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 – Tranche 1B
Application Title: (e.g. Smith St trenching works)	Low Impact Tree Removal
Application Number:	SSJT1B-PCMW-010 Doc Number: SMCSWSSJ-JHL-WEC-EM-REC-000007
Application Date:	Rev00 – 23 April 2019 Rev01 – 27 May 2019
Planning Approval:	Sydney Metro City and Southwest – Sydenham to Bankstown – Environmental Impact Statement (EIS) Sydney Metro City and Southwest – Sydenham to Bankstown – Submissions and Preferred Infrastructure Report (SPIR) Sydney Metro City and Southwest Infrastructure Approval SSI-8256
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,	*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 – it is anticipated that there will be no impacts associated with the works that will affect State Heritage listed items, areas of known or expected archaeological potential,

populations or endangered ecological communities?	threatened species, populations or endangered ecological communities. In addition, JHLOR will implement the *Sydney Metro Unexpected Finds Procedure* V1.4 throughout the investigation works.

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 Environmental Impact Statement (EIS) and Submissions and Preferred Infrastructure Report (SPIR).

The Project area is within the rail corridor of the T3 Bankstown Line and is comprised of stations, overbridges, overhead wiring structures, track, services and ballast, extending from Sydenham Station to Bankstown Station. Within the SSJ Tranche 1B works area, tree trimming and removal is proposed within the project site between Sydenham and Campsie Stations.

T3 Bankstown Line Sydenham Station to Campsie Station

The T3 line runs adjacent to a number of land zoning types between Sydenham Station and Campsie Station including industrial, business and community, infrastructure, residential and recreational.

Roads cross the T3 line in a number of places, both by overbridges and underpasses. A number of footbridges also cross the T3 line along the length of its alignment. The T3 Line crosses the Cooks River in one location between Sydenham and Campsie. Other local waterways such as channels, culverts and stormwater systems are present along the alignment.

The majority of vegetation in investigation area comprises exotic or planted native species on highly modified landforms. One area of Sydney Turpentine – Ironbark Forest that meets the definition of an Endangered Ecological Community under the Threatened Species Conservation Act 1995 (enforced at the time of assessment under the EIS). A number of areas of degraded Sydney Turpentine – Ironbark Forest are also present within the rail corridor.

Description of Works

Tree removal and tree trimming will be undertaken to facilitate pre-Construction works. Tree removal and tree trimming will be undertaken at a number of locations within the corridor where impact will be low.

Trees will only be removed or trimmed following the establishment of the Interim Tree Management Strategy (as per REMM LV4) and submission of the Tree Impact Assessment Report to DP&E for information (as per CoA-E5).

JHLOR have undertaken a Tree Mapping exercise to determine the impacts of design and construction on trees within the Project site and to seek to reduce the overall removal or trimming of trees where possible. The exercise has mapped trees to be removed and trees to be trimmed based on design constraints and construction constraints that provide no alternative but to trim or remove trees. Examples include, but are not limited to;

- Removal of trees where Combined Service Route transitions occur between the rail corridor and road bridges – the alignment of the CSR is dictated by existing permanent infrastructure
- Removal of trees where the embankment stabilisation (retaining walls) will be occur (note that these trees will not be removed as minor works) – trees will be cleared with the re-profiling of the current embankment
- Trimming at access points and on access tracks to provide safe access and to prevent damage to trees that may impact the long-term health of the tree

All other trees are to be retained. The mapping exercise was used as the basis of the *SMEW Arborist Report* (Urban Arbor, 2019) (refer to Appendix A of the *SMEW - Tree Impact Assessment Report* (JHLOR, 2019) for a copy of the arborist report). Layers from the Tree Mapping exercise related to Pre-Construction tree removal and trimming are included within Appendix 1.

JHLOR will remove and trim trees under a “no-go area” and “key impact mitigation” philosophy.

“No-go” Areas

Tree clearing or trimming will not occur within areas of threatened species, threatened vegetation communities (including degraded Sydney Turpentine Ironbark Forest) or habitat trees (as shown in Appendix 1).

Tree clearing or trimming will not occur within any Archaeological Management Zone (AMZ). Refer to Appendix 1 for AMZs.

Key Impact Mitigation

Tree removal will be not occur where the removal would result in a moderate or above erosion hazard.

Tree removal would not occur where there would be moderate or above impacts to visual amenity, particularly privacy to private property. It is noted that two site inspections have been undertaken by Environmental Coordinator Daniel Keegan (3 April 2019 & 23 April 2019), to assess each tree location for impacts to privacy. The JHLOR Vegetation removal and Trimming Permit also includes a check against privacy impacts related to vegetation removal or trimming.

An ecologist would undertake a Pre-clearance inspection on all trees prior to clearance (as per REMM B2).

An ecologist would be present during the clearing of native vegetation or potential fauna habitat (as per REMM B6).

All mitigation measures identified within the Sydney Metro Interim Tree Management Strategy and the Tree Impact Assessment report would be implemented.

Full mitigation is listed within the Risk Assessment in Appendix 1.

