

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)	Week 42 - Week 44 (20 April – 4th May 2018) Portion 7a Works – Geotechnical Investigation Works for Pedestrian Bridge adjacent to Mowbray Road (refer Part 2: Details for dates and proposed works)
Application Number:	NCW-013
Application Date:	Revision 1 - 11/04/18 Revision 2 – 17/04/18
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"> 1. Survey, survey facilitation and investigations works (including road and building dilapidation survey works, drilling and excavation). 2. Treatment of contaminated sites. 3. Establishment of ancillary facilities (excluding demolition), including construction of ancillary facility access roads and providing facility utilities. 4. Operation of ancillary facilities that have minimal impact on the environment and community. 5. Minor clearing and relocation of vegetation (including native). 6. Installation of mitigation measures, including erosion and sediment controls, temporary exclusion fencing for sensitive areas and acoustic treatments. 7. Property acquisition adjustment works, including installation of property fencing and utility relocation and adjustments to properties. 8. Utility relocation and connections. 9. Maintenance of existing buildings and structures. 10. 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. 11. 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,	No. The proposed works do not have potential to impact on heritage items, threatened species, populations or endangered ecological communities.



(Uncontrolled when printed)

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><u>Standard Construction Hour Works – Week 42 - Week 44 (20 April – 4th May 2018)</u></p> <p>The following minor work activities will be undertaken during standard work hours (7AM to 6PM) within the rail corridor, south of Mowbray Road Bridge:</p> <p><u>Activity 1 - Geotechnical Investigations</u></p> <p>These activities are minor in nature and comply with Minor Works Category 1 as defined in Section 1:</p> <ul style="list-style-type: none"> - 4 Boreholes (BH01; BH02, BH03 and BH04) will be drilled using drill rigs within the existing embankment of the rail corridor to further inform geotech investigation reports and design - Boreholes would be approximately 12m deep and 100mm in diameter - Safety and sediment fencing will be established around all worksites <p><i>Proposed Plant and equipment:</i></p> <ul style="list-style-type: none"> - Cross Country Drill Rig (a reduced access rig to be used due to limited access to worksite) - Ute mounted Drill Rig for BH01 - Water Cart (if required will be sited under Mowbray Road bridge) - Vehicle (Light Commercial) - General hand tools <p>It should be noted that each Borehole will be undertaken in different locations and on the following dates.</p> <ul style="list-style-type: none"> o BH01 – 20th and 23rd April 2018 o BH02 – 30th April 2018 o BH04 – 1st and 2nd May 2018 o BH03 – 3rd and 4th May 2018 <p><u>Out of Hour Works – Week 44 (29th April 2018)</u></p> <p><u>Activity 2 – Delivery of drill rig for BH01, BH02 and BH03 works</u></p> <p>These activities are minor in nature and comply with Minor Works Category 11 as defined in Section 11.</p> <ul style="list-style-type: none"> - Delivery of Cross Country Drill Rig to Elizabeth Street. - Implementation of traffic controls as per the Traffic Control Plan in Appendix 1. - Drill rig to track along pedestrian footpath to Mowbray Rd and enter worksite under traffic control <p><i>Proposed Plant and equipment:</i></p> <ul style="list-style-type: none"> - Vehicle (Light Commercial) - - Delivery Truck <p>The above OOH works is expected to occur for one hour on the 29th April 2018 to allow for the Drill Rig to access the worksite location adjacent to Mowbray Rd bridge. A separate OOHW application will be prepared and submitted to Sydney Metro for review and approval.</p> <p>General Notes;</p>



