

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:	Southwest Metro Corridor (SMC)
Application Title: (e.g. Smith St trenching works)	Pre-Construction General Site Wide Minor Works
Application Number:	SMC-PCMW-001 Doc Number: SMCSWSSJ-JHL-WEC-EM-REC-000023
Application Date:	Rev00 – 20/09/2020 Rev01 – 10/10/2020 Rev02 – 1/11/2020
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: <ul style="list-style-type: none"> Highlight as applicable. If Items 4, 8 or 11 are applicable, this form must be endorsed by an Environmental Representative. 	<ol style="list-style-type: none"> Survey, survey facilitation and investigations works (including road and building dilapidation survey works, drilling and excavation). Treatment of contaminated sites. Establishment of ancillary facilities (excluding demolition), including construction of ancillary facility access roads and providing facility utilities. Operation of ancillary facilities that have minimal impact on the environment and community. Minor clearing and relocation of vegetation (including native). Installation of mitigation measures, including erosion and sediment controls, temporary exclusion fencing for sensitive areas and acoustic treatments. Property acquisition adjustment works, including installation of property fencing and utility relocation and adjustments to properties. Utility relocation and connections. Maintenance of existing buildings and structures. Archaeological testing under the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010) or archaeological monitoring undertaken in association with other Minor Works to ensure there is no impact on heritage items. Any other activities that have minimal environmental impact, including construction of minor access roads, temporary relocation of pedestrian and cycle paths and the provision of property access.
Planning Authority Determination: Will the proposed works affect or	<i>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'.</i>

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

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, threatened species, populations or endangered ecological communities. In addition, JHLOR will implement the *Sydney Metro Unexpected Heritage Finds Procedure V2.0* throughout the investigation works.

Part 2: Details

<p>Describe the proposed Minor Works:</p> <p>Including work methodologies, site location(s) and site description(s) (e.g. landscape type, waterways, etc.).</p>	<p><u>Site Description Overview</u></p> <p>This overview is based on information from the Environmental Impact Statement (EIS) and Submissions and Preferred Infrastructure Report (SPIR).</p> <p>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 Southwest Metro Corridor (SMC) works area, invasive works are proposed within the rail corridor between Sydenham and Bankstown Stations. There are a number of “no go” areas for certain activities, including;</p> <ul style="list-style-type: none"> archaeological investigation/archaeological monitoring areas at Marrickville, Canterbury Belmore and Lakemba Stations as shown within the <i>Sydenham to Bankstown Submissions and Preferred Infrastructure Report – Appendix I – Archaeological Assessment and Research Design Report</i>, the curtilages of State Heritage Register listed items, threatened species, populations or endangered ecological communities. <p>Note that any site establishment works within these areas will be assessed under a separate Pre-construction Minor Works Approval.</p> <p><u>T3 Bankstown Line Sydenham Station to Bankstown Station</u></p> <p>The T3 line runs adjacent to a number of land zoning types including industrial, business and community, infrastructure, residential and recreational.</p> <p>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 Bankstown. Other local waterways such as channels, culverts and stormwater systems are present along the alignment.</p> <p>The majority of vegetation in investigation area comprises exotic or planted native species on highly modified landforms. There are a number of areas of Sydney Turpentine – Ironbark Forest and Broad-leaved Iron Bark – Grey Box that meet the definition of an Endangered Ecological Community under the <i>Threatened Species Conservation Act 1995</i> (enforced at the time of assessment under the EIS). There are also a number of threatened species (<i>Acacia pubescens</i>) and known habitat resources (hollow bearing trees, White Ibis roosting colonies, Grey-headed flying fox habitat) within the rail corridor and surrounds.</p> <p><u>Description of Works</u></p> <p>Site establishment works are required to prepare the Project site for Construction works and to progress the project design. A number of activities will be undertaken as part of these works.</p> <p>The proposed works are outlined below. The Project extents, including “No-go” areas are included within Appendix 1.</p> <p>It is the intention of this PCMW to gain approval for the activities listed to occur site wide, except where the constraints listed within the description and risk assessment prevent this (i.e. approval of this PCMW does not remove the requirement for external approvals such as Road Occupancy Licences or relevant items under the Planning Approval such as the Tree Report, Archaeological Method Statements etc.).</p> <p><u>“No-go” Areas</u></p> <p>The below represents a list of areas where works will not occur (with the exception of nil impact works such as inspections and survey scanning)</p> <p>It is noted that all activities listed below will occur outside of any archaeological investigation zones as identified within the Archaeological Assessment and Research Design Report (AARD). Any activity to occur within an archaeological investigation zone will be the subject of a separate PCMW</p> <p>Works will not occur within the curtilages of State Heritage listed items, including Marrickville Railway Station Group, Canterbury Railway Station Group and Belmore Railway Station Group.</p> <p>There are a number of railway stations within the Project area that are listed within LEPs and on the RailCorp S170 register. Survey & Inspections, contamination and geotechnical testing may occur within these areas. Works will not impact upon any buildings, structures or landscaping. Surfaces will be re-instated to the pre-existing condition after works. It is</p>
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noted that JHLOR works are generally outside of station precinct areas – as such impacts under this PCMWA will be minimal.

A number of bridges listed within LEPs and on the RailCorp S170 register. Inspections may occur on these bridges.

There are two Heritage Conservation Areas that partially overlap the Project area. No items identified as significant will be impacted by the works. Inspections may occur within these areas.

Works will not occur within the extents of Potential Archaeological Deposits (PADs) for indigenous archaeology, as identified within the Aboriginal Cultural Heritage Assessment Report (ACHAR).

Works will not occur within areas of threatened species, populations or endangered ecological communities.

Apart from contamination testing and surface works such as fence installation – no works will occur within known contaminated areas.

There will be no removal or pruning of trees or vegetation (with the exception of grasses and weeds) as part of the works. Any removal or pruning of trees will be subject to a separate PCMW. Trees will be delineated with flagging and bollards in areas where JHLOR is conducting works in the vicinity, for the duration of those works. Restrictions on removing vegetation and trees will be briefed to those involved with the works.

No works will occur within the Cooks River.

“No-go” and Restricted Activities

Any works on local roads associated with the below will only occur with the appropriate approvals (Road Occupancy Licenses etc.) from the appropriate road authority.

Geotechnical and Contamination Testing

Additional boreholes and test pits will be undertaken within the project boundary. The exact locations of the test pits and boreholes will be developed as the design progresses. no boreholes or test pits to be undertaken in 'no-go zones, as identified on ECMs.

Test pits will be excavated and backfilled with an excavator. A wacker packer will be used to compact any backfill material. A drill rig will be used construct boreholes. Boreholes that are to be backfilled will be backfilled with clean sand. The surface will be “made-good” to a standard that represents the original condition.

The excavation of test pits and boreholes will generate a moderate level of noise at nearby properties. These works are expected to be transient, occurring for short periods of time in a location before moving into a new area. As such, impacts from noise associated with this activity are expected to be low overall. Out of hours work is likely to only be required on or close to track, generally more than 10m away from residential properties. The Sydney Metro document; *SM-17-00000115 Out-of-hours work application form* indicates that a small excavator will emit a noise level of 80dBA, taking into account screening and distance attenuation, noise at local receivers is expected to be up to 70dBA. Noise impact will be effectively managed by implementing the Sydney Metro Construction Noise and Vibration Strategy (CNVS).

Asbestos Picks

Fragments of asbestos are sometimes observed within the rail corridor. JHLOR will remove asbestos fragments where observed within the work front. JHLOR will engage an Occupational Hygienist and Asbestos Picker to remove asbestos where required under the *Safework Australia Code of Practice How to Safely Remove Asbestos*. Picking will be undertaken by hand and as such there will be no noise associated with the works. Any asbestos picked will be disposed of to an appropriately licenced facility.

Soil Conductivity Tests

It is noted that soil conductivity testing may occur in the area surrounding the project site. This activity involves inserting three metal rods with an approximate diameter of 15mm into the ground to a depth of approximately 300mm. A device is then used to measure the conductivity/resistivity of the soil. This is a very low impact activity that would not be specifically mentioned within the EIS or SPIR however the activity is consistent with investigation activities as described within the EIS.

Survey and Inspections

Survey activities (including geographical survey, scanning, dilapidation surveys, ground penetrating radar) will occur across the project and project surrounds as required. Survey will occur using hand tools and site utes. Survey activities that do not include any physical impacts such as installation of survey control points, may occur throughout the corridor including within state heritage curtilages, Archaeological Management Zones, EECs (e.g. scanning, dilapidation surveys)

Inspections will occur within the Project site and surrounds. Bridge inspections will occur at bridges within the Project footprint. An Elevated Work Platform and hand tools may be used as part of the inspections.

Service Searching and CCTV Investigations

Service searching will occur via hand digging or the use of a vacuum truck. Services will be identified and surveyed to inform design.

Service searching will generate a moderate level of noise at nearby properties, noting that some people are particularly sensitive to the sound of vacuum trucks. These works are expected to be transient, occurring for short periods of time in a location before moving into a new area. As such, impacts from noise associated with this activity are expected to be low overall. Out of hours work is likely to only be required on or close to track, generally more than 10m away from residential properties. The Sydney Metro document; *SM-17-00000115 Out-of-hours work application form* indicates that a vacuum truck will emit a noise level of 85dBA, taking into account screening and distance attenuation, noise at local receivers will be up to 75dBA. As these works will occur in discreet locations for short period of time, noise impacts are expected to be effectively managed by implementing the Sydney Metro Construction Noise and Vibration Strategy (CNVS).

CCTV inspections of services may occur throughout the Project. A small remote-controlled camera may be inserted into services. There is no noise associated with this activity.

Clearing of weeds and grasses within the rail corridor

To allow access for site establishment activities and to prepare for other pre-Construction works activities some weeds and grasses will be cleared. These will be removed with the use of a whipper snipper or excavator where large patches of weeds exist. Clearing works may occur within the rail corridor, apart from no-go areas, however vegetation, including grasses, will be retained where possible to mitigate the risk of erosion.

This PCWM does not include the removal or trimming of any shrubs or trees, as defined within the Planning Approval. Any trimming or removal of trees or vegetation that is of a minor nature will be included within a separate PCMW and will only occur once a Tree Report has been endorsed and submitted to the DPE in accordance with CoA-E5.

This activity does not include the removal of any threatened species, population or endangered ecological community including but not limited to;

- Turpentine - Grey Ironbark open forest on shale
- Broad-leaved Ironbark - Grey Box
- Degraded Turpentine - Grey Ironbark open forest on shale
- *Acacia pubescens*

Temporary Fencing and Vortok Fencing

Temporary fencing, flagging and bollards, water filled barriers and jersey kerb will be installed within the project boundary to delineate work-sites. These materials will be removed at the end of the project.

Vortok fencing will be installed within the rail corridor to separate the rail from any working areas within the cess.

A small truck will be used to deliver fencing panels and barriers. A Telehandler or multi-crane may be used to lift the different components into position. Some works may occur outside of standard construction hours. Out of hours work is likely to only be required on or close to track, generally more than 10m away from residential properties. The Sydney Metro document; *SM-17-00000115 Out-of-hours work application form* indicates that a forklift (i.e. telehandler) will emit a noise level of 80dBA and a medium rigid truck a noise level of 70dBA. Taking into account screening and distance attenuation, noise at local receivers will be between approximately 60 and 70dBA. As these works will occur in discreet locations for short period of time, noise impacts are expected to be effectively managed by implementing the Sydney Metro Construction Noise and Vibration Strategy (CNVS).

Shade cloth may be added to existing or temporary fencing to provide screening as required.

Signage may be attached to fencing and gates to provide information to the public or site staff as required.

Temporary noise blankets may also be attached to existing or temporary fencing as required.

Erosion and Sediment Controls

Erosion and sediment controls will be installed progressively as the site establishment

works continue. Erosion and Sediment Control Plans (ESCPs) will be developed prior to the works. Controls may include;

- Sediment fence
- Coir logs/silt socks
- Sandbags
- Geofabric
- Drain guards
- Drainage rock/ballast for surface stabilisation
- Cattle grids

Trucks will be used to transport materials associated with the above. Excavators, front end loaders, Hiab and multi-cranes or telehandlers will be used to install the materials.

Some works may occur outside of standard construction hours. Out of hours work is likely to only be required on or close to track, generally more than 10m away from residential properties. The Sydney Metro document; *SM-17-00000115 Out-of-hours work application form* indicates that a forklift (i.e. telehandler) will emit a noise level of 80dBA, a front end loader 75dBA and a medium rigid truck a noise level of 70dBA. Taking into account screening and distance attenuation, noise at local receivers will be between approximately 60 and 70dBA.

Vegetation Protection

Delineation and signage will be installed around areas of vegetation to be protected. Delineation may occur via bollards and flagging or temporary fencing as appropriate.

A small truck will be used to deliver fencing panels and barriers. Bollards, panels and flagging will be installed by hand.

Laydown

To support the above activities laydown areas within the rail corridor, as identified within the EIS & SPIR will be used. Any laydown area within an environmentally sensitive area (e.g. archaeological management zone) will be included in a separate PCMW Approval. Laydown will be used to store materials such as temporary fence components, Vortok fencing, erosion and sediment control materials, etc.

The establishment of compounds will be the subject of a different PCMW (and any other ancillary facility assessment) as required.

Storage of material will be ongoing in laydown areas however access to these area will only occur during standard construction hours unless otherwise approved within an OOHW Approval.