The following trees will be **removed** under this PCMW

JHLOR Tree Grouping^	Tree Number*	Justification for Removal
Zone 10a	302, 303, 304	These trees must be removed as it is proposed that a major vehicle access route be constructed in this area. As such, the CSR will consist of buried pit and pipe in this area. The CSR must take this alignment to provide sufficient clearance to the Qenos high-pressure gas main, the access track and other existing services.
Zone 10c	305 (small dead tree)	This tree is directly within the alignment of the Combined Service Route (CSR). The CSR must be placed within this alignment to allow sufficient clearance to the Qenos high pressure gas main and the access track.
Zone 13h	498	This tree will impact construction of the combined service route and fencing and must be removed to ensure safe construction access. The alignment of the combined service route and fencing has been designed to provide clearance to nearby services and the access track.
Zone 13i	499, 500, 501, 502	These trees will impact construction of the combined service route and fencing and must be removed to ensure safe construction access. The alignment of the combined service route and fencing has been designed to provide clearance to nearby services and the access track.

^Refer to Appendix 1 for tree locations

*Refer to SMEW – Arborist Report, Appendix A of the SSJ Tree Impact Assessment Report for tree species

The following trees will be **trimmed** under this PCMW

JHLOR Tree Grouping^	Tree Number*	Justification for Removal
Zone 3a	74, 75	These trees will need to be trimmed to provide site access along the corridor.
Zone 7f	124	This tree will need to be trimmed to provide safe clearance for the Sydney Trains heavy vehicle “turning circle” to be installed within this area.

^Refer to Appendix 1 for tree locations

*Refer to SMEW – Arborist Report, Appendix A of the SSJ Tree Impact Assessment Report for tree species

Any other tree removal or trimming will occur under the CEMP or a subsequent PCMW (as required).

	Tree trimming and removal will be undertaken with the use of tree climbers, EWP, chainsaws, mulchers, trucks and excavators. Any trimming will occur to Australian Standard specifications as detailed within the SMEW Arborist Report. The number of trees removed would be recorded within the Vegetation Removal and Trimming Permit as a record for future planting requirements (as per CoA-E4). **Plant List** Plant and equipment anticipated to be used during the investigative works include: • Excavators (5t-13t) • EWP • Chainsaw • Mulcher • Truck • Site utes • 2t tipper • Portable lighting towers • Hand tools • Whipper snipper **Working Hours** The majority of these works would occur during standard construction hours as identified within the planning approval. Any works to occur outside of standard construction hours would occur under an Out of Hours Work Approval in accordance with the Sydney Metro City & Southwest Out of Hours Work Protocol. **General Notes** All plant would access site via existing Sydney Trains access gates. JHLOR is responsible for the actions of its employees, workers and subcontractors. JHLOR is not responsible for the actions of other parties including but not limited to Sydney Trains and utility owners.
Planned Commencement Date:	Works will commence on the 14th of June 2019 (pending submission of the Tree Impact Assessment Report to DP&E). The works will occur over the Pre-Construction period, and into the Construction period pending progress.

Local Sensitivities:
Describe the presence (if any) of local sensitive environmental areas and community receptors
	T3 Line between Sydenham Station and Campsie Station
	• There are a number of residential properties located within close proximity to the work locations as can be seen within Appendix 1. Due to the proximity of these receivers to the works, these properties may be sensitive to excessive noise, particularly during OOHW. Any potential impacts to these properties will be managed in accordance with the Construction Noise and Vibration Strategy, including relevant notifications. There are no vibratory activities associated with the works. Noise and vibration will also be managed in accordance with the following criteria;
	  ○ Construction 'Noise affected' noise management levels established using the Interim Construction Noise Guideline (DECC, 2009);
	  ○ Vibration criteria established using the Assessing vibration: a technical guideline (DEC, 2006) (for human exposure);
	  ○ (BS 7385 Part 2-1993 "Evaluation and measurement for vibration in buildings Part 2" as they are "applicable to Australian conditions"; and
	  ○ The vibration limits set out in the German Standard DIN 4150-3: Structural Vibration- effects of vibration on structures (for structural damage).
	• Preliminary environmental site assessment identified the potential risk of contamination within the investigation area, with potential contamination sources being historical rail activities, and commercial and residential land use in surrounding areas. Potential contaminants identified in low to medium risk areas included:
	  ○ Asbestos
	  ○ Hydrocarbons
	  ○ Heavy metals
	  ○ Herbicides.

