



# Construction Heritage Management Plan

SMCSWSSJ-JHL-WSS-HE-PLN-000034

## Document and Revision History

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## Terms and definitions

The following terms, abbreviations and definitions are used in this plan.

Terms	Explanation
ACHAR	Aboriginal Cultural Heritage Assessment Report
AHD	Australian Heritage Database
AHIP	Aboriginal Heritage Impact Permit
AHIMS	Archaeological Heritage Information Management Service
Archaeological Potential	Potential of a site to contain archaeological remains. This potential is assessed by identifying former land uses and associated features through historical research, and evaluating whether subsequent actions (either natural or human) may have impacted on evidence for these former land uses.
AARD	Archaeological Assessment and Research Design
AMS	Archaeological Method Statement
Burra Charter, The	The Australia ICOMOS Charter for Places of Cultural Significance (Adopted 31 October 2013)
CCOS	Council of City of Sydney
CEMP	Construction Environmental Management Plan
CHL	Commonwealth Heritage List
CHMP	Construction Heritage Management Plan
CoA	Conditions of Approval
CSSI	Critical State Significance Infrastructure
DNSDC	Defence National Storage and Distribution Centre
DoE	Department of the Environment
DPE	Department of Planning & Environment
EIS	Environmental Impact Statement
EPL	Environment Protection Licence
ER	Environmental Representative
HIA	Heritage Impact Assessment
HIS	Heritage Interpretation Strategy
HSEMS	Health Safety Environmental Management System
HWG	Heritage Working Group
JHLoR	The John Holland and Laing O'Rourke Australia Construction Pty Limited Joint Venture
LALC	Local Aboriginal Land Council
LEP	Local Environment Plan
Local significance	An item is important in the course or pattern of the local area's cultural or natural history.
Minister, the	NSW Minister for Planning
NHL	National Heritage List
OEH	Office of Environment and Heritage
PAD	Potential Archaeological Deposit
RAPs	Registered Aboriginal Parties. As defined in the <i>Aboriginal cultural heritage consultation requirements for proponents 2010</i> (DECCW 2010)
RATM	Requirements and Traceability Matrix

Terms	Explanation
Research Potential	An item has potential to yield information that will contribute to an understanding of NSW's (or the local area's) cultural or natural history. It is possible for an area to be of high archaeological potential but low research potential.
RTS	Response to Submissions
SHR	State Heritage Register
SPIR	Submissions and Preferred Infrastructure Report
SMu	Sydenham Metro upgrade project
State significance	An item is important in the course or pattern of the cultural or natural history of New South Wales.

## 1. Introduction

### 1.1 Purpose and Application

This Construction Heritage Management Plan (CHMP) forms part of the Construction Environmental Management Plan (CEMP) for Sydenham Metro upgrade project (SMu) (the Project).

This CHMP has been prepared to address the management and mitigation of potential impacts of the Project, to manage heritage issues and minimise risk of impact during the first stage of development under the Minister's Conditions of Approval (CoA).

It describes how John Holland and Laing O'Rourke and its sub-contractors will ensure all risks associated with heritage are considered and managed effectively during the design and construction of the Project. It has been prepared to support, and should be read in conjunction with, the Sydney Metro Construction Environmental Management Framework.

This CHMP addresses the relevant requirements of the Project Approval (EIS, Submissions Report and Minister's Conditions of Approval (CoA)) and all applicable guidelines and standards specific to heritage management during the Project construction works.

### 1.2 Background and Scope

#### 1.2.1 Sydenham Metro upgrade Works Project Overview

The SMu Project forms part of the Sydney Metro City and Southwest project. The SMu Project comprises:

- The Sydney Metro City & Southwest project consists of a 30-kilometre metro rail line extending from the end of Sydney Metro Northwest at Chatswood under Sydney Harbour, through new central business district (CBD) stations and southwest to Bankstown.
- The SMu portion of the works extend from the Bedwin Road Overbridge at St Peters in the north to Fraser Park, Marrickville in the south.
- Works will include the demolition and reconstruction of platforms 1 & 2 at Sydenham Station for metro rail operations and a new aerial concourse connecting to new station entries at Railway Parade and Burrows Avenue. Upgrade to transport interchange facilities and provision for active transport.
- Adjustments to the Sydenham Pit and Drainage Pumping Station – including a new aqueduct over the pit, new pumping station, expansion of existing inlet structure and new maintenance access ramp and,
- Ancillary infrastructure and works – including fencing, maintenance access, utilities works, drainage, noise barriers, road and transport network works, bridge works, and temporary facilities to support construction.<sup>1</sup>

In addition, the works involve the following direct and indirect impacts to the State heritage listed Sydenham Railway Station Group and Sydenham Pit and Drainage Pumping Station 1:

- Buildings within the Sydenham Railway Station Group SHR curtilage that will be removed in order to construct the new aerial concourse are limited to the Parcels Office (1962) on platform 1 and the

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<sup>1</sup> Chatswood to Sydenham – Sydenham Station and Sydney Metro Trains Facility South Modification Report, 2018, p.ii

building (1925) on platform 6. All other existing station buildings (including other heritage buildings) would be retained.<sup>2</sup>

- Works at the Sydenham Pit and Drainage Pumping Station 1 include groundworks for a new aqueduct at the interface between the SHR curtilage and the Sydney Metro Trains Facility Area, upgrade of Pit access by way of new access ramp, expansion of existing inlet structure and decommissioning of the existing Pumping Station.

The Modification Report identifies the following potential impacts arising from the proposal:

- Non-Aboriginal heritage – The proposed modification would impact additional built heritage items within Sydenham Station and water infrastructure heritage items around Sydney Pit and Drainage Pumping Station.<sup>3</sup>
- Aboriginal heritage – The proposed modification would require excavation in additional areas which may have Aboriginal heritage potential.<sup>4</sup>

The bulk of the works are within the Sydenham Station precinct and the immediate curtilage of the Pit and Drainage Pumping Station. The remainder of the works are within the existing rail corridor. This work is primarily utility and track works.

### 1.2.2 Adopted Heritage Strategy

The Heritage Strategy for the Project, as defined by the Modification Report is as follows:

*Sydenham Station is listed on the State Heritage Register. The introduction of Sydney Metro at Sydenham Station as part of the proposed modification constitutes the fourth major intervention to this existing railway landscape. The design of the station has been undertaken having regard to the heritage values of the station and the wider T3 Bankstown Line overall, and has sought to:*

- *Recognise and demonstrate the heritage significance of all phases of rail transport development along the Bankstown Railway Line*
- *Retain and conserve, wherever possible, elements of heritage significance, so that functional relationships can be understood and interpreted*
- *Remove intrusive station elements that detract from the core heritage values*
- *Adaptively reuse the retained and conserved heritage buildings for station and related functions*
- *Carefully and clearly express the presence of Sydney Metro with new high quality design elements*
- *Deliver a functionally viable line, stations, and precincts, while enhancing the legibility of key heritage values*

*The design approach adopted to meet the operational requirements of the Sydney Metro system, whilst minimising impacts on heritage, involves the following:*

- *On platform 2, the new platform canopy would maintain a separation from the heritage listed platform building to maintain the heritage integrity of the building. All new platform canopies would be offset from the end of heritage canopies. This would create a two to three metre weather protection gap that is considered acceptable given the positive outcome for the heritage building fabric*
- *The design of the concourse would accommodate the minimum depth and area required for gates and customer requirements at the concourse level*

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<sup>2</sup> Ibid, p.48

<sup>3</sup> Ibid, p.88

<sup>4</sup> Ibid, p.88

- The new aerial concourse and station entries would be located away from their traditional location on the adjacent road overbridge to retain existing heritage platform buildings. The aerial concourse would be designed to complement the earlier station buildings while ensuring the structure is clearly distinguishable from the earlier heritage fabric
- The aerial concourse and new station entries are located to directly service the Metro platforms as well as interchange movements between transport modes. The new infrastructure would increase the capacity of connections to platforms at Sydenham to meet the forecast interchange demands
- Platforms 1 and 2 would be straightened and lengthened at the northern end to cater to the length of Metro trains. The existing platforms would not be able to service the full length of a metro train in their current state.

Through the design of the above-ground stations to date, significant work has been undertaken to reduce heritage impacts.

Platforms at Sydenham Station would need to be reconstructed to address existing accessibility issues and to meet operational requirements, including provision of platform edge barriers for safety. This results in an unavoidable impact to platforms 1 and 2 at Sydenham Station.

The approach to the remaining heritage listed elements at Sydenham Station has been to retain, where possible, existing significant items and / or elements, with particular focus given to those items listed on the State Heritage Register. As part of this process, Transport for NSW has ensured that retained heritage elements have a suitable station or operational purpose, and that their retention does not compromise the integrity of the station design and layout, or safety and customer requirements. In particular, the design of the upgrades to Sydenham Station has minimised impacts on the heritage walls around the station and resulted in the retention of a number of significant heritage buildings within the station.

Table 3-1 (Table 1 below) Justification of heritage impacts, summarises the justification for those impacts on heritage items which are proposed to be removed as part of the proposed modification. Further information on the potential heritage impacts of the project are provided in Chapter 14 (Non-Aboriginal heritage).

With respect to all other forms of Aboriginal and non-Aboriginal heritage within the proposed SMu work zone Chapter 10 of the Sydney Metro Construction Environmental Framework (CEMF) sets out the environmental management approach and strategy for managing Aboriginal and non-Aboriginal heritage across the project. This document includes commitments regarding the development and implementation of a construction environmental management plan and associated sub-plans that include heritage management. Key heritage management objectives that apply to the project are to:

- Embed significant heritage values through any architectural design, education or physical interpretation;
- Minimise impacts on items or places of heritage value;
- Avoid accidental impacts on heritage items; and
- Maximise worker's awareness of indigenous [Aboriginal] and non-indigenous [Non-Aboriginal] heritage.

Table 1 - Justification of Heritage Impacts

Location	Heritage Elements Directly Impacted	Comment / Justification
<b>Sydenham Pit and Drainage Pumping Station</b>	Pumping station Pit wall Maintenance access	Works, including the new pumping station, are required to address existing drainage issues and potential impacts, with regard to local flooding conditions tied to ageing infrastructure.  A number of options were considered, some of which had greater impacts on the heritage elements of the Sydenham Pit and Drainage Pumping Station. From those options that also meet the drainage needs, the proposed works have the least heritage impact, with the existing pumping station retained in its current position, and a new aqueduct proposed to be constructed across the pit at a suitable

		<p>distance from the pumping station. The new aqueduct would be designed to contrast with, and minimise impact on, existing views to the pumping station.</p> <p>The new pumping station would be built with a modern design so it reads as a new elements within this infrastructure asset.</p> <p>The design has evolved to ensure minimal impact on the existing wall and floor of the pt. Where materials need to be disturbed or impacted, they would be reused wherever possible.</p> <p>An access ramp would be positioned and designed to minimise its visual impact.</p>
<b>Sydenham Station</b>	<p>Platform Building 1</p> <p>Platform Building 6</p> <p>Part brick perimeter walls</p>	<p>Widening the corridor is required to accommodate the reconfigured tracks and provide access to the station from the north, and access to Sydney metro Trains Facility South. This widening would result in unavoidable impacts on Platform Building 1 and the brick perimeter walls.</p> <p>The impact on Platform Building 6 is associated with the limited space between Burrows Avenue and the platform building. Space is needed to accommodate the concourse and accessibility requirements.</p> <p>Brick perimeter walls would be rebuilt at a different location in a similar form to mitigate the impact.</p>

Chapter 14 of the Sydney Metro Construction Environmental Management Framework prepared for the approved project sets out the environmental management approach and strategy for the project, and includes commitments regarding the development and implementation of a construction environmental management plan and associated sub-plans. The relevant project-specific mitigation measures identified for the approved project would continue to apply to the project as proposed to be modified. The non-Aboriginal heritage assessment for the proposed modification identified that existing mitigation measures NAH1, NAH7 and NAH11 are required to be applied to the proposed modification, and an additional mitigation measure is required in relation to the works to the Sydenham Pit and Drainage Pumping Station. In addition, the conditions of approval issued for the approved project would also apply to the proposed modification. Of relevance is condition E21 relating to the preparation of a Heritage Interpretation Plan. It is also recommended that conditions E13 and E16 regarding archival recording and salvage respectively are modified to include the Sydenham Pit and Drainage Pumping Station and Sydenham Railway Station Group: Platform 6 building and Platform 1 Parcels Office. See Table 2 below.