Some intermittent noise may be generated at the laydown areas, however as the areas will be used minimally, noise impacts are expected to be low overall.

Activity support

To support the above activities JHLOR may use a street sweeper to maintain the site and surrounding roads.

A water cart or trailer may also be used to mitigate the effects of dust.

Site utes will be used to access site.

Noise associated with this work will be transient and is expected to be low impact overall.

Plant List

Plant and equipment anticipated to be used during the investigative works include:

- Elevated Work Platform/Scissor Lift
- Excavators (5t-13t)
- Drill rig
- Vacuum truck
- Site utes
- 2t tipper
- Portable lighting towers
- Road Sweeper
- 13t Bogie Trucks or dump trucks
- Handheld compactor/wacker packer
- Hand tools

	<ul style="list-style-type: none"> • Geofabric (to place around boreholes and test pits) • Skip bins for spoil • Whipper snipper • Multi-crane • Telehandler • Hiab • Materials for borehole/test pit reinstatement. • Water cart/trailer <p><u>Working Hours</u></p> <p>The majority of the works undertaken during the period would occur during standard construction hours as identified within the planning approval. All listed activities may need to occur on or adjacent to the existing rail line. Works of such nature can only be undertaken during a rail possession, for worker safety reasons. All activities listed above may be undertaken as part of Out of Hours Works, as required. The works would be undertaken in accordance with the conditions within Laing O'Rourke EPL 21147.</p> <p>In accordance with CoA-E20c) work may be undertaken outside of standard construction hours "where different construction hours are permitted or required under an EPL in force in respect of the CSSI". As the EPL has been granted to Laing O'Rourke, JHLOR are the authorised to assess, approve and undertake works in accordance with the conditions of EPL.</p> <p>A copy of the JHLOR OOHW Permit will be completed prior to any works outside of standard construction hours. A copy of any OOHW Permit produced for Pre-Construction works will be provided to the ER for written confirmation that any works undertaken outside of standard construction hours are low impact and are consistent with the terms of this PCMWA.</p> <p>JHLOR will mitigate impacts by applying the additional mitigation measures within the Sydney Metro Construction Noise and Vibration Strategy.</p> <p><u>General Notes</u></p> <p>All plant would access site via existing Sydney Trains access gates.</p> <p>Note that these activities are subject to change based on construction progress, any changes would be subject to revision and approval of this PCMWA. The above list does not include activities approved under any other Pre-construction Minor Works Approval form.</p> <p>These works will not include adjustment to third party utilities, as such the Utility Management Strategy document will not be required to proceed with these works.</p> <p>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.</p>
<p>Planned Commencement Date:</p>	<p>Pre-construction works listed within this document will commence on the 1st November 2020, noting that JHLOR intends to commence Construction in March 2021. Some components of the works, such as fencing and erosion and sediment controls may remain for the duration of the Project (i.e. until December 2022) or beyond as agreed with Sydney Metro</p>
<p>Local Sensitivities: Describe the presence (if any) of local sensitive environmental areas and community receptors</p>	<p><u>T3 Line between Sydenham Station and Bankstown Station</u></p> <ul style="list-style-type: none"> • 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; <ul style="list-style-type: none"> ○ 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

	<p>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:</p> <ul style="list-style-type: none"> ○ Asbestos ○ Hydrocarbons ○ Heavy metals ○ Herbicides. <ul style="list-style-type: none"> • 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; <ul style="list-style-type: none"> ○ Asbestos ○ Petroleum aromatic hydrocarbons in groundwater • One medium to high risk area of contamination was identified between Campsie and Belmore Stations (triangular area within the rail corridor).. Potential contaminants include; <ul style="list-style-type: none"> ○ arsenic in ballast ○ asbestos ○ hydrocarbons (including chlorinated hydrocarbons in fill) ○ heavy metals (including in groundwater) ○ herbicides • One medium to high risk area of contamination was identified between Punchbowl and Bankstown stations (car park at North Terrace).. Potential contaminants include; <ul style="list-style-type: none"> ○ asbestos ○ hydrocarbons (in soil and groundwater) ○ heavy metals ○ herbicides • Contamination encountered in areas that have not been identified as contaminated, including asbestos, will be managed in accordance with the Unexpected Contamination Finds Procedure – refer to Appendix 2. Where spoil is removed for testing from areas where there is known contamination, the spoil will be backfilled in place, or stockpiled separately, covered and disposed of in accordance with the NSW EPA Waste Classification Guidelines. • Acid sulphate soils ranging from Classes 1 to 4 are predicted to occur within the work site.. The <i>City & Southwest, Sydney Metro Sub-portion 2 - Sydenham to Bankstown Targeted Contamination Assessment</i> (GHD, 2017) indicates that 3 samples within the Project area are to be considered Potential Acid Sulphate Soils (PASS) following Chromium Reducible Sulphur (SCR) testing. The three samples were taken from the Marrickville area at a depth of 2-3m. Excavations within these areas are not expected to exceed 1.5m. As such, JHLOR does not expect to encounter PASS in these areas. A number of samples were taken from within the vicinity of the Cooks River, also mapped as PASS within the DPIE dataset website (eSPADE). The samples did not exceed the SCR ASS criteria and are therefore not considered PASS. As such, the risk of encountering PASS/ASS on site are low, for added precaution any soils to be removed from site as part of the works that fall within the risk areas will be tested for PASS/ASS • All waste is to be tested in accordance with the NSW EPA Waste Classification Guidelines and disposed of to an appropriately licenced facility. Waste generation is expected to be minimal (e.g. test pits, boreholes, cleared weeds etc) Where safe and environmentally sound to do so, JHLOR will reuse site won spoil within the works where there is an opportunity to do so. • 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, with the exception of nil impact works such as inspections and survey scanning. The works will operate under the <i>Sydney Metro Unexpected Heritage Finds Procedure V2.0</i> (Appendix 4). • Works will occur in close proximity to two areas identified as Potential Archaeological Deposits (PADs) as defined in the ACHAR. Works will not be undertaken within any archaeological zones under this document. The works will operate under the <i>Sydney Metro Unexpected Heritage Finds Procedure V2.0</i> (Appendix 4).. • A number of areas of Endangered Ecological Community (EEC) under the TSC Act has been identified within the vicinity of the proposed works, refer to Appendix 1. No works will occur within the identified ECC locations, threatened species and habitat resources. Appropriate delineation and signage will be in place. EEC and Threatened species include; <ul style="list-style-type: none"> - Turpentine - Grey Ironbark open forest on shale
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	<ul style="list-style-type: none"> - Broad-leaved Ironbark - Grey Box - Degraded Turpentine - Grey Ironbark open forest on shale - <i>Acacia pubescens</i> <ul style="list-style-type: none"> • Visual amenity – any lighting used as part of out of hours works will be directed away from residents and roadways as much as practically possible. • Works may occur in the vicinity of local stormwater systems and within 25metres of the Cooks River. Localised erosion and sediment controls will be in place at all locations where materials associated with the works may leave 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. TTLG have requested that an Appendix to the SMEW CTMP be created, showing gates to be used and swept paths for vehicles that may use local streets and enter the corridor for SMW Corridor pre-Construction works. These works will not proceed until SCO has approved updated SMEW CTMP (or other document as requested by TTLG). • 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.
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Part 3: Environmental Risk Assessment and Management

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

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

Documentation: List any existing documents (including those referenced above) that the proposed Minor Works will be undertaken in accordance with and attach as Appendix 2 (e.g. plans, procedures, etc.).	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. <i>Sydney Metro Unexpected Heritage Finds Procedure V2.0</i> is included in Appendix 4.
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Part 4: Workforce Notification

How will the environmental and community risks and associated mitigation measures of the proposed Minor Works be communicated to the contractor's workforce?	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 and/or JSEAs will include the identification and assessment of environmental risks as related to the specific scope of works. SWMS will be reviewed by the JHLOR Environmental Manager or a competent person.
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Part 5: Community Consultation

What community consultation has been undertaken already?	None.
What community consultation is planned to be undertaken?	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. No works will occur unless it is included within a notification.

	<p>The community and stakeholders will be advised of new activities or impacts no later than 7 days prior to commencement as per the Overarching Community Communications Strategy. Any notification will be prepared and approved by Sydney Metro based on information from JHLOR.</p> <p>Consultation for potential visual amenity impacts will be targeted to those affected receivers.</p> <p>JHLOR will consult with sensitive receivers regarding OOHW in accordance with CoA-E23. Sensitive receivers, such as schools and religious facilities, as identified within the EIS, will be consulted prior to works, including out of hours works.</p>
If drafted already, attach applicable Community Notification as Appendix 3.	


Part 6: Contact Details

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

Name:	Malachy Breslin	Position:	Project Director	Phone:	0407 827 187
	Daniel Keegan		Environmental Manager		0435 859 160
	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:	Dan Keegan			
Signature:		Date:	1/11/2020	

Determination Page

(TfNSW/Environmental Representative Use Only)