	• One medium to high risk area of contamination was identified between Sydenham and Marrickville Stations, originating from a property adjacent to the rail corridor at 361 Victoria Road, Marrickville. Potential contaminants include;
	  ○ Asbestos
	  ○ Petroleum aromatic hydrocarbons in groundwater
	• Contamination will be managed in accordance with the Unexpected Contamination Finds Procedure – refer to Appendix 2.
	• Acid sulphate soils ranging from Classes 1 to 4 exist within the work site, particularly within the vicinity of the Cooks River rail bridge crossing on the country side of Canterbury Station. Testing for acid sulphate soils will occur as part of the borehole and test pit works. Spoil from excavations will remain moist before being replaced or removed off-site for testing. Minor amounts of groundwater that may be encountered as part of these works will be removed as liquid waste or pumped into storage for treatment (as required) and later application to land in accordance with the Sydney Metro *Water Discharge and Reuse Procedure SM ES-PW-309.*
	• Works will occur in close proximity to archaeological investigation zones as defined in the AARD. Works will not be undertaken within any archaeological zones under this document. The works will operate under the Sydney Metro Unexpected Finds Procedure.
	• Only vegetation within the Project Boundary will be removed/trimmed under this PCMW. Any trimming or removal of trees outside the Project boundary would be subject to a Consistency Assessment and separate PCMW.
	• One area of Endangered Ecological Community (EEC) under the TSC Act has been identified within the vicinity of the work zone. The EEC relates to Sydney Turpentine Ironbark Forest located on the country side of the Garnet Street overbridge as shown in Appendix 1. Vegetation protection works may occur in the vicinity of the EEC, however no works will occur within the EEC. Appropriate delineation and signage will be in place. Degraded Turpentine – Grey Ironbark forest has also been identified within a number of other locations within the rail corridor as identified within Appendix 1. Vegetation protection works would also occur to protect these vegetation communities where works are expected to occur.
	• Visual amenity – vegetation within the project area may provide screening to some properties. An assessment of visual amenity impacts on local receivers has been undertaken as part of a site inspection on 3/04/2019. A follow up assessment will be undertaken as part of the Vegetation Removal and Trimming Permit. Clearing can commence where an assessment identifies no impacts. Where minor impacts may occur, local receivers will be consulted with and the works will only proceed if an agreement is reached (to be recorded in Consultation Manager). Where impacts are greater than minor works these will occur following CEMP approval.
	• Works may occur in the vicinity of local stormwater systems. Localised erosion and sediment controls will be in place at all locations where disturbed ground associated with the works may lead to sediments leaving the corridor, including via stormwater drainage.
	• Appropriate approvals, including Road Occupancy Licences and Traffic Control Plans, must be in place where works on roadways are required. A Construction Traffic Management Plan has been deemed as “not required” by TTLG as per Low Impact Activities under Condition of Approval E47. A Traffic Management Proposal, providing basic information required to early works, has been submitted to SCO. These works will not proceed until SCO has agreed that the Proposal is sufficient.
	• Pedestrian access will be maintained in any area where works are occurring, noting that pedestrian access is not permitted within the rail corridor. This includes where temporary fencing or barriers are used to delineate work-sites.

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	An Environmental Risk Assessment and an ECM for the proposed works are included in Appendix 1. JHLOR's unexpected finds procedure for contamination and acid sulphate soil is included in Appendix 2. Sydney Metro's Unexpected Heritage Finds Procedure is included in Appendix 4.

Appendix 2 (e.g. plans, procedures, 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?	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 SWMS or JSEA (depending on whether work 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. Consultation will be carried out in conjunction with Sydney Metro's Community Communication Strategy, prior to any works being undertaken.
What community consultation is planned to be undertaken?	Clearing and grubbing works are to be included within the Monthly Community Notification for May. The works will be included within subsequent monthly notifications and additional targeted notification as required. Any works to occur outside of standard construction hours will be notified in accordance with the Additional Mitigation Measure requirements specified in the Sydney Metro Construction Noise and Vibration Strategy. The community and stakeholders will be advised of new activities or impacts no later than 7 days prior to commencement as per the project Community Communications Strategy. Targeted notification will include door knocks in the vicinity of the proposed tree removal prior to the works. Where visual amenity may be impacted, residents will be consulted with prior to removal of trees.
If drafted already, attach applicable Community Notification as Appendix 3.	

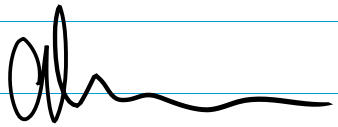
Part 6: Contact Details

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

Name:	Neal Barron	**Position:**	Project Director	**Phone:**	0409 291752
	Cameron Newling		Environmental Manager		0419 727 445
	Loretta Mihaljek		Communication and Stakeholder Manager		0412 129 064

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:**	27/05/2019

Determination Page

(TfNSW/Environmental Representative Use Only)

