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:	John Holland & Laing O'Rourke joint venture (JHLOR)
Project:	Sydenham Station and Junction
Application Title: (e.g. Smith St trenching works)	Works to WE10 Site wide
Application Number:	SSJ-PCMW-007 Document number: SMCSWSSJ-JHL-WSS-EM-REC-000003
Application Date:	Rev01 - 9/07/2018 Rev02 – 30/07/18 Rev03 – 10/08/2018
Planning Approval:	Sydney Metro City and Southwest – Chatswood to Sydenham - Environmental Impact Statement Sydney Metro City and Southwest - Environmental Impact Statement – Sydenham Station and Sydney Metro Trains Facility South Modification Report (MOD 4) Sydney Metro City and Southwest - Environmental Impact Statement – Sydenham Station and Sydney Metro Trains Facility South Modification Submissions Report Sydney Metro City and Southwest Infrastructure Approval SSI 7400 (as modified)
Minor Works Categories: • Highlight as applicable. • If Items 4, 8 or 11 are applicable, this form must be endorsed by an Environmental Representative.	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, populations or endangered ecological communities?	*If 'Yes', this completed form must be endorsed by an Environmental Representative, approved by TfNSW and submitted to the applicable planning authority to determine that the works are not defined as 'construction'.* No – in accordance with the information presented within the EIS and Modification Report there will be no impacts associated with the works that will affect heritage items, threatened species, populations or endangered ecological communities. An addendum Historical Archaeological Research Design (ARD) for the Sydenham Station and Sydney Metro Trains Facility South (the project as modified) was completed by Artefact (January, 2018). The report concluded that an Unexpected Finds Procedure would be sufficient for managing works within the project area. JHLOR will implement the *Sydney Metro Unexpected Finds Procedure* v1.4.

Part 2: Details

Describe the proposed Minor Works:

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

Site Description Overview

This overview is based on information from the EIS, Modification Report and Modification Submissions Report.

The site is a typical rail site with track, rail and ballast extending from Bedwin Road Bridge at the city end and branching out past Sydenham Station towards Tempe Station on the T4 line, Marrickville Station on the T3 line and the XPT Maintenance Facility.

There are a number of buildings and structures on the site including the State Heritage listed Sydenham Station and the Sydenham Pit and Pump Station. Other buildings and structures include the XPT Maintenance Facility, the Geotechnical Site Office and the Sydenham Signal Control Centre.

Vegetation on the site includes grasses, shrubs, weeds and planted street trees.

The site includes the Sydenham Pit, which receives water from the local Marrickville catchment. A concrete channel, known as the "Eastern Channel", runs through the site from north to south and discharges stormwater from the wider catchment and the Sydenham Pit to the Cooks River. There is a number of drainage pits located throughout the site, including a number of pits located within the track.

The area is surrounded by a mixture of industrial/commercial properties and residential properties. There are no major arterial roads in the vicinity of the project.

Description of Works

A number of activities will be undertaken as part of the works. The location of each activity can be seen within Appendix 1. The activities to be undertaken include;

1. Under Line Crossings (ULXs)

A number of ULXs will be installed as part of the utility relocation works in preparation for the construction phase. The ULXs will be installed during rail possessions.

The works involve excavating a trench under the existing rail line, placing conduits and pits within the excavation, backfilling with stabilised sand and capping material, and reinstating the track.

Also associated with this activity will be the import of backfill material and the export of waste spoil from the site.

Plant and equipment used as part of this activity includes:

- Excavator
- Hydrema
- Vacuum truck
- Truck
- Various Hand tools
- Lighting Towers
- Watercart

The ULXs will be installed both during and outside of standard construction hours during rail possessions.

2. Combined Service Route

Combined Service Route (CSR) will be installed as part of the utility relocation works in preparation for the construction phase. This includes the installation of conduits and pits into trenches, and backfilling with stabilised sand.

Some Galvanised Steel Troughing (GST) will also be installed as part of this work. This involves the excavation of post holes, concreting of posts (using hand mixed concrete) and the installation of troughing.

Plant and equipment used as part of this activity includes:

- Excavator
- Wacker packer
- Vacuum truck
- Various Hand tools

The CSR will be installed both during and outside of standard construction hours during rail possessions.

3. Signalling Works

Signal works will include the installation and commisioning of the Signalling Location Case 676.

The works would involve the following:

- Service searching using NDD truck
- Minor excavation and removal of concrete slab
- Installation of small base slab using bags of cement
- Installation of plinths
- Installation of case
- Connection of cables
- Commissioning

Plant used would be:

- 14t excavator
- 14 Hydrema (dump truck)
- Various hand tools

The signalling works will occur both during and outside of standard construction hours during rail possessions.

4. Over Head Wire (OHW) Footings

A number of OHW footings will be installed in accordance with Minor Works Category 11. The works will include the excavation of the footing, installation of reinforcement steel and temporary formwork, and the pumping of concrete.

Plant and equipment used as part of this activity includes:

- Excavator (with auger attachment)
- Various hand tools
- Concrete pump
- Concrete truck
- Concrete vibrator

The OHW footings will not be installed in close proximity to sensitive receivers, as such impacts from noise and vibration will be negligible. Concrete washout will occur in a dedicated concrete washout area, located away from stormwater drainage. All waste will be disposed of in accordance with the *NSW EPA Waste Classification Guidelines* (NSW EPA, 2014).

The OHW footings will be installed both during and outside of standard construction hours during rail possessions.

5. Over Head Wire (OHW) Masts

A number of masts will be installed on OHW footings in accordance with Minor Works Category 11. The works will include lifting prefabricated steel masts on to existing footings and bolting them into place.

Plant and equipment used as part of this activity includes:

- Hi-rail Telehandler
- Various hand tools

The OHW masts will not be installed in close proximity to sensitive receivers, as such impacts from noise and vibration will be negligible. The OHW masts will be installed both outside of standard construction hours during rail possessions.

