul style="list-style-type: none"> No soil and water related issues are expected to be encountered. If water discharge is required, Sydney Metro Water Discharge or Reuse Approval form to be utilised. Form to be approved by LORAC Environmental Manager prior to discharge. Existing erosion and sediment controls are in place at Drake St and are to be maintained for the duration of the works.
9	Heritage	<ul style="list-style-type: none"> Unexpected finds of heritage items must be reported to LOR Environmental Manager and Sydney Metro. The site is to be isolated and investigated by a heritage consultant. Approval to proceed required prior to re-commencing works. If suspected heritage item encountered. Works to stop immediately and Environmental Manager contacted.
10	Noise and Vibration	<ul style="list-style-type: none"> Noise monitoring will be carried out to validate noise predictions and also in response to any complaints. All works will be completed in compliance with Sydney Metro CEMF, SSD 15_7400 Planning Approval, Construction Noise Strategy and EPL 12208 requirements. All plant will have non-tonal alarms. Noise curtains have been installed and will be maintained at the Drake Street Ancillary Facility and the Hopetoun Avenue gate. No idling of plant equipment where possible onsite. No banging of car doors. Workers will be briefed to avoid shouting and yelling on site and when leaving and coming to the site Community notifications will be drafted and sent to Sydney Metro Community Liaison team separately. Vehicles leaving or entering site are to be staggered where possible. Works to be reassessed if noise levels exceed 20dB above the Rating Background Level.
11	Traffic and Transport	<ul style="list-style-type: none"> Access to the site will be from existing access gates at Hopetoun Ave and Drake St All delivery drivers will be given an induction showing the designated haulage routes. All Site vehicles shall be parked within the rail corridor and not affect public parking area. Additional traffic controls will be implemented in accordance with TCP(s) as approved by Willoughby City Council. Temporary lane closures on Drake Street and Hopetoun Ave may be required to allow trucks to exit the site. Temporary road closures will be required for Mowbray Road as approved by RMS to complete survey works. All closures are expected to be for minor durations (less than 5 minutes). Any closure will be managed in accordance with the TCP. All vehicles to enter rail corridor immediately on arrival to gate Plant and vehicles engines to be switched off when not in use, with engine idling minimised as much as possible. Parking restrictions apply to Drake St, Raleigh St, Hawkins St, Elizabeth St, Orchard Road and Hopetoun Ave.
12	Utilities	<ul style="list-style-type: none"> Any impacts to utilities will be reported to site HSE Manager, supervisors, Sydney Trains and Sydney Metro.
13	Biodiversity	<ul style="list-style-type: none"> If vegetation other than grass and weeds needs to be trimmed or removed, further assessment would be undertaken and approval sought from Sydney Metro prior to trimming or removal.



(Uncontrolled when printed)

		<ul style="list-style-type: none"> If threatened flora or fauna species are identified on site, work in the vicinity of these species would stop immediately. A spotter/catcher would be engaged to survey the site and advise on species management. Trenches/excavations would be covered at the end of each day and inspected before they are backfilled to ensure no fauna species are harmed. Stockpiles, plant, equipment and materials will be located on existing cleared areas, away from the drip zone of trees and native vegetation. Soil and vegetation that could contain weed material should be removed from machinery prior to any movements off site.
14	Chemical, fuel storage and use	<ul style="list-style-type: none"> No fuels and chemicals are expected to be brought to site as part of these works. All plant and equipment will be checked daily to ensure there is no leaking oil, fuel or other liquids. Spill kits to be onsite when using plant/equipment. No major servicing of equipment to be undertaken onsite.
15	Imported materials	<ul style="list-style-type: none"> Materials to be delivered during standard construction hours. Materials to be stockpiled in a bunded area and covered (Drake Street) when not in use. All materials imported will have a classification certificate and be 'clean' material.
16	No-go zones	<ul style="list-style-type: none"> Activities will be restricted to the rail corridor. Any activities outside the NCW site boundary will undergo a review for potential environmental impacts and require approval from Sydney Metro.