	Works location (including specific site access) and traffic control plan has been included in Appendix 1.
Planned Commencement Date:	<p>BH01 Works (Commencement and Completion of works)</p> <ul style="list-style-type: none"> - 20th and 23rd April 2018 geotechnical investigation works (drilling) during standard hours <p>BH02, BH03 and BH04 Works (Commencement and Completion of works)</p> <ul style="list-style-type: none"> - 29th April 2018 for delivery Drill Rig during night OOH - BH02 – 30th April 2018 geotechnical investigation works (drilling) during standard hours - BH04 – 1st and 2nd May 2018 geotechnical investigation works (drilling) during standard hours - BH03 – 3rd and 4th May 2018 geotechnical investigation works (drilling) and removal of drill rig during standard hours
Local Sensitivities: Describe the presence (if any) of local sensitive environmental areas and community receptors.	<p>Community –For works proposed during standard hours, closest residents are at 342 and 340 A Mowbray Road have direct line of sight to proposed worksites. Residents on Hampden Road and Raleigh Street are adjacent to the proposed worksites - refer Environmental Control Map and Works Location Map included in Appendix 1. For OOH drill rig delivery works refer NCW OOHW Application 012.</p> <p>Site access will be via a lane way and then existing access gate for BH04 near the rail corridor embankment, off Mowbray Road. Site access for BH01 and BH02 will be via a wooden fence panel near the rail corridor embankment, off Mowbray Road. The wooden fence panel will be removed for access and then re-instated on completion of works. Refer Environmental Control Map and Works Location Map included in Appendix 1.</p>
Part 3: Environmental Risk Assessment and Management	
<p>Prepare an Environmental Risk Assessment (in accordance with the <i>Sydney Metro Risk Management Standard</i>) and an Environmental Control Map for the proposed Minor Works and attach as Appendix 1.</p> <p>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 accordance with and attach as Appendix 2 (e.g. plans, procedures, etc.).	<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 - Environment Control Map - EPL 12208
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>All workers will undertake NCW Project specific induction.</p> <p>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.</p>
Part 5: Community Consultation	
What community consultation has been undertaken already?	None for this specific activity.
What community consultation is planned to be undertaken?	The community will be notified a minimum of 7 days prior to the commencement of above works. Directly impacted properties will also be doorknocked.
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:	17/04/2018



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:	<i>Helena Johansson</i>		
Name:	Helena Johansson	FIL CERONE	Annabelle Tungol Reyes
Date:	18 / 04 / 2018	20 / 4 / 18	19 April 2018
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 checked="" 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 Standard Construction Hours works	Disturbance to residents or neighbouring businesses. Potential for complaints.	P	3	M	Drilling works to be taken only during normal construction hours. 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).	U	3	M
Noise from out of standard working hours	Disturbance to residents or neighbouring businesses with potential for complaints.	P	3	M	Only delivery of the drill rig and de-mobilising of drill rig from site to occur during OOH. A separate OOHW application will be submitted to Sydney Metro for review and approval.	U	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). Use of less noise intensive lighting equipment will be investigated / utilised for OOH works, where practicable			
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	No vibration intensive works to be undertaken. No heritage structures within close proximity of proposed minor works. Environmental Manager to inspect works. Consult with potentially affected parties prior to commencement of works for any activities that may create vibration impacts caused by the works (if methodology was to change in a way that could generate vibration).	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	Geotech works involve dry drilling with borehole sample taken off-site for testing and hole backfilled with grout. No drilling mud will be generated. General Requirements: Control measures as per Environmental Control Map (ECM). All vehicle wheels to be clean prior to exiting site. No drains in immediate vicinity of works.	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. 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	Geotech works involve dry drilling with borehole sample taken off-site for testing and hole backfilled with grout. No waste spoil or drilling mud will be generated. General Requirements Waste generated will be transferred to a 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 NSW EPA Waste Classification Guidelines (2014).	R	2	L
Contamination								
Potential for discovery of unexpected contaminated spoil during investigation works	Health effects resulting from airborne contamination, e.g. asbestos.	P	3	M	If contaminated soil is encountered, all works are to stop in the vicinity of the find and investigations commence.	U	2	L



involving excavation and drilling.	Complaints received from odours.				Occupational hygienist in attendance on site. Induct personnel on location, type, nature and concentration of contaminants on site if found.			
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 is required for 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 is required for 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.	R	2	L