6. Burrows Avenue Construction Access

Jersey kerb barrier fence will be set up on Burrows Avenue to secure space for construction access to Platform 6 and the Rail corridor. The area will be prepared for the demolition of the Sydenham Station Platform 6 building (to be demolished on WE10). The area will include the footpath, through lane and road island on Burrows Avenue (including approximately 7 parking spaces with a 2hr limit).

Plant and equipment used as part of this activity includes:

- Telehandler
- Truck
- 2t Tipper
- Various hand tools

The establishment of the construction access area will occur during standard construction hours. The area may be used outside of normal cobnstruction hours during possessions. The area is is located on the western side of Burrows Avenue, across from a number of residential properties. Any use of the area outside of standard construction hours will be assessed under an OOHW Application.

JHLOR will obtain the appropriate approvals from Inner West Council prior to establishing the area. JHLOR will also communicate these changes through community notifications and signage places within he vicinity of the works.

It is noted that this area forms part of the project design footprint, as such there is no requirement to mitigate parking loss. Community impacts associated with the removal of 7 x 2hr parking spots will be negligible.

7. Temporary Access Bridge Piling

Further investigations into the Temporary Access Bridge location have indicated that a number of piles, either side of the Eastern Channel, may be required to provide structural stability to the bridge.

Plant and equipment used as part of this activity includes:

- Piling Rig
- Excavator
- Various hand tools
- Concrete pump
- Concrete truck
- Concrete vibrator

This activity will be undertaken in accordance with Minor Works category 11. The bridge install will not occur in close proximity to sensitive receivers, as such impacts from noise and vibration will be negligible. Concrete washout will occur in a dedicated concrete washout area, located away from stormwater drainage. All waste will be disposed of in accordance with the *NSW EPA Waste Classification Guidelines* (NSW EPA, 2014).

The temporary access bridge piles will be installed during standard construction hours.

An Erosion and Sediment Control Plan will be developed and implemented to mitigate the risk of material from the piling entering the Eastern Channel.

8. CSR Bridge Piling

The piling rig used to construct the temporary Access Bridge piles will remain on-site to install piles required for the CSR bridge.

Plant and equipment used as part of this activity includes:

- Piling Rig
- Excavator
- Various hand tools
- Concrete pump
- Concrete truck
- Concrete vibrator

This activity will be undertaken in accordance with Minor Works category 11. The bridge install will not occur in close proximity to sensitive receivers, as such impacts from noise and vibration will be negligible. Concrete washout will occur in a dedicated concrete washout area, located away from stormwater drainage. All waste will be disposed of in accordance with the *NSW EPA Waste Classification Guidelines* (NSW EPA, 2014).

	The CSR bridge piles will be installed during standard construction hours. An ESCP will be developed to mitigate the risk of material from the piling entering the Eastern Channel. **General Notes;** All plant would access site via existing Sydney Trains access gates. All work to occur out-side of normal construction hours, as identified within each activity description above, would be subject to approval of an OOHW Application. It is noted that OOHW approvals are subject to risk determination by the Acoustic Advisor (AA). High risk works need to be approved by Department of Planning And Environment (DPE). The anticipated dates for OOHW and associated activities (from this Minor Works Approval) are as follows; • WK08 (25-26 August 2018) - ULX install, CSR, OHW Footings and Masts. Note that these activities are subject to change based on construction progress. The above list does not include activities approved under any other Minor Works Approval (MWA).
Planned Commencement Date:	1st August 2018 (target date pending approval of this MWA. All activities to be included within community notifications before commencement).
Local Sensitivities: Describe the presence (if any) of local sensitive environmental areas and community receptors	• There are a number of residential properties located along Burrows Ave, Bridge St and Railway Rd. These properties may be sensitive to excessive noise. The properties nearest the rail corridor have been previously treated with double glazing to reduce rail noise. It is noted that any works occurring near these properties will occur during OOHW. As such, any noise impacts on these properties will be assessed within OOHW assessments. The OOHW assessments will identify the appropriate mitigation measures to put in place to manage noise impacts at these properties. Any other activities such as erosion and sediment control installation or soil resistivity testing will include hand tools only in the vicinity of these properties, and therefore will have negligible noise impacts. • Heritage – there are a number of heritage structures within the project footprint including Sydenham Station and the Sydenham Pit and Pump Station (State Heritage Register) and The Marrickville (Meek's Road) Railway Sub-station (S170 Register). These works will not impact these structures or areas at all. For all works that include excavation works, JHLOR will operate under the Sydney Metro Unexpected Heritage Finds Procedure. Workers will be instructed to stop works in any instance where a suspected item of Aboriginal or non-Aboriginal heritage is uncovered. Workers are to report any finds immediately to the Environmental Manager. There are no planned works within the curtilage of any registered heritage building or item.

Part 3: Environmental Risk Assessment and Management

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

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

Documentation: List any existing documents (including those referenced above) that the proposed Minor Works will be undertaken in accordance with and attach as Appendix 2 (e.g. plans, procedures, procedures, etc.).	An Environmental Risk Assessment and an Environmental Control Map for the Works is included within Appendix 1. Unexpected finds procedures for contamination and items or deposits with heritage significance, and the ARD are included in Appendix 2.

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?	A site induction will be provided to all personnel working on the project site. The induction will include relevant environmental aspects and risks associated with works on the project site. Works will be undertaken in accordance with a Safe Work Method Statement (SWMS) or Job Safety & Environment Analysis (JSEA) (depending on whether the works meets the definition of High Risk Construction Works in accordance with Clause 291 WHS Regulation). SWMS will be reviewed by the JHLOR Environmental Manager.