Table 2 - Mitigation Measures

ID	Mitigation measure	Items
NAH1	Archival recording and reporting would be carried out in accordance with the NSW Heritage Office's How to Prepare Archival Records of Heritage Items (1998a), and Photographic Recording of Heritage Items Using Film or Digital Capture (2006):	<p>Sydenham Pit and Drainage Pumping Station 1</p> <p>Sydenham Railway Station Group: Platform 6 building and Platform 1 Parcels Office</p>

NAH7	The project design would be sympathetic to heritage items and, where reasonable and feasible, minimise impacts to the setting of heritage items. The detailed design would be developed with input from a heritage architect.	Sydenham Pit and Drainage Pumping Station 1  Sydenham Railway Station Group: Platform 6 building and Platform 1 Parcels Office
NAH11	Except for heritage significant elements affected by the project, direct impact on other heritage significant elements forming part of the following items would be avoided:	The existing Sydenham Station  Brick retaining walls near Sydenham Station.
NAH20	The design and detailed construction planning of works directly impacting the Sydenham Pit and Drainage Pumping Station 1 would consider the requirements of the Sydenham Pit and Drainage Pumping Station 1 Conservation Management Plan (Sydney Water, 2004).	Sydenham Pit and Drainage Pumping Station 1

Chapter 15 (Aboriginal Heritage) of the Modification Report provides an assessment of the potential changes to impacts on Aboriginal heritage sites and areas of archaeological potential as a result of the proposed modification, and identifies mitigation measures to minimise these impacts. It stipulates that the relevant project-specific mitigation measures identified in the approval documentation would continue to apply to the project as proposed to be modified. In addition, the Conditions of Approval issued for the approved project would also apply to the proposed modification.

### 1.2.3 [Environmental Planning Approval](#)

The Project has been assessed by the Department of Planning and Environment under Section 115ZB of the *Environmental Planning and Assessment Act 1979* (EP&A Act) as Critical State Significant Infrastructure (CSSI). The Project, its impacts, consultation and mitigation were documented in the following suite of documents:

- Critical State Significant Infrastructure Application SSI 15\_7400;
- Sydney Metro – Chatswood to Sydenham – Environmental Impact Statement (Jacobs/Arcadis/RPS, 2016);
- Sydney Metro – Chatswood to Sydenham – Response to Submissions and Preferred Infrastructure Report (Jacobs/Arcadis/RPS 2016);
- Mod 4 – Sydenham Station and Metro Facility South – Sydney Metro City & Southwest – Chatswood to Sydenham SSI Mod (June 2017)
- Sydenham Modification Submissions Report (October 2017)
- SSI 7400 (MOD 4) Approval Instrument 13<sup>th</sup> December, 2017

Figure 1 to Figure 3 below provide an overview of the project area and heritage context.



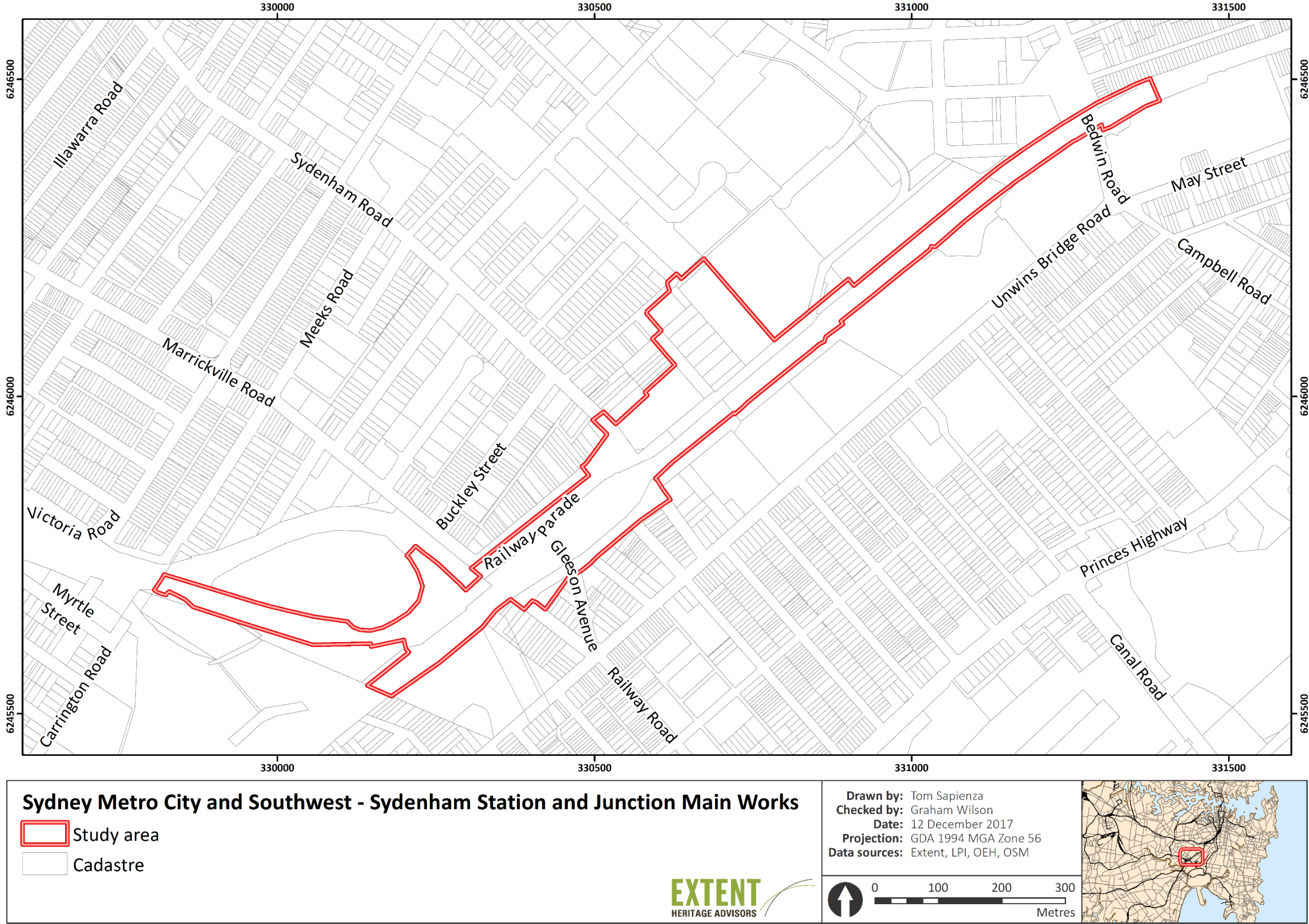






Figure 2 – SMu Project site on current aerial image



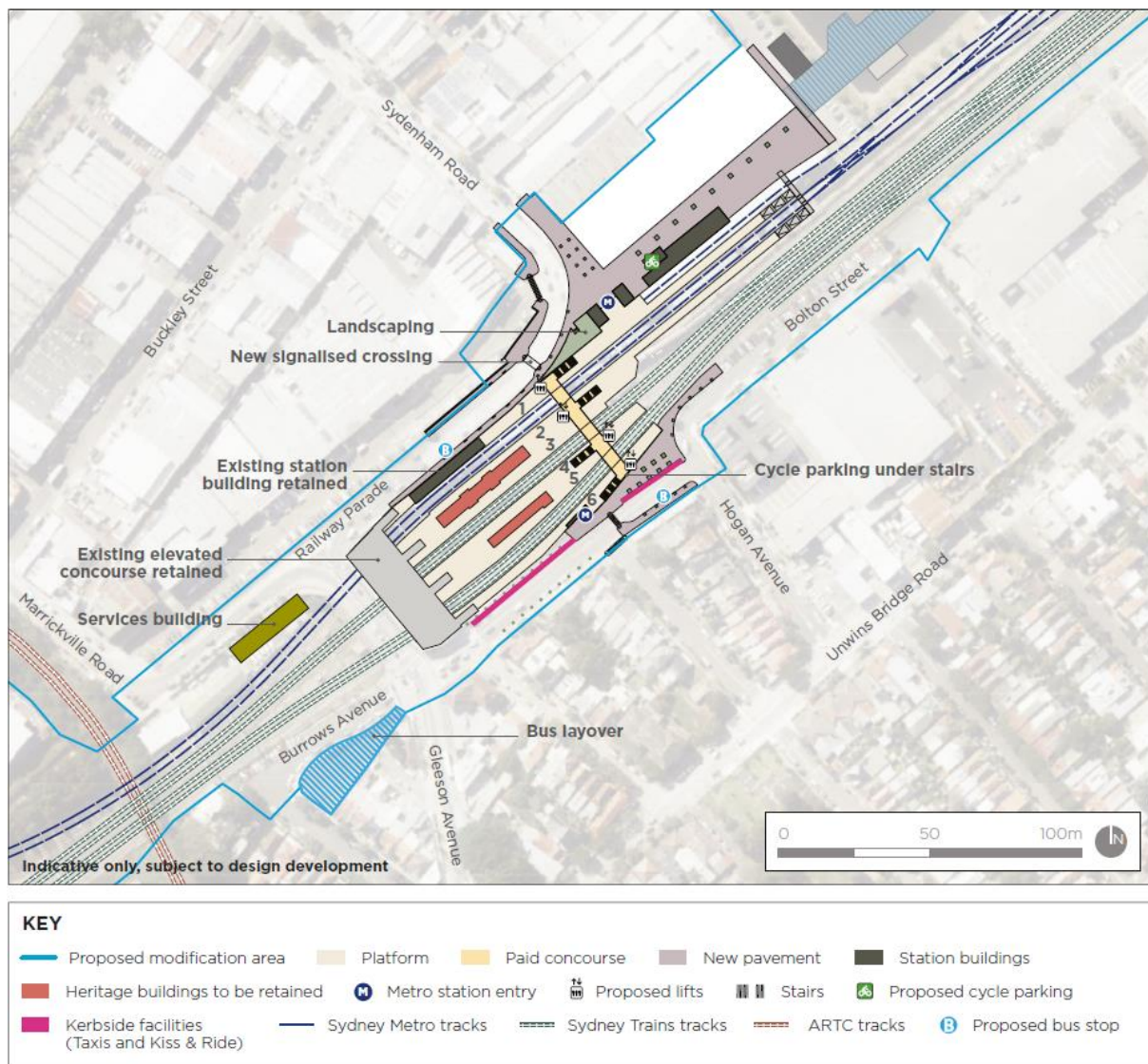


Figure 3 - SMU project site Sydenham Station work zone

The plan is extracted from the Modification Report<sup>5</sup> and outlines the proposed works to Sydenham Station

<sup>5</sup> Chatswood to Sydenham – Sydenham Station and Sydney Metro Trains Facility South Modification Report, Figure 6-1 p.49

#### 1.2.4 Project Specific Environmental Management System

The SMu Project CEMP is the primary Environmental Management System (EMS) document for the delivery of the proposed works. This CHMP is one of the suites of Aspect-Specific support plans that have been prepared to support the CEMP.

### 1.3 Objectives and Targets

This CHMP provides the basis for the management of heritage issues and to minimise risk of impact during the course of the development, and mitigation of any impact that cannot be avoided. The objectives and targets of heritage management and mitigation are outlined below:

- Compliance with the objectives of Schedule C1 Appendix B6 of the project deed
- Comply with the revised environmental performance outcomes in Chapter 11 of the Submissions and Preferred Infrastructure Report (SPIR)
- No disturbance or damage to known heritage sites or items, beyond that approved by the project approval (SSI 15-7400) , subsequent modifications and any other statutory approvals
- Unknown or undocumented heritage items are not knowingly destroyed, defaced or damaged
- Identify, investigate, record and assess the significance of any discovered Aboriginal and non-Aboriginal archaeological resources before any further action, including harm, can take place.
- Consult with all relevant stakeholders prior to impacts in areas which have been assessed to possess archaeological potential, and/or upon the discovery of unexpected Aboriginal objects or cultural features.
- The curation, long-term care and control and/or interpretation of Aboriginal objects discovered shall be finalised in consultation with the Registered Aboriginal Parties (RAPs).
- Any historical relics found on site shall be kept safe for consideration for incorporation into interpretation within the public domain—within the proposed site fixtures as may be supported by the Interpretation Strategy and Plan.
- No harm, destruction or defacement of human remains, including Aboriginal burials, will occur in accordance with E27
- Embed significant heritage values through any architectural design, education or physical interpretation.
- Minimise impacts on items or places of heritage value.
- Avoid accidental impacts on heritage items.
- Maximise worker's awareness of indigenous and non-indigenous heritage

### 1.4 Consultation

The Minister's CoA requires that the CHMP be prepared for the Project in consultation with the relevant Council and the Office of Environment and Heritage (OEH) as delegate for the NSW Heritage Council.