					Works will be monitored on an on-going basis, and where dust generation is identified a water cart will be called upon. Operators of plant and vehicles are to drive to conditions.			
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. The site is to be isolated and investigated by a heritage consultant. Approval to proceed required prior to re-commencing works. Label any known heritage items on Environmental Control Maps.	U	2	M
Flora & Fauna								
Removal of flora without approval.	Failure to identify flora prior to removal.	R	3	L	No vegetation removal/trimming is required as part of the minor works.	R	1	L
Traffic and Pedestrians								
Loss of on-street car parking in adjacent residential streets and	Loss of parking availability to adjacent residential and commercial	P	3	M	Community notifications.	U	3	L



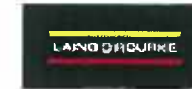
commercial areas during investigation works.	properties could result in community complaints.				Site vehicles shall be parked within the rail corridor (where required) and not affect public parking area. Traffic Control Plan will be implemented for access of the Drill Rig to the worksite on Mowbray Rd.			
Management of heavy vehicles / access routes.	Complaints from sensitive receivers due to increased level and frequency of noise.	P	4	M	Deliveries of plant and materials shall be undertaken outside of peak periods where possible. Site vehicles shall be parked within the rail corridor and not affect public parking areas. Scheduled road movements shall be minimised where possible. Oversized deliveries would be undertaken in accordance with the requirements of NSW Police or Roads and Maritime Services. Heavy vehicle access routes given to contractors/suppliers/deliveries. Community Notifications. Pedestrian management with traffic controller in place where required.	U	3	L
Truck deliveries out of normal working hours (un-approved).	Noise impact to community / potential complaints.	P	3	M	Induction on approved working hours for deliveries only within standard construction hours. Communication of delivery times to suppliers only within standard construction hours. Community Notifications on project activities occurring locally. Approved traffic/access routes. Planning and staging of works within standard construction hours only.	U	3	M
Resources and Energy Use								
Energy consumption by plant and equipment.	Inappropriate energy use, waste of energy recourses, energy wastage	U	2	L	No idling of plant equipment where possible onsite. Equipment / plant equipment inspections must be undertaken prior to use on site.	R	2	L



	costs, increased greenhouse gas emissions.							
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	Only sufficient materials to complete the works will be procured.	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.