Contact Information		
Position	Name	Phone
LOR Project Leader	Tony Deacy	0467 762 987
LOR Construction Manager	Martin O'Brien	0457 560 728
LOR/Sydney Metro Communications Manager	Helena Johansson	0466 545 189
LOR Environment and Sustainability Manager	Chris Standing	0431 338 578
LOR WHS Manager	Clive Hunter	0428 412 130
ER	Erran Woodward	0437 343 178
Sydney Metro Environmental Manager	Andrew Hendy	0475 983 494
Sydney Metro City and Southwest Info Line		1800 019 989
Sydney Trains Info Line		131 500
Environmental Line / Pollution Incident Response Line		131 555
Office of Environment & Heritage Pollution Line		131 555
Emergency		000 or 112 (mobiles)
WIRES		1300 094 737
Standard Working Hours		
Audible construction works unless otherwise approved by the Environmental Manager will be restricted to:		
<ul style="list-style-type: none"> 7:00AM to 6:00PM - Monday to Friday 8:00AM to 1:00PM - Saturdays No work on Sundays or public holidays 		
Any works outside of the hours above require OOHW and Sydney Metro and LOR Environmental Manager's Approval		
Out-of-Hour Works		
An OOHW approval will be submitted for works to be conducted in the following possessions.		
MW36: 5 – 9 March 2018 2300 Monday to 0400 Friday – Refer to OOHW Application 009		



Road Occupancy Permit

ROAD OCCUPANCY LICENCE

LICENCE NO : 910240

TRANSPORT MANAGEMENT CENTRE (TMC)

Phone: 0283961513 Monday To Friday 8.30 AM - 4.30 PM



To activate and deactivate your approved work shift(s) on your Road Occupancy Licence, please visit: myrol.transport.nsw.gov.au. This licence is for the occupation of the road space only. If you are unable to access myrol.transport.nsw.gov.au, please call TMC on 1800 679 782. For further assistance, please refer to the proponent's user manual here: myrol.transport.nsw.gov.au/help.pdf

NON DEVELOPMENT - SRA WORKS

Project: Not Applicable
This Activity : NORMNL - Mowbray Rd, Artarmon J12048
 LANE CLOSURE, -Inspection of any elec/comms pits, manholes and/or kerb inlet pits, sewer, and any other services in the area on either side of Mowbray bridge.

LOCATION

Subject Road: MOWBRAY RD
From: PACIFIC HWY, CHATSWOOD
To: DEVONSHIRE ST, CHATSWOOD
Council: WILLOUGHBY

LICENSEE

Organisation: D & D Traffic Management
Ref No:
Name: Ben Wiffen
Phone: 0428049356

ONSITE CONTACT

Name: NOEL MCCARTHY
Phone: 0428935784

TRAFFIC MANAGEMENT

Flow Management: Standard Lane Merge
Closure Type: 1 lane of 2
Closure Lane(s): Lane 2 (next after kerb lane)
Direction(s): Eastbound and Westbound

LICENCE DURATION

From: 04-Mar-2018
To: 23-Mar-2018

LICENCE CONDITIONS

- 1 YOU MUST USE SHIFT ACTIVATION WEB ADDRESS <https://myrol.transport.nsw.gov.au> TO ACTIVATE AND DEACTIVATE YOUR APPROVED ROAD OCCUPANCY LICENCE(S). (TO ACTIVATE MOU (MATRIX TYPE) OR TO CHANGE TRAFFIC CONTROL SIGNALS TO FLASHING YELLOW OR TO ACTIVATE PERMANENT VARIABLE MESSAGE SIGNS DIAL 1800 679 782)
- 2 THIS LICENCE IS NOT AN APPROVAL OF THE PROPONENT'S TRAFFIC CONTROL PLAN. PLEASE NOTE WORKCOVER REQUIRES THAT TRAFFIC CONTROL PLANS COMPLY WITH AS1742.3
- 3 ALL MATTERS RELATING TO NOISE GENERATION OR OTHER ENVIRONMENTAL FACTORS ON SITE ARE UNDER THE JURISDICTION OF THE LOCAL COUNCIL AND/OR THE ENVIRONMENTAL PROTECTION AUTHORITY.
- 4 SHOULD THE PROPOSED WORKS INVOLVE UNDERBORING OR EXCAVATION OF STATE ROAD ASSETS OR THE REMOVAL OF KERB AND GUTTER, DETAILS OF WORKS MUST BE APPROVED BY THE RMS'S ASSEST MANAGEMENT BRANCH.
- 5 NOTIFICATION TO AFFECTED BUSINESSES, RESIDENTS AND OTHER STAKEHOLDERS MUST BE UNDERTAKEN AT LEAST 5 BUSINESS DAYS PRIOR TO WORKS COMMENCING
- 6 WORKSITE MUST BE SETUP TO ENSURE ONE (1) TRAFFICABLE LANE REMAINS OPEN TO TRAFFIC AT ALL TIMES. LANE WIDTHS MUST BE SUFFICIENT TO PERMIT HEAVY VEHICLES ACCESS.
- 7 ADEQUATE ADVANCE WARNING MUST BE PROVIDED TO APPROACHING MOTORISTS.
- 8 NO LANE CLOSURES OR STOP /SLOW OPERATIONS ARE PERMITTED DURING CLEARWAY HOURS.