The key stakeholders related to Heritage who have been consulted with in the development of this CHMP include:

- Office of Environment and Heritage as delegate for the NSW Heritage Council
- Inner West (former Marrickville) Council
- Registered Aboriginal Parties (RAPs) specific to the project.

A summary of consultation is provided below in Table 3 and in Appendix B.

Table 3 - Consultation Summary

CoA SSISSI- 15_7400	Agency Consultation	Requirements and date submitted	Key issues raised	CHMP Section Reference
C3(g)	Office of Environment and Heritage (as delegate to the Heritage Council)	Submitted for consultation on the 13/4/18 Comment received on the 14/5/18 Comment received on the 28/5/18	Comment on Figures Structure of the plan Demolition requirements	Appendix B  Section 7.1.3
	Inner West Council	Submitted for consultation on the 13/4/2018 Follow up email on the 10/5/2018 Comments received 14/5/18	Council advised the management controls should adequately deal with the main heritage issues during the construction phase.  Council requested a number of documents to be issued to council if requested	Section 1.4
CEMF 10.2(a)	Registered Aboriginal Parties	Submitted CHMP for consultation on the 14/05/2018, with request that responses be forwarded by 11/06/2018.  Comments received on 22/05/2018, 04/06/2018 and 05/06/2018.	Informed that the contact details for five RAPs were no longer current; and advised by OEH on 14/05/2018 to note this in the consultation log, as they were not aware of any alternate contact details.  Received positive feedback from three RAPs, in support of the archaeological excavation methodology.	Appendix B

Consultation with Local Aboriginal Land Councils and other relevant Aboriginal stakeholders was undertaken during concept design as part of the Sydney Metro Chatswood to Sydenham Environmental Impact Statement (EIS) and also during preparation of the Aboriginal Cultural Heritage Assessment Report (ACHAR), in broad accordance with OEH's *Aboriginal cultural heritage consultation requirements for proponents 2010*. This process identified a total of 37 potential Aboriginal stakeholders who may hold Aboriginal archaeological and cultural knowledge of the project area, of which twenty registered as RAPs to be consulted with throughout the course of the project.

In accordance with the requirements of the Construction Environmental Management Framework, further consultation with Registered Aboriginal Parties was undertaken in relation to this plan, and where relevant, feedback from the RAPs was incorporated into this Construction Heritage Management Plan – See Appendix B.

Consultation records will be maintained for the SMu project to detail any correspondence or ongoing consultation being undertaken as part of the requirements of this CHMP, as well as any ongoing consultation undertaken with Inner West Council, the Heritage Division (as representative of the NSW Heritage Council) and the Office of Environment and Heritage. These logs will be provided separate to this CHMP and provided to the DP&E for information.

Inner West Council would be provided with final copies of other documents listed in this plan if requested or required to be submitted under the planning approval.

## 1.5 Approval of this Plan

This plan has been endorsed by the ER and submitted to the Secretary of the DP&E for approval, which was given on 28/08/18.

## 2. Legal and Other Requirements

### 2.1 Legislation and Planning Instruments

Table 4 below details the legislation and planning instruments considered during development of this Plan.

Table 4 - Legislation and Planning Instruments

Legislation	Description	Relevance to this CHMP
Environmental Planning and Assessment Act 1979	This Act establishes a system of environmental planning and assessment of development proposals for the State.	<p>The project has been assessed under Part 5.1 of this Act and is subject to the Minister's Conditions of Approval. The approval conditions and obligations have been incorporated into this CHMP and are to be complied with at all times.</p> <p>Additional Conditions of Approval may be issued in relation to assessment of the modification of the SMu Project.</p>
Environment Protection and Biodiversity Conservation Act 1999 (Cwth)	<p>The main purpose of this Act is to provide for the protection of the environment especially those aspects that are of national environmental importance and to promote ecological sustainable development.</p> <p>Heritage places are listed on the National Heritage List (NHL) for their 'outstanding heritage value to the nation' and are owned by a variety of constituents, including government agencies, organisations or individuals. Only items owned or controlled by the Commonwealth that have been meet the threshold for national heritage listing under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) are listed on the Commonwealth Heritage List (CHL) and afforded protection under the EPBC Act.</p>	Not relevant as no NHL, CHL or WHL items are present within or in proximity to the study area.

National Parks and Wildlife Act 1974	The relevance of this Act is firstly in respect to the protection and preservation of Aboriginal artefacts. Discovery of material on site suspected as being of Aboriginal origin must be reported and protected pending assessment and direction by the Client's Representative.	<p>While no Aboriginal objects have previously been identified in the Sydenham Metro Upgrade works area, there remains moderate to high potential for Aboriginal objects and sites to be identified within parts of the works area. As the Project has been approved under Part 5.1 of the EP&amp;A Act, OEH approvals and permits are not required.</p> <p>All conditions relating to Aboriginal cultural heritage, as detailed within the Minister's Conditions of Approval, are to be complied with at all times.</p> <p>Management of Aboriginal heritage is outlined in Section 5.2 and Section 7.2</p>
Heritage Act 1977	<p>This Act provides for the preservation and conservation of heritage items such as building, works, relic, places of historic interest, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance.</p> <p>It is an offence under this Act to wilfully and knowingly damage or destroy items of heritage value.</p> <p>It is an offence to demolish damage, move or develop around any place, building, work, relic, moveable object, precinct, or land that is the subject of an interim heritage order or listing on the State Heritage Register or heritage listing in a Local Environmental Plan without an approval from the Heritage Council (NSW) or local council.</p>	<p>The study area includes two items listed on the SHR, one item on a s.170 Heritage and Conservation Register and one on a Local Environmental Plan for Inner West Council (Schedule 5 Marrickville LEP 2001).</p> <p>Heritage Items that are identified on the site are addressed as part of the CoA. An approval under Part 4, or an excavation permit under section 60 or 139, of the <i>Heritage Act 1977</i> is not required for works approved under Part 5.1 of the EP&amp;A Act.</p> <p>Management of non-Aboriginal heritage is outlined in Section 5.3 and Section 7.3</p>



Aboriginal Land Rights Act 1983	<p>This Act establishes Local Aboriginal Land Councils (LALCs) and allows for the transfer of ownership of vacant Crown Land (lands that are not lawfully needed for an essential public purpose) to a LALC.</p> <p>The Registrar, <i>Aboriginal Land Rights Act 1983</i>, registers Aboriginal land claims and maintains the Register of Aboriginal Owners. This is often used in NSW to identify relevant stakeholders for consultation.</p>	<p>The Sydenham Metro Upgrade works area consists of Sydney Trains, Transport for NSW, Sydney Water and some private freehold land, and cannot be subject to a claim under this Act.</p> <p>There are no relevant entries in the Register of Aboriginal Owners.</p>
Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cwth)	<p>This Act provides for the preservation and protection from injury or desecration to areas and objects of particular significance to Aboriginals. Areas and objects can be protected by Ministerial Declaration and it is then an offence to contravene such a declaration.</p>	<p>No areas or objects within the works site have been identified that are subject to a Declaration under the Act.</p>

## 2.2 Guidelines

Additional relevant guidelines and standards relating to the management of Aboriginal and historic cultural heritage include:

- Code of Practice for the archaeological investigation of Aboriginal objects in NSW (OEH, 2010)
- Aboriginal cultural heritage consultation requirements for proponents 2010 (OEH, 2010)
- Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH, 2011)
- Assessing Significance for Historical Archaeological Sites and Relics (NSW Heritage Branch, Department of Planning, 2009)
- NSW Heritage Manual 1996 (Heritage Office and Department of Urban Affairs and Planning, 1996)
- Assessing Heritage Significance (NSW Heritage Office, 2001)
- Levels of Heritage Significance (NSW Heritage Office, 2008)
- Statements of Heritage Impact (Heritage Office, 2002)
- NSW Government's Aboriginal Participation in Construction Guidelines (2007).
- How to Prepare Archival Recording of Heritage Items (Heritage Branch 1998).
- Photographic Recording of Heritage Items Using Film or Digital Capture (Heritage Branch, 2006).
- The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (Australia ICOMOS, 2013)
- Heritage Platforms Conservation Management Strategy, (Sydney Trains, 2015)
- Canopies and Shelters, Design Guide for Heritage Stations, Sydney Trains (December 2016)
- Design in Context Guidelines for Infill Development in the Historic Environment (NSW Heritage Office, 2006)



### 3. Existing Environment

The existing environment and heritage context of the SMu Project site has been broadly assessed in the following background reports prepared to support the Environmental Impact Statement (EIS) for the Project:

- Sydney Metro City and Southwest – Chatswood to Sydenham: Aboriginal Heritage Archaeological Assessment, prepared by Artefact Heritage (2016a)
- Sydney Metro City and Southwest – Chatswood to Sydenham: Non-Aboriginal Heritage Impact Assessment, prepared by Artefact Heritage (2016b).

Additional reports which have been prepared for the project as part of the SMu modification which have been used to support this CHMP also include:

- Sydney Metro City and Southwest – Chatswood to Sydenham Historical Archaeological Assessment and Research Design by Artefact Heritage (2016c)
- Sydney Metro City and Southwest – Chatswood to Sydenham: Aboriginal Cultural Heritage Assessment Report (ACHAR), prepared by Artefact Heritage (2016e)
- Chatswood to Sydenham – Sydenham Station and Sydney Metro Trains Facility South Modification Report, (2017).
- Chatswood to Sydenham – Sydenham Station and Sydney Metro Trains Facility South Modification Report: Appendix E: Non-Aboriginal Heritage Technical Information (2017).
- Chatswood to Sydenham – Sydenham Station and Sydney Metro Trains Facility South Modification Submissions Report (2017).
- Sydenham Station and Sydney Metro Trains Facility South, Second Addendum to the Sydney Metro City & Southwest – Chatswood to Sydenham Historical Archaeological Assessment and Research Design Report to Jacobs/Arcadis/RPS prepared by Artefact Heritage January 2018

## 4. Heritage Context

### 4.1 Aboriginal Archaeological Context

The Aboriginal archaeological context of the Sydenham Metro upgrade project area has been investigated and assessed as part of the project-wide ACHAR in relation to the Marrickville dive site (south) (*Sydney Metro City and Southwest – Chatswood to Sydenham: Aboriginal Cultural Heritage Assessment Report*) and has been further considered within the Sydenham Station Junction Modification Report (*Chatswood to Sydenham – Sydenham Station and Sydney Metro Trains Facility South Modification Report*).

#### 4.1.1 Environmental Overview

Previous research from the EIS, Modification Report, Submissions Report and the addendum ARD indicates that the Sydenham Metro Upgrade works area is on the margins of the former Gumbramorra Swamp; and is located at the foot of the declining Hawkesbury Sandstone and Ashfield Shale ridges of the Marrickville area, in a relatively low-lying, narrow area surrounded by low spurs. The swamp itself has been drained, filled in and canalised since the 1890s, but prior to non-Aboriginal occupation the area was characterised by mudflats, mangroves and saltmarsh. The swamp was a tidal estuary that emptied into the Gumbramorra Creek and eventually into the Cooks River; it supported diverse and abundant wildlife, making it an ideal economic resource gathering area for local Aboriginal people. Those parts of the wider landscape that were slightly elevated above the floodplain of the swamp would have been ideal campsites and activity areas for local Aboriginal people.

No Aboriginal objects have been previously identified in the SMu work area; and the closest recorded site is a Potential Archaeological Deposit (PAD) in Fraser Park, immediately west of the study area. Further investigation of this PAD by Susan McIntyre-Tamwoy in 2003 revealed that it was likely a naturally occurring (i.e., not cultural) shell bed formed by fluvial processes, which had been partially destroyed through the installation of new underground electricity cables in 2009. On the whole, however, previous archaeological investigation of the area has been constrained to surface investigation only; as existing buildings and built-up environments obscure the ground surface and hinder inspection of the underlying soils.

Deep, Quaternary soils of the Birrong Soil Landscape are associated with the Gumbramorra Swamp and its margins and may date back to the Pleistocene (more than 10,000 years before present). Sediment samples from boreholes in nearby Murray Street and Edgeware Road reveal that soils of the area comprise between 0.7 and 1.3m of modern fill and historic deposits, overlying natural silty clays, sandy peats and muds, to depths of 7.5 metres below ground surface. These results suggest that deep residual soils with potential to contain Aboriginal objects are present across the SMu study area, even where historical use of the site has caused some ground surface disturbance.

Considerable ground surface disturbance has occurred as a result of the construction of the Sydenham Pit and Drainage Pumping Station and its associated concrete-lined drainage canals, while parts of the Sydenham Railway Station line have cut into the surrounding landscape to the shale bedrock. In these discrete areas where significant disturbance has occurred, there remains a low likelihood of Aboriginal objects and intact Aboriginal deposits surviving.