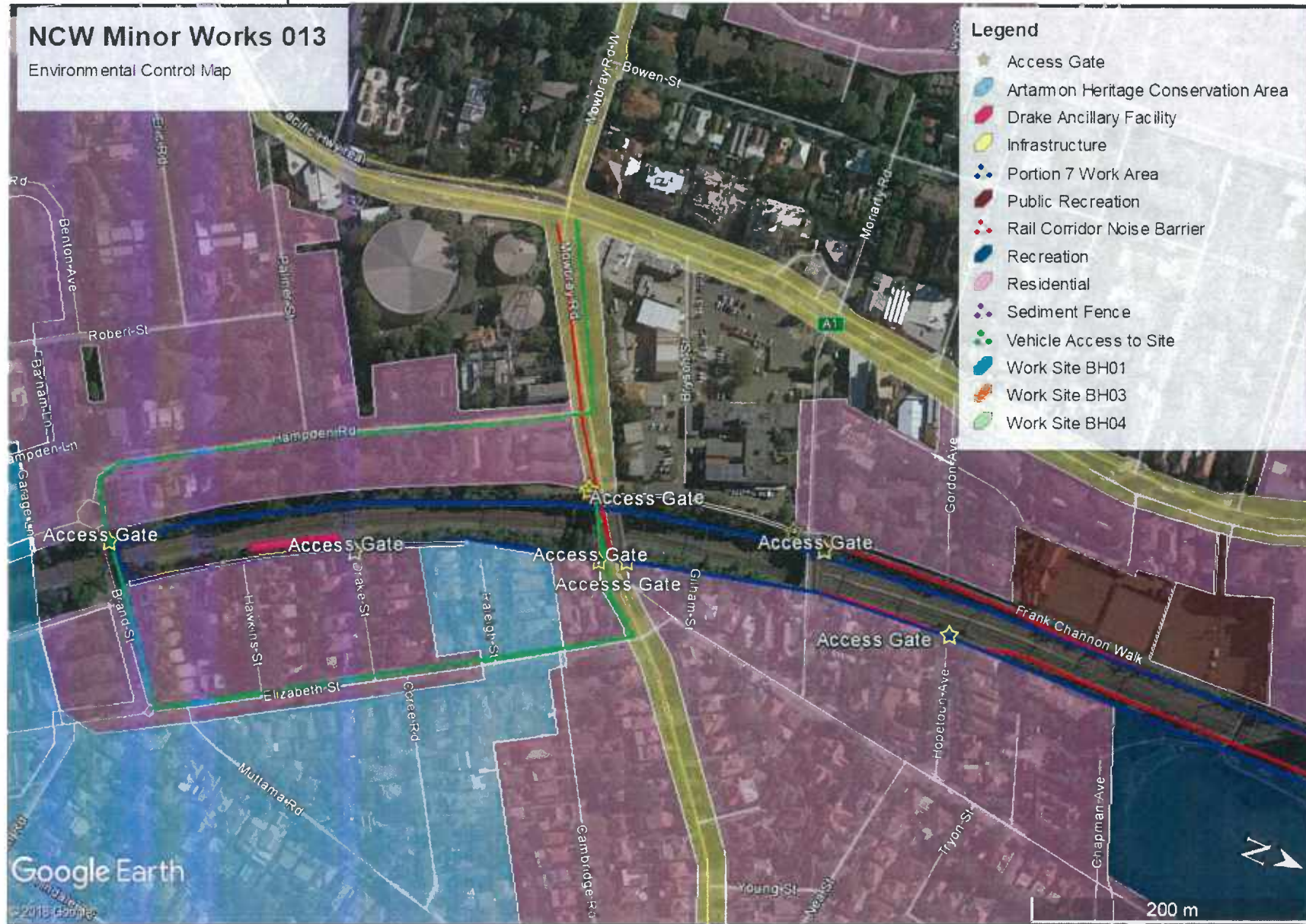
Probability:			Consequence:		
5 = Certain 4 = Likely 3 = Possible 2 = Unlikely 1 = Rare			5 = Severe 4 = Major 3 = Moderate 2 = Minor 1 = Incidental		
1-4 Acceptable UNACCEPTABLE			5 - 9 Acceptable with control measures 10 - 16 Requires the implementation of best practice 17 and Above =		
5	Certain	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