12 Endorsement/Approval

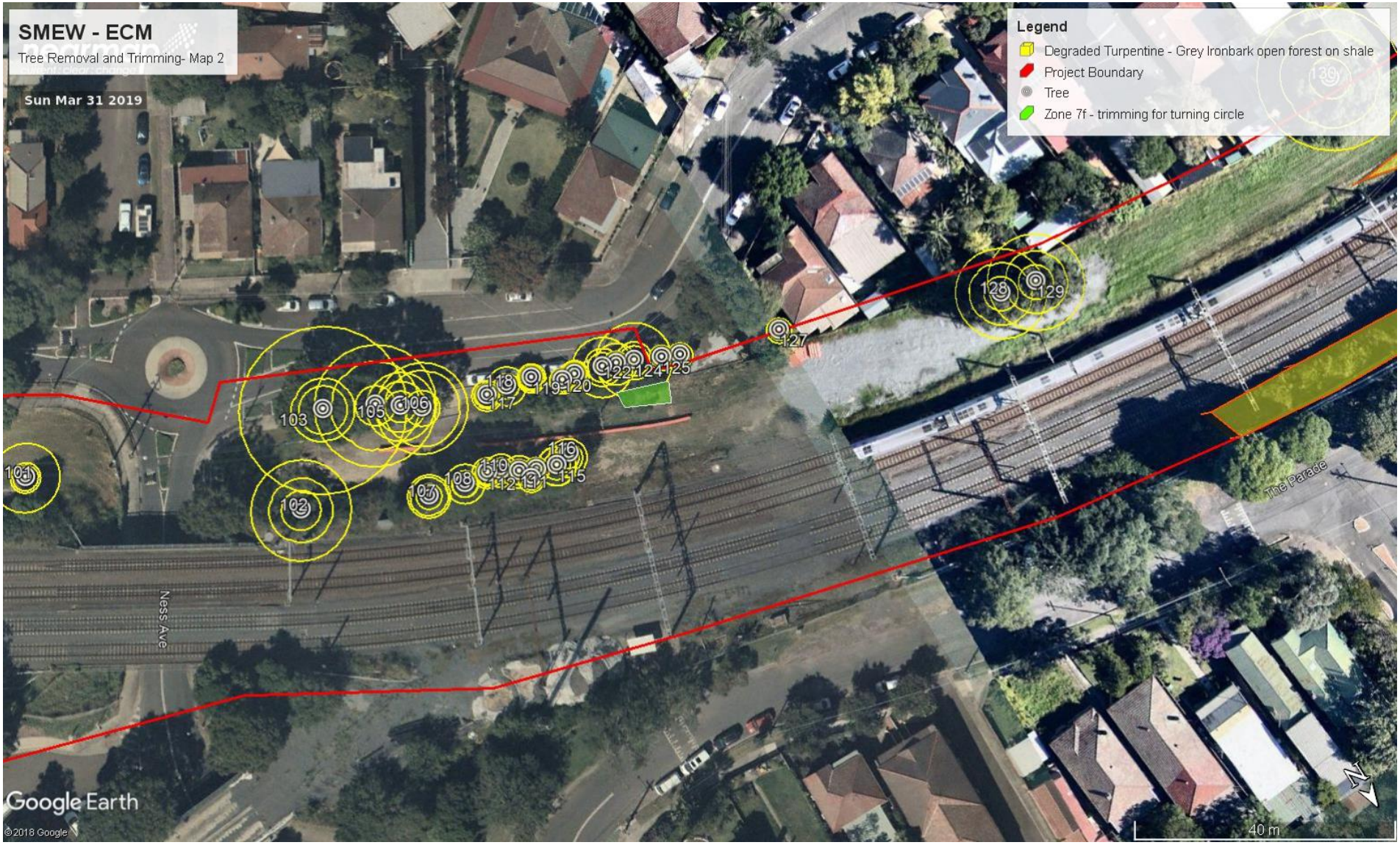
These signatures represent formal endorsement/approval for the proposed Minor Works to commence in accordance with this application and the applicable planning approval requirements (subject to any determination from the applicable planning authority as may be required by the planning approval conditions).