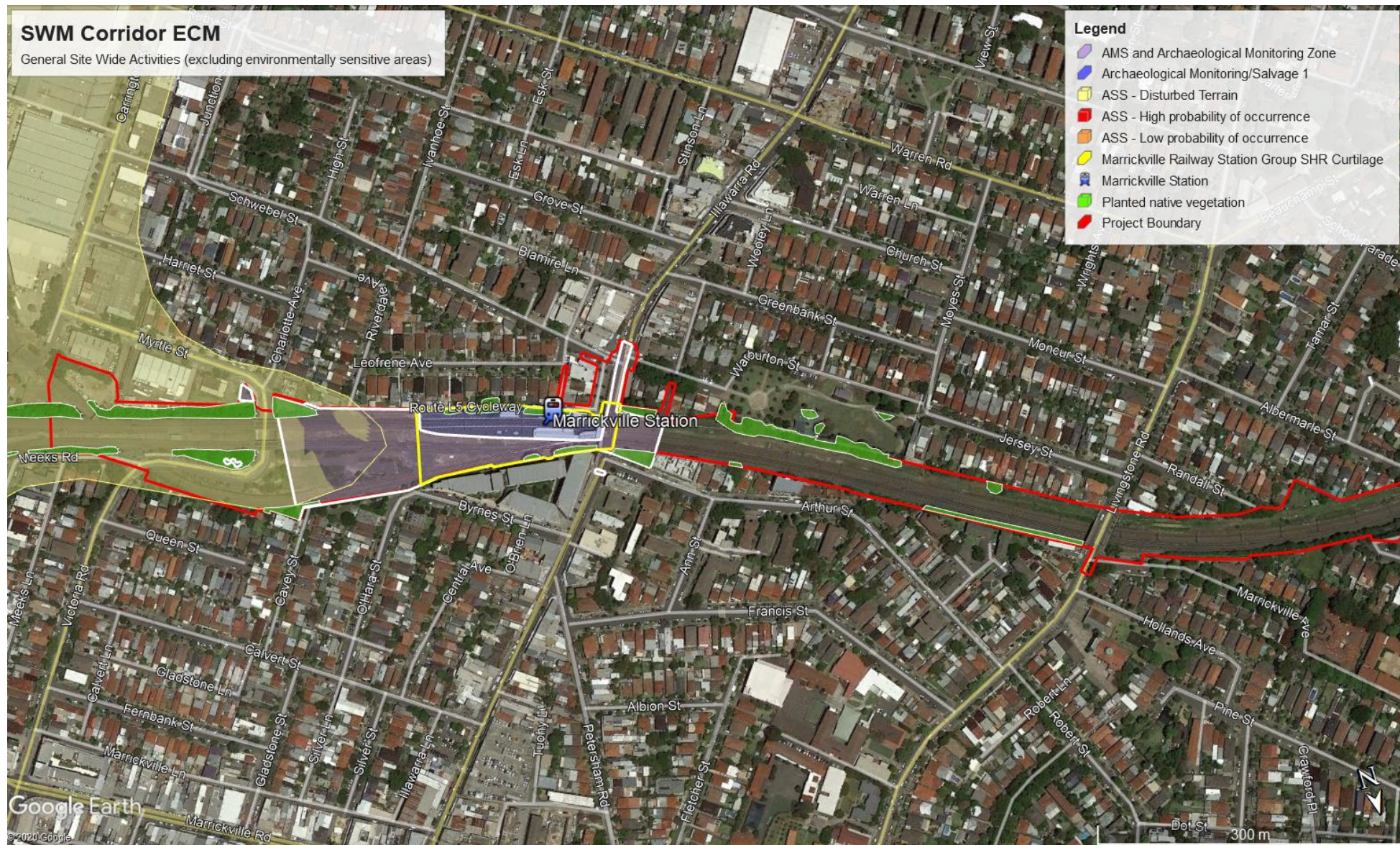
12. Endorsement/Approval

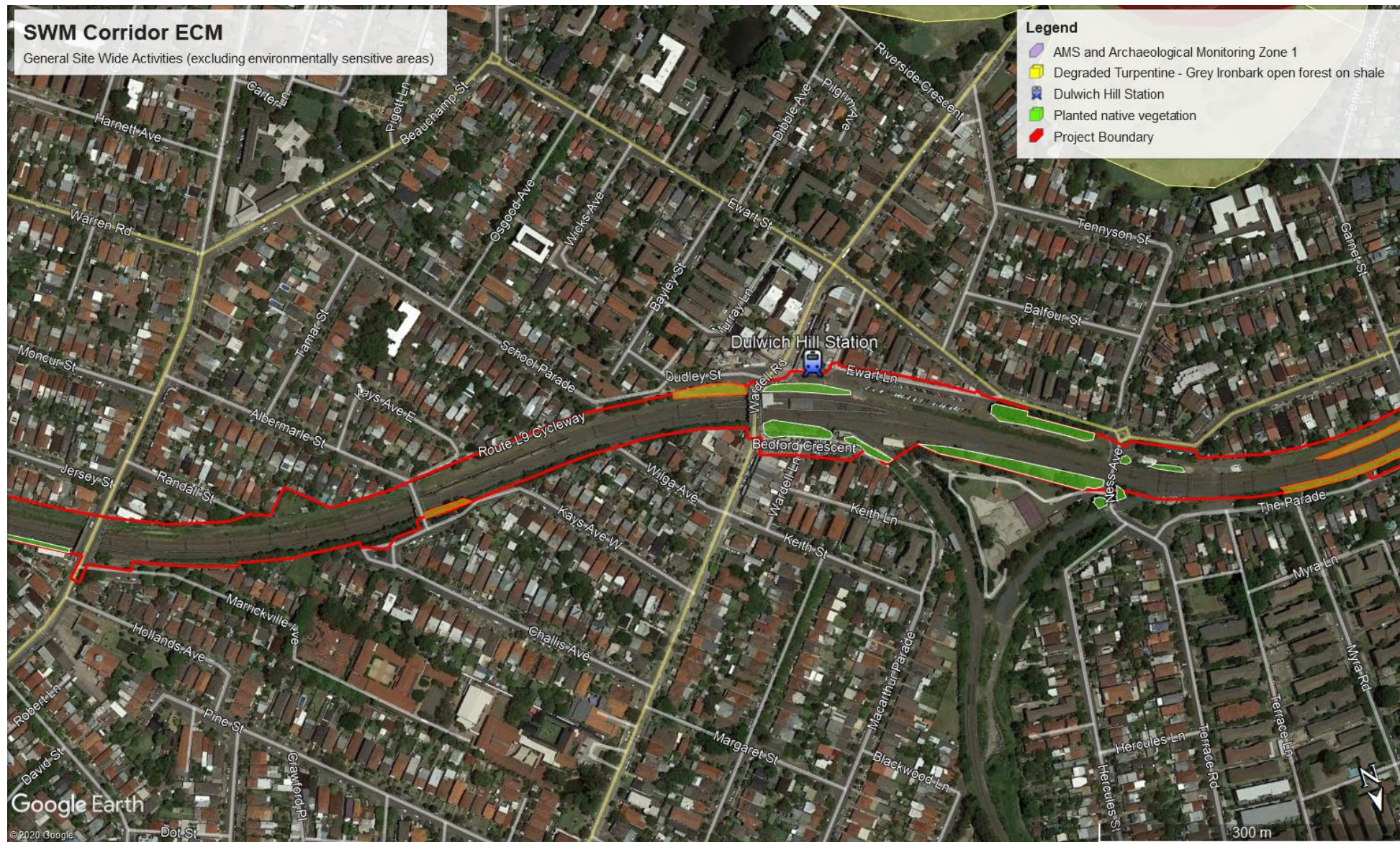
These signatures represent formal endorsement/approval for the proposed Minor Works to commence in accordance with this application and the applicable planning approval requirements (subject to any determination from the applicable planning authority as may be required by the planning approval conditions).

	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:	May Li Foong	Fil Cerone	Jo Heltborg
Date:	13/11/20	18 Nov 2020	13/11/20
Comments:			Supporting letter attached as Appendix 4 if necessary.
Conditions:	As per Part 5		Supporting letter attached as Appendix 4 if necessary.
<input checked="" type="checkbox"/>	Approved (by TfNSW)		
<input checked="" type="checkbox"/>	Endorsed (by Environmental Representative)		
<input type="checkbox"/>	Rejected		

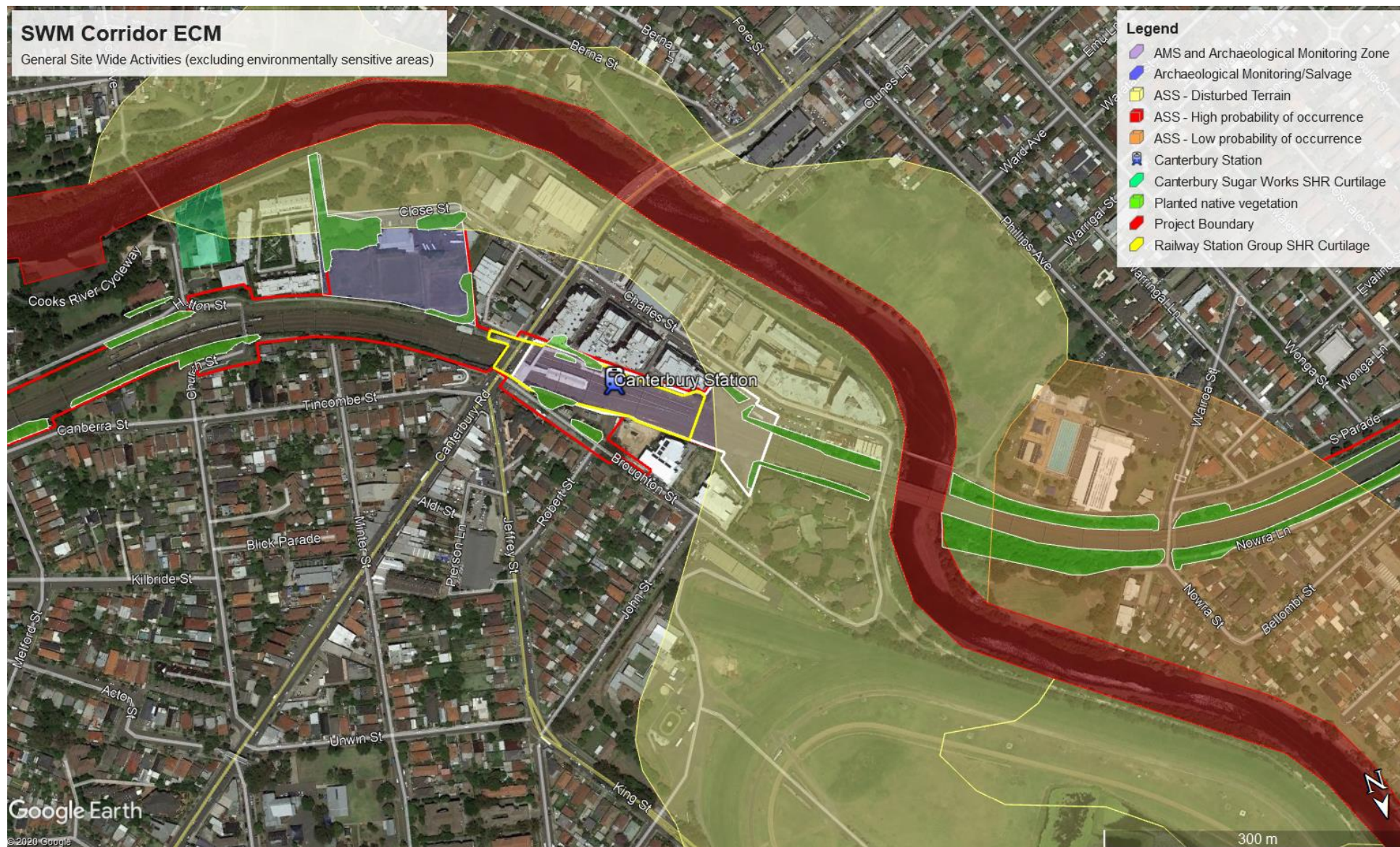
Appendix 1: Cover Page

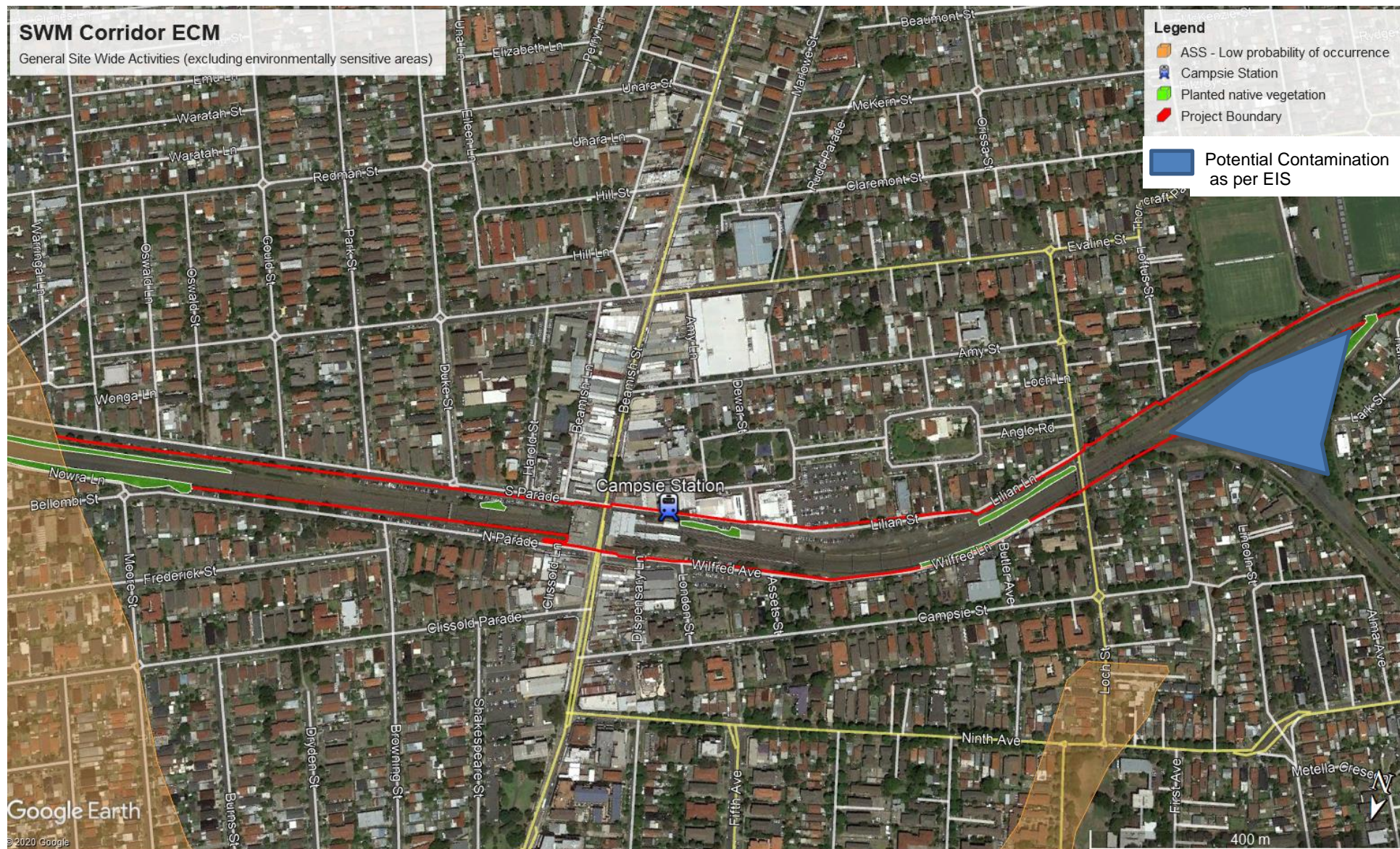
Environmental Risk Assessment and Environmental Control Map.