#### 4.1.2 Aboriginal Archaeological Potential

The project ACHAR and subsequent modification reports identify the Aboriginal archaeological potential of the Marrickville Dive Site (encompassing the Sydney Metro Trains Facility South) and of the SMu study area as follows:

- Geotechnical information indicates that natural sediments are located beneath built structures at the Marrickville dive site. There is potential for Aboriginal objects to occur in the sub-surface archaeological deposits within these natural sediments.
- The [Marrickville Dive Site] has been significantly modified by previous developments, including canalisation of the natural watercourse through the area to Cooks River, construction of large industrial estates, and the large-scale use of the area for brickmaking (including the extraction of clay soil). These activities are likely to have impacted or removed archaeological deposits. Notwithstanding this impact, a previous archaeological excavation in the local area (Etheridge, 1905) identified dugong bones and stone artefacts during construction of Alexandria Canal, demonstrating

the potential for Aboriginal objects to be present in sub-surface contexts where there have not been extensive sub-surface impacts (Artefact Heritage 2016 ACHAR: 26).

And for the SMu modification area specifically:

- Consistent with the assessment of the approved project, the area of the proposed Sydney Metro Trains Facility South was identified as an area of moderate to high archaeological potential. This is based on the likelihood of deep natural soils remaining intact beneath large areas of surface disturbance in that area.
- The preliminary assessment of archaeological potential indicates the possible survival of Aboriginal objects in sub-surface contexts. Intact Aboriginal archaeological deposits in this area would be extremely rare and would be of high research significance.
- Due to the largely modified nature of the remainder of the proposed SMu modification area, no other sites of Aboriginal archaeological potential were identified in relation to the proposed modification (TfNSW Modification report 2017:188-189).

Previous studies, archaeological modelling and geotechnical investigation suggests that the Aboriginal archaeological resource of the SMu study area would be dominated by subsurface artefact scatters and isolated finds, if present. These site types may occur across the study area; but are considered less likely to be present in areas where considerable ground surface disturbance has occurred, and conversely, are more likely to occur in areas that have not been subjected to significant ground disturbance.

Investigations have also been undertaken at the 11 Sydenham Rd site to determine the presence of insitu soil profiles. The report by the Senior Heritage Advisor concluded that, based on observed fill deposits, aboriginal archaeological potential is low and non-aboriginal archaeological potential is nil to low.

For the purposes of Aboriginal cultural heritage management, the following figure illustrates the potential Aboriginal archaeological resource of the SMu study area on the basis of the research undertaken to date. Figure 6 provides an indication of Aboriginal archaeological potential. This is closely tied to significance (see following Section 4.1.3)

#### 4.1.3 Aboriginal Archaeological Significance

No Aboriginal objects or sites have been previously recorded within the SMu study area, though areas of moderate to high Aboriginal archaeological potential have been identified. The significance of the potential archaeological resources has been based on a preliminary assessment of the archaeological potential, and would be further clarified following excavation, if required.

The SMu project area retains potential for intact, deep residual deposits of the Birrong Soil Landscape which may be of considerable antiquity (greater than 10,000 years), to a depth of 7.5m below the present ground surface. Aboriginal sites in this region are a rare occurrence and, if present, have the potential to have moderate to high scientific value and high research potential.

Over the course of the community consultation that was undertaken for the preparation of the ACHAR (Artefact Heritage 2016), no specific areas of Aboriginal cultural value were identified by the RAPs in relation to the Marrickville dive site (which incorporates a small part of the SMu project area). However, sites of potential antiquity, and which contain extensive cultural material, are frequently identified as being of importance to Aboriginal people, and as such the SMu project area can be considered to have moderate to high overall Aboriginal heritage significance.

Further consultation has been completed with the RAPs on this plan – See Appendix B.