APPROVED DATES & TIMES

From	From Shift			-	To	To Shift		
	D	M	Time			D	M	Time
Sun	04	Mar	21:00	-	Mon	05	Mar	05:00
Mon	05	Mar	21:00	-	Tue	06	Mar	05:00
Tue	06	Mar	21:00	-	Wed	07	Mar	05:00
Wed	07	Mar	21:00	-	Thu	08	Mar	05:00
Thu	08	Mar	21:30	-	Fri	09	Mar	05:00
Sun	11	Mar	21:00	-	Mon	12	Mar	05:00
Mon	12	Mar	21:00	-	Tue	13	Mar	05:00
Tue	13	Mar	21:00	-	Wed	14	Mar	05:00
Wed	14	Mar	21:00	-	Thu	15	Mar	05:00
Thu	15	Mar	21:30	-	Fri	16	Mar	05:00
Sun	18	Mar	21:00	-	Mon	19	Mar	05:00
Mon	19	Mar	21:00	-	Tue	20	Mar	05:00
Tue	20	Mar	21:00	-	Wed	21	Mar	05:00
Wed	21	Mar	21:00	-	Thu	22	Mar	05:00
Thu	22	Mar	21:30	-	Fri	23	Mar	05:00

ROAD OCCUPANCY LICENCE

LICENCE NO : 910240

TRANSPORT MANAGEMENT CENTRE (TMC)

Phone: 0283961513 Monday To Friday 8.30 AM - 4.30 PM



To activate and deactivate your approved work shift(s) on your Road Occupancy Licence, please visit: myrol.transport.nsw.gov.au. This licence is for the occupation of the road space only. If you are unable to access myrol.transport.nsw.gov.au, please call TMC on 1800 679 782. For further assistance, please refer to the proponent's user manual here: myrol.transport.nsw.gov.au/help.pdf

NON DEVELOPMENT - SRA WORKS

Project: Not Applicable
This Activity : NORMNL - Mowbray Rd, Artarmon J12048

LANE CLOSURE, -Inspection of any elec/comms pits, manholes and/or kerb inlet pits, sewer, and any other services in the area on either side of Mowbray bridge.

LOCATION

Subject Road: MOWBRAY RD
From: PACIFIC HWY, CHATSWOOD
To: DEVONSHIRE ST, CHATSWOOD
Council: WILLOUGHBY

LICENSEE

Organisation: D & D Traffic Management
Ref No:
Name: Ben Wiffen
Phone: 0428049356

ONSITE CONTACT

Name: NOEL MCCARTHY
Phone: 0428935784

TRAFFIC MANAGEMENT

Flow Management: Standard Lane Merge
Closure Type: 1 lane of 2
Closure Lane(s): Lane 2 (next after kerb lane)
Direction(s): Eastbound and Westbound

LICENCE DURATION

From: 04-Mar-2018
To: 23-Mar-2018

LICENCE CONDITIONS

- 9 THE LICENCEE OF THIS ROL MUST CONTACT THE FOLLOWING PROPONENT(S) PRIOR TO WORKS COMMENCING TO AVOID CONFLICTS WITH THEIR WORKS.

ROADWORK SOLUTIONS
PROponent - NAMECOREY MCKEOUGH
PROponent - PHONE0423289786

DOWNER INFRASTRUCTURE
PROponent - NAMESTEVE WOOLF
PROponent - PHONE0414090455

JHCPBG JV
PROponent - NAMESYDNEY METRO TRAFFIC TEAM
PROponent - PHONE0428033283

- 10 LICENCEE MUST OBTAIN LOCAL COUNCIL APPROVAL BEFORE IMPLEMENTING THESE CLOSURES ON A REGIONAL ROAD.
11 THIS LICENCE OPERATES IN CONJUNCTION WITH A SPEED LIMIT REDUCTION TO 40 KM/H. REFER TO SZA TT/TMC 910240/001

SPEED ZONE AUTHORISATION

LIC/SZA NO : 910240/001

TRANSPORT MANAGEMENT CENTRE (TMC)

Phone: 0283961513 Monday To Friday 8.30 AM - 4.30 PM



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NON DEVELOPMENT - SRA WORKS

Project: Not Applicable
This Activity : NORMNL - Mowbray Rd, Artarmon J12048

SPEED LIMIT REDUCTION

Existing: 60 Km/h
Reduced To : 40 Km/h

LANE CLOSURE, -Inspection of any elec/comms pits, manholes and/or kerb inlet pits, sewer, and any other services in the area on either side of Mowbray bridge.