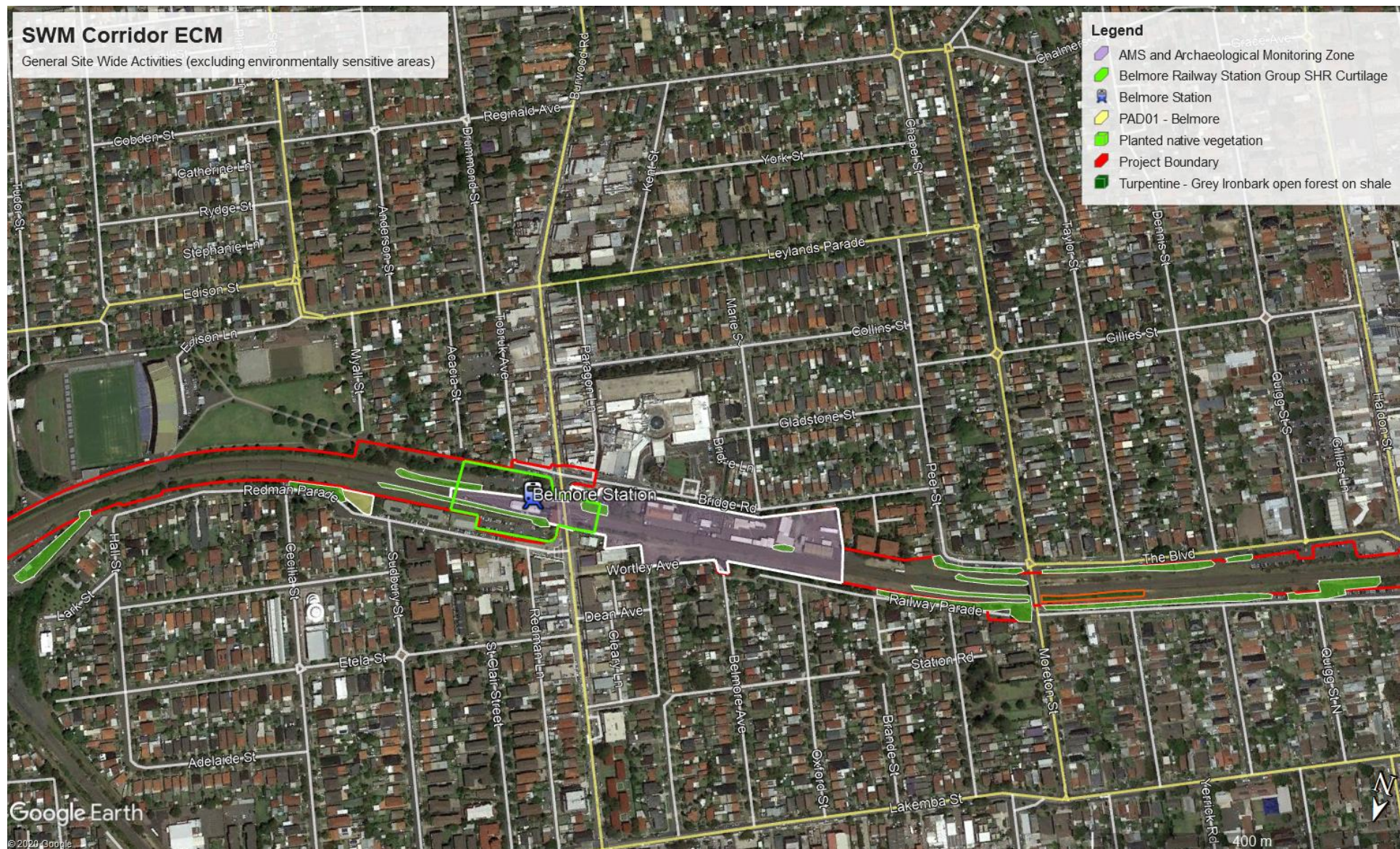


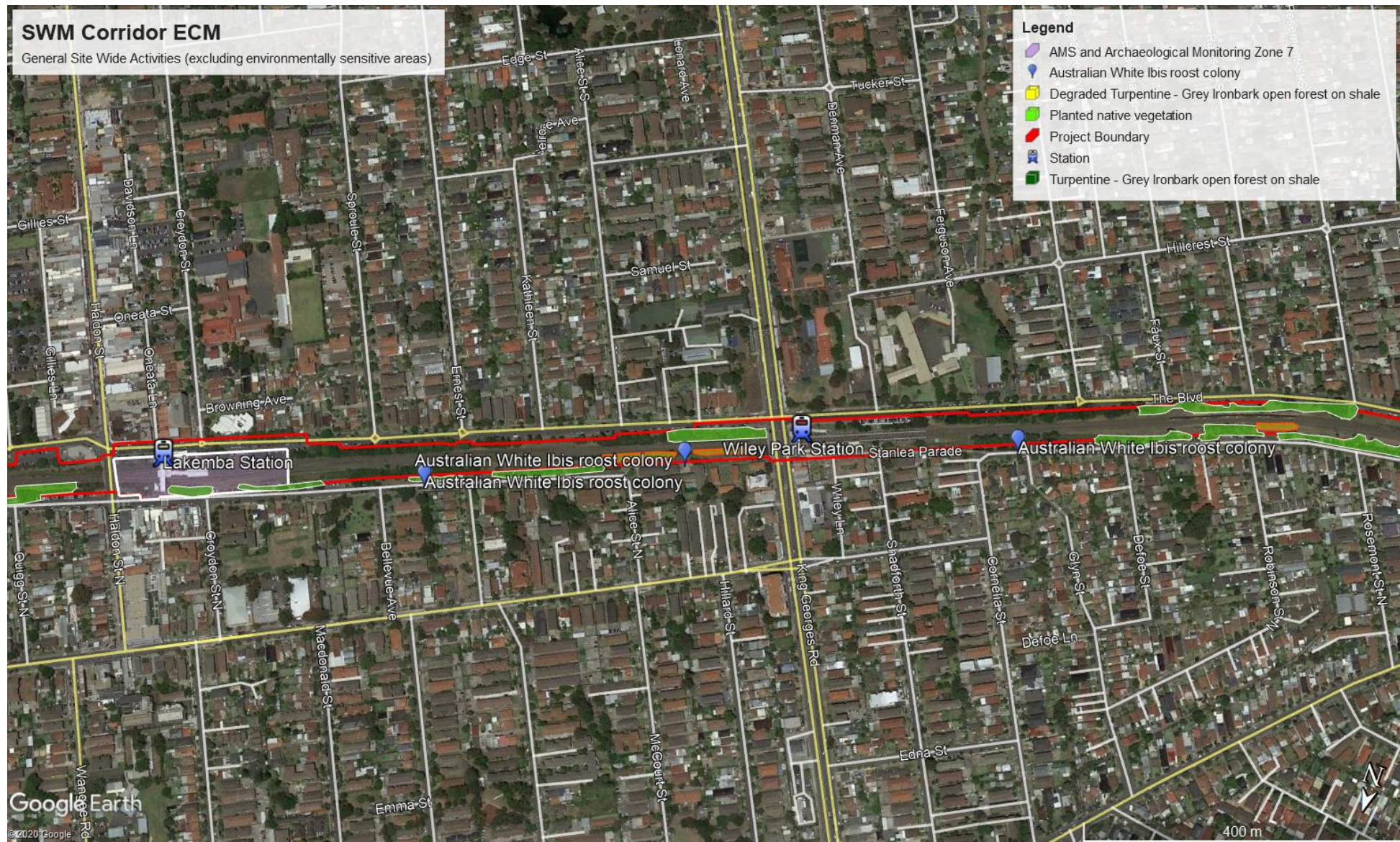




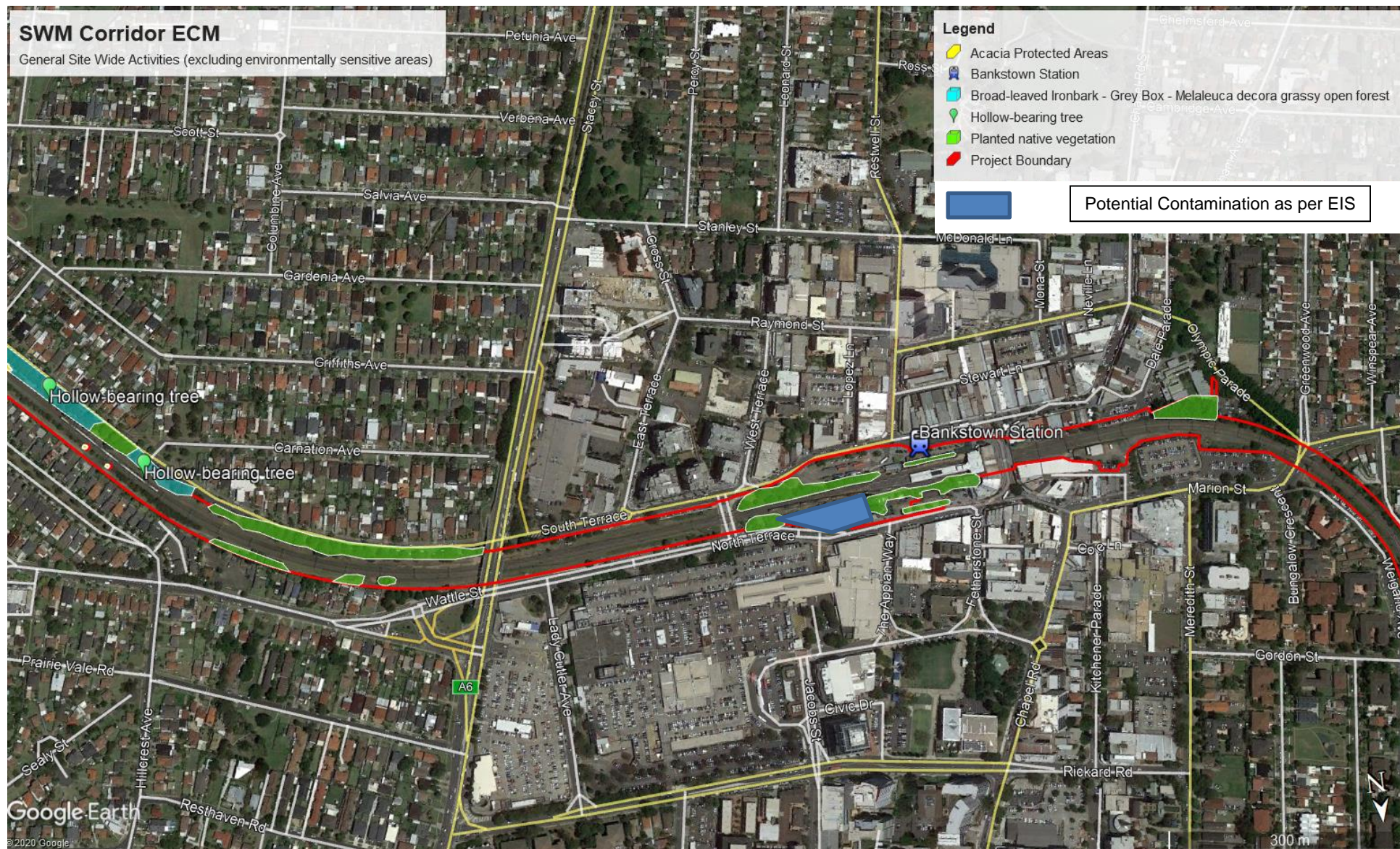












Environmental Risk Assessment

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
General Site Wide Minor Works								
Items of heritage significance uncovered during works	Damage to heritage items or archaeological deposits.	C3	L5	Med	<ul style="list-style-type: none">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 Management Zones as specified within the AARD.No works to occur within areas identified as Potential Archaeological Deposits (PADs) as defined in the ACHAR.Implement Sydney Metro Unexpected Finds Procedure V2.0 during invasive investigation works.	C3	L6	Low
Noise from plant and people	Noise from plant impacting on sensitive receivers. Noise impacts outside standard construction hours.	C5	L3	Med	<ul style="list-style-type: none">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.Noise modelling and monitoring as requiredMitigation measures to be implemented in accordance with the Sydney Metro Construction Noise Strategy, including appropriate notification.Out of Hours work Permit for any Out of Hours Work – to be provided to ER as assurance prior to OOHW commencingOOHW to be undertaken in accordance with the Laing O’Rourke EPL 21147 requirements.	C5	L5	Low
Chemical handling and	Poor storage and handling of	C5	L4	Low	<ul style="list-style-type: none">Any chemicals and fuels are to be stored within a	C5	L5	Low

storage	chemicals causes spills				bunded area with 110% of the capacity of the largest stored container. <ul style="list-style-type: none"> Refuelling to occur more than 20m away from drainage lines or Cooks River (including for boat). 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	<ul style="list-style-type: none"> Induction to include ERSED protection measures. Produce an ESCP for relevant sites as activities progress. ESCP to be implemented and monitored Weekly inspections during works, pre-rainfall/post-rainfall inspection during works 	C4	L5	Low
Water Management	Discharge of water that does not meet water quality parameters	C4	L4	Med	<ul style="list-style-type: none"> Induction to include water discharge requirements A discharge permit is to be signed-off by the Environmental Manager (or delegate) prior to any discharge to land or waters Minor amounts of groundwater that may be encountered as part of these works will be removed as liquid waste 	C4	L5	Low
Waste and Spoil	Incorrect disposal of spoil waste	C3	L5	Med	<ul style="list-style-type: none"> Induction to include waste management practices. Waste to be tested in accordance with the Waste Classification Guidelines (NSW EPA, 2014) prior to disposal. Where possible, waste spoil will be re-used. Any ballast or drainage rock imported to site will have the appropriate resource recovery exemption certification. The waste must be lawfully transported and disposed of to a licenced facility. 	C3	L6	Low
Acid Sulphate Soils	Acid sulphate soils encountered	C3	L5	Med	<ul style="list-style-type: none"> 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. Acid sulphate soils that have been stockpiled are to be treated prior to disposal from site or reuse where appropriate. Spoil from excavations will remain moist before being replaced in situ or stockpiled for testing. 	C3	L6	Low