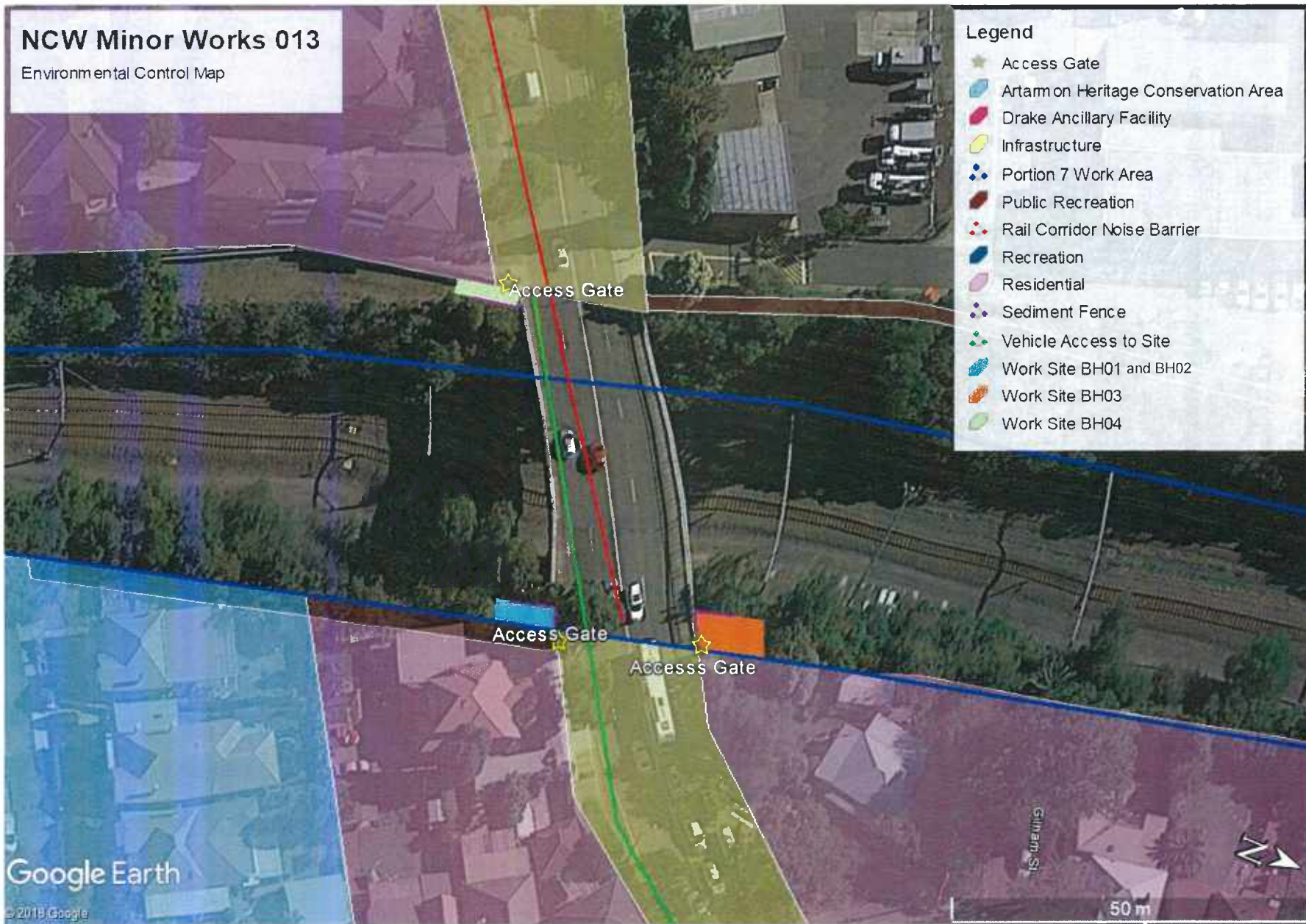


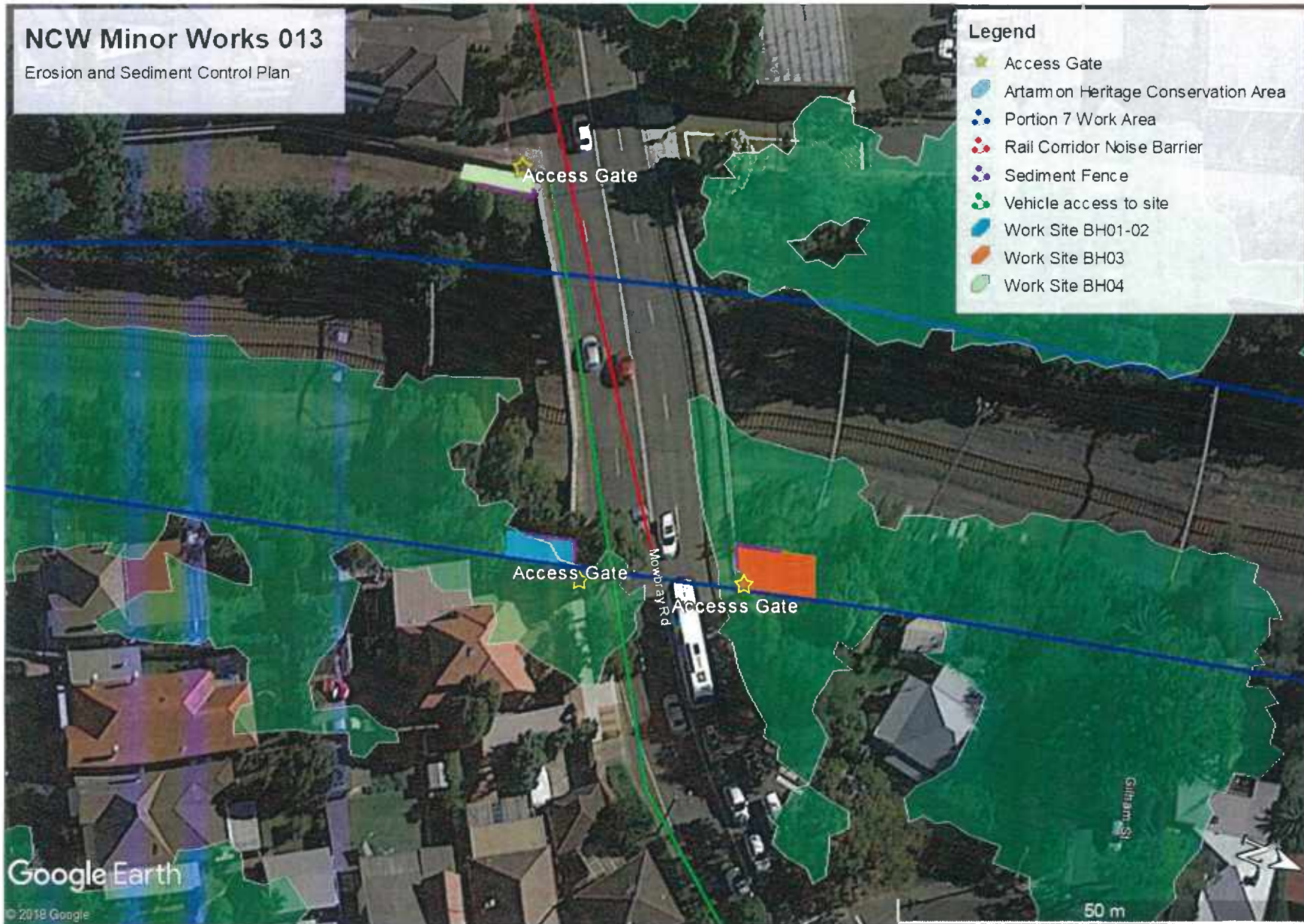
1	Rare	<ul style="list-style-type: none"> – Practically impossible – Not known to have occurred in industry or unheard of. 	1	Incidental	<ul style="list-style-type: none"> – Localised or short term effects on habitat, species or environmental media. – Fully contained on site and can be fully remediated. 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