This Speed limit is ONLY to be applied during the approved time periods listed. Signs are to be covered or removed outside the approved time periods. The Organisation is to maintain accurate records of when the speed limit signs were installed and removed, including the location of the signs, the date and times. The existing posted speed limit* is to be reinstated at the completion of each of the approved time periods as detailed herein.

LOCATION

Subject Road: MOWBRAY RD
From: PACIFIC HWY, ARTARMON
To: DEVONSHIRE ST, CHATSWOOD
Council:

TRAFFIC MANAGEMENT

Distance(m): 760
Direction: Eastbound and Westbound

LICENSEE

Organisation: D & D Traffic Management
Ref No:
Name: Ben Wiffen
Phone: 0428049356

ONSITE CONTACT

Name: NOEL MCCARTHY
Phone: 0428935784

APPROVED DATES & TIMES

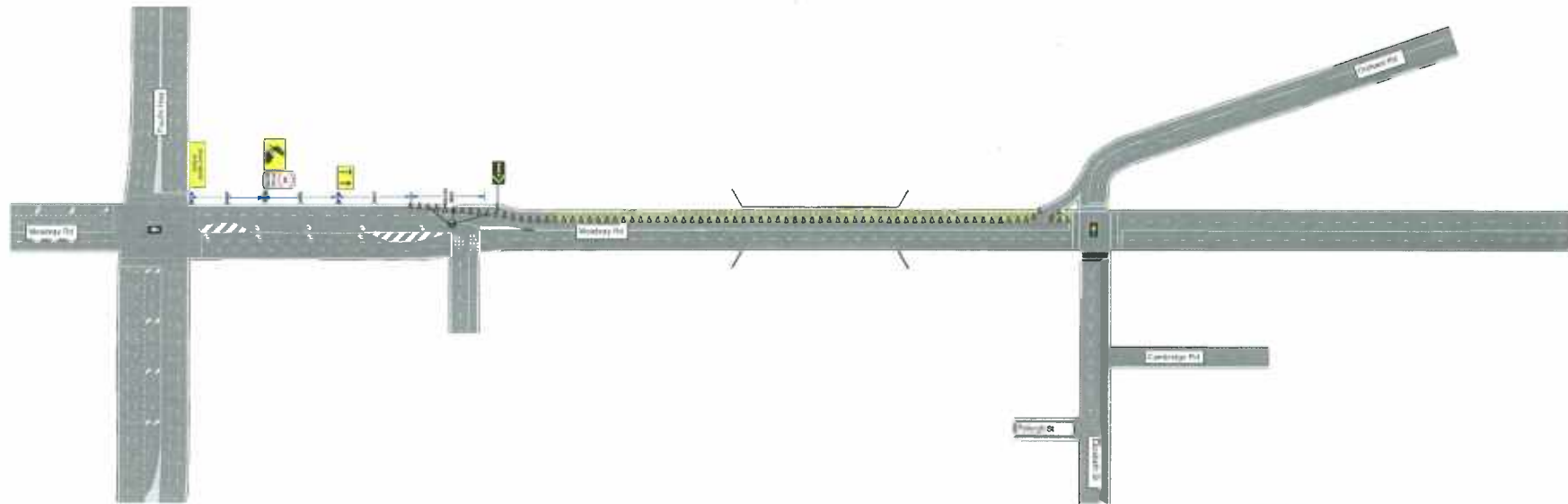
From Shift				To Shift			
From	D	M	Time	To	D	M	Time
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Mon	05	Mar	21:00	Tue	06	Mar	05:00
Tue	06	Mar	21:00	Wed	07	Mar	05:00
Wed	07	Mar	21:00	Thu	08	Mar	05:00
Thu	08	Mar	21:30	Fri	09	Mar	05:00
Sun	11	Mar	21:00	Mon	12	Mar	05:00
Mon	12	Mar	21:00	Tue	13	Mar	05:00
Tue	13	Mar	21:00	Wed	14	Mar	05:00
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Thu	15	Mar	21:30	Fri	16	Mar	05:00
Sun	18	Mar	21:00	Mon	19	Mar	05:00
Mon	19	Mar	21:00	Tue	20	Mar	05:00
Tue	20	Mar	21:00	Wed	21	Mar	05:00
Wed	21	Mar	21:00	Thu	22	Mar	05:00
Thu	22	Mar	21:30	Fri	23	Mar	05:00