Contamination	Contamination encountered	C3	L5	Med	<ul style="list-style-type: none"> Unexpected Contamination Finds procedure to be enacted where contamination is found during investigation works. When working in known contaminated areas, excess spoil shall be kept separate, signposted and covered for testing and disposal Dust will be managed appropriately during works within known contaminated areas An occupational hygienist is to be on call to provide advice on management of any contaminated material (advice based on contamination type). Where asbestos is observed on the surface, isolate and cover the area if possible and report to JHLOR safety and Enviro teams. Asbestos less than 10m² to be picked by competent person who has undergone Asbestos Awareness training Asbestos of an area greater than 10m² or friable asbestos is to be moved by a qualified Asbestos Removalist under the supervision of an appropriately qualified occupational hygienist 	C3	L6	Low
Air quality	Dust generation during excavation and stockpiling Dust from access track use, maintenance or establishment	C4	L4	Med	<ul style="list-style-type: none"> Induction to include air quality management practices. Water cart or water trailer to be present to wet down material. Street sweeper to be used where ongoing haulage occurs, otherwise sweeping roads as required Monitor conditions and modify works where dusty conditions are observed. Minimise the emission of dust from the premises to the greatest extent practicable 	C4	L5	Low
Services	Service strike leading to environmental discharges	C4	L4	Med	<ul style="list-style-type: none"> Engineers and workers to establish locations of any services by Dial Before You Dig, Survey and Non-Destructive Digging (where possible). An Excavation Permit detailing service locations is to be reviewed and signed by all workers undertaking excavation works. 	C4	L5	Low
Vegetation	Removal or pruning of vegetation without approval Damage to vegetation within EEC	C4	L4	Med	<ul style="list-style-type: none"> 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 DPIE in 	C4	L5	Low

	area				<p>accordance with CoA – E5.</p> <ul style="list-style-type: none"> 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), acacia pubescens. Tree protection zones would be established in areas where works will occur adjacent to trees. 			
Traffic and Pedestrians	Disruption to road users and pedestrians	C4	L4	Med	<ul style="list-style-type: none"> 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 TTLG to approve SMEW CTMP once updated with SMC entry points and swept paths 	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	<ul style="list-style-type: none"> Induction to include vegetation removal requirements Vegetation Removal and Trimming Permit to include visual amenity assessment Consultation with occupants of nearby properties where visual amenity impacts are minor or higher 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 TNSW.	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 TNSW 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 TNSW; 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: Cover Page

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



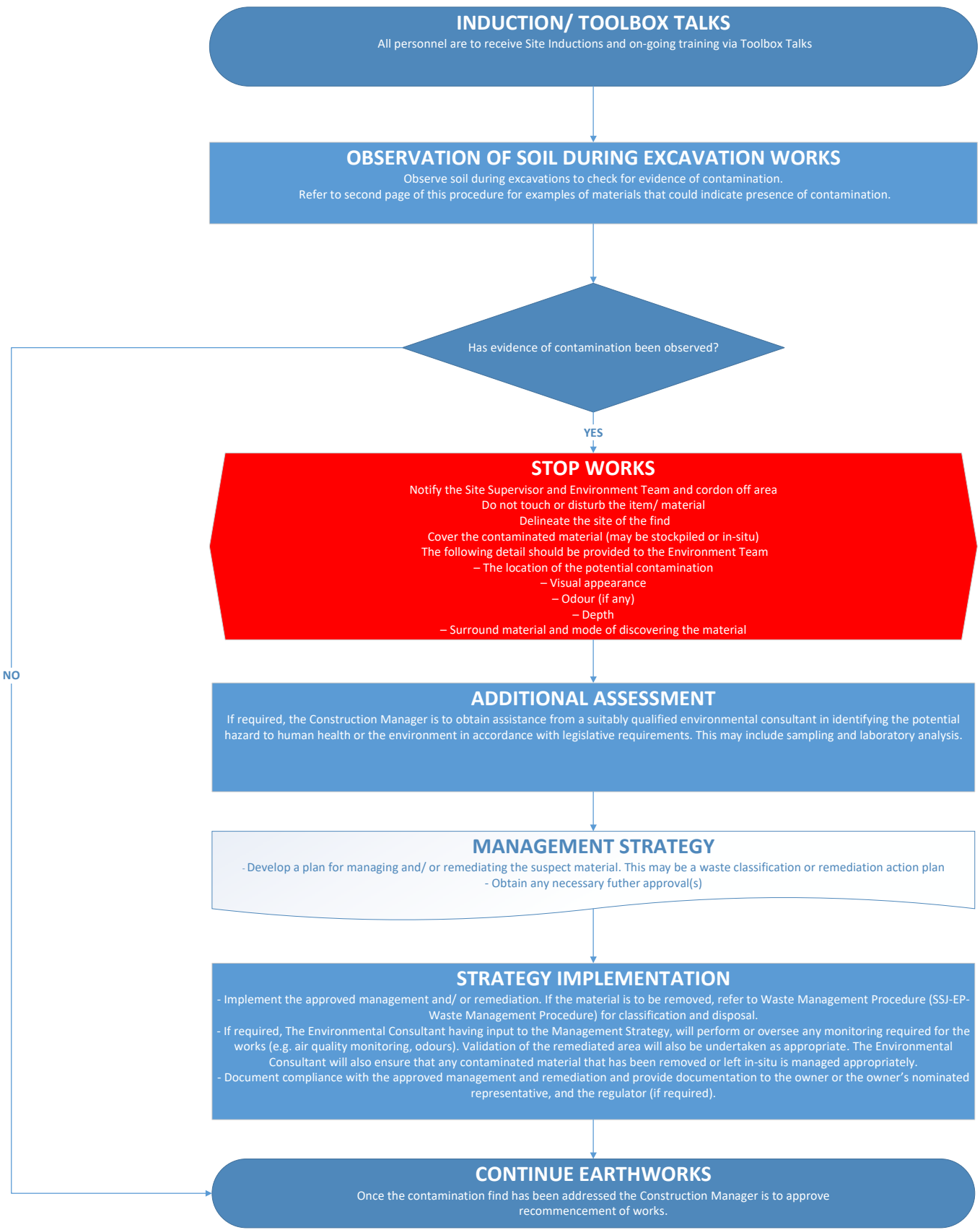
ENVIRONMENT TEAM
ENVIRONMENTAL
CONSULTANT



ENVIRONMENT TEAM
CONSTRUCTION TEAM
ENVIRONMENTAL
CONSULTANT



CONSTRUCTION
MANAGER



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: Cover Page

Community Notification – Not available.

Refer to <https://www.sydneymetro.info/> for the latest community notifications

Appendix 4: Cover Page

Sydney Metro Unexpected Heritage Finds Procedure V2.0.



Sydney Metro Unexpected Heritage Finds Procedure

[SM-18-00105232]

Sydney Metro Integrated Management System (IMS)

Applicable to:	Sydney Metro
Document Owner:	Author/Document owner
System Owner:	IMS element owner (generally a member of the Executive)
Status:	Draft/Final
Version:	2.0
Date of issue:	19 March 2019
Review date:	22 March 2020
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1. Purpose

This procedure is applicable to the Sydney Metro program of works including major projects delivered under Critical State Significant Infrastructure Planning Approvals (CSSI), early CSSI minor and enabling works and works that are subject to the NSW Heritage Act (1977) including s57/139 and s60/140 exemptions and permit approvals.

This procedure has been prepared for Sydney Metro programs to provide a method for managing unexpected heritage items (both Aboriginal and non-Aboriginal) that are discovered during preconstruction (pre-Construction Heritage Manage Plan approval), construction phases (post Construction Heritage Manage Plan approval) and for works subject to the NSW Heritage Act (1977).

An ‘unexpected heritage find’ can be defined as any unanticipated archaeological discovery, that has not been previously assessed or is not covered by an existing approval under the Heritage Act 1977 (Heritage Act) or National Parks and Wildlife Act 1974 (NPW Act).

In NSW, there are strict laws to protect and manage heritage objects and relics. As a result, appropriate heritage management measures need to be implemented to minimise impacts on heritage values; ensure compliance with relevant heritage notification and other obligations; and to minimise the risk of penalties to individuals, Sydney Metro and its contractors. This procedure includes Sydney Metro’s heritage notification obligations under the Heritage Act, NPW Act and the Coroner’s Act 2009 and the requirements of the conditions of approval (CoA) issued by NSW Department of Planning and Environment.

Note that a Contractor must not amend the Sydney Metro Unexpected Finds Procedure without the prior approval of Sydney Metro.

It should be noted that this procedure must be read in conjunction with the relevant CSSI conditionals of approval (if applicable), the contract documents and other plans including the Sydney Metro Exhumation Management Plan and procedures developed by the contractor during the delivery of the Sydney Metro works.

1.1. Legislation that does not apply

The following authorisations are not required for Sydney Metro approved Critical State Significant Infrastructure (and accordingly the provisions of any Act that prohibits an activity without such an authority do not apply):

- Division 8 of Part 6 of the Heritage Act 1977 does not apply to prevent or interfere with the carrying out of approved State significant infrastructure.
- An approval under Part 4, or an excavation permit under section 139, of the Heritage Act 1977,
- An Aboriginal heritage impact permit under section 90 of the National Parks and Wildlife Act 1974,

This document provides relevant background information in Section 4, followed by the technical procedure in Sections 6 and 7. Associated guidance referred to in the procedure can be found in Appendices 1-6.

2. Scope

Despite earlier investigation, unexpected heritage items may still be discovered during works on a Sydney Metro site. When this happens, this procedure must be followed. This procedure provides direction on when to stop work, where to seek technical advice and how to notify the regulator, if required.

This procedure **applies to**:

- the discovery of any unexpected heritage item, relic or object, where the find is not anticipated in an approved Archaeological Assessment Design Report (AARD) or Archaeological Method Statements (AMS) that are prepared as part of the planning approval for that project.

This procedure must be followed by all Sydney Metro staff, contractors, subcontractors or any person undertaking works for Sydney Metro. It includes references to some of the relevant legislative and regulatory requirements, but is not intended to replace them.

This procedure **does not apply** to:

- The discovery and disturbance of heritage items as a result of investigations being undertaken in accordance with the Office of Environment and Heritage's (OEH) *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW 2010*¹; an Aboriginal Heritage Impact Permit (AHIP) issued under the NPW Act; or a permit approval issued under the Heritage Act.
- the discovery and disturbance of heritage items as a result of construction related activities, where the disturbance is permissible in accordance with an AHIP; or an approval issued under the Heritage Act or CSSI /CSSD planning approval;

3. Definitions

All terminology in this procedure is taken to mean the generally accepted or dictionary definition with the exception of the following terms which have a specifically defined meaning:

	Definitions
AHIP	Aboriginal Heritage Impact Permit
Aboriginal object	An Aboriginal object is any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains. An Aboriginal object may include a shell midden, stone tools, bones, rock art, Aboriginal-built fences and stockyards, scarred trees and the remains of fringe camps.
CEMP	Construction Environmental Management Plan
CoA	Conditions of Approval
CSSD	Critical State Significant Development
CSSI	Critical State Significant Infrastructure
EP&A Act	NSW Environmental Planning and Assessment Act 1979
Excavation	A person that complies with the Heritage Council of NSW's Criteria for Assessment of

¹ An act carried out in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* as published by the Department in the Gazette on 24 September 2010 is excluded from the definition of **harm** an object or place in section 5 (1) of the NPW Act.

Director	Excavation Directors (July 2011) to oversee and advise on matters associated with historic archaeology. Note this applies to a specific project/program and requires consultation and/or approval by OEH.
Heritage Act	NSW <i>Heritage Act 1977</i>
NPW Act	NSW <i>National Parks and Wildlife Act 1974</i>
OEH	Office of Environment and Heritage
SM	Sydney Metro
Relic (non-Aboriginal heritage)	<p>A relic means any deposit, artefact, object or material evidence that:</p> <ul style="list-style-type: none"> a) relates to the settlement of the area that comprises NSW, not being Aboriginal settlement, and b) is of State or local significance. <p>A relic may include items such as bottles, utensils, remnants of clothing, crockery, personal effects, tools, machinery and domestic or industrial refuse.</p>
TfNSW	Transport for New South Wales
Work (non-Aboriginal heritage)	Archaeological features such as historic utilities or buried infrastructure that provide evidence of prior occupations such as former rail or tram tracks, timber sleepers, kerbing, historic road pavement, fences, culverts, historic pavement, buried retaining walls, cisterns, conduits, sheds or building foundations, but are also subject to assessment by the Excavation Director to determine its classification

4. Types of unexpected heritage items and corresponding statutory protections

The roles of project, field and environmental personnel (including construction contractors) are critical to the early identification and protection of unexpected heritage items.

Appendix 1 illustrates the wide range of heritage discoveries found on Sydney Metro projects and provides a useful photographic guide. Subsequent to confirmation of a heritage discovery it must then be identified and assessed by Excavation Director. An 'unexpected heritage item' means any unanticipated discovery of an actual or potential heritage item, for which Sydney Metro does not have approval to disturb² and/or have an existing management process in place.

These discoveries are categorised as either:

- (a) Aboriginal objects
- (b) Historic (non-Aboriginal) heritage items
- (c) Human skeletal remains.

The relevant legislation that applies to each of these categories is described below and is also addressed in the Sydney Metro Exhumation Management Plan).

4.1. Aboriginal objects

The NPW Act protects Aboriginal objects which are defined as:

² Disturbance is considered to be any physical interference with the item that results in it being destroyed, defaced, damaged, harmed, impacted or altered in any way (this includes archaeological investigation activities).

“any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains”³.

Examples of Aboriginal objects include stone tool artefacts, shell middens, axe grinding grooves, pigment or engraved rock art, burials and scarred trees.

IMPORTANT!

All Aboriginal objects, regardless of significance, are protected under law.

If any impact is expected to an Aboriginal object, an AHIP is usually required from OEHS. Also, when a person becomes aware of an Aboriginal object they must notify the Director-General of OEHS about its location⁴. Assistance on how to do this is provided in Section 7 (Step 5).

4.2. Historic heritage items

Historic (non-Aboriginal) heritage items may include:

- Archaeological ‘relics’
- Other historic items (i.e. works, structures, buildings or movable objects).

4.2.1. Archaeological relics

The Heritage Act protects *relics* which are defined as:

“any deposit, artefact, object or material evidence that relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and is of State or local heritage significance”⁵.

Relics are archaeological items of local or state significance which may relate to past domestic, industrial or agricultural activities in NSW, and can include bottles, remnants of clothing, pottery, building materials and general refuse.