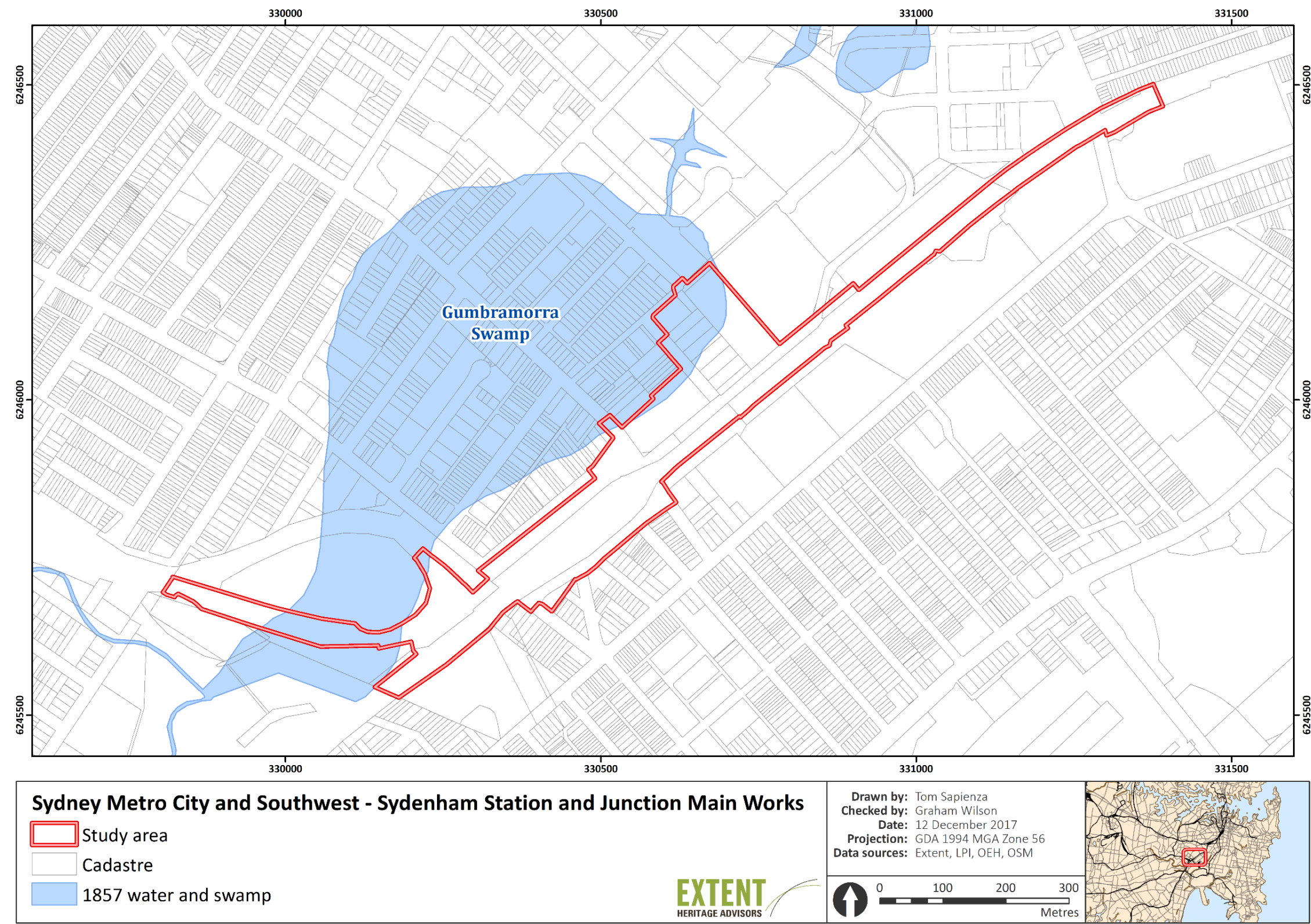


Figure 4 - Gumbramorra Swamp and associated waterway on current cadastre

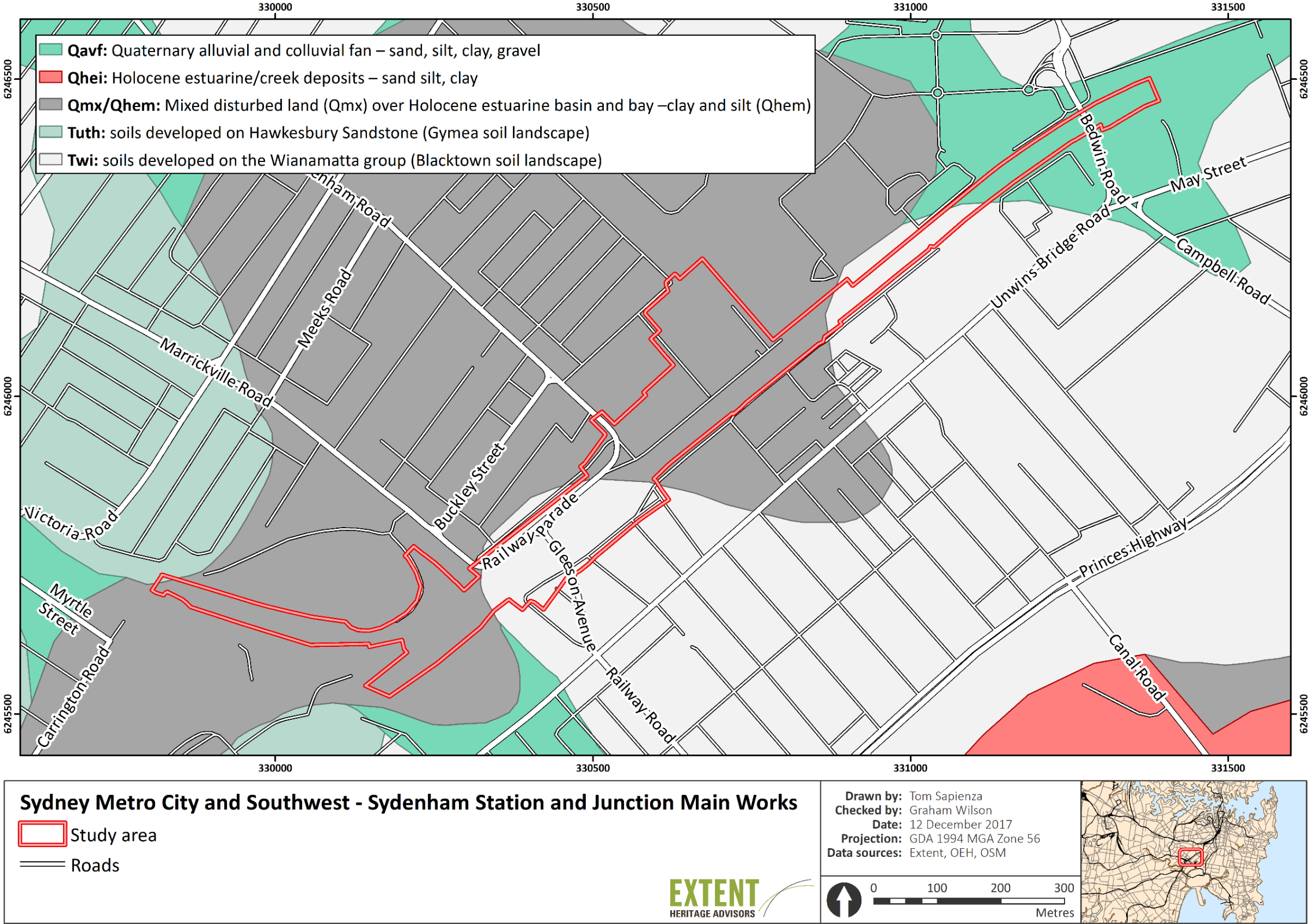


Figure 5 - Soil mapping



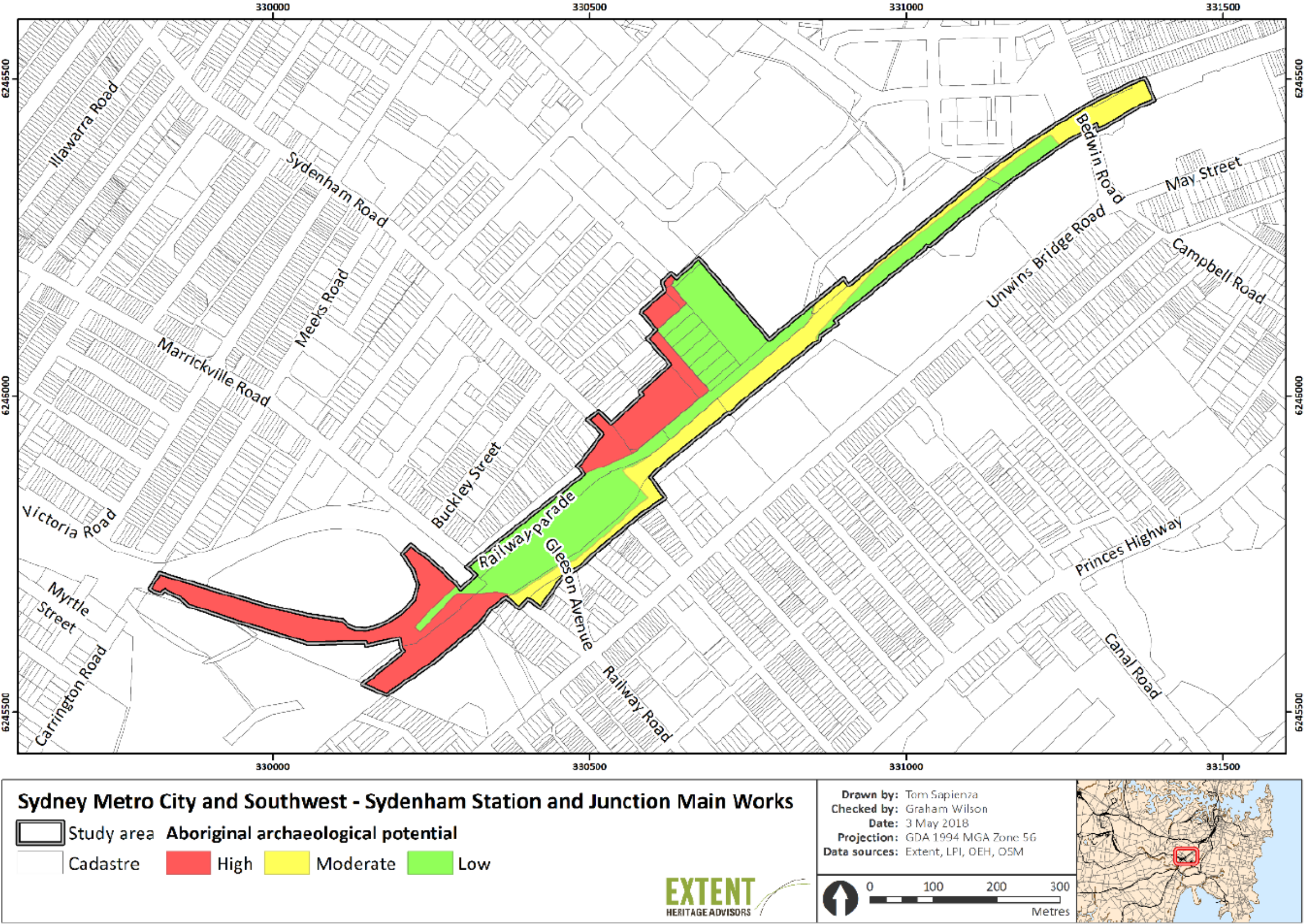


Figure 6 - Aboriginal Archaeological Potential

## 4.2 Non-Aboriginal Archaeology

The Non-Aboriginal heritage context of the Sydenham Metro upgrade project area has been investigated and assessed as part of the project EIS. Additional information has been provided in the- Sydenham Station Junction Modification Report (*Chatswood to Sydenham – Sydenham Station and Sydney Metro Trains Facility South Modification Report*).

### 4.2.1 Historical Overview

Much of western Sydenham is located within Thomas Moore's *Douglas Farm* of 470 acres granted in 1799. A further grant of 700 acres was made in 1803 followed by purchases of adjoining land so that by 1807 held 1920 acres, making him one of the largest landowners in the Cooks River District. Douglas farm as the Sydenham property was known had extensive stands of timber. A small portion of the property was under cultivation, primarily maize and wheat. The eastern boundary of Moore's land was formed by the present line of Unwins Bridge Road. The whole of the study area south of a line extending westwards from the Mary Street/Unwins Bridge Road intersection lies within the former *Douglas Farm*. Moore's property was subsequently leased to Garnham Blaxcell although there is little evidence to indicate large-scale clearing or construction on the property. The farm was purchased by Dr Robert Wardell on 21 July, 1830 and renamed the Petersham Estate.<sup>6</sup> The estate extended from Parramatta Road at Lewisham to Cooks River. Following Wardell's murder in 1834 the estate was divided between his sisters Anne Fisher, Margaret Fraser and Jane Isabella Priddle.<sup>7</sup> Sections of the property were sold progressively from 1834 onwards but the Sydenham section of the estate was not subdivided for sale until 1857 as the Sydenham Farms. These were 4-acre to 10-acre blocks. Up-take of the blocks was slow with few of the farmlets being occupied or built-on by 1881.

The northern portion of the study area crosses three other early land grants, those of John Fincham (30-acres), James Waine (30-acres) and Thomas Dukes (30-acres). No evidence has been located for the presence of farmhouses or other buildings on these properties within the study area. By 1857 Fincham's and Waine's farms had become the property of Thomas Smidmore, was a successful businessman and alderman on the Sydney City Council, from 1842 to 1850. The Sydenham property was named *Silverleigh* and became Smidmore's principal residence until his death in 1861. The residence fronted Unwins Bridge Road opposite Edith Street.

A significant change to the district was the construction of the Illawarra railway line from Eveleigh to Kiama. Work commenced in 1882 and the line as far as Hurstville was opened in 1884. The present station at Sydenham was constructed as Marrickville Station with platforms 2/3 and 4/5 being constructed in anticipation of a branch line to Bankstown. This latter line was constructed in 1895 and extended from Sydenham to Belmore. Road access across the lines consisted of level crossings in the north (Sydenham Road-Bailey Street) and in the south (Marrickville Road-Railway Road). A stationmaster's residence was also constructed at 117 Railway Road as part of the station complex. This unlisted structure was demolished by Railcorp between February and April 2014 with an intention to sell the property and citing contamination remediation as the reason for demolition.

Sydenham Station has undergone a number of major modifications since its opening in 1884. In 1925 platforms 1 and 6 were constructed although platforms 1 and 2 remained inactive until the early 1950s. The Gleeson Avenue concourse also underwent significant modification. The steel footbridge was replaced by a concourse attached to the Gleeson Avenue overbridge. The weatherboard ticket office burnt down in the 1980s. The replacement concourse was removed and replaced by the existing concourse in 2012-2013.

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<sup>6</sup> Cashman and Meader (1990): 40

<sup>7</sup> Cashman and Meader (1990): 88



Railway buildings also occupied the area on the northern side of the Bankstown line west of Gleeson Avenue. These structures included a residence (removed by 1943) and a signal box on the southern side of the Marrickville Road level crossing.

The presence of the railway was a stimulus to development and a number of the former small holdings were subdivided into residential blocks. The floods of May 1889 did however illustrate the problems associated with attempting to build on a former swamp. The Gumbramorra Swamp was restricted to a single creek-line flowing into Cooks River and the surrounding lands partly filled. In 1898 construction of a network of formal low-level drainage channels in Marrickville commenced. This initial program of works was followed by a second stage in 1903. The resulting network of channels and culverts discharged into Cooks River immediately west of Tempe Railway Station. Later improvements to the scheme between 1935 and 1941 consisted of the construction of the Sydenham Drainage Pit that discharged by means of a pumping station into the existing channels. In 1965 much of the channel network west of the rail corridor was widened to its current dimensions.

The creation of a large area of flat land stimulated the development of industries within the Sydenham area in the period between 1895 and 1920. These included the Vicars Woollen Mill, Sydenham Pottery Company, Fowler Potteries, Sydney Steel Company and Jubilee (later Sydney) Brickworks and Marrickville Margarine Company. The Sydney Steel Company is located immediately adjacent to the work zone and lies within the Sydney Metro Trains Facility Area.

Messrs Ramsay and Johnston established a small pottery in Garden Street as early as 1907 as the Sydenham Pottery Works. In 1909 Alfred Dawes, son of Naasson Dawes, General Manager of Bakewell Brothers brickworks section, provided financial backing for Ramsay and Johnston with the company operating under the name A. Dawes & Co. Following Dawes transfer to R. Fowler's as General Manager of their brickworks section in 1910 the pottery operated under the name Ramsay and Johnston. The pottery may have operated as the Sydenham Pottery Company in 1916 following acquisition of the firm by Thomas Arthur Ashton, Wilfred Cox and William Bloomer. Thomas Arthur Ashton (1870 Longton, Staffordshire, England - 1957 Redcliffe, Queensland), was a porcelain decorator from Staffordshire. The partnership was dissolved in 1924 and in the following year R. Fowler Ltd, located on the adjoining block to the east, purchased the Sydenham Pottery Company. Although Fowler's absorbed the Sydenham Pottery Company it continued manufacturing under its own name until at least 1947. The precise range of wares produced is unclear. The earliest material appears to have been restricted to bottles. Later wares were primarily domestic vessels such as toilet sets, mixing bowls and art pottery. The date at which the pottery ceased operations is unknown. Fowler's Pottery complex ceased operation in Marrickville in 1975.

Between 1916 and 1925 a goods line referred to as the Sydenham to Botany rail line was constructed. At the Sydenham end of the line significant earthworks and embankments faced in brick were constructed along Marrickville Road and Railway Parade providing elevated road access across the rail line at Gleeson Avenue. Following completion of the overbridge the level-crossings at Sydenham and Marrickville Roads were closed.

The following figures provide an overview of the history of the areas as per the above.





Figure 7 - Sydney Steel Company, 1917. View east to railway line showing cutting in front of 'Silverleigh'. (Marrickville Library Asset 003152).



Figure 8 - Works at Sydenham 1935 (SLNSW 81937). Excavation of the Sydenham Drainage Pit looking northwest towards the Garden Street/Shirlow Street intersection. The Sydenham Pottery Company at top right.



Figure 9 - Storm drain, Sydenham 1965. The image shows the removal and replacement of the c.1898 brick channel by the extant concrete channel adjacent to Sydney Steel Company, looking north (SLNSW Government Printing Office 2 – 26989)



Figure 10 - Bridge, stormwater channel, Sydenham - Botany rail, 3 November 1916. View shows the 1898 stormwater channel, the Marrickville Road railway embankment wall (left), the Sydenham station concourse buildings (top right) and the buildings that occupied th





Figure 11 - Construction of retaining wall adjacent to Railway parade, Sydenham n.d. (1916). Looking northwest, the image shows the now-concealed rear of the retaining wall. (SLNSW image 221584)