Part 5: Community Consultation	
What community consultation has been undertaken already?	No consultation to date.
What community consultation is planned to be undertaken?	The works are to be included within monthly notifications and specific notifications. Works scheduling is dependent on construction and design requirements, works will not occur unless they are included within a notification.
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:	Neil Ivison	**Position:**	Project Director	**Phone:**	0458 288 625
	Cameron Newling		Environmental Manager		0419 727 445
	Sanjin Muhic		Stakeholder and Community Relations Manager		0447 186 803

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:	Cameron Newling		
Signature:		**Date:**	10/08/2018

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).

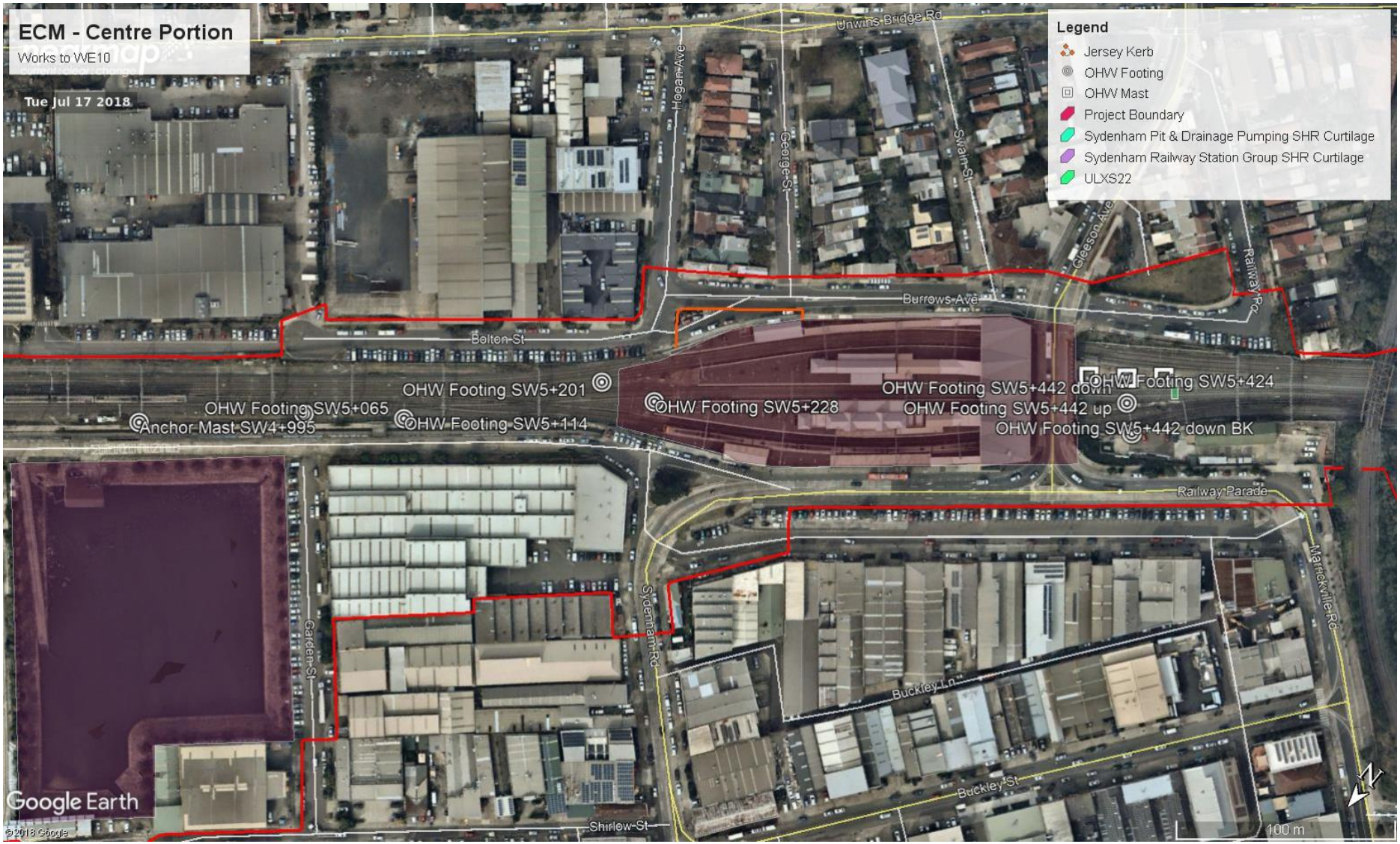
	TfNSW Principal Manager, Communication & Engagement – Endorsement (required for all applications)	**TfNSW Principal Manager, Sustainability, Environment & Planning** – Approval (required for all applications)	**Environmental Representative** – Endorsement (required as necessary in accordance with the applicable planning approval, optional for all other circumstances)
Signature:			
Name:			
Date:			
Comments:			*Supporting letter attached as Appendix 4 if necessary.*
Conditions:			*Supporting letter attached as Appendix 4 if necessary.*

☐	Approved (by TfNSW)
☐	Endorsed (by Environmental Representative)
☐	Rejected

Appendix 1: Cover Page

Work area, Environmental Risk Assessment and Environmental Control Map.


ECM - SW Portion
Works to WE10
Sun May 27 2018
Legend
678 Location
Bridge Piling
CSR
OHW Footing
OHW Mast
Project Boundary
ULXs
OHW Footing SW5+595 down
OHW Footing SW5+595 up
OHW Footing SW5+424
OHW Footing SW5+442 up
OHW Footing SW5+442 down BK
CSR Bridge Piling
Temporary Access Bridge Piling
Temporary Access Bridge Piling
CSR Bridge Piling
OHW Footing B5+753 down
OHW Footing B5+779 down
Anchor Mast B5+809
OHW Footing B5+942
OHW Footing B5+946
Anchor Mast B6+076
OHW Footing S6
Railway Parade
Marrickville Rd
Buckley Ln
Buckley St
Wilkinson Ln
Barclay St
Gerald St
Sydney St
Sydney Ln
Meeks Rd
Google Earth
© 2018 Google
100 m