IMPORTANT!

All relics are subject to statutory controls and protections.

If a relic is likely to be disturbed, a heritage approval is usually required from the NSW Heritage Council⁶. Also, when a person discovers a relic they must notify the NSW Heritage Council of its location⁷.

4.2.2. Other historic items

Some historic heritage items are not considered to be ‘relics’, but are instead referred to as works, *buildings, structures or movable objects*. Examples of these items that may be encountered include *culverts, historic pavements, retaining walls, tramlines, rail tracks, timber sleepers, cisterns, fences, sheds, buildings and conduits*. Although an approval under the Heritage Act may not be required to disturb these items, their discovery must be managed in accordance with this procedure.

³ Section 5(1) NPW Act.

⁴ This is required under section 89(A) of the NPW Act and applies to all Sydney Metro projects.

⁵ Section 4(1) Heritage Act.

⁷ This is required under section 146 of the Heritage Act and applies to all Sydney Metro projects.

As a general rule, an archaeological relic requires discovery or examination through the act of excavation. For an unexpected find an archaeological excavation permit under section 140 of the Heritage Act may be required to do this. In contrast, 'other historic items' either exist above the ground surface (e.g. a shed), or they are designed to operate and exist beneath the ground surface (e.g. a culvert).

4.3. Human skeletal remains

Also refer to Sydney Metro Exhumation Management Plan for a more detailed explanation of the approval processes.

Human skeletal remains can be identified as either an Aboriginal object or non-Aboriginal relic depending on ancestry of the individual (Aboriginal or non-Aboriginal) and burial context (archaeological or non-archaeological). Remains are considered to be archaeological when the time elapsed since death is suspected of being 100 years or more. Depending on ancestry and context, different legislation applies.

As a simple example, a pre-European settlement archaeological Aboriginal burial would be protected under the NPW Act, while a historic (non-Aboriginal) archaeological burial within a cemetery would be protected under the Heritage Act. For a non-Aboriginal archaeological burial, the relevant heritage approval and notification requirement described in Section 3.1 would apply. In addition to the NPW Act, finding Aboriginal human remains also triggers notification requirements to the Commonwealth Minister for the Environment under section 20(1) of the Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth).

IMPORTANT!

All human skeletal remains are subject to statutory controls and protections.

All bones must be treated as potential human skeletal remains and work around them must stop while they are protected and investigated urgently.

However, where it is suspected that less than 100 years has elapsed since death, the human skeletal remains come under the jurisdiction of the State Coroner and the Coroners Act 2009 (NSW). Such a case would be considered a 'reportable death' and under legal notification obligations set out in section 35(2); a person must report the death to a police officer, a coroner or an assistant coroner as soon as possible. This applies to all human remains less than 100 years old⁸ regardless of ancestry (i.e. both Aboriginal and non-Aboriginal remains). Public health controls may also apply.

Guidance on what to do when suspected human remains are found is provided in Appendix 5.

5. Legislative Requirements

Table 1 identifies some of the relevant legislation/regulations for the protection of heritage and the management of unexpected heritage finds in NSW. It should be noted that significant

⁸ Under section 19 of the *Coroners Act 2009*, the coroner has no jurisdiction to conduct an inquest into reportable death unless it appears to the coroner that (or that there is reasonable cause to suspect that) the death or suspected death occurred within the last 100 years.

penalties exist for breaches of the listed legislation as a result of actions that relate to unauthorised impacts on heritage items. Further, it is noted that heritage that has been assessed and is being managed in accordance with relevant statutory approvals(s) is exempt from these offences.

To avoid breaches of legislation, it is important that Sydney Metro and its contractors are aware of their statutory obligations under relevant legislation and that appropriate control measures are in place to ensure that unexpected heritage items are appropriately managed during construction. Contractors/Alliances will need to ensure that they undertake their own due diligence to identify any other legislative requirements that may apply for a given project.

Table 1 Legislation and guidelines for management of unexpected heritage finds

Relevant Requirement	Objectives and offences
<i>Environmental Planning and Assessment Act 1979 (EP&A Act)</i>	Section 115ZB Giving of approval by Minister to carry out a project.
<i>Environmental Planning and Assessment Act 1979 (EP&A Act)</i>	Requires heritage to be considered within the environmental impact assessment of projects. This guideline is based on the premise that an appropriate level of Aboriginal and non-Aboriginal cultural heritage assessment and investigations and mitigation have already been undertaken under the relevant legislation, including the EP&A Act, during the assessment and determination process. It also assumes that appropriate mitigation measures have been included in the conditions of any approval.
<i>Heritage Act 1977 (Heritage Act)</i>	The Heritage Act provides for the care, protection and management of heritage items in NSW. Under section 139, it is an offence to disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed, unless the disturbance or excavation is carried out in accordance with an excavation permit issued by the Heritage Division of the OEH. Under the Act, a relic is defined as: <i>'any deposit, artefact, object or material evidence that: (a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and (b) is of State or local heritage significance.'</i> A person must notify the Heritage Division of OEH, if a person is aware or believes that they have discovered or located a relic (section 146). Penalties for offences under the Heritage Act can include six months imprisonment and/or a fine of up to \$1.1million.

Relevant Requirement	Objectives and offences
National Parks and Wildlife Act 1974 (NPW Act)	<p>The NPW Act provides the basis for the care, protection and management of Aboriginal objects and places in NSW.</p> <p>An Aboriginal object is defined as: <i>‘any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains’.</i></p> <p>An ‘Aboriginal place’ is an area declared by the Minister administering the Act to be of special significance with respect to Aboriginal culture. An Aboriginal place does not have to contain physical evidence of occupation (such as Aboriginal objects).</p> <p>Under section 87 of the Act, it is an offence to harm or desecrate an Aboriginal object or place. There are strict liability offences. An offence cannot be upheld where the harm or desecration was authorised by an AHIP and the permit’s conditions were not contravened. Defences and exemptions to the offence of harming an Aboriginal object or Aboriginal place are provided in section 87, 87A and 87B of the Act.</p> <p>A person must notify OEH if a person is aware of the location of an Aboriginal object.</p> <p>Penalties for some of the offences can include two years imprisonment and/or up to \$550,000 (for individuals), and a maximum penalty of \$1.1 million (for corporations).</p>

6. Unexpected heritage finds protocol

6.1. What is an unexpected heritage find?

An ‘unexpected heritage find’ can be defined as any unanticipated archaeological discovery that has not been identified during a previous assessment or is not covered by an existing permit under the Heritage Act. The find may have potential cultural heritage value, which may require some type of statutory cultural heritage permit or notification if any interference of the heritage item is proposed or anticipated.

The range of potential archaeological discoveries can include but are not limited to:

- remains of rail infrastructure including buildings, footings, stations, signal boxes, rail lines, bridges and culverts
- remains of other infrastructure including sandstone or brick buildings, wells, cisterns, drainage services, conduits, old kerbing and pavement, former road surfaces, timber and stone culverts, bridge footings and retaining walls
- artefact scatters including clustering of broken and complete bottles, glass, ceramics, animal bones and clay pipes
- Archaeological human skeletal remains.

6.2. Managing unexpected heritage finds

In the event that an unexpected heritage find (the find) is encountered on a Sydney Metro site, the flowchart in Figure 1 must be followed. There are eight steps in the procedure. These steps are summarised in Figure 1 and explained in detail in Table 2.

Figure 1 Overview of steps to be undertaken on the discovery of an unexpected heritage item

IMPORTANT!

Sydney Metro may have approval to impact on certain heritage items during construction. If you think that you may have discovered a heritage item and you are unsure whether an approval is in place or not, **STOP** works and follow this procedure.

Table 2 Specific tasks to be implemented following the discovery of an unexpected heritage item

Step	Task	Responsibility	Guidance and tools
1	Stop work, protect item and inform the Excavation Director		
1.1	Stop all work in the immediate area of the item and notify the Project Manager	Contractor/ Supervisor	Appendix 1 (Identifying Unexpected Heritage items)
1.2	Establish a 'no-go zone' around the item. Use high visibility fencing, where practical. No work is to be undertaken within this zone until further investigations are completed and, if required, appropriate approvals are obtained. Inform all site personnel about the no-go zone.	Project Manager/ Contractor/ Supervisor	
1.3	Inspect, document and photograph the item.	Archaeologist and or Excavation Director	Appendix 2 (Unexpected Heritage Item Recording Form) Appendix 3 (Photographing Unexpected Heritage items)
1.4	Is the item likely to be bone? If yes , follow the steps in Appendix 4 – 'Uncovering bones'. Where it is obvious that the bones are human remains, you must notify the local police by telephone immediately. They may take command of all or part of the site. Also refer to the Sydney Metro Exhumation Management Plan If no , proceed to next step.	Excavation Director	Appendix 4 (Uncovering Bones)

Step	Task	Responsibility	Guidance and tools
1.5	Inform the Excavation Director of the item and provide as much information as possible, including photos and completed form (Appendix 2). Where the project has a Sydney Metro Environmental Manager, the Environmental Manager should be involved in the tasks/process.	Contractors Project Manager	
1.6	Can the works avoid further disturbance to the item? Project Manager to confirm with Sydney Metro's Environment Manager. Complete the remaining tasks in Step 1.	Contractors Project Manager	
1.7	Excavation Director and Sydney Metro Environmental Manager to advise the Project Manager whether Sydney Metro has approval to impact on the 'item'. Does Sydney Metro have an approval or permit to impact on the item? If yes , work may recommence in accordance with that approval or permit. There is no further requirement to follow this procedure. If no , continue to next step.	Contractors Project Manager	
1.8	Has the 'find' been damaged or harmed? If yes , record the incident in the Incident Management System Implement any additional reporting requirements related to the planning approval and CEMP, where relevant.	Contractors Project Manager, Excavation Director	
2	Contact and engage an archaeologist and/or an Aboriginal heritage consultant		
2.1	If an archaeologist and/or Aboriginal heritage consultant has been previously appointed for the project, contact them to discuss the location and extent of the item and arrange a site inspection, if required. The project CEMP may contain contact details of the archaeologist/Aboriginal heritage consultant. Where there is no project archaeologist engaged for the works engage a suitably qualified consultant to assess the find: if the find is a non-Aboriginal deposit, engage a suitably qualified and experienced archaeological consultant if the find is likely to be an Aboriginal object, engage an Aboriginal heritage consultant to assess the find.	Contractors Project Manager, Excavation Director	
2.2	If requested, provide photographs of the item taken during Step 1.3 to the archaeologist or Aboriginal heritage consultant.	Contractors Project Manager, Excavation Director	Appendix 3 (Photographing Unexpected Heritage items)

Step	Task	Responsibility	Guidance and tools
3	Preliminary assessment and recording of the find		
3.1	In a minority of cases, the archaeologist/Aboriginal heritage consultant may determine from the photographs that no site inspection is required because no heritage constraint exists for the project (e.g. the item is not a 'relic', a 'heritage item' or an 'Aboriginal object'). Any such advice should be provided in writing (e.g. via email or letter with the consultant's name and company details clearly identifiable) to the Sydney Metro Project Manager.	Archaeologist/ Aboriginal heritage consultant/ Excavation Director	Proceed to Step 8
3.2	Arrange site access for the archaeologist/Aboriginal heritage consultant to inspect the item as soon as practicable. In the majority of cases a site inspection is required to conduct a preliminary assessment.	Contractors Project Manager, Excavation Director	
3.3	Subject to the archaeologist/Aboriginal heritage consultant's assessment, work may recommence at a set distance from the item. This is to protect any other archaeological material that may exist in the vicinity, which may have not yet been uncovered. Existing protective fencing established in Step 1.2 may need to be adjusted to reflect the extent of the newly assessed protective area. No works are to take place within this area once established.	Archaeologist/ Aboriginal heritage consultant Contractors Project Manager, Excavation Director	
3.4	<p>The archaeologist/Aboriginal heritage consultant may provide advice after the site inspection and preliminary assessment that no heritage constraint exists for the project (e.g. the item is not a 'relic' or a 'heritage item' or an 'aboriginal item'. Any such advice should be provided in writing (e.g. via email or letter with the consultant's name and company details clearly identifiable) to the Metro Project Manager.</p> <p>Note that :</p> <p>a relic is evidence of past human activity which has local or State heritage significance. It may include items such as bottles, utensils, remnants of clothing, crockery, personal effects, tools, machinery and domestic or industrial refuse</p> <p>an Aboriginal object may include a shell midden, stone tools, bones, rock art or a scarred tree</p> <p>a "work", building or standing structure may include tram or train tracks, kerbing, historic road pavement, fences, sheds or building foundations.</p>	Archaeologist/ Aboriginal heritage consultant/ Contractors Project Manager, Excavation Director	<p>Proceed to Step 8</p> <p>Refer to Appendix 1 (Identifying heritage items)</p>

Step	Task	Responsibility	Guidance and tools
3.5	Where required, seek additional specialist technical advice (such as a forensic or physical anthropologist to identify skeletal remains). The archaeologist/Aboriginal heritage consultant can provide contacts for such specialist consultants.	Excavation Director Archaeologist	
3.6	Where the item has been identified as a 'relic' or 'heritage item' or an 'Aboriginal object' the archaeologist should formally record the item.	Archaeologist/ Aboriginal heritage consultant	
3.7	OEH (Heritage Division for non-Aboriginal relics and Planning and Aboriginal Heritage Section for Aboriginal objects) can be notified informally by telephone at this stage by the Sydney Metro Environmental Manager Any verbal conversations with regulators must be noted on the project file for future reference.	Contractors Project Manager, Excavation Director	
4	Section 4 not used		
5	Notify the regulator, if required.		
5.1	Based on the findings of the archaeological or heritage management plan and corresponding legislative requirements, is the find required to be notified to OEH and the Secretary? If no , proceed directly to Step 6 If yes , proceed to next step.	Sydney Metro Environmental Manager Excavation Director	
5.2	If notification is required, complete the template notification letter, including the archaeological/heritage management plan and other relevant supporting information and forward to the Sydney Metro Principal Manager Sustainability Environment and Planning (Program) for signature.	Sydney Metro Environmental Manager Excavation Director	Appendix 6 (Template Notification Letter)
5.3	Forward the signed notification letter to OEH and the Secretary. Informal notification (via a phone call or email) to OEH prior to sending the letter is appropriate. The archaeological or heritage management plan and the completed site recording form (Appendix 2) must be submitted with the notification letter (for both Aboriginal objects and non-Aboriginal relics). For Part 5.1 projects, the Department of Planning and Environment must also be notified.		