Traffic Control Plans

LAING O'ROURKE

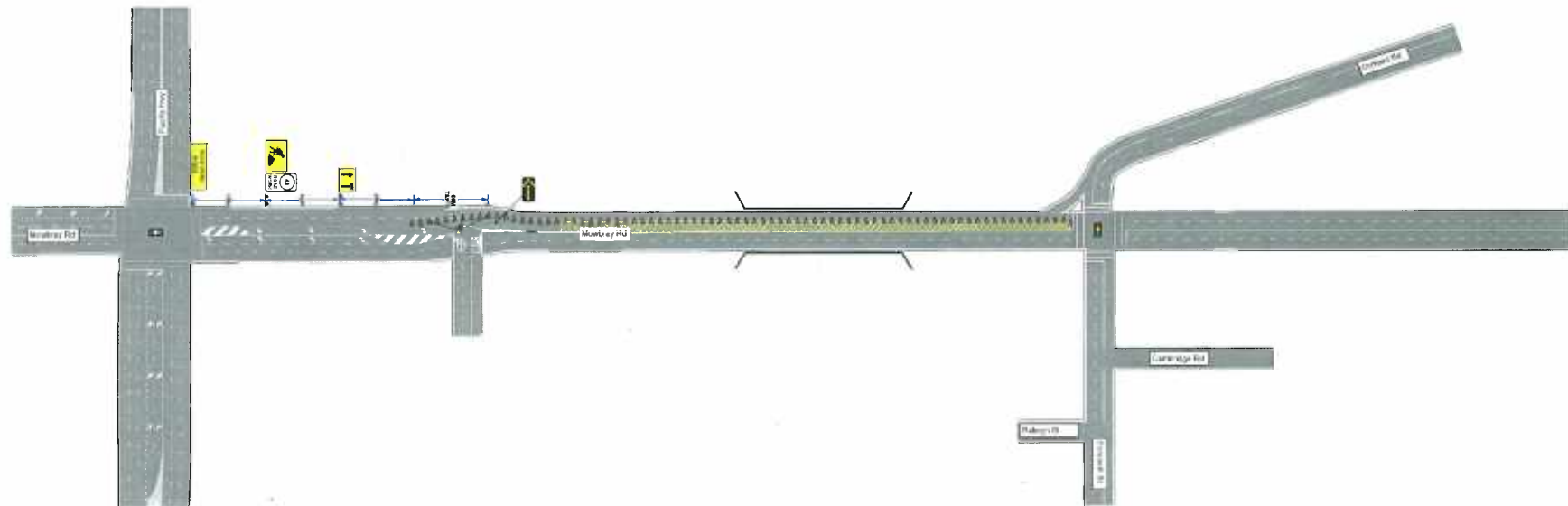
Location - Mowbray Rd, Artarmon













Client: Laing O'Rourke		WORKERS ON FOOT NO GO ZONE =  RESTRICTED ZONE =  SHARED ZONE =  SITE EXIT =  SITE ENTRY =  EVACUATION POINT = 	Implemented By				D = THE SPEED OF TRAFFIC MEASURED IN KMH 80KM = 80M EG: 70KM = 70M 50KM = 50M 50KM = 50M SEE SECTION 4.2 TRAFFIC CONTROL AT WORK SITES MANUAL WORK AREA = 	 Web: www.ddtraffic.com.au Email: sydney@dd-group.com.au Phone: 1300 597 622 D&D Traffic Management does not accept liability for implementation of this tcp if not directly involved in its implementation		
Scope of Works: Construction works			Name -	Approximate speed of traffic	Traffic control at beginning of taper	Lateral shift taper				Merge taper
Job location: Mowbray Rd, Artarmon			Cert No -	45 or less	15	0				15
Author: Benjamin Wiffen Cert. No: 0040970460	Plan No: K38-TCP-001 PLAN NOT TO SCALE	TCP - 101 USED AS A GUIDE	Date -	46 - 55	15	15	30			
			Signed -	56 - 65	30	30	60			
				66 - 75	N/A	70	115			
				76 - 85	N/A	80	130			
				86 - 95	N/A	90	145			
				96 - 105	N/A	100	160			
				Greater than 106	N/A	110	180			