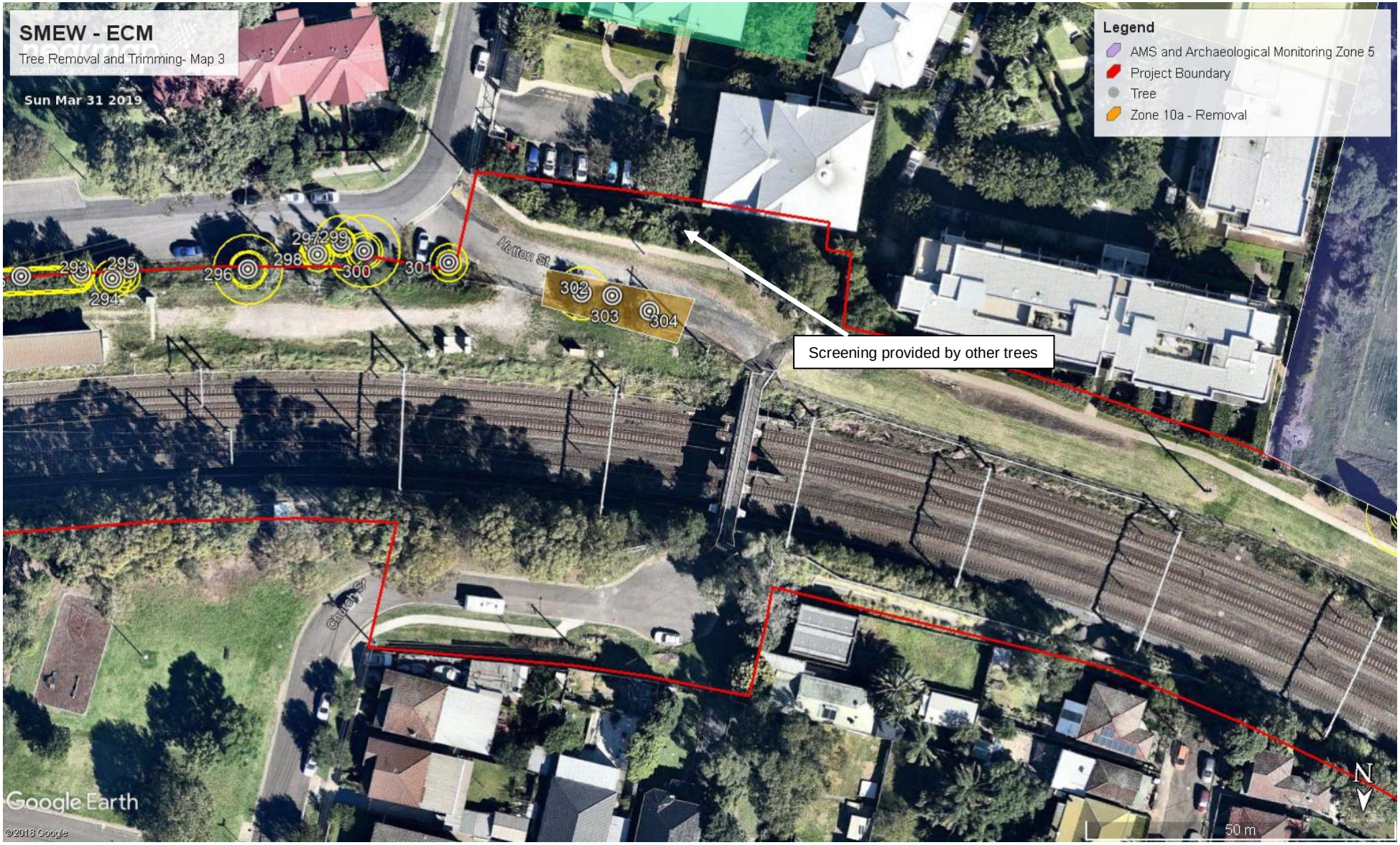
	TfNSW Principal Manager, Communication & Engagement – Endorsement (required for all applications)	TfNSW Principal Manager, Sustainability, Environment & Planning – Approval (required for all applications)	Environmental Representative – Endorsement (required as necessary in accordance with the applicable planning approval, optional for all other circumstances)
Signature:			
Name:	TIM GARRARD	FIL CERONE	Jo Robertson
Date:	6/6/19	13/6/19	06/06/19
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: Environmental Control Map and Environmental Risk Assessment


SMEW - ECM
Tree Removal and Trimming- Map 1
Mon Mar 4 2019
Legend
Project Boundary
Tree
Zone 3a - Trim
Jersey St
Livingstone Rd
Minor trimming only. Remaining tree will provide privacy
70
72
73
70
74
75
76
Google Earth
©2018 Google
40 m
N


SMEW - ECM
Tree Removal and Trimming- Map 2
Sun Mar 31 2019
Legend
Degraded Turpentine - Grey Ironbark open forest on shale
Project Boundary
Tree
Zone 7f - trimming for turning circle
Ness Ave
The Parade
Google Earth
©2018 Google
40 m


SMEW - ECM
Tree Removal and Trimming- Map 3
Sun Mar 31 2019
Legend
AMS and Archaeological Monitoring Zone 5
Project Boundary
Tree
Zone 10a - Removal
293
294
295
296
297
298
299
300
301
302
303
304
Hutton St
Screening provided by other trees
Google Earth
©2018 Google
50 m
N


SMEW - ECM
Tree Removal and Trimming- Map 4
Sun Mar 31 2019
Legend
AMS and Archaeological Monitoring Zone 5
Project Boundary
Tree
Zone 10c - Removal (small dead tree)
304a
305
306
307
308
309
310
311
312
313
314
315
316
Google Earth
© 2018 Google
50 m
N


SMEW - ECM
Tree Removal and Trimming- Map 5
Sun Mar 31 2019
Legend
Project Boundary
Tree
Tree Removal Zones
495
496
497
498
499
500
501
502
503
504
505
506
Duke St
N Parade
Browning St
Google Earth
© 2016 Google
50 m
N

Environmental Risk Assessment

The Risk Assessment has been undertaken in accordance with the requirements of the *Sydney Metro Risk Management Standard*.

Note; **C** = Consequence & **L** = Likelihood as per *Sydney Metro Risk Management System – 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
Tree Removal and Trimming								

Items of heritage significance uncovered during works	Damage to heritage items or archaeological deposits.	**C3**	**L5**	**Med**	• Induction to include heritage management requirements.
					• No invasive works to occur within the curtilage of State Heritage Register listed items.
					• No works to occur within the Archaeological Investigation Zones as specified within the AARD.
					• Implement Sydney Metro Unexpected Finds Procedure V1.4 during invasive investigation works.
					• If suspected materials are found, workers are to;
					  ○ Stop works in vicinity immediately
					  ○ Inform the Superintendent and Environmental Manager
					  ○ Delineate the area to prevent further access, where possible
						C3	**L6**	**Low**