Step	Task	Responsibility	Guidance and tools
5.4	A copy of the final signed notification letter, archaeological or heritage management plan and the site recording form is to be kept on file and a copy sent to the Sydney Metro Project Manager.	Contractors Project Manager, Excavation Director	
6	Implement archaeological or heritage management plan		
6.1	Modify the archaeological or heritage management plan to take into account any additional advice resulting from notification and discussions with OEH.	Contractors Project Manager, Excavation Director	
6.2	Implement the archaeological or heritage management plan. Where impact is expected, this may include a formal assessment of significance and heritage impact assessment, preparation of excavation or recording methodologies, consultation with Registered Aboriginal Parties, obtaining heritage approvals etc., if required.	Contractors Project Manager, Excavation Director	
6.3	Where heritage approval is required contact the Sydney Metro Environment Manager for further advice and support material. Please note there are time constraints associated with heritage approval preparation and processing.	Contractors Project Manager, Excavation Director	
6.4	Assess whether heritage impact is consistent with the project approval or if project approval modification is required from the Department of Planning and Environment.	, Excavation Director/Sydney Metro Environmental Manager	
6.5	Where statutory approvals (or project approval modification) are required, impact upon relics and/or Aboriginal objects must not occur until heritage approvals are issued by the appropriate regulator.	Contractors Project Manager, Excavation Director	
6.6	Where statutory approval is not required but where recording is recommended by the archaeologist/Aboriginal heritage consultant, sufficient time must be allowed for this to occur.	Contractors Project Manager, Excavation Director	
6.7	Ensure short term and permanent storage locations are identified for archaeological material or other heritage material removed from site, where required. Interested third parties (e.g. museums, local Aboriginal land councils, or local councils) should be consulted on this issue. Contact the archaeologist or Aboriginal heritage consultant for advice on this matter, if required.	Contractors Project Manager, Excavation Director	
7	Section 7 Not Used		

Step	Task	Responsibility	Guidance and tools
8	Resume work		
8.1	Seek written clearance to resume project work from the project Excavation Director/Archaeologist/Aboriginal heritage consultant. Clearance would only be given once all archaeological excavation and/or heritage recommendations and approvals (where required) are complete. Resumption of project work must be in accordance with the all relevant project/heritage approvals/determinations.	Contractors Project Manager, Excavation Director	
8.2	If required, ensure archaeological excavation/heritage reporting and other heritage approval conditions are completed in the required timeframes. This includes artefact retention repositories, conservation and/or disposal strategies.	Contractors Project Manager, Excavation Director	
8.3	Deleted		
8.4	If additional unexpected items are discovered this procedure must begin again from Step 1.	All	

7. Responsibilities

Table 3 Roles and Responsibilities

Role	Responsibility or role under this guideline
Contractor / Supervisor	Stop work immediately when an unexpected heritage find is encountered. Cordon off area until Environmental Manager /Excavation Director advises that work can recommence.
Contractor or Environment Manager	Manage the process of identifying, protecting and mitigating impacts on the 'find'. Liaise with Sydney Metro Project Manager and Environment Manager and assist the archaeologist/Aboriginal heritage consultant with mitigation and regulatory requirements. Complete Incident Report and review CEMP for any changes required. Propose amendments to the CEMP if any changes are required.
Contractor's or Project Heritage Advisor or Consultant	Provide expert advice to the Sydney Metro Environment Manager on 'find' identification, significance, mitigation, legislative procedures and regulatory requirements.
Environmental Representative	Independent environmental advisor engaged by Sydney Metro Ensures compliance with relevant approvals (new and existing).
Heritage Division of OEH	Regulate the care, protection and management of relics (non-Aboriginal heritage). Delegated authority for Heritage Council Issue excavation permits.

Role	Responsibility or role under this guideline
Registered Aboriginal Parties (RAPs)	Aboriginal people who have registered with Sydney Metro to be consulted about a proposed project or activity in accordance with the OEH <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i> .
Sydney Metro Environment Manager	Notify the Sydney Metro Principal Manager, Environmental Management of 'find' and manage Incident Reporting once completed by Environmental Manager.
Contractors Project Manager	Ensures all aspects of this procedure are implemented. Advise Contractor / Supervisor to recommence work if all applicable requirements have been satisfied and the Excavation Director /Project Archaeologist has approved recommend of work.

8. Seeking Advice

Advice on this procedure should be sought from the Sydney Metro Environment a Manager in the first instance. Contractors and alliance partners should ensure their own project environment managers are aware of and understand this procedure. Technical archaeological or heritage advice regarding an unexpected heritage item should be sought from a suitably qualified and experienced archaeologist/Aboriginal heritage consultant.

9. Related documents and references

- Environmental Incident Classification and Reporting – 9TP-PR-105
- Guide to Environmental Control Map – 3TP-SD-015
- NSW Heritage Office (1998), *Skeletal remains: guidelines for the management of human skeletal remains*.
- Roads and Maritime Services (2015), *Standard Management Procedure Unexpected Heritage Items*.
- Department of Environment and Conservation NSW (2006), *Manual for the identification of Aboriginal remains*.
- Sydney Metro Exhumation Management Plan

10. List of appendices

The following appendices are included to support this procedure:

- Appendix 1: Examples of finds encountered during construction works
- Appendix 2: Unexpected Heritage Item Recording Form
- Appendix 3: Photographing Unexpected Heritage Items
- Appendix 4: Uncovering Bones
- Appendix 5: Archaeological Advice Checklist
- Appendix 6: Template Notification Letter

11. Document history

Version	Date of approval	Notes
1.1		Incorporates ER comments 21/06/17
1.2		Amends p13 step 8 reference to s146 added
1.3		Incorporates Planning Mods 1-4 including amended CoA E20
1.4		Incorporates ER comments 21/03/18
2.0		Removes SSI 15-7400 COA reference

Appendix 1: Examples of finds encountered during construction works



Photo 1 - Aboriginal artefacts found at the Wickham Transport Interchange, 2015



Photo 2 – Aboriginal artefacts (shell material) found at the Wickham Transport Interchange, 2015



Photo 3 1840s seawall and 1880s retaining wall uncovered at Balmain East, 2016



Photo 4 Sandstone pavers uncovered at Balmain East, 2016



Photo 5 - Platform structure at Hamilton Railway Station classified as a 'work' by the project archaeologist - Wickham Transport Interchange project, 2015

Photo 6 - Platform structure at Hamilton Railway Station classified as a 'work' by the project archaeologist - Wickham Transport Interchange project, 2015



Photo 7 - Sandstone flagging and cesspit - Wynyard Walk project, 2014



Photo 8 - Chinese Ming Dynasty pottery and English porcelain/pottery dating back to early 19th century - Wynyard Walk project, 2014



Photo 9 - Pottery made by convict potter Thomas Ball during the early settlement - Wynyard Walk project, 2014

The following images, obtained from the Roads and Maritime Services' *Standard Management Procedure for Unexpected Heritage items 2015*, can be used to assist in the preliminary identification of potential unexpected items during construction and maintenance works.



Photo 10 - Top left hand picture continuing clockwise: Stock camp remnants (Hume Highway Bypass at Tarcutta); Linear archaeological feature with post holes (Hume Highway Duplication), Animal bones (Hume Highway Bypass at Woomargama); Cut wooden stake; Glass jars, bottles, spoon and fork recovered from refuse pit associated with a Newcastle Hotel (Pacific Highway, Adamstown Heights, Newcastle area) (RMS, 2015).



Photo 11 - Top left hand picture continuing clockwise: Stock camp remnants (Hume Highway Bypass at Tarcutta); Linear archaeological feature with post holes (Hume Highway Duplication), Animal bones (Hume Highway Bypass at Woomargama); Cut wooden stake; Glass jars, bottles, spoon and fork recovered from refuse pit associated with a Newcastle Hotel (Pacific Highway, Adamstown Heights, Newcastle area) (RMS, 2015).

Appendix 2 - Unexpected heritage item recording form

Example of unexpected heritage item recording form:

This form is to be completed Excavation Director on the discovery of an archaeological heritage item during construction or maintenance works			
Date:		Recorded by:	
		(include name and position)	
Project name:			
Description of works being undertaken:			
Description of exact location of item			
Description of item found <i>(What type of item is it likely to be? Tick the relevant boxes).</i>			
A. A relic	<input type="checkbox"/>	A 'relic' is evidence of a past human activity relating to the settlement of NSW with local or state heritage significance. A relic might include bottle, utensils, plates, cups, household items, tools, implements, and similar items	
B. A 'work', building or structure	<input type="checkbox"/>	A 'work' can generally be defined as a form infrastructure such as track or rail tracks, timber sleepers, a culvert, road base, a bridge pier, kerbing, and similar items	
C. An Aboriginal object	<input type="checkbox"/>	An 'Aboriginal object' may include stone tools, stone flakes, shell middens, rock art, scarred trees and human bones	
D. Bone	<input type="checkbox"/>	Bones can either be human or animal remains. Remember that you must contact the local police immediately by telephone if you are certain that the bone(s) are human remains.	
E. Other	<input type="checkbox"/>		
Provide a short description of the item <i>(E.g. metal rail tracks running parallel to the rail corridor. Good condition. Tracks set in concrete, approximately 10 cm below the current ground surface).</i>			

Sketch <i>(Provide a sketch of the item's general location in relation to other road features so its approximate location can be mapped without having to re-excavate it. In addition, please include details of the location and direction of any photographs of the item taken)</i>			
Action taken (Tick either A or B)			
A. Unexpected item would not be further impacts on by the works	<input type="checkbox"/>	Describe how works would avoid impact on the item. (E.g. the rail tracks would be left in situ and recovered with paving).	
B. Unexpected item would be further impacted by the works	<input type="checkbox"/>	Describe how works would impact on the item. (E.g. milling is required to be continued to a depth of 200 mm depth to ensure the pavement requirements are met. Rail tracks would need to be removed.)	
Excavation Director		Signature	
		Signature	

Important

It is a statutory offence to disturb Aboriginal objects and historic relics (including human remains) without an approval. All works affecting objects and relics must cease until an approval is sought.

Approvals may also be required to impact on certain works.

Appendix 3 - Photographing unexpected heritage items

Photographs of unexpected items in their current context (*in situ*) may assist archaeologists/Aboriginal heritage consultants to better identify the heritage values of the item. Emailing good quality photographs to specialists can allow for better quality and faster heritage advice. The key elements that must be captured in photographs of the item include its position, the item itself and any distinguishing features. All photographs must have a scale (ruler, scale bar, mobile phone, coin etc.) and a note describing the direction of the photograph.

Context and detailed photographs

It is important to take a general photograph (Figure 1) to convey the location and setting of the item. This will add value to the subsequent detailed photographs also required (Figure 2).

Removal of the item from its context (e.g. excavating from the ground) for photographic purposes is not permitted.



Figure 2: Close up detail of the sandstone surface showing material type, formation and construction detail. This is essential for establishing date of the feature.

Figure 1: Telford road uncovered on the Great Western Highway (Leura) in 2008 (RMS, 2015).

Photographing distinguishing features

Where unexpected items have a distinguishing feature, close up detailed photographs must be taken of these features, where practicable. In the case of a building or bridge, this may include diagnostic details architectural or technical features. See Figures 3 and 4 for examples.



Figure 3: Ceramic bottle artefact with stamp.



Figure 4: Detail of the stamp allows 'Tooth & Co Limited' to be made out. This is helpful to a specialist in gauging the artefact's origin, manufacturing date and likely significance.

Photographing bones

The majority of bones found on site will those of be recently deceased animal bones often requiring no further assessment (unless they are in archaeological context). However, if bones are human, the police must be contacted immediately (see Appendix 6 for detailed guidance). Taking quality photographs of the bones can often resolve this issue quickly. The project archaeologist can confirm if bones are human or non-human if provided with appropriate photographs.

Ensure that photographs of bones are not concealed by foliage (Figure 5) as this makes it difficult to identify. Minor hand removal of foliage can be undertaken as long as disturbance of the bone does not occur. Excavation of the ground to remove bone(s) should not occur, nor should they be pulled out of the ground if partially exposed.

Where sediment (adhering to a bone found on the ground surface) conceals portions of a bone (Figure 6) ensure the photograph is taken of the bone (if any) that is not concealed by sediment.