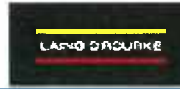


Environmental Control Map

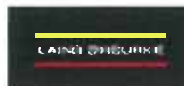








Environmental Control Map		
ID	Environmental Aspect	Description
1	Project	<ul style="list-style-type: none"> This ECM applies to Pre-Construction Minor Works 013 for Portion 7a delivered under Northern Corridor Works (Enabling works for Sydney Metro City and Southwest, Chatswood to Sydenham).
2	Site Access	<ul style="list-style-type: none"> Specific site access for Pre-Construction Minor Works 013 is as identified in Appendix 1 General access to the site will be from existing access gates at Brand Street, Hopetoun Ave and Drake St
3	Program of works	<ul style="list-style-type: none"> Works will occur during Standard Construction Hours between 0700-1800 and OOH in accordance with NCW OOH Application 012 (subject to Sydney Metro approval)
4	General	<ul style="list-style-type: none"> The team will be trained on this ECM, OOH 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, as applicable. This ECM will be displayed on site sheds. The Drake Street endorsed ECM will be used for the Drake Street minor ancillary facility
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
7	Waste	<p>General Requirements</p> <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. Waste spoil will be tested in accordance with the NSW EPA Waste Classification Guidelines and will be disposed of to a licenced waste facility. Waste vegetation will be disposed of at a licenced waste facility.
8	Soils and water	<p>General Requirements</p> <ul style="list-style-type: none"> No soil and water related issues are expected to be encountered. Stockpiles will be covered when not in use Stormwater drains will be protected Concrete washout will occur at the concrete depot located in Artamon on Reserve Road. A concrete washout bin will be provided for the line pump, to located at least 20m from the nearest water body, where possible. Existing erosion and sediment controls are in place across the site 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"> 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. Community notifications will be drafted and sent to Sydney Metro Community Liaison team separately.
11	Traffic and Transport	<ul style="list-style-type: none"> Traffic Control Plan for Pre-Construction Minor Works 013 to be implemented in Appendix 1 Other General Requirements Access to the site will be from existing access gates on Mowbray Road, Hopetoun Ave and Drake St All delivery drivers will be given an induction showing the approved traffic/access/haulage routes as identified in the EIS prior to accessing site. 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. 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.
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 any vegetation outside of the scope of the ecology report and 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. 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.



		<ul style="list-style-type: none"> Stockpiles, plant, equipment and materials will be located on existing cleared areas, away from the drip zone of trees and native vegetation. Weeds encountered during vegetation removal will be stockpiled separately and disposed of accordingly to avoid contamination. 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.
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:

- 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

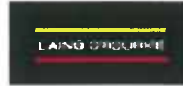
Out-of-Hour Works

Refer NCW OOHW Application 012 for 29th April 2018 submitted to Sydney Metro for review and approval.



Road Occupancy Licence

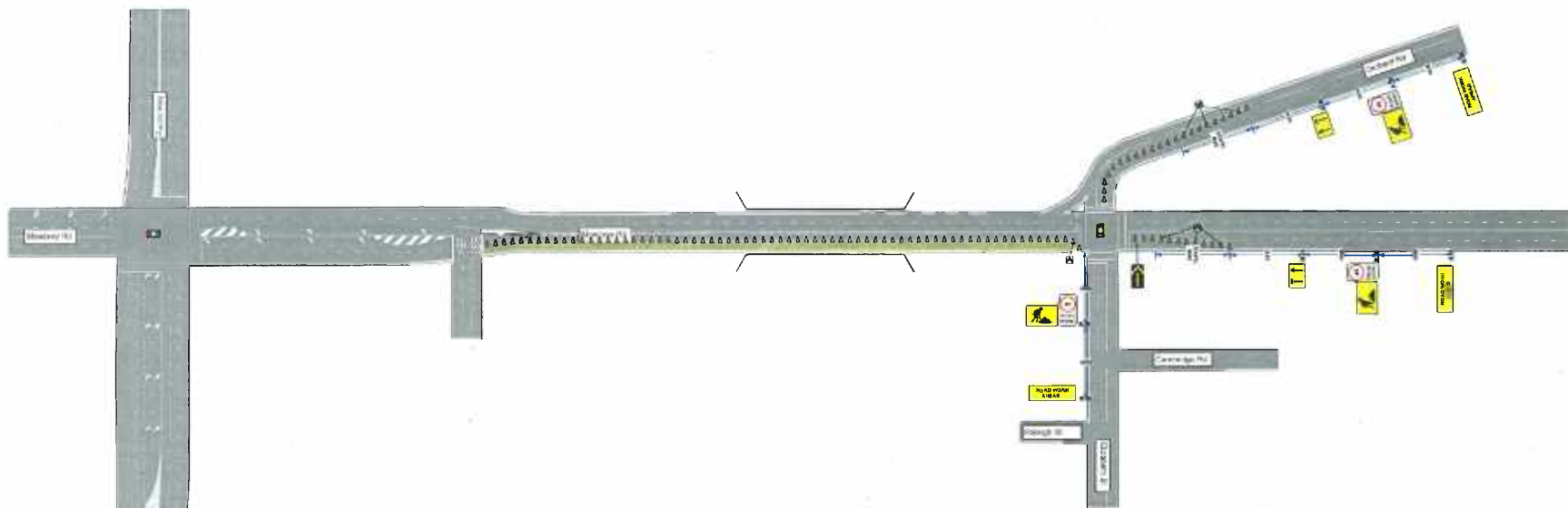
Not required for these works.