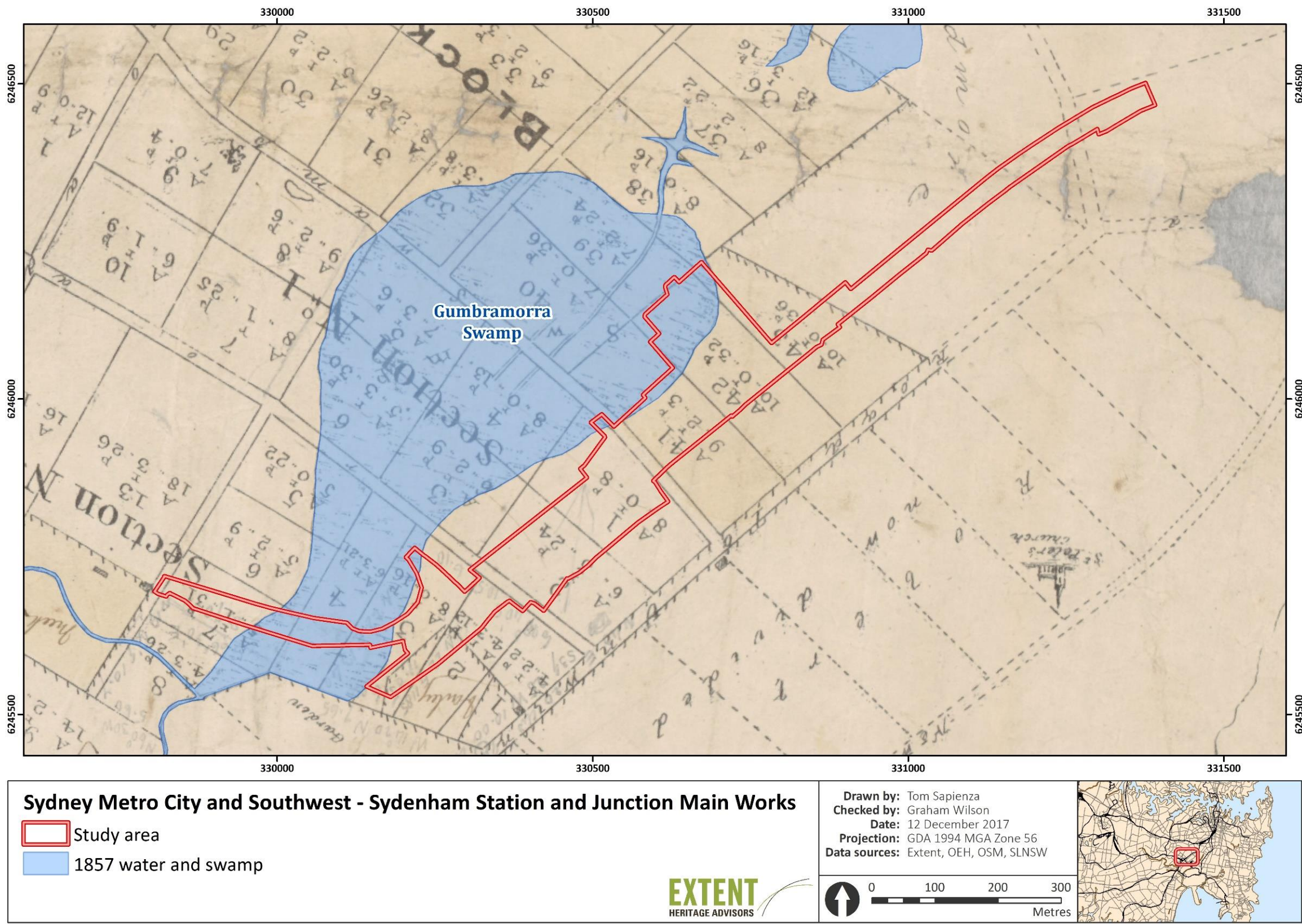


Figure 12 - Study Area shown on 1857 plan with swamp and watercourses indicated



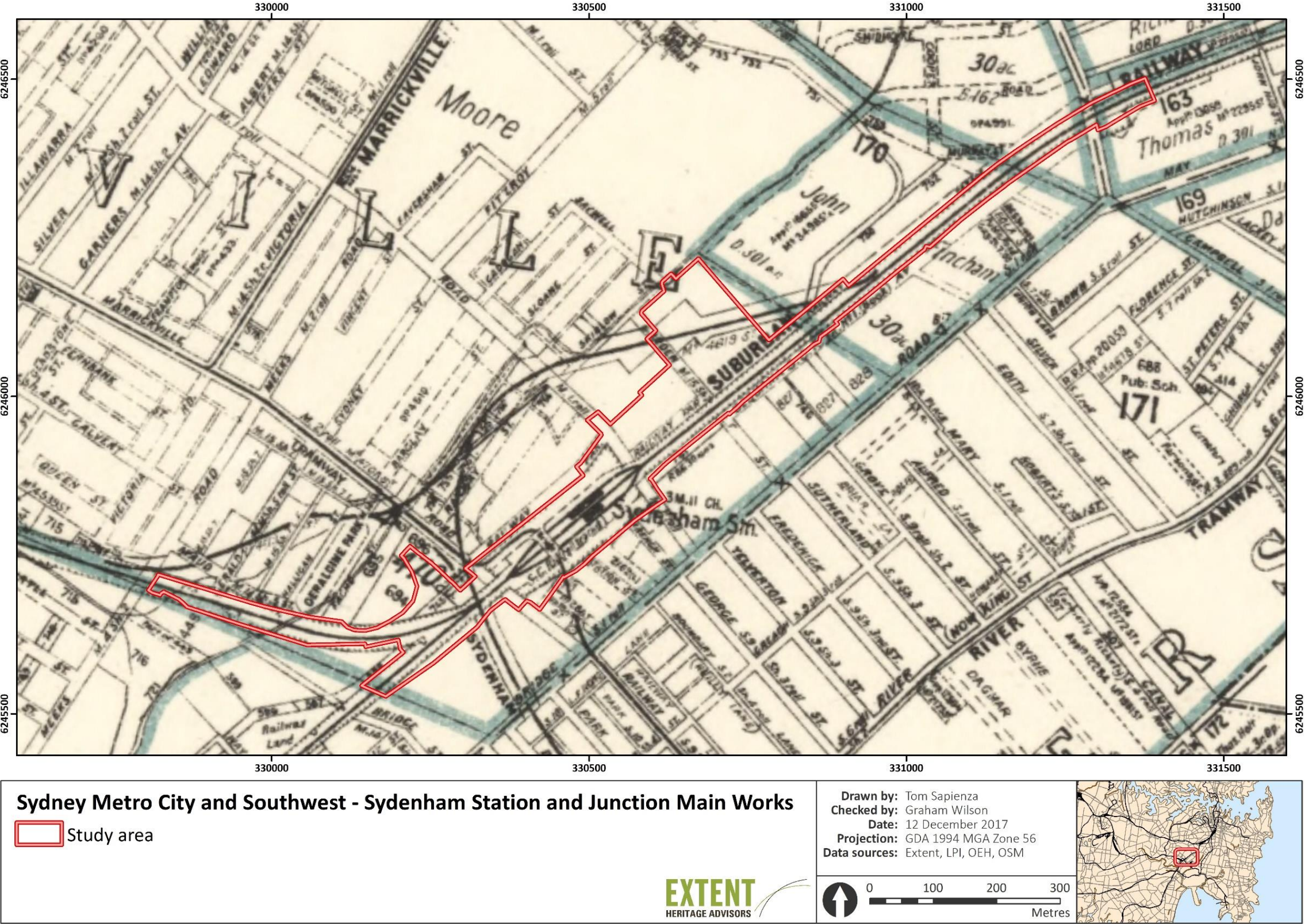


Figure 13 - Study area on 1916 plan (NSW LPI parish of Petersham 1916)



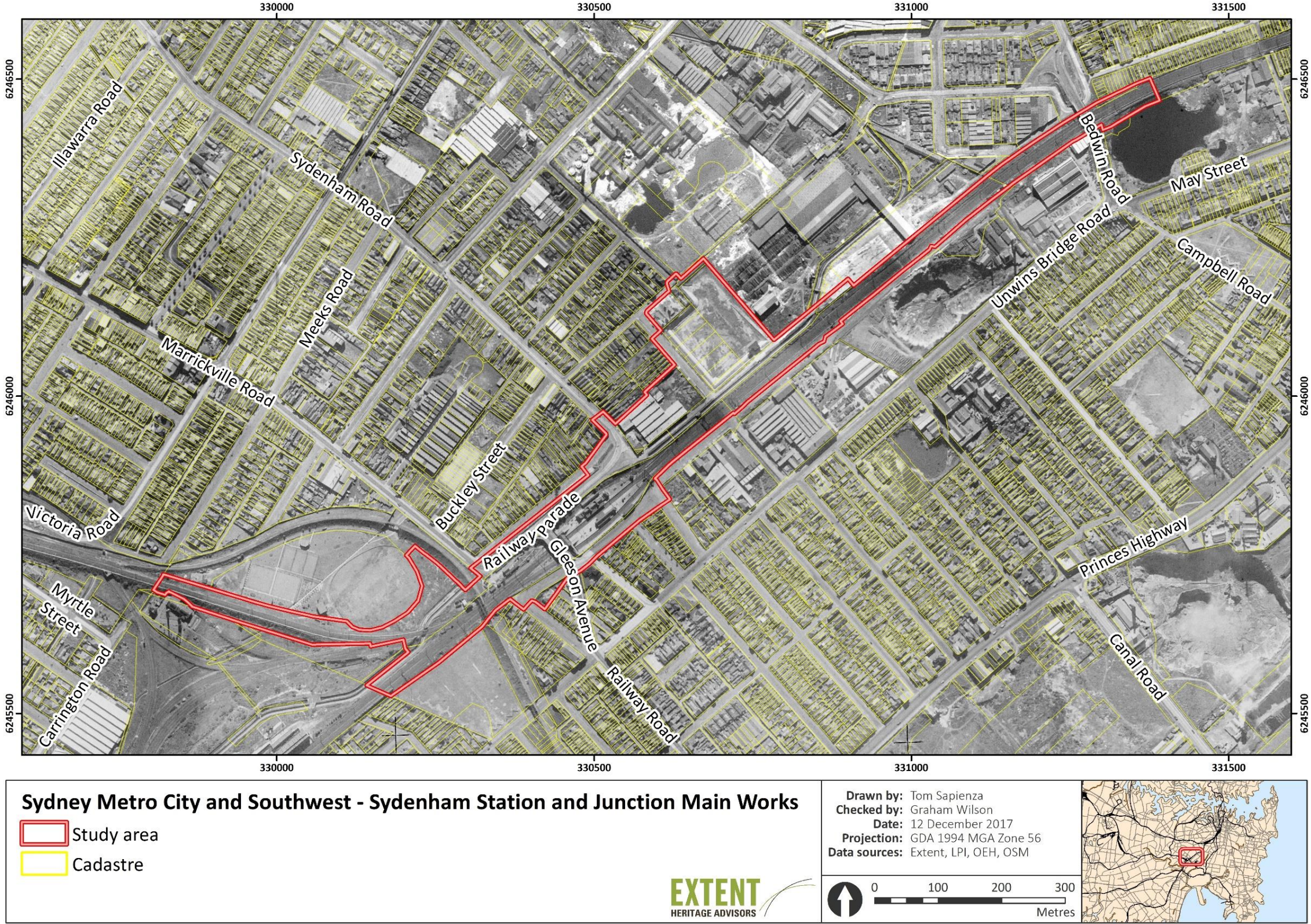


Figure 14 - Study Area on 1943 aerial with current cadastral in yellow (Source NSW LPI – corrected)



#### 4.2.2 Areas of Historical Archaeological Potential within the SMu Site

##### **Phase 1 (1788 – 1840s)**

There is no evidence of structures located within the study area during this phase. Archaeological remains associated with early agricultural land use near marginal swamp land may include tree boles, field drains, fence line postholes, imported garden soils and isolated refuse deposits/rubbish pits. The likelihood of remains from this period surviving is low.

##### **Phase 2 (1840s – 1880s)**

There is no documentary evidence of specific industrial activities taking place within the study area during this phase. Structures associated with King's Garden, in the south-west of the study area, were located further south, on Unwin's Bridge Road. Archaeological remains associated with grazing and land drainage, such as fence line postholes, drainage channels, land fill, and isolated artefacts from this phase, if present, are likely to have been disturbed by later construction works. The likelihood of remains from this period surviving is low.

##### **Phase 3 (1880s – 1909)**

There is low to moderate potential for archaeological remains associated with the early phase of railway infrastructure such as ceramic and wooden service pipes, brick drainage pits, electrical conduits and pits, stanchion bases, sleepers and rail track to be located within the rail corridor on the south eastern side of the study area.

The study area has low-moderate potential to contain archaeological remains associated with the draining of the swampland commencing in the late 19th century. Evidence of this drainage scheme may include subsurface brick, concrete and terracotta drains and former land-drains (likely concrete or similar). As these drains continued to be used into the 20th century (and may possibly still be in use), they are unlikely to contain intact soil deposits with research potential. There is low potential that artefactual remains associated with the construction of the drainage system remain within the drain cuts and backfilled soils.

##### **Phase 4 (1909 – present)**

Archaeological remains associated with rail line upgrades such as utilities and drainage may be present. The level of preservation will be dependent on subsequent disturbance, primarily associated with the upgrade of the rail line.

The location of the Sydney Steel Company and yards have been subject to development of warehouses and infrastructure since its decommissioning. Manufacturing would have largely occurred in the factory itself which was constructed on a slab. It is therefore unlikely evidence of the manufacturing process or workers would remain. Archaeological remains in the yard section of the factory are likely to have been impacted by previous development and would largely have consisted of incidental remains such as offcuts which may not have survived. There is a low potential that remains of crane footings, the steam crane tracks in the rear yard, or footings of other structures may remain beneath the existing warehouse slabs. The steam crane track was elevated on fill therefore it is probable it was removed during levelling in preparation for the construction of existing warehouses.

Any remains are more likely to be in the northern section of the Sydney Steel Company site as the southern section vacant until around 1950 and was not the focus of the operation. There is moderate evidence that remains associated with the former Smidmore Estate may remain in the north-eastern portion of the study area, below the present-day warehouses. Remains are likely to be typical of those associated with early to mid-20th century residential development, including brick and concrete footings and remnant floor treatments. Artefacts and occupation deposits are rarely found in structures of this date. There is some potential for rubbish pits and other domestic refuse deposits (yard scatters, outhouses) to be located in the rear yards of the properties. This potential, however, is low, due to the introduction of municipal rubbish collection and sewage services in the 1880s.

The potential for the survival of archaeological remains including relics, works, deposits and features of State or local significance within the remainder of the corridor is low. Figure 15 and Figure 16 below illustrates historical archaeological potential zoning.