Figure 5: Bone concealed by foliage.



Figure 6: Bone covered in sediment

Ensure that all close up photographs include the whole bone and then specific details of the bone (especially the ends of long bones, the *epiphysis*, which is critical for species identification). Figures 7 and 8 are examples of good photographs of bones that can easily

be identified from the photograph alone. They show sufficient detail of the complete bone and the epiphysis.



Figure 7: Photograph showing complete bone.



Figure 8: Close up of a long bone's epiphysis.

Appendix 4 - Uncovering bones

This appendix provides advice regarding:

- what to do on first discovering bones
- the range of human skeletal notification pathways
- additional considerations and requirements when managing the discovery of human remains.

1. First uncovering bones

Refer to the Sydney Metro Exhumation Management Plan

Stop all work in the vicinity of the find. All bones uncovered during project works should be **treated with care and urgency** as they have the potential to be human remains. The bones must be identified as either human or non-human as soon as possible by a qualified forensic or physical anthropologist.

On the very rare occasion where it is immediately obvious from the remains that they are human, the Project Manager (or a delegate) should **inform the police by telephone** prior to seeking specialist advice. It will be obvious that it is human skeletal remains where there is no doubt, as demonstrated by the example in Figure 1⁹. Often skeletal elements in isolation (such as a skull) can also clearly be identified as human. Note it may also be obvious that human remains have been uncovered when soft tissue and/or clothing are present.

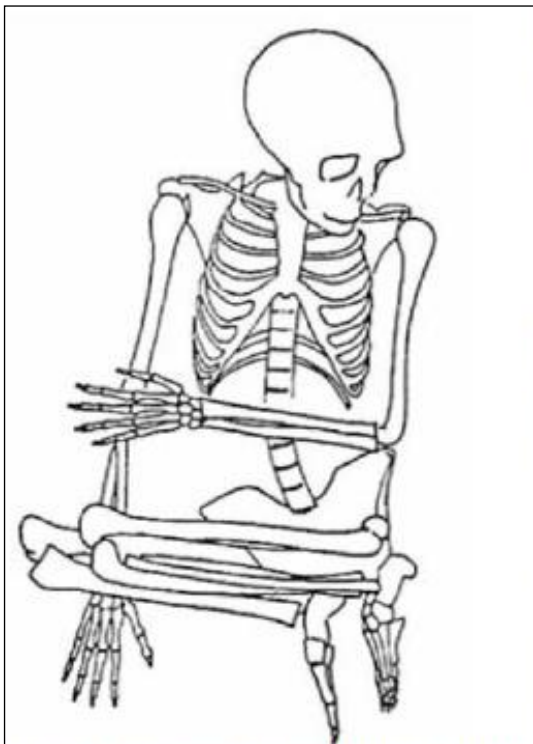


Figure 1: Schematic of a complete skeleton that is 'obviously' human¹².



Figure 2: Disarticulated bones that require assessment to determine species.

⁹ After Department of Environment and Conservation NSW (2006), *Manual for the identification of Aboriginal Remains*: 17

This preliminary phone call is to let the police know that a specialist skeletal assessment to determine the approximate date of death which will inform legal jurisdiction. The police may wish to take control of the site at this stage. If not, a forensic or physical anthropologist must be requested to make an on-site assessment of the skeletal remains.

Where it is not immediately obvious that the bones are human (in the majority of cases, illustrated by Figure 2), specialist assessment is required to establish the species of the bones. Photographs of the bones can assist this assessment if they are clear and taken in accordance with guidance provided in Appendix 3. Good photographs often result in the bones being identified by a specialist without requiring a site visit; noting they are nearly always non-human. In these cases, non-human skeletal remains must be treated like any other unexpected archaeological find.

If the bones are identified as human (either by photographs or an on-site inspection) a technical specialist must determine the likely ancestry (Aboriginal or non-Aboriginal) and burial context (archaeological or forensic). This assessment is required to identify the legal regulator of the human remains so **urgent notification** (as below) can occur.

Preliminary telephone or verbal notification by the archaeologist to the Sydney Metro Principal Manager Sustainability Environment and Planning (Program) is appropriate. This must be followed up later by a formal letter notification to the relevant regulator when a management plan has been developed and agreed to by the relevant parties.

2. Range of human skeletal notification pathways

The following is a summary of the different notification pathways required for human skeletal remains depending on the preliminary skeletal assessment of ancestry and burial context.

A. Human bones are from a recently deceased person (less than 100 years old).

Action

A police officer must be notified immediately as per the obligations to report a death or suspected death under s35 of the *Coroners Act 2009* (NSW). It should be assumed the police will then take command of the site until otherwise directed.

B. Human bones are archaeological in nature (more than 100 years old) and are likely to be Aboriginal remains.

Action

The OEH (Planning and Aboriginal Heritage Section) must be notified immediately. The Aboriginal Cultural Heritage Advisor must contact and inform the relevant Aboriginal community stakeholders who may request to be present on site.

C. Human bones are archaeological in nature (more than 100 years old) and likely to be non-Aboriginal remains.

Action

The OEH (Heritage Division) must be notified immediately

Figure 3 summarises the notification pathways on finding bones.

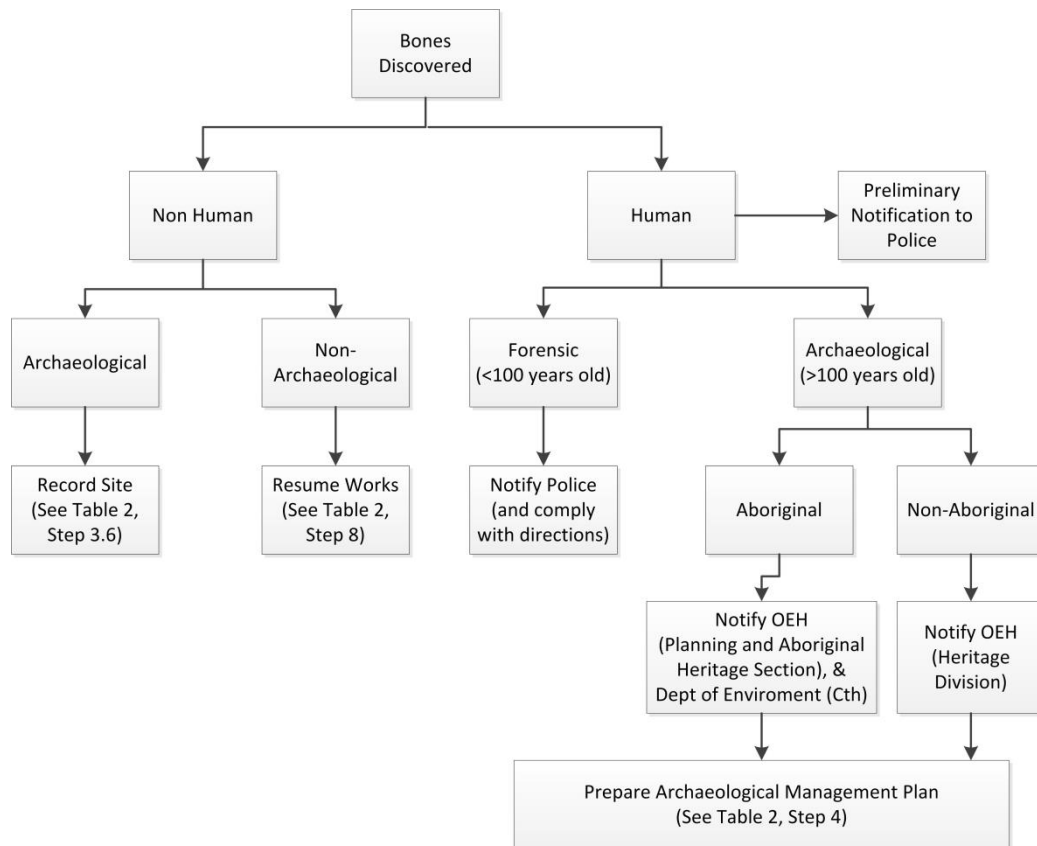


Figure 3 Overview of steps to be undertaken on the discovery of bones

After the appropriate verbal notifications (as described in 2B and 2C above), the Project Manager must proceed through the *Unexpected Heritage Items Exhumation Management Plan* (Step 4). It is noted that no *Exhumation Management Plan* is required for forensic cases (2A), as all future management is a police matter. Non-human skeletal remains must be treated like any other unexpected archaeological find and so must proceed to record the find as per Step 3.6.

3. Additional considerations and requirements

Uncovering archaeological human remains must be managed intensively and needs to consider a number of additional specific issues. These issues might include facilitating culturally appropriate processes when dealing with Aboriginal remains (such as repatriation and cultural ceremonies). Project Managers may need to consider overnight site security of any exposed remains and may need to manage the onsite attendance of a number of different external stakeholders during assessment and/or investigation of remains.

Project Managers may also be advised to liaise with local church/religious groups and the media to manage community issues arising from the find. Additional investigations may be required to identify living descendants, particularly if the remains are to be removed and relocated.

If exhumation of the remains (from a formal burial or a vault) is required, Project Managers should also be aware of additional approval requirements under the *Public Health Act 1991* (NSW). Specifically, Sydney Metro may be required to apply to the Director General of NSW

Department of Health for approval to exhume human remains as per Clause 26 of the *Public Health (Disposal of Bodies) Regulation 2002* (NSW)¹⁰.

Further, the exhumation of such remains needs to consider health risks such as infectious disease control, exhumation procedures and reburial approval and registration. Further guidance on this matter can be found at the NSW Department of Health website.

In addition, due to the potential significant statutory and common law controls and prohibitions associated with interfering with a public cemetery, project teams are advised, when works uncover human remains adjacent to cemeteries, to confirm the cemetery's exact boundaries.

¹⁰ This requirement is in addition to heritage approvals under the *Heritage Act 1977*.

Appendix 5 - Archaeological/heritage advice checklist

The archaeologist/Aboriginal heritage consultant must advise the Sydney Metro Principal Manager Sustainability Environment and Planning (Program) of an appropriate archaeological or heritage management plan as soon as possible after an inspection of the site has been completed (see Step 4). An archaeological or heritage management plan can include a range of activities and processes, which differ depending on the find and its significance.

In discussions with the archaeologist/Aboriginal heritage consultant the following checklist can be used as a prompt to ensure all relevant heritage issues are considered when developing this plan. This will allow the project team to receive clear and full advice to move forward quickly. Archaeological and/or heritage advice on how to proceed can be received in a letter or email outlining all relevant archaeological and/or heritage issues.

	Required	Outcome/notes
Assessment and investigation		
• Assessment of significance	Yes/No	
• Assessment of heritage impact	Yes/No	
• Archaeological excavation	Yes/No	
• Archival photographic recording	Yes/No	
Heritage approvals and notifications		
• AHIP, section 140, section 139 exceptions etc.	Yes/No	
• Regulator relics/objects notification	Yes/No	
• Notification to Sydney Trains for s170 heritage conservation register	Yes/No	
• Compliance with CEMP or other project heritage approvals	Yes/No	
Stakeholder consultation		
• Aboriginal stakeholder consultation	Yes/No	
Artefact/heritage item management		
• Retention or conservation strategy (e.g. items may be subject to long conservation and interpretation)	Yes/No	
• Disposal strategy	Yes/No	
• Short term and permanent storage locations (interested third parties should be consulted on this issue).	Yes/No	
• Control Agreement for Aboriginal objects	Yes/No	

Appendix 6 - Template notification letter

Insert on TfNSW letterhead

Select and type date]

[Select and type reference number]

XXX

Manager, Conservation
Heritage Division, Office of Environment and Heritage
Locked Bag 5020
Parramatta NSW 2124

[Select and type salutation and name],

Re: Unexpected heritage item discovered during Sydney Metro activities.

I write to inform you of an unexpected [select: relic, heritage item or Aboriginal object] found during Sydney Infrastructure and Services construction works at [insert location] on [insert date] in accordance with the notification requirement under select: section 146 of the *Heritage Act 1977* (NSW). [Where the regulator has been informally notified at an earlier date by telephone, this should be referred to here].

NB: On finding Aboriginal human skeletal remains this letter must also be sent to the Commonwealth Minister for the Environment in accordance with notification requirements under section 20(1) of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Commonwealth).

[Provide a brief overview of the project background and project area. Provide a summary of the description and location of the item, including a map and image where possible. Also include how the project was assessed under the *Environmental Planning and Assessment Act 1979* (NSW) (e.g. Part 5). Also include any project approval number, if available].

Sydney Metro [or contractor] has sought professional archaeological advice regarding the item. A preliminary assessment indicates [provide a summary description and likely significance of the item]. Please find additional information on the site recording form attached.

Based on the preliminary findings, Sydney Metro [or contractor] is proposing [provide a summary of the proposed archaeological/heritage approach (e.g. develop archaeological research design (where relevant), seek heritage approvals, undertake archaeological investigation or conservation/interpretation strategy). Also include preliminary justification of such heritage impact with regard to project design constraints and delivery program].

The proposed approach will be further developed in consultation with a nominated Office of Environment and Heritage staff member.

Should you have any feedback on the proposed approach, or if you require any further information, please do not hesitate to contact [Environment and Planning Project Manager] on (02) XXXX XXXX.

Yours sincerely

[Sender name]

Sydney Metro Principal Manager Sustainability Environment and Planning (Program) [Attach the archaeological/heritage management plan and site recording form]