ECM - Centre Portion
Works to WE10
Tue Jul 17 2018
Legend
Jersey Kerb
OHW Footing
OHW Mast
Project Boundary
Sydenham Pit & Drainage Pumping SHR Curtilage
Sydenham Railway Station Group SHR Curtilage
ULXS22
Unwins Bridge Rd
Hogan Ave
George St
Swain St
Gleeson Ave
Railway Pl
Burrows Ave
Belton St
OHW Footing SW5+201
OHW Footing SW5+065
Anchor Mast SW4+995
OHW Footing SW5+114
OHW Footing SW5+228
OHW Footing SW5+442 down
OHW Footing SW5+442 up
OHW Footing SW5+442 down BK
OHW Footing SW5+424
Railway Parade
Marrickville Rd
Garden St
Sydenham Rd
Buckley Ln
Buckley St
Shirlow St
Google Earth
© 2018 Google
100 m

Risk Assessment

This Risk Assessment has been undertaken in accordance with the requirements of *Sydney Metro Risk Management Standard.*
Note; **C** = Consequence & **L** = Likelihood as per *Sydney Metro Risk Management Standard – Appendix A Sydney Metro Risk Matrix*

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		C X	L =	Risk		C X	L =	Risk
Under Line Crossings (ULXs)								
Noise from plant	Noise from plant impacting on sensitive receivers	**C5**	**L4**	**Low**	Induction to include noise mitigation and "good neighbour" approach. Plant to be positioned so that the noisier part of the rig points away from sensitive receivers, where possible Follow the appropriate approvals process and submit Out of Hours Work applications for Acoustic Advisor endorsement and Environmental Representative approval. Mitigation measures to be implemented in accordance with the Construction Noise Strategy.	**C5**	**L6**	**Low**
Water	Discharge of water from ULX excavations	**C4**	**L4**	**Med**	Induction to include information on water discharge practices and hold point for Environmental Manager testing and sign-off Undertake testing in accordance with Sydney Metro Water Reuse and Discharge Guidelines	**C4**	**L5**	**Low**
Erosion and Sediment Control	Sediment laden runoff from stockpiled materials	**C4**	**L4**	**Med**	Induction to include ERSED protection measures Produce an ESCP for stockpile management – cover stockpiles where practicable	**C4**	**L5**	**Low**

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		C X	L =	Risk		C X	L =	Risk
Items of heritage significance uncovered during works	Damage to heritage items or archaeological deposits	**C3**	**L5**	**Med**	Induction to include heritage management requirements. No works to occur within the heritage curtilage of Sydenham Station and Sydenham Pit. Implement unexpected finds procedure as per the ARD	**C3**	**L6**	**Low**
Waste	Incorrect disposal of spoil waste Acid Sulphate Soils Contamination	**C3**	**L5**	**Med**	Induction to include waste management practices Waste to be tested in accordance with the Waste Classification Guidelines (NSW EPA, 2014) prior to disposal The waste must be lawfully transported and disposed of to a licenced facility. Exposed Potential Acid Sulphate Soil within the excavations will be kept wet during the works. The excavations will be backfilled immediately to prevent any Potential Acid Sulphate Soils from oxidising. An occupational hygienist is to be on call to advice on management of any contaminated material (advice based on contamination type).	**C3**	**L6**	**Low**
Air Quality	Dust generation during excavation and stockpiling	**C4**	**L4**	**Med**	Induction to include air quality management practices Water cart or water trailer to be present to wet down material Monitor conditions and cease work where dusty conditions are observed	**C4**	**L5**	**Low**

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		C X	L =	Risk		C X	L =	Risk
Services	Service strike leading to environmental discharges	**C4**	**L4**	**Med**	Engineers and workers to establish locations of any services by Dial Before You Dig, Survey and Non Destructive Digging An Excavation Permit detailing service locations is to be reviewed and signed by all workers undertaking excavation works	**C4**	**L5**	**Low**
Combine Service Route								
Noise from plant	Noise from plant impacting on sensitive receivers	**C5**	**L4**	**Low**	Induction to include noise mitigation and "good neighbour" approach. Plant to be positioned so that the noisier part of the rig points away from sensitive receivers, where possible Follow the appropriate approvals process and submit Out of Hours Work applications for Acoustic Advisor endorsement and Environmental Representative approval. Mitigation measures to be implemented in accordance with the Construction Noise Strategy.	**C5**	**L6**	**Low**
Water	Discharge of water from CSR excavations	**C4**	**L4**	**Med**	Induction to include information on water discharge practices and hold point for Environmental Manager testing and sign-off Undertake testing in accordance with Sydney Metro Water Reuse and Discharge Guidelines	**C4**	**L5**	**Low**
Erosion and Sediment Control	Sediment laden runoff from stockpiled materials	**C4**	**L4**	**Med**	Induction to include ERSED protection measures Produce an ESCP for stockpile management – cover stockpiles where practicable	**C4**	**L5**	**Low**

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		C X	L =	Risk		C X	L =	Risk
Items of heritage significance uncovered during works	Damage to heritage items or archaeological deposits	**C3**	**L5**	**Med**	Induction to include heritage management requirements. No works to occur within the heritage curtilage of Sydenham Station and Sydenham Pit. Implement unexpected finds procedure as per the ARD	**C3**	**L6**	**Low**
Waste	Incorrect disposal of spoil waste Acid Sulphate Soils Contamination	**C3**	**L5**	**Med**	Induction to include waste management practices Waste to be tested in accordance with the Waste Classification Guidelines (NSW EPA, 2014) prior to disposal The waste must be lawfully transported and disposed of to a licenced facility. Exposed Potential Acid Sulphate Soil within the excavations will be kept wet during the works. The excavations will be backfilled immediately to prevent any Potential Acid Sulphate Soils from oxidising. An occupational hygienist is to be on call to advice on management of any contaminated material (advice based on contamination type).	**C3**	**L6**	**Low**
Air Quality	Dust generation during excavation and stockpiling	**C4**	**L4**	**Med**	Induction to include air quality management practices Water cart or water trailer to be present to wet down material Monitor conditions and cease work where dusty conditions are observed	**C4**	**L5**	**Low**