Noise from plant and people	Noise from plant impacting on sensitive receivers. Noise impacts outside standard construction hours.	**C5**	**L3**	**Med**	• Induction to include noise mitigation and “good neighbour” approach. • Distance between noisy plant items and nearby noise sensitive receivers would be maximised and equipment orientated where possible to reduce noise. • Where possible, night works should be programmed to undertake noisy activities prior to 10pm. • All power driven work equipment used would have efficient muffler design and be well maintained. • Mitigation measures to be implemented in accordance with the Sydney Metro City and Southwest Construction Noise Strategy, including appropriate notification.	**C5**	**L5**	**Low**
Chemical handling and storage	Poor storage and handling of chemicals causes spills	**C5**	**L4**	**Low**	• Any chemicals and fuels are to be stored within a bunded area with 110% of the capacity of the largest stored container.	**C5**	**L5**	**Low**

					• Refuelling to occur more than 20m away from drainage lines or Cooks River. • Spill kits to be located at work fronts. • Site induction includes spill response awareness.			
Erosion and sediment controls	Sediment laden runoff from access tracks, cleared vegetation or stockpiled material	**C4**	**L4**	**Med**	• Induction to include ERSED protection measures. • Produce an ESCP for relevant sites where ground disturbance from vegetation removal may lead to erosion.	**C4**	**L5**	**Low**
Water Management	Discharge of water that does not meet water quality parameters	**C4**	**L4**	**Med**	• Introduction to include water discharge requirements • A discharge permit is to be signed-off by the Environmental Manager (or delegate) prior to any discharge in accordance with the Sydney Metro *Water Discharge and Reuse Procedure SM ES-PW-309*	**C4**	**L5**	**Low**
Waste	Incorrect disposal of spoil waste Acid sulphate soils Contamination	**C3**	**L5**	**Med**	• Induction to include waste management practices. • Vegetation, including weeds are to be lawfully transported and disposed of to an appropriately licenced waste facility. • Waste to be tested in accordance with the Waste Classification Guidelines (NSW EPA, 2014) prior to disposal. • Unexpected Contamination Finds procedure to be enacted where contamination is found during investigation works. • 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 provide advice on management of any contaminated material (advice based on contamination type).	**C3**	**L6**	**Low**
Air quality	Dust generation during excavation and stockpiling Dust from access track use, maintenance or establishment	**C4**	**L4**	**Med**	• Induction to include air quality management practices. • Water cart or water trailer to be present to wet down material or disturbed areas as required. • Monitor conditions and modify works 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 (where possible).	**C4**	**L5**	**Low**

					• An Excavation Permit detailing service locations is to be reviewed and signed by all workers undertaking excavation works.			
Vegetation	Removal or pruning of vegetation without approval Damage to vegetation within EEC area	**C4**	**L4**	**Med**	• Induction to include biodiversity requirements – no removal or pruning of any plants without appropriate JHLOR permit. A JHLOR permit will not be provided unless a Tree Report has been submitted to DPE in accordance with CoA – E5. • A qualified ecologist will undertake pre-clearing inspections in accordance with REMM B2. • An ecologist would also be present during the clearing of native vegetation or removal of potential fauna habitat in accordance with REMM B6. • Delineation and signage of EEC (Sydney Turpentine Grey Ironbark Forest, broadleaved ironbark Grey box melaleuca decora grassy open forest and Degraded Turpentine Grey Ironbark Forest). • Tree protection zones would be established in areas where works will occur adjacent to trees that are not to be removed or trimmed.	**C4**	**L5**	**Low**
Traffic and Pedestrians	Disruption to road users and pedestrians	**C4**	**L4**	**Med**	• Induction to include traffic control requirements • Traffic Control Plans and Road Occupancy Licences to be in place as required to redirect traffic and pedestrians. • Appropriate community notifications to be in place for road occupancy • Parking within rail corridor where possible • Observe time restrictions for parking areas • Prioritise community parking where possible • Maintain pedestrian access	**C4**	**L5**	**Low**
Visual Amenity	Removal of vegetation creating privacy concerns for occupants of nearby properties Lighting from works impacting occupants of nearby properties	**C4**	**L3**	**Med**	• Induction to include vegetation removal requirements • Vegetation Removal and Trimming Permit to include visual amenity assessment • Consultation with occupants of nearby properties • Lighting towers are to be positioned to minimise any light impacts to nearby properties	**C4**	**L5**	**Low**

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 eco . Extensive remediation required.	Irreversible large-scale environmental impact with loss of valued eco .
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