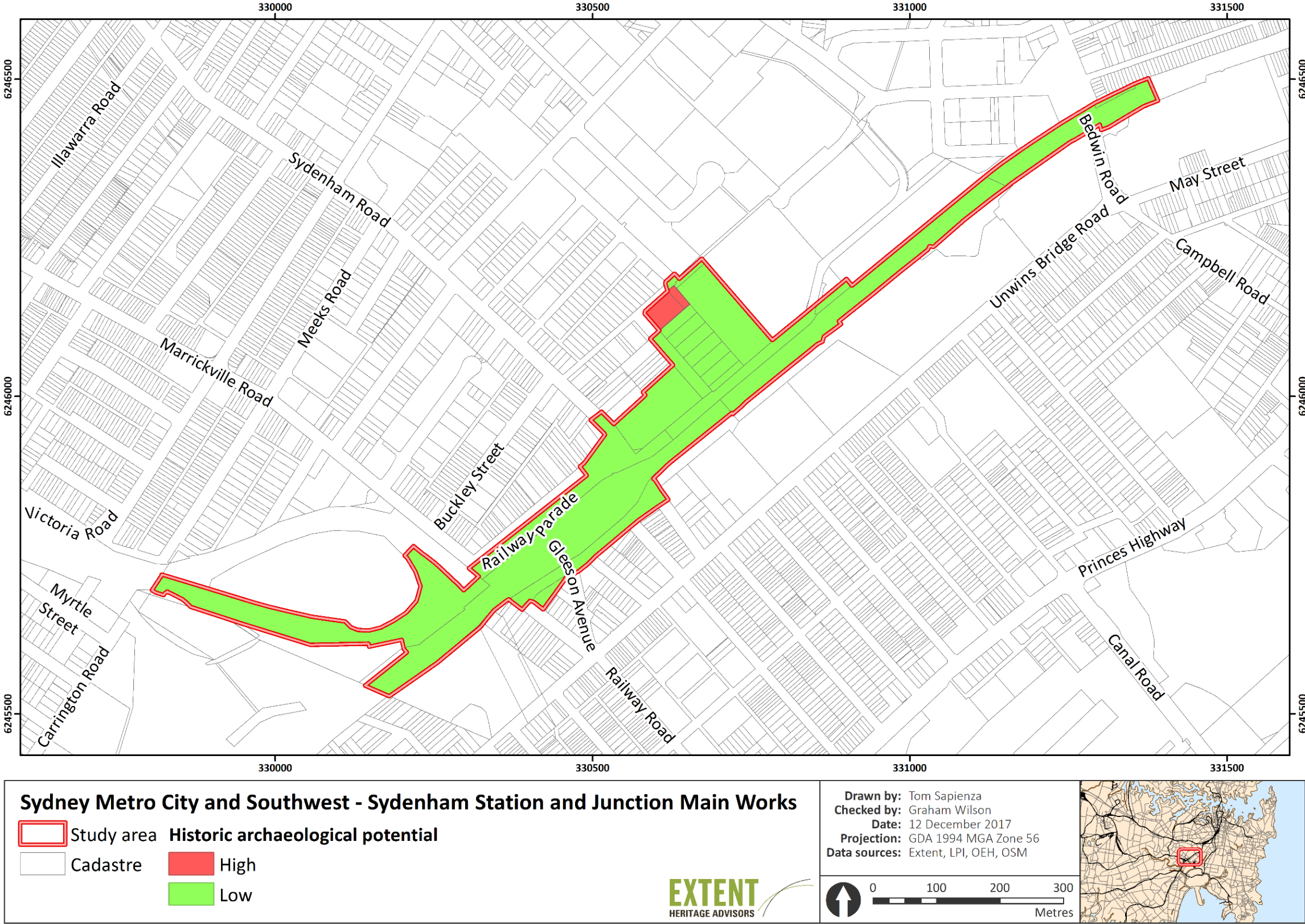


Figure 15 - Historic Archaeological Potential



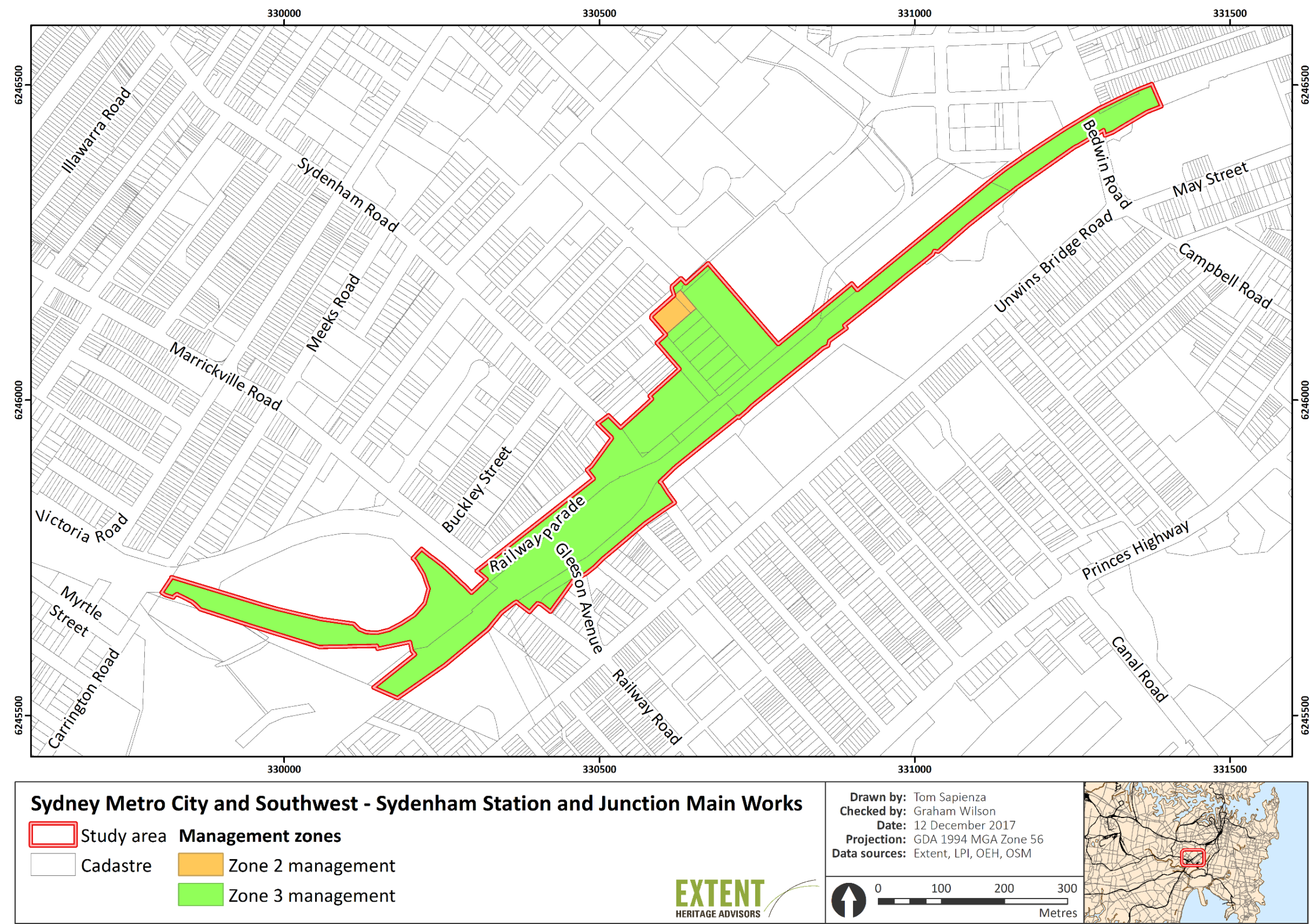


Figure 16 - Archaeological Management Zones

#### 4.2.3 Statement of Significance

Table 5 below provides the summary from the addendum ARD of the significance of the archaeology of the project area.

Table 5 - Assessment of archaeological significance

Criteria	Discussion
Research potential	<ul style="list-style-type: none"> <li>It is highly unlikely that archaeological remains associated with Phase 1 and Phase 2 would be present within the site and they are unlikely to have research potential</li> <li>Potential archaeological remains associated with the Sydney Steel Company site may give insight into early 20th century industrial development, manufacturing techniques and structural layouts.</li> </ul> <p>Archaeological remains associated with Phase 4 may have local significance under this criterion.</p>
Association with individuals, events or groups of historical importance	<ul style="list-style-type: none"> <li>The development of the rail network facilitated economic development and suburban growth in Sydney in the latter half of the nineteenth and early twentieth centuries. The Illawarra line was constructed in 1881 and was extended to accommodate the Bankstown line between (1895-1939). The potential Phase 3 archaeological remains are associated with the historical development of the Illawarra and Bankstown rail lines</li> <li>The potential archaeological Phase 4 remains associated with the Sydney Steel Company site are associated with Alexander Stuart, who was a Scottish-born merchant and politician who became Premier of New South Wales in 1883. The factory produced steel for the Sydney Harbour Bridge, numerous landmark buildings in Sydney and iconic structures including the Garden Island Hammerhead Crane. It was also one of the first major factories constructed after the Gumbarramorra Swamp was drained.</li> </ul> <p>Archaeological remains associated with Phases 3 and 4 may have local significance under this criterion</p>
Aesthetic or technical significance	<ul style="list-style-type: none"> <li>The potential archaeological remains from Phase 1 and 2 are not likely to have aesthetic value</li> <li>The remains of Phase 3 former rail infrastructure may demonstrate changes in technology and rail engineering over time. However, they are not expected to demonstrate technical significance</li> <li>Evidence of the Phase 3 swamp drainage, and associated works, would have technical significance</li> <li>Any remains of Phase 4 steel works structures and rail infrastructure may demonstrate changes in technology and rail engineering over time.</li> </ul> <p>Archaeological remains associated with Phases 3 and 4 may have local significance under this criterion.</p>
Ability to demonstrate the past through archaeological remains	<p>The potential archaeological remains are not considered to have the ability to illustrate the historical development of the surrounding area.</p>

## 4.3 Built Heritage

### 4.3.1 Listed Heritage Items

The SMU Project area contains four listed heritage items and is in close proximity to a number of others. The Listed sites within, and adjacent to the SMU Project area are identified in Figure 17 and Figure 18<sup>8</sup> below and listed in Table 6 and identifies those items within the work site, the history and significance of which is provided within this Section. It should be noted that the curtilage for the Sydenham Railway Station Group differs between the LEP listing and the SHR listing. The SHR listing specifically includes the Gleeson Avenue overbridge.

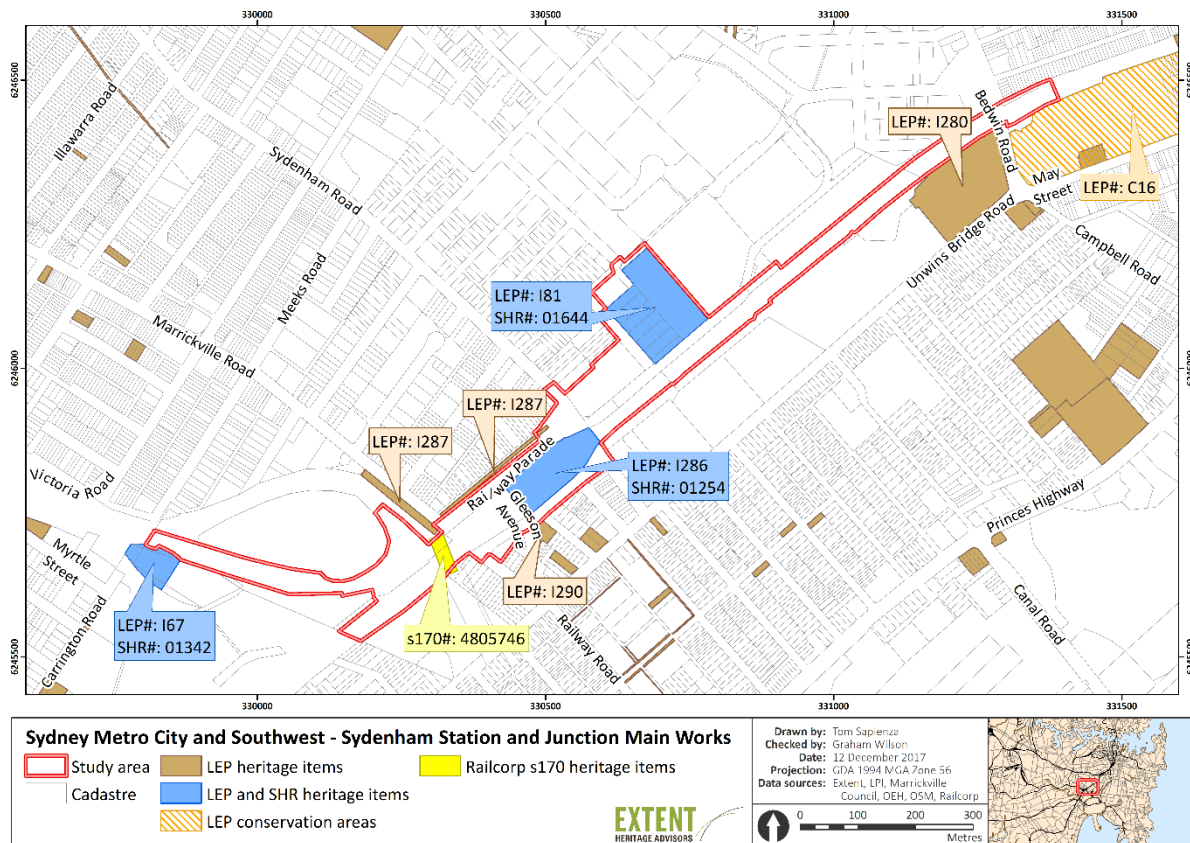


Figure 17 - Listed sites

<sup>8</sup> Chatswood to Sydenham – Sydenham Station and Sydney Metro Trains Facility South Modification Report, Figure 14-2, p.176