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		C X	L =	Risk		C X	L =	Risk
Services	Service strike leading to environmental discharges	**C4**	**L4**	**Med**	Engineers and workers to establish locations of any services by Dial Before You Dig, Survey and Non Destructive Digging An Excavation Permit detailing service locations is to be reviewed and signed by all workers undertaking excavation works	**C4**	**L5**	**Low**
Signalling								
Noise from plant	Noise from plant impacting on sensitive receivers	**C5**	**L4**	**Low**	Induction to include noise mitigation and "good neighbour" approach. Plant to be positioned so that the noisier part of the rig points away from sensitive receivers, where possible Follow the appropriate approvals process and submit Out of Hours Work applications for Acoustic Advisor endorsement and Environmental Representative approval. Mitigation measures to be implemented in accordance with the Construction Noise Strategy.	**C5**	**L6**	**Low**
Erosion and Sediment Control	Sediment laden runoff from stockpiled materials	**C4**	**L4**	**Med**	Induction to include ERSED protection measures Produce an ESCP for stockpile management – cover stockpiles where practicable	**C4**	**L5**	**Low**
Over Head Wire Footings								
Noise from plant	Noise from plant impacting on sensitive receivers	**C5**	**L4**	**Low**	Induction to include noise mitigation and "good neighbour" approach. Plant to be positioned so that the noisier part of the rig points away from sensitive receivers, where possible	**C5**	**L6**	**Low**

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		C X	L =	Risk		C X	L =	Risk
					Follow the appropriate approvals process and submit Out of Hours Work applications for Acoustic Advisor endorsement and Environmental Representative approval. Mitigation measures to be implemented in accordance with the Construction Noise Strategy.			
Water	Discharge of water from OHW footing excavations	**C4**	**L4**	**Med**	Induction to include information on water discharge practices and hold point for Environmental Manager testing and sign-off Undertake testing in accordance with Sydney Metro Water Reuse and Discharge Guidelines	**C4**	**L5**	**Low**
Erosion and Sediment Control	Sediment laden runoff from stockpiled materials	**C4**	**L4**	**Med**	Induction to include ERSED protection measures Produce an ESCP for stockpile management – cover stockpiles where practicable	**C4**	**L5**	**Low**
Items of heritage significance uncovered during works	Damage to heritage items or archaeological deposits	**C3**	**L5**	**Med**	Induction to include heritage management requirements. No works to occur within the heritage curtilage of Sydenham Station and Sydenham Pit. Implement unexpected finds procedure as per the ARD	**C3**	**L6**	**Low**

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		C X	L =	Risk		C X	L =	Risk
Waste	Incorrect disposal of spoil waste Acid Sulphate Soils Contamination	C3	L5	Med	Induction to include waste management practices Waste to be tested in accordance with the Waste Classification Guidelines (NSW EPA, 2014) prior to disposal The waste must be lawfully transported and disposed of to a licenced facility. Exposed Potential Acid Sulphate Soil within the excavations will be kept wet during the works. The excavations will be backfilled immediately to prevent any Potential Acid Sulphate Soils from oxidising. An occupational hygienist is to be on call to advice on management of any contaminated material (advice based on contamination type).	C3	L6	Low
Air Quality	Dust generation during excavation and stockpiling	C4	L4	Med	Induction to include air quality management practices Water cart or water trailer to be present to wet down material Monitor conditions and cease work where dusty conditions are observed	C4	L5	Low
Services	Service strike leading to environmental discharges	C4	L4	Med	Engineers and workers to establish locations of any services by Dial Before You Dig, Survey and Non Destructive Digging An Excavation Permit detailing service locations is to be reviewed and signed by all workers undertaking excavation works	C4	L5	Low
Over Head Wire Masts								
Noise from plant	Noise from plant impacting on sensitive receivers	C5	L4	Low	Induction to include noise mitigation and “good neighbour” approach.	C5	L6	Low

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		C X	L =	Risk		C X	L =	Risk
					Plant to be positioned so that the noisier part of the rig points away from sensitive receivers, where possible Follow the appropriate approvals process and submit Out of Hours Work applications for Acoustic Advisor endorsement and Environmental Representative approval. Mitigation measures to be implemented in accordance with the Construction Noise Strategy.			
Laydown Area Burrows Ave								
Noise from plant	Noise from plant impacting on sensitive receivers	**C5**	**L4**	**Low**	Induction to include noise mitigation and "good neighbour" approach. Plant to be positioned so that the noisier part of the rig points away from sensitive receivers, where possible Follow the appropriate approvals process and submit Out of Hours Work applications for Acoustic Advisor endorsement and Environmental Representative approval. Mitigation measures to be implemented in accordance with the Construction Noise Strategy.	**C5**	**L6**	**Low**
Water	Discharge of water from OHW footing excavations	**C4**	**L4**	**Med**	Induction to include information on water discharge practices and hold point for Environmental Manager testing and sign-off Undertake testing in accordance with Sydney Metro Water Reuse and Discharge Guidelines	**C4**	**L5**	**Low**
Erosion and Sediment Control	Sediment laden runoff from stockpiled materials	**C4**	**L4**	**Med**	Induction to include ERSED protection measures Produce an ESCP for management of area	**C4**	**L5**	**Low**
Items of heritage significance impacted during works	Damage to heritage items or archaeological deposits	**C3**	**L5**	**Med**	Induction to include heritage management requirements.	**C3**	**L6**	**Low**