LAING O'ROURKE

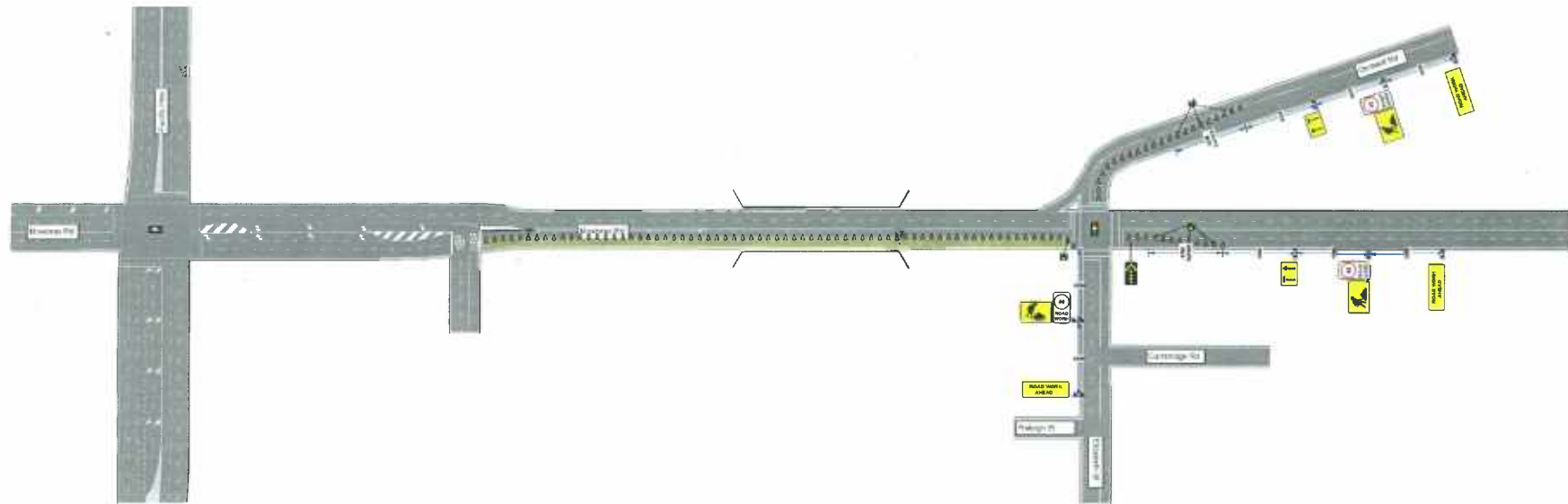
Location - Mowbray Rd, Artarmon

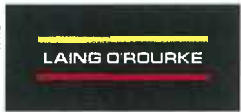










<p>Client: Laing O'Rourke</p> <p>Scope of Works: Construction works</p> <p>Job location: Mowbray Rd, Artarmon</p>		<p>WORKERS ON FOOT</p> <p>NO GO ZONE = </p> <p>RESTRICTED ZONE = </p> <p>SHARED ZONE = </p> <p>SITE EXIT = </p> <p>SITE ENTRY = </p> <p>EVACUATION POINT = </p>	<p>Implemented By</p> <p>Name - _____</p> <p>Cert No - _____</p> <p>Date - _____</p> <p>Signed - _____</p>	<table border="1"> <thead> <tr> <th>Approximate speed of traffic</th> <th>Traffic control beginning of taper</th> <th>Lateral shift taper</th> <th>Merge taper</th> </tr> </thead> <tbody> <tr> <td>45 or less</td> <td>15</td> <td>0</td> <td>15</td> </tr> <tr> <td>46 - 55</td> <td>15</td> <td>15</td> <td>30</td> </tr> <tr> <td>56 - 65</td> <td>30</td> <td>30</td> <td>60</td> </tr> <tr> <td>66 - 75</td> <td>N/A</td> <td>70</td> <td>115</td> </tr> <tr> <td>76 - 85</td> <td>N/A</td> <td>80</td> <td>130</td> </tr> <tr> <td>86 - 95</td> <td>N/A</td> <td>90</td> <td>145</td> </tr> <tr> <td>96 - 105</td> <td>N/A</td> <td>100</td> <td>160</td> </tr> <tr> <td>Greater than 105</td> <td>N/A</td> <td>110</td> <td>180</td> </tr> </tbody> </table>	Approximate speed of traffic	Traffic control beginning of taper	Lateral shift taper	Merge taper	45 or less	15	0	15	46 - 55	15	15	30	56 - 65	30	30	60	66 - 75	N/A	70	115	76 - 85	N/A	80	130	86 - 95	N/A	90	145	96 - 105	N/A	100	160	Greater than 105	N/A	110	180	<p>D = THE SPEED OF TRAFFIC MEASURED IN KMH</p> <p>80KM = 80M 70KM = 70M 60KM = 60M 50KM = 50M</p> <p>SEE SECTION 4.2 TRAFFIC CONTROL AT WORK SITES MANUAL</p> <p>WORK AREA = </p>	 <p>Web: www.ddtraffic.com.au Email: sydney@dd-group.com.au Phone: 1300 597 622</p> <p>D&D Traffic Management does not accept liability for implementation of this tcp if not directly involved in its implementation</p>	
Approximate speed of traffic	Traffic control beginning of taper	Lateral shift taper	Merge taper																																								
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Greater than 105	N/A	110	180																																								
<p>Author: Benjamin Wiffen</p> <p>Cert. No: 0040970460</p>	<p>Plan No: K38-TCP-002</p> <p>PLAN NOT TO SCALE</p>	<p>TCP - 101 USED AS A GUIDE</p>																																									