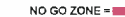

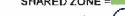
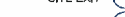
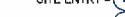






Traffic Control Plans

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 Name - Cert No - Date - Signed -	<table border="1"> <thead> <tr> <th>Approximate speed of traffic</th> <th>Traffic control at 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>150</td> </tr> <tr> <td>Greater than 105</td> <td>N/A</td> <td>110</td> <td>150</td> </tr> </tbody> </table>	Approximate speed of traffic	Traffic control at 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	150	Greater than 105	N/A	110	150	D = THE SPEED OF TRAFFIC MEASURED IN KM/H 80KM = 80M EG: 70KM = 70M 60KM = 60M 50KM = 50M SEE SECTION 4.2 TRAFFIC CONTROL AT WORK SITES MANUAL WORK AREA = 	 Web: www.dtraffic.com.au Email: sydney@d-d-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	
Approximate speed of traffic	Traffic control at beginning of taper	Lateral shift taper	Merge taper																																								
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Appendix 2: Cover Page

Environmental Management Documentation - Not Used



Appendix 3: Cover Page

Community Notification - Undertaken by Sydney Metro in conjunction with LOR. Combined notice to the community 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.

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

Geotechnical investigation work near Mowbray Road rail bridge

Essential geotechnical investigations will be undertaken to assist with the planning and design work for Sydney Metro. These investigation activities are required to determine the ground and ground water conditions including strength of the underlying rock.

Geotechnical work is expected to be done between **Friday 20 April and Friday 4 May 2018**, weather and site conditions permitting (see map overleaf).

- Friday 20 April, a ute mounted drill rig will mobilise within the rail corridor adjacent to 340A Mowbray Road
- Sunday 29 April, a small drill rig will be mobilised within the rail corridor adjacent to 342 Mowbray Road, no work will take place
- Monday 30 April to Wednesday 2 May, two boreholes will be drilled within the rail corridor adjacent to 342 Mowbray Road. On Wednesday afternoon, the rig will then be relocated to within the rail corridor adjacent to 2 Orchard Road
- Thursday 3 May to Friday 4 May, a final borehole will be drilled within the rail corridor adjacent to 2 Orchard and the drill rig demobilised and removed from site.

Standard work hours

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

Out-of-hours

Due to road access requirements and safety, the drill rig will be delivered and demobilised within the rail corridor adjacent to 341 Mowbray Road on **Sunday 29 April between 8pm and Midnight**.

Work will involve:

- Establishing a temporary site including site security and fencing
- A mobile drill rig to drill boreholes in four locations within the rail corridor adjacent to Mowbray Road bridge
- An increase in light vehicle movements.

What to expect

- During the work temporary parking, traffic and pedestrian changes will be required including traffic control and directional signage. Access to buildings and driveways will be maintained at all times.
- Boreholes will be backfilled, and ground surface reinstated at completion of the work.
- The noise impact from these activities is expected to be minimal.

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 .

Chatswood geotechnical investigation work areas





Appendix 4: Cover Page

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