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		C X	L =	Risk		C X	L =	Risk
					No works to occur within the heritage curtilage of Sydenham Station and Sydenham Pit. Implement unexpected finds procedure as per the ARD			
Traffic	Disruption to the community	**C4**	**L4**	**Med**	Signage and community notifications to communicate changes	**C4**	**L5**	**Low**
Temporary Access Bridge Piling								
Noise from plant	Noise from plant impacting on sensitive receivers	**C5**	**L4**	**Low**	Induction to include noise mitigation and "good neighbour" approach. Plant to be positioned so that the noisier part of the rig points away from sensitive receivers, where possible Follow the appropriate approvals process and submit Out of Hours Work applications for Acoustic Advisor endorsement and Environmental Representative approval. Mitigation measures to be implemented in accordance with the Construction Noise Strategy.	**C5**	**L6**	**Low**
Water	Discharge of water from OHW footing excavations	**C4**	**L4**	**Med**	Induction to include information on water discharge practices and hold point for Environmental Manager testing and sign-off Undertake testing in accordance with Sydney Metro Water Reuse and Discharge Guidelines	**C4**	**L5**	**Low**
Erosion and Sediment Control	Sediment laden runoff from stockpiled materials	**C4**	**L4**	**Med**	Induction to include ERSED protection measures Produce an ESCP for management of area	**C4**	**L5**	**Low**
Items of heritage significance impacted during works	Damage to heritage items or archaeological deposits	**C3**	**L5**	**Med**	Induction to include heritage management requirements.	**C3**	**L6**	**Low**

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		C X	L =	Risk		C X	L =	Risk
					No works to occur within the heritage curtilage of Sydenham Station and Sydenham Pit. Implement unexpected finds procedure as per the ARD			
Waste	Incorrect disposal of spoil waste Acid Sulphate Soils Contamination	**C3**	**L5**	**Med**	Induction to include waste management practices Waste to be tested in accordance with the Waste Classification Guidelines (NSW EPA, 2014) prior to disposal The waste must be lawfully transported and disposed of to a licenced facility. Exposed Potential Acid Sulphate Soil within the excavations will be kept wet during the works. The excavations will be backfilled immediately to prevent any Potential Acid Sulphate Soils from oxidising. An occupational hygienist is to be on call to advice on management of any contaminated material (advice based on contamination type).	**C3**	**L6**	**Low**
Services	Service strike leading to environmental discharges	**C4**	**L4**	**Med**	Engineers and workers to establish locations of any services by Dial Before You Dig, Survey and Non Destructive Digging An Excavation Permit detailing service locations is to be reviewed and signed by all workers undertaking excavation works	**C4**	**L5**	**Low**
Air quality	Dust associated with piling process	**C4**	**L4**	**Med**	Induction to include air quality management practices Water cart or water trailer to be present to wet down material Monitor conditions and cease work where dusty conditions are observed	**C4**	**L5**	**Low**

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		C X	L =	Risk		C X	L =	Risk
CSR Access Bridge Piling								
Noise from plant	Noise from plant impacting on sensitive receivers	**C5**	**L4**	**Low**	Induction to include noise mitigation and "good neighbour" approach. Plant to be positioned so that the noisier part of the rig points away from sensitive receivers, where possible Follow the appropriate approvals process and submit Out of Hours Work applications for Acoustic Advisor endorsement and Environmental Representative approval. Mitigation measures to be implemented in accordance with the Construction Noise Strategy.	**C5**	**L6**	**Low**
Water	Discharge of water from OHW footing excavations	**C4**	**L4**	**Med**	Induction to include information on water discharge practices and hold point for Environmental Manager testing and sign-off Undertake testing in accordance with Sydney Metro Water Reuse and Discharge Guidelines	**C4**	**L5**	**Low**
Erosion and Sediment Control	Sediment laden runoff from stockpiled materials	**C4**	**L4**	**Med**	Induction to include ERSED protection measures Produce an ESCP for management of area	**C4**	**L5**	**Low**
Items of heritage significance impacted during works	Damage to heritage items or archaeological deposits	**C3**	**L5**	**Med**	Induction to include heritage management requirements. No works to occur within the heritage curtilage of Sydenham Station and Sydenham Pit. Implement unexpected finds procedure as per the ARD	**C3**	**L6**	**Low**
Waste	Incorrect disposal of spoil waste Acid Sulphate Soils Contamination	**C3**	**L5**	**Med**	Induction to include waste management practices	**C3**	**L6**	**Low**

Aspect	Potential Environmental Impact	Initial Risk Rating			Control Measures	Residual Risk Rating		
		C X	L =	Risk		C X	L =	Risk
					Waste to be tested in accordance with the Waste Classification Guidelines (NSW EPA, 2014) prior to disposal The waste must be lawfully transported and disposed of to a licenced facility. Exposed Potential Acid Sulphate Soil within the excavations will be kept wet during the works. The excavations will be backfilled immediately to prevent any Potential Acid Sulphate Soils from oxidising. An occupational hygienist is to be on call to advice on management of any contaminated material (advice based on contamination type).			
Services	Service strike leading to environmental discharges	**C4**	**L4**	**Med**	Engineers and workers to establish locations of any services by Dial Before You Dig, Survey and Non Destructive Digging An Excavation Permit detailing service locations is to be reviewed and signed by all workers undertaking excavation works	**C4**	**L5**	**Low**
Air quality	Dust associated with piling process	**C4**	**L4**	**Med**	Induction to include air quality management practices Water cart or water trailer to be present to wet down material Monitor conditions and cease work where dusty conditions are observed	**C4**	**L5**	**Low**