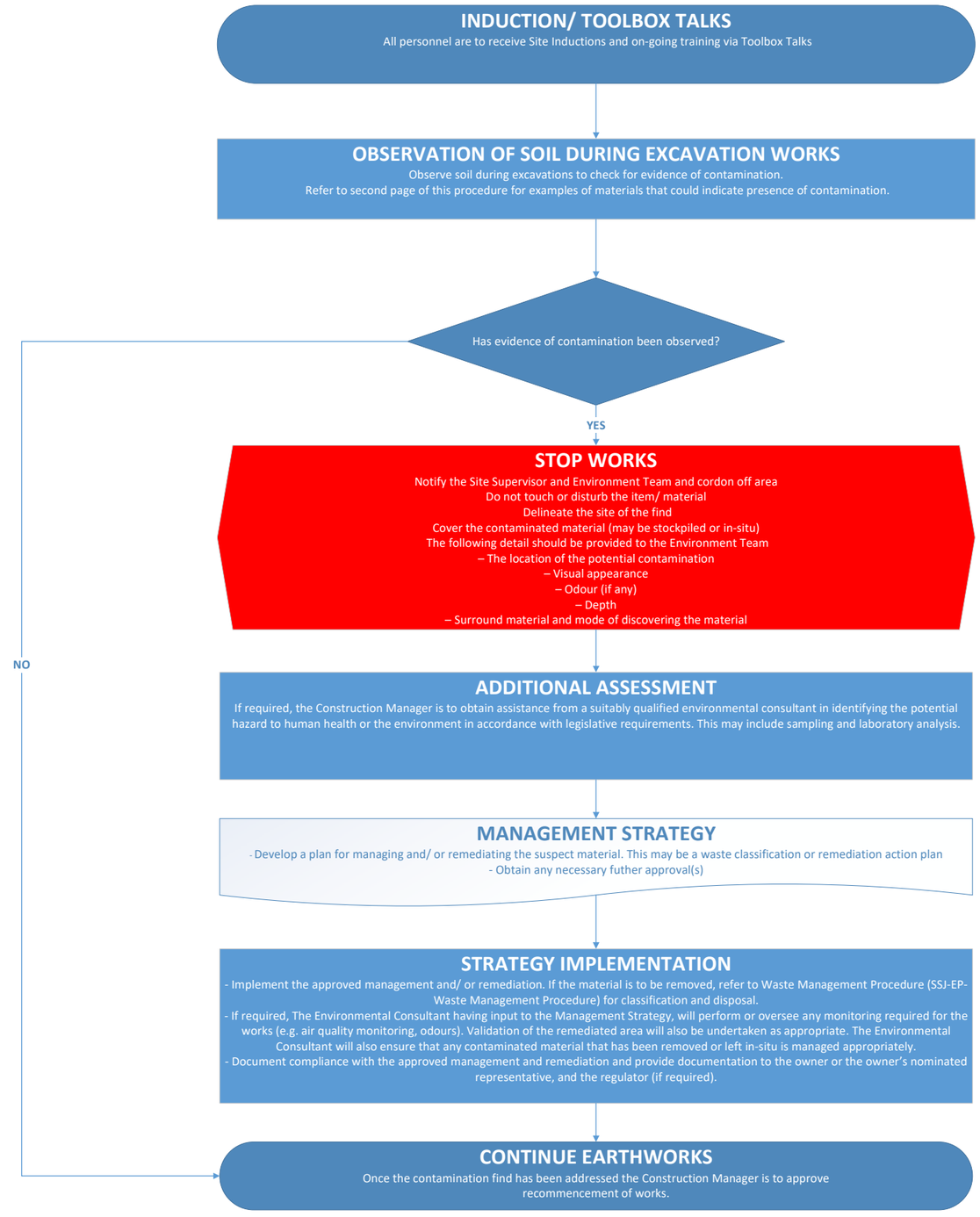
Likelihood						
Rating	**L6**	**L5**	**L4**	**L3**	**L2**	**L1**
Descriptor/ Definition	**Almost Unprecedented**	**Very Unlikely**	**Unlikely**	**Likely**	**Very Likely**	**Almost Certain**
Qualitative Expectation	Not expected to ever occur during time of activity or project	Not expected to occur during 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: Very High – A – 31-36 High – B – 22-30 Medium – C – 11-21 Low – D – 1-10			CONSEQUENCE					
			Insignificant	Minor	Moderate	Major	Severe	Catastrophic
			C6	C5	C4	C3	C2	C1
LIKELIHOOD	Almost certain	L1	20	22	29	32	34	36
	Very Likely	L2	14	18	23	28	31	35
	Likely	L3	9	12	16	24	27	33
	Unlikely	L4	6	7	11	17	25	30
	Very Unlikely	L5	3	4	8	13	19	26
	Almost Unprecedented	L6	1	2	5	10	15	21

Appendix 2: Environmental Management Documentation.

CONTAMINATION AND ACID SULPHATE SOIL UNEXPECTED FINDS PROCEDURE



RESPONSIBILITY

- ENVIRONMENT TEAM
  CONSTRUCTION TEAM
- CONSTRUCTION TEAM
- CONSTRUCTION TEAM
  ENVIRONMENT TEAM
  SITE SUPERVISOR
- CONSTRUCTION MANAGER
  ENVIRONMENTAL
  CONSULTANT
- ENVIRONMENT TEAM
  ENVIRONMENTAL
  CONSULTANT
- ENVIRONMENT TEAM
  CONSTRUCTION TEAM
  ENVIRONMENTAL
  CONSULTANT
- CONSTRUCTION
  MANAGER

CONTAMINATION AND ACID SULPHATE SOIL UNEXPECTED FINDS PROCEDURE

EVIDENCE OF CONTAMINATION

Example of materials that could indicate the presence of contamination include (but are not necessarily limited to):

- Asbestos cement fragments or other potentially asbestos containing materials
- Odorous or stained soil;
- Buried chemical drums or containers
- High proportion of waste materials or building debris
- Tarry or ashy material
- Brightly or unusually coloured material
- A yellow and/or red mottling in the soil profile indicates there may be Acid Sulfate Soils (ASS)