LAING O'ROURKE

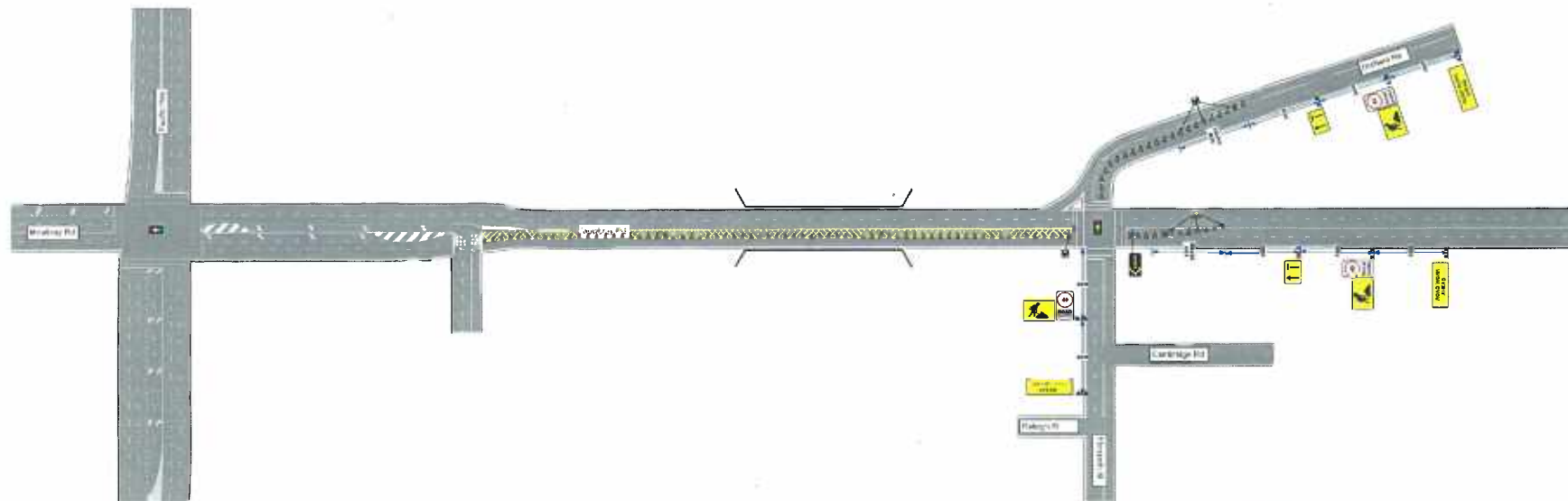
Location - **Mowbray Rd, Artarmon**













Client: Laing O'Rourke Scope of Works: Construction works Job location: Mowbray Rd, Artarmon		WORKERS ON FOOT NO GO ZONE =  RESTRICTED ZONE =  SHARED ZONE =  SITE EXIT =  SITE ENTRY =  EVACUATION POINT = 	Implemented By				Approximate speed of traffic at beginning of taper	Traffic control at beginning of taper	Lateral shift taper	Merge taper	D = THE SPEED OF TRAFFIC MEASURED IN KMH 80KM = 80M EG: 70KM = 70M 60KM = 50M 50KM = 50M SEE SECTION 4.2 TRAFFIC CONTROL AT WORK SITES MANUAL		
			Name - Cert No - Date - Signed -	45 or less 46 - 55 56 - 65 66 - 75 76 - 85 86 - 95 96 - 105 Greater than 105	15 15 30 N/A N/A N/A N/A	0 15 30 70 80 90 100 110							
Author: Benjamin Wiffen Cert. No: 0040970460	Plan No: K38-TCP-003 PLAN NOT TO SCALE	TCP - 101 USED AS A GUIDE											