Appendix A: Sydney Metro Risk Matrix

A1 Consequence Table

Consequence Table						
Rating	**C6**	**C5**	**C4**	**C3**	**C2**	**C1**
Descriptor/ Impact Area	**Insignificant**	**Minor**	**Moderate**	**Major**	**Severe**	**Catastrophic**
Health and Safety (Injury and Disease)	Illness, first aid or injury not requiring medical treatment.	Illness or minor injuries requiring medical treatment.	Single recoverable lost time injury or illness, alternate/restricted duties injury, or short-term occupational illness.	1-10 major injuries requiring hospitalisation and numerous days lost, or medium-term occupational illness.	Single fatality and/or 10-20 major injuries/permanent disabilities/chronic diseases.	Multiple fatalities and/or >20 major injuries/permanent disabilities/chronic diseases.
Environment	No appreciable changes to environment and/or highly localised event.	Change from normal conditions within environmental regulatory limits and environmental effects are within site boundaries.	Short-term and/or well-contained environmental effects. Minor remedial actions probably required.	Impacts external ecosystem and considerable remediation is required.	Long-term environmental impairment in neighbouring or valued ecosystems. Extensive remediation required.	Irreversible large-scale environmental impact with loss of valued ecosystems.
Customer Experience/ Operational Reliability	Short duration disruptions affecting part of one transport mode.	Minor disruptions affecting several parts of one transport mode.	Serious disruptions affecting operation of one complete transport mode.	Major disruptions affecting operations of one transport mode with network-wide effects on one or more other modes of transport.	Short duration shutdowns or substantial disruptions affecting multiple transport modes with sector-wide cascading effects.	Extensive shutdowns or extended disruptions with economy-wide effects.
Government/ Stakeholder / Public Trust/ Confidence	Negative article in local media. No discernible reaction/apprehension. Goodwill, confidence and trust retained.	Unease – Series of negative articles in local/state media. Confidence remains with some minor loss of goodwill or trust. Recoverable with little effort or cost. Some continuing scrutiny/attention.	Disappointment – Extended negative local/state media coverage. Confidence and trust dented but are quickly recoverable at modest cost within existing budget and resources.	Concern – Short-term negative state/national media coverage. Confidence and trust are diminished but are recoverable with time, staff effort and additional funding.	Displeasure – Extended negative state/national media coverage. Confidence and trust are damaged but recoverable at considerable cost, time and staff effort.	Outrage – Material change in the public perception of the organisation. Confidence and trust are severely damaged, possibly irreparably, and full recovery both questionable and costly.
Regulatory or Legal Breach	Low-level non-compliance with legal and/or regulatory requirement or duty by individuals or TfNSW.	Minor non-compliance with legal and/or regulatory requirement or duty. Investigation and/or report to authority.	Moderate non-compliance. Subject to comment and monitoring from applicable regulator. Small fine and no disruption to services.	Major breach resulting in enforcement action and/or prohibition notices. Substantial fine and no disruption to services.	Substantial breach resulting in prosecution, fines and/or litigation. Licence or accreditation restricted or conditional affecting ability to operate.	Prosecution leading to imprisonment of TfNSW executive. Loss of operating licence.
Management Effort/ Organisational Fatigue	An event, the impact of which can be absorbed as part of normal activity.	An event, the impact of which can be absorbed but some additional management effort is required.	An event, the impact of which can be absorbed but much broader management effort is required.	Major event which can be absorbed, but substantial management effort is required.	Severe event which requires extensive management effort but can be survived.	Catastrophic event with the clear potential to lead to the collapse of the organisation.
Benefit Realisation of Initiative, Program or Project	No time delay with initiative or project but it will incur a slight decrease in the benefits realised.	Minor delay with the initiative and/or a minor decrease in the benefits realised; or minor delay on the project or another project, with no public implications.	Several delays with the initiative and/or moderate decrease in benefits realised; or completion date missed for non-critical path project.	Major delays with the initiative and/or major decrease in benefits realised; or publicly announced portion/milestone missed or final completion date missed with demonstrable mitigating external circumstances.	Severe delays with initiative, which impacts across divisions and/or significant decrease in benefits realised; or publicly announced portion/milestone missed or final completion date missed on critical path project.	Failure to realise benefits of the initiative which adversely affects the enterprise-wide operations of TfNSW; or publicly announced portion/ milestone significantly missed or final completion date significantly missed on critical path project.
Budget, Costs or Revenue	< $100k	$100k – $1m	$1m – $10m	$10m – $50m	$50m – $100m	> $100m

A2 Likelihood Criteria

Likelihood						
Rating	**L6**	**L5**	**L4**	**L3**	**L2**	**L1**
Descriptor/ Definition	**Almost Unprecedented**	**Very Unlikely**	**Unlikely**	**Likely**	**Very Likely**	**Almost Certain**
Qualitative Expectation	Not expected to ever occur during time of activity or project	Not expected to occur during the time of activity or project	More likely not to occur than occur during time of activity or project	More likely to occur than not occur during time of activity or project	Expected to occur occasionally during time of activity or project	Expected to occur frequently during time of activity or project
Sydney Metro Probability Analysis	<10%	10-25%	25-50%	50-75%	75-90%	>90%
Quantitative Frequency	Less than once every 100 years	Once every 10 to 100 years	Once every 1 to 10 years	Once each year	1-10 times every year	10 times or more every year

A3 Risk Matrix

Risk Rating A – Very High B – High C – Medium D - Low			Consequence					
			Insignificant	Minor	Moderate	Major	Severe	Catastrophic
			C6	C5	C4	C3	C2	C1
Likelihood	Almost certain	L1	C	B	B	A	A	A
	Likely	L2	C	C	B	B	A	A
	Possible	L3	D	C	C	B	B	A
	Unlikely	L4	D	D	C	C	B	B
	Rare	L5	D	D	D	C	C	B
	Almost unprecedented	L6	D	D	D	D	C	C

Appendix 2: Cover Page

Environmental Management Documentation.

Appendix 3: Cover Page

Community Notification.

NOTIFICATION – SYDENHAM METRO UPGRADE | AUGUST 2018

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. There will be new CBD metro railway stations underground at Martin Place, Pitt Street and Barangaroo and new metro platforms under Central.

In 2024, Sydney will have 31 metro railway stations and a 66 km standalone metro railway system – the biggest urban rail project in Australian history. There will be ultimate capacity for a metro train every two minutes in each direction under the Sydney city centre.