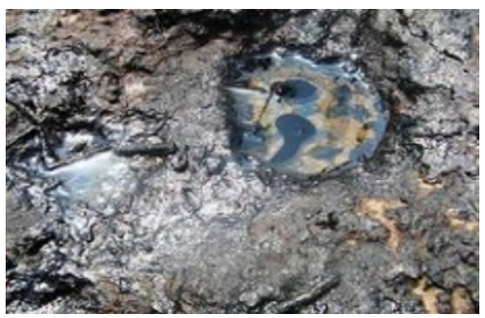
Asbestos
Asbestos finds are to be managed in accordance with the Project WHS Management Plan

Acid Sulfate Soils (ASS)
ASS are naturally occurring soils, sediments or organic substrates that are formed under waterlogged conditions in coastal areas. When exposed to air after being disturbed, soils containing iron sulfides produce sulfuric acid and often release toxic quantities of iron, aluminium and heavy metals.
If ASS is encountered, possible management strategies include:

- Modifying the works to avoid the area of ASS
- Delineation and removal to a suitably licenced facility
- Onsite treatment to neutralise the ASS, which could include the application of lime.

Note: The management of any ASS needs to include appropriate erosion and sedimentation controls to minimise the potential for pollution to waters. Refer to the Consturction Spil and Wster Management Plan.

Management and Disposal of Contaminated Material
Specific approval may be required to implement management strategies and a Safe Work Methods Statement (SWMS) must be prepared prior to undertaking any remediation work, except in emergency situations.
Contaminated material will be disposed of in accordance with the Waste Management Procedure.



Appendix 3: Community Notification.

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.

The upgrade of the T3 Bankstown Line to metro standards received planning approval on 19 December 2018.

Southwest metro early work is being delivered by John Holland Pty Ltd and Laing O'Rourke Australia Construction Pty Ltd, including station and bridge investigations and installation of electrical cabling within the rail corridor.

Southwest metro early work

Over the next month early investigation work will continue along the Bankstown line between Sydenham and Campsie stations (weather and site conditions permitting).

Day work
Project standard working hours are Monday to Friday 7am - 6pm and Saturday 8am - 6pm.

Location	Activities

Whole corridor (Sydenham – Campsie)	• Site establishment work within the rail corridor, including site preparation, installation of haul roads and temporary fencing
	• Survey work in stations, the rail corridor and nearby public areas
	• Locating and confirming underground services which will involve service locating using hand held equipment, cameras and non-destructive digging throughout the rail corridor
	• Geotechnical investigations throughout the rail corridor which will include minor drilling sampling and testing the ground
	• Clearing and grubbing throughout the rail corridor
	• Installation of galvanised steel trough within the rail corridor
	• Installation of safety fencing within the rail corridor
	• Equipment used for the above work will include vacuum suction trucks, dump trucks, excavators, crane trucks and lifting machinery, power and hand tools.
	• Rail access gates along the corridor from Fraser Park to Campsie will be used for delivery and removal of plant, equipment and materials
	  ○ Marrickville: Fraser Park, Victoria Road, Wooley Lane and Randall Street
	  ○ Dulwich Hill: Kays Ave East, Corner of Ewart Street and Terrace Road, Ewart Street and Floss Street
	  ○ Hurlstone Park: Railway Street, Keir Avenue, Hurlstone Avenue and Hutton Street
	  ○ Canterbury: Sugar House Road, Charles Street, Cooks River Path and South Parade
	  ○ Campsie: Lillian Street

Sydneymetro.info
1800 171 386
sydneymetro@transport.nsw.gov.au

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. Some equipment will also be delivered outside standard construction hours in line with RMS requirements for transporting oversized vehicles. Out-of-hours work activities include:

Date/Time	Location/s	Activities
01 June to **30 June** between **10pm** and **4am**	• Marrickville • Dulwich Hill • Hurlstone Park • Canterbury • Campsie	• Overnight surveys, visual and structural inspections of the rail track • Hand held torches will be used during these works. Lights will be directed away from residential properties when in use • Access to the rail corridor will be via the existing rail corridor and pedestrian gates located between Belmore and Bankstown stations
From 2am Saturday 22 June to **2am Monday 24 June**	• Victoria Road Bridge, Marrickville	• Partial lane closure, traffic control and directional signage will be in place for the safety of workers and the community • Bridge activities including installation of steal troughing for new cable routes **(Further targeted notifications will be distributed prior to works commencing)**

Access to buildings and driveways will be maintained at all times. Some of this work may be noisy, however we will take every possible step to minimise noise such as switching off equipment when not in use and installing non-tonal reversing beepers on vehicles.

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 and Sydney Metro will keep you informed of all other work. If you'd prefer to receive updates by email, please contact us using the details below.

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

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

Sydneymetro.info
1800 171 386
sydneymetro@transport.nsw.gov.au

If you require the services of an interpreter, please contact the **Translating and Interpreting Service on 131 450** and ask them to call **Sydney Metro on 1800 171 386**. The interpreter will then assist you with translation.