LAING O'ROURKE

Location - Mowbray Rd, Artarmon



Client: Laing O'Rourke		WORKERS ON FOOT NO GO ZONE =  RESTRICTED ZONE =  SHARED ZONE =  SITE EXIT =  SITE ENTRY =  EVACUATION POINT = 	Implemented By Name - _____ Cert No - _____ Date - _____ Signed - _____				Approximate speed of traffic 45 or less 46 - 55 56 - 65 66 - 75 76 - 85 86 - 95 96 - 105 Greater than 105	Traffic control beginning of taper 15 15 30 N/A N/A N/A N/A	Lateral shift taper 0 15 30 70 80 90 100 110	Merge taper 15 30 60 115 130 145 160 180	D = THE SPEED OF TRAFFIC MEASURED IN KM/H 80KM = 80M EG: 70KM = 70M 60KM = 60M 50KM = 50M SEE SECTION 42 TRAFFIC CONTROL AT WORK SITES MANUAL WORK AREA = 	 Web: www.ddtraffic.com.au Email: sydney@dd-group.com.au Phone: 1300 697 622 D&D Traffic Management does not accept liability for implementation of this tcp if not directly involved in its implementation	
Scope of Works: Construction works Job location: Mowbray Rd, Artarmon Author: Benjamin Wiffen Cert. No: 0040970460			Plan No: K38-TCP-004 PLAN NOT TO SCALE	TCP - 101 USED AS A GUIDE									



Appendix 2: Cover Page

Environmental Management Documentation - Not Used



Appendix 3: Cover Page

Community Notification - Undertaken by Sydney Metro in conjunction with LOR. Combined letter to be issued which will cover MNNSCW Portion 6 and NCW Portion 7a works.

Sydney Metro is Australia's biggest public transport project.

Services start in 2019 in the city's North West with a train every four minutes in the peak. Metro rail will be extended into the CBD and beyond to Bankstown in 2024. Sydney Metro includes new CBD railway stations underground at Martin Place, Pitt Street and Barangaroo and new metro platforms under Central.

In 2024, Sydney Metro will have 31 stations on a new 66km rail system – the biggest urban rail project in Australian history. Sydney Metro will have ultimate capacity for a train every two minutes in each direction under the CBD.

Building capacity on the North Shore Line

When Sydney Metro Northwest opens between Rouse Hill and Chatswood in 2019, capacity on the T1 North Shore Line will increase to 20 trains per hour. To enable this increased capacity, work is underway between Waitara and Waverton stations, and around Epping Station. Work started in March 2016 and includes signalling and electrical upgrades and track relocations.

Out of hours work in the rail corridor St Leonards to Gordon

Work within the rail corridor between Waitara and Waverton is ongoing until 2019.

Standard work hours

Standard working hours are Monday to Friday, 7am–6pm and Saturday, 8am–1pm.

Out-of-hours work

Due to the nature of some activities and for the safety of our workers, some work will occur outside standard construction hours when trains are not running. When this work is required, you will receive a notification from Sydney Trains outlining all work being undertaken in the rail corridor by multiple contractors.

Specifically between St Leonards and Gordon, Sydney Metro out of hours work is required between **10pm and 4am Monday 5 March to Friday 9 March** (subject to approval).

Work will involve:

- Signal and overhead wiring work between St Leonards and Gordon.
- Excavation and concreting for signal footings at Wilson Road, Chatswood.
- Installation of steel masts onto concrete footings between Albert Avenue and Nelson Street, Chatswood.
- Service location surveys at Mowbray Road Bridge, Chatswood and Killara.
- Delivery and storage of materials in the rail corridor between Roseville and Gordon.

What to expect:

- Access will be via the existing rail corridor access gates in Drake and Brand streets and Cleland and Lambs roads, Artarmon; Francis Street, Naremburn; Hopetoun Avenue and Wilson Street in Chatswood; Hill Street, Roseville; St Leonards Station; and through the Gordon Station commuter carpark.
- Temporary traffic and pedestrian changes will be required including lane and footpath closures on Mowbray Road, Drake Street and Hopetoun Avenue. Temporary Traffic control and directional signage will be in place for the safety of workers and the community.

- Due to the nature of the work, some of these activities are expected to be noisy. The project team will minimise noise impacts wherever possible by reducing the number of machines operating at the same time and turning off equipment when not in use.
- Non-tonal reversing beepers will be used and workers will be instructed to keep noise to a minimum.
- Equipment to be used during these works includes excavators, concrete truck, cranes trucks, vacuum excavation and other trucks, generators, lighting towers, light vehicles, winches, surveying equipment, various power and hand tools.

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

If you have any questions please contact **Helena** on **1800 171 386** (24 hour community information line) or sydneymetro@transport.nsw.gov.au



Appendix 4: Cover Page

Environmental Representative Supporting Letter - Refer to Section 12 Determination Page above