John Holland Pty Ltd and Laing O'Rourke Australia Construction Pty Ltd has been awarded the contract for major railway work at Sydenham as part of Sydney Metro, including the upgrade of Sydenham Station.

Upcoming work around Sydenham Station

Activities during August include:

- installing safe work zones along Burrows Avenue and Bolton Street to prepare for the new station plaza
- installing electrical and water services on the rail bridge structure above the entry road to Fraser Park
- locating, inspecting and installing new services routes
- Clearing vegetation inside the rail corridor.

Standard work hours

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

Out-of-hours work

Due to the nature of some activities and for the safety of workers, some work will occur outside standard construction hours when trains are not running.

24 August, plant and equipment will be delivered up until midnight**.**

25 - 27 August 2018, activities will include:

- geotechnical investigations
- installing new signals, and over-head wiring, footings and structures
- installing new services under the railway line
- installing signal infrastructure
- vegetation clearing inside the rail corridor.

What to expect

- Access to the rail corridor will be via the access gates shown in the map below, with the majority via Fraser Park
- Traffic control and signage will be in place for the safety of workers and the community
- Parking changes will occur outside peak hours, between 9am to 5pm
- Access to buildings and driveways will be maintained at all times
- Some of this work will be noisy. Plant equipment is fitted with non-tonal reversing beepers and will be switched off when not in use
- Watercarts will be used to supress dust
- Equipment used during this work will include lighting towers, concrete truck and pump, vacuum suction trucks, drill rig and dump trucks, small excavators, road sweepers, watercarts and various power and hand tools. Please note, all work activities are dependent on weather and site conditions.

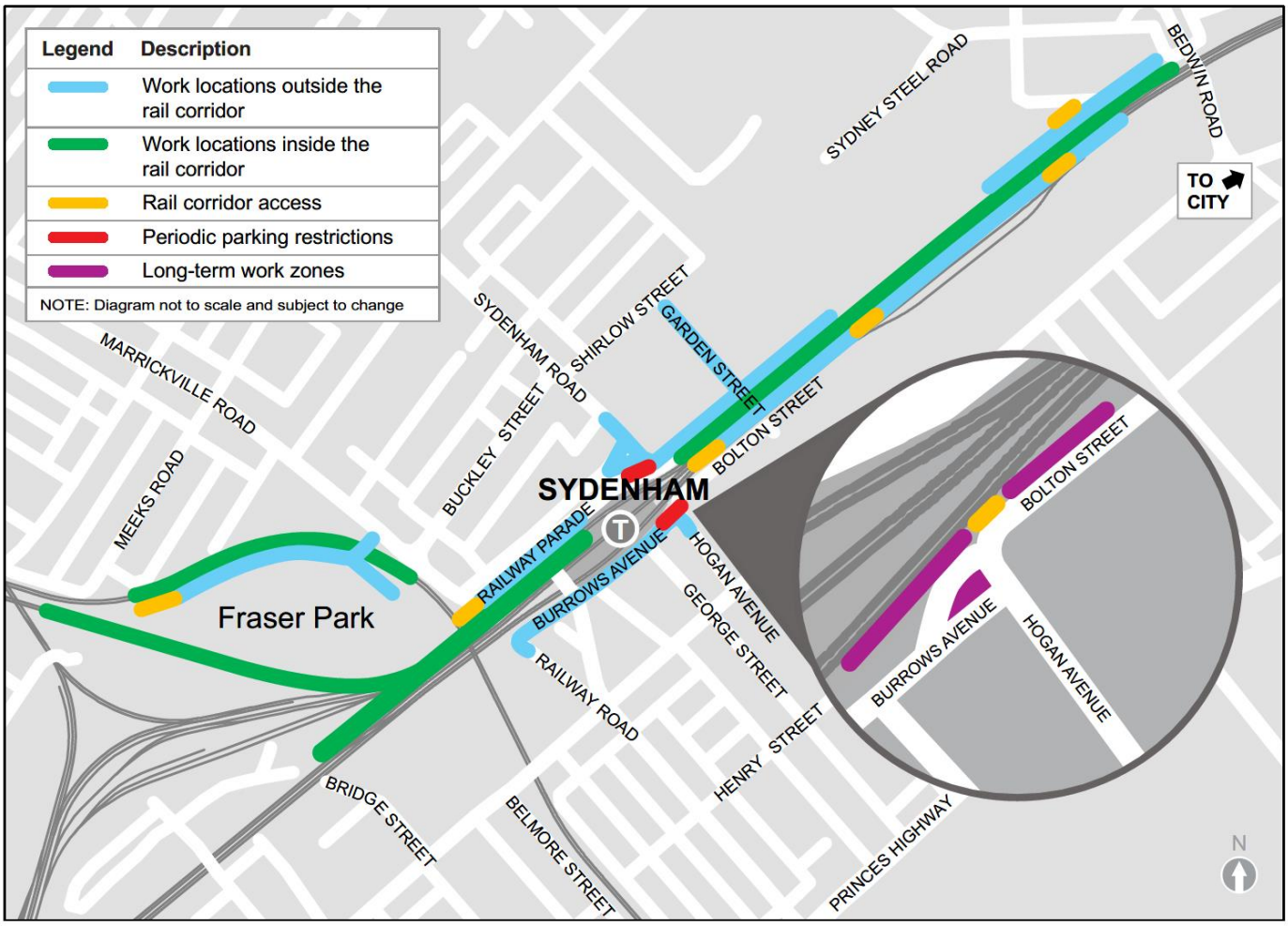
Keeping you informed

Properties close to the rail corridor will receive notifications when work is scheduled to occur. Sydney Trains will deliver notifications for work done during scheduled rail maintenance periods (when trains are not running) and Sydney Metro will keep you informed of all other work. **If you'd prefer to receive updates by email, please contact Andie who can add you to the distribution list.**

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

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

Sydenham Station - work locations



Appendix 4: Cover Page

Environmental Representative Supporting Letter.