KEY

	Proposed modification area		State Heritage Register
	LEP Conservation Area - General		LEP heritage item - General

Figure 18 - Listed sites within and in the vicinity of Sydenham Station

Table 6 - Heritage Listed Items in the Project Area

Item	Listings	Location																																
Sydenham Railway Station Group	State Heritage Register SHR #01254 s.170 Heritage and Conservation Register – Railcorp Inner West Council (Schedule 5 Marrickville LEP 2001)	Gleeson Ave, Burrows Ave and Railway Parade, Sydney, NSW																																
Sydenham Pit and Drainage Pumping Station 1	State Heritage Register SHR #01644 s.170 Heritage and Conservation Register – Sydney Water Inner West Council (Schedule 5 Marrickville LEP 2001)	Garden Street, Marrickville, NSW: <table><tr><td>LOT</td><td>1</td><td>DP</td><td>102</td></tr><tr><td>LOT</td><td>29</td><td>DP</td><td>153</td></tr><tr><td>LOT</td><td>34</td><td>DP</td><td>153</td></tr><tr><td>LOT</td><td>35</td><td>DP</td><td>153</td></tr><tr><td>LOT</td><td>40</td><td>DP</td><td>153</td></tr><tr><td>LOT</td><td>41</td><td>DP</td><td>153</td></tr><tr><td>LOT</td><td>46</td><td>DP</td><td>153</td></tr><tr><td>LOT</td><td>1</td><td>DP</td><td>186</td></tr></table>	LOT	1	DP	102	LOT	29	DP	153	LOT	34	DP	153	LOT	35	DP	153	LOT	40	DP	153	LOT	41	DP	153	LOT	46	DP	153	LOT	1	DP	186
LOT	1	DP	102																															
LOT	29	DP	153																															
LOT	34	DP	153																															
LOT	35	DP	153																															
LOT	40	DP	153																															
LOT	41	DP	153																															
LOT	46	DP	153																															
LOT	1	DP	186																															
Brick retaining walls	Inner West Council (Schedule 5 Marrickville LEP 2001)	Marrickville Road and Railway Parade																																
Sydenham (Illawarra Line) Underbridge	s.170 Heritage and Conservation Register – Railcorp	Sydenham NSW																																

#### 4.3.2 [Significance and Historical Overview – Sydenham Station](#)

The project area is (in part) located within the curtilage of the Sydenham Railway Station Group, listed on the State Heritage Register as SHR# 01254 and the Sydenham Pit and Drainage Pumping Station SHR # 01944



# Heritage Council of New South Wales



## State Heritage Register

Gazettal Date: 02 April 1999

0 12.5 25 50 75 100 Metres

Scale: 1:1,500

Produced by: Michelle Galea

### Legend

- SHR Curtilage
- Land Parcels
- LGAs
- Suburbs

Figure 19- Sydenham Station SHR



- Statement of Significance

Sydenham Railway Station - inclusive of all platform buildings and awnings, parcels office, waiting shed, brick faced platforms, Gleeson Avenue overbridge and brick perimeter walls - is of State heritage significance. Sydenham Railway Station is of historical significance as a major junction station developed from 1884 to the present, with two 1884 platform buildings, 1925 platform building and waiting shed, 1962 parcels office, and 1920s Gleeson Avenue overbridge demonstrating its development over time, including the adaptation of the 1884 wayside platform buildings for island platform use.

Of aesthetic and historical significance, the platform building awnings demonstrate the range of awnings used on railway buildings from the small original awning of two bays on the Platform 2/3 building (the original minor platform) to the addition of cantilevered awnings in 1925. All platform buildings are of aesthetic significance as good representative examples of their types and periods. The surviving interior and exterior detailing of the 1884 platform buildings and awnings is considered rare on the Illawarra line.<sup>9</sup>

- Historical Overview

Sydenham Railway Station was built on a duplicated line from Illawarra Junction to Hurstville and opened in 1884. The western platform contained a major 3rd class brick station building having a detached toilet block at each end separated by walled courtyards while the eastern platform contained a large 2nd class brick station building. The station opened as Marrickville but it obtained its present name in 1895 with the opening of the Belmore branch line. In 1907 the platforms were extended.

The impressive station was obviously intended to serve the Marrickville township proper, but it was distant, surrounded by industrial and rural estates and only grew as a station by reason of the need to cope with the branch line junction. In 1907 the line from Edgeware Road to Sydenham was quadruplicated to serve the Belmore to Bankstown extension when it opened in 1909. This resulted in confining both buildings on island platforms so that passengers had to reach the platforms by an extended footbridge. A new timber overhead booking office on a steel support frame was built between Platforms 3 and 4 and steel footbridges were eventually extended to all platforms c. 1914.

The overhead footbridge at Sydenham was a haunched beam design which consisted of tapered cantilevers resting on platform trestles and supporting shallow beams over the railway tracks where headroom over rolling stock can be critical. The footbridge was manufactured by Dorman Long & Co. Ltd. Middlesbrough England (stamped on posts), who also engineered the Sydney Harbour Bridge. Thirty sets of such footbridges were built from 1909 to 1935, 28 in the Sydney metropolitan area.

To provide for the proposed Eastern Suburbs Railway, two additional tracks were put in so that in 1925 the brick standard island platform building on Platform 6 was built. In 1926 the lines were electrified at Sydenham. Soon after, in 1927 the refreshment room was opened for factory workers in the area. As the additional tracks were never utilised for the Eastern Suburbs Railway they have been mainly used for the Bankstown line trains. In 1963 a brick parcels office building was constructed on Platform 1 but closed in the late 1980's.

The weatherboard ticket office on the overhead footbridge burnt down in the mid-1980s. In the late 1980s a new brick overhead booking office and a new metal-clad shop were built on the existing c.1914 footbridge structure, and new canopies built over the stairs and connected to platform buildings.

The group currently includes all of the brick platform buildings and their awnings, the brick faced platforms, the steel footbridge structure and stairs.

An upgrade was undertaken c2012 including new concourse and station building, new lifts, new canopy, and replacement of 1980s OHBO and footbridge. The OHBO was a brick flat roofed shop and ticket office with aluminium framed glazing, and roof overhang to shelter entry from Gleeson Avenue. The 1914 footbridge

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<sup>9</sup> <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=4801154>

was a haunched beam structure manufactured by Dorman Long & Co. engineers with star pattern newel posts to stairs.<sup>10</sup>

#### 4.3.3 Significance and Historical Overview – Sydenham Pump and Pit

The project area is included within the curtilage of the Sydenham Pit and Pumping Station, listed on the State Heritage Register as SHR# 01644.

- Statement of Significance

The Sydenham Pit and Pumping Station is of historic, aesthetic and technical significance. Historically, it is the first such infrastructure built in the SWC system and is an intact and major component of the Marrickville low level stormwater drainage infrastructure that was built in response to increasing urban expansion since the 1870s in an area prone to flooding. Its large scale and labour-intensive construction method of excavating the pit reflects the abundance of labour during the Great Depression and the type of public works undertaken to provide relief work for the unemployed. Aesthetically, the use of pitched dry packed ashlar sandstone walls to line the sides of the pit provides a pleasantly textured and coloured finish to the pit. It is a major landmark and dramatic component of the industrial landscape of Sydenham particularly as viewed from the railway. The pumping station is a very good example of a utilitarian building displaying Inter-War Mediterranean style architectural details. Technically, the pumping plant contains good working examples of 1930s pumps, particularly three Metropolitan Vickers pumps, and its original electrical mains equipment has been preserved in situ during upgrading in c1992.<sup>11</sup>

- Historical Overview

With the completion of the Illawarra railway beyond Sydenham in the 1880's, the urbanisation of the Marrickville Valley increased rapidly. It was soon found that the valley had significant drainage problems, which were partly solved by the construction of a stormwater pumping station in Carrington Road, Marrickville in 1897 (now known as Marrickville Sewage & Stormwater pumping Station - SP271) and three main stormwater channels, comprising the Eastern, Western and Central Channels. In the 1930's the government decided to improve the drainage system, which included an allocation of unemployment relief funds for drainage works in Marrickville Municipality. The scheme included the drainage of the northern section of the low-level area north of Marrickville Road, comprising the excavation of a storage pit, the erection of a pumping station with a rising main discharging into the Eastern Channel and the construction of a system of channels discharging into the pit. The pit and pumping station were constructed by the Public Works Department in the late 1930's and transferred to the MWS & DB in 1941.<sup>12</sup>

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<sup>10</sup> <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=4801154>

<sup>11</sup> <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5053883>

<sup>12</sup> <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5053883>



## Heritage Council of New South Wales



State Heritage Register - SHR 01644, Plan 2057  
 Sydenham Pit & Drainage Pumping Station 1  
 Garden Street, Marrickville

Gazettal Date: 15 November 2002

0 25 50 75 100 Metres

Scale: 1:1,500 @A4  
 Datum/Projection: GCS GDA 1994



## Legend

- SHR Curtilage
- Land Parcels
- Railways
- Roads
- LGAs
- Suburbs

Figure 20 - Sydenham Pit SHR

#### 4.3.4 Significance and Historical Overview – Sydenham (Illawarra Line) Underbridge

The project area is (in part) located within the curtilage of the Sydenham (Illawarra Line) Underbridge, listed on the RailCorp s.170 Heritage and Conservation Register.



Figure 21 - Illawarra Line Bridge

- Statement of Significance

The Illawarra Line Flyover is of local significance as the largest item of original infrastructure on the Botany Line. The bridge is a good representative example of a riveted steel Pratt truss rail bridge.<sup>13</sup>

- Historical Overview

A goods line from Marrickville to the industrial area at Botany was planned c1914, as an extension of the Metropolitan Goods Lines. Work commenced in 1916 with the construction of a number of cuttings and low-level embankments. For the last high-level section from Sydenham to Marrickville, the embankment was formed by a method commonly used in the USA. A temporary timber trestle viaduct was built such that the ballast trains from Botany could tip the sandy material through the open transom deck to gradually build up

<sup>13</sup> <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=4805746>



the embankment. Eventually the temporary trestle viaduct was filled over and abandoned. The Botany Line was opened on 11 October 1925.

Pratt Trusses were introduced to Australia from the U.S in 1892 with the construction of the light-rail Yass Tramway. Thereafter they became the standard for Main Line railways for spans over 30 metres. While previous forms of truss had lent themselves to construction from timber, with stocky timber sections with good compressive and buckling resistance forming the diagonal members, the Pratt Truss reversed the direction of load in the diagonal members, enabling light rods or flat bars to be used in tension, making steel trusses highly efficient. The New South Wales railways continued to employ the use of steel Pratt trusses for major bridge crossings until the advent of reinforced and prestressed concrete in the 1970's<sup>14</sup>.

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<sup>14</sup> <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=4805746>

## 5. Archaeological Management

### 5.1 General

This plan provides management strategies to ensure appropriate investigation and management of archaeological resources and their heritage values across the site prior to, during and following the proposed SMu works.

### 5.2 Aboriginal Archaeological Excavation Methodology

Given that the SMu project area may contain intact natural soils, archaeological test investigations may need to be coordinated. In principle, historical archaeological excavations (e.g. test excavation or open area excavation) will precede Aboriginal archaeological excavations. Qualified archaeologists skilled in the identification and investigation of Aboriginal archaeological deposits will monitor and then manually excavate designated areas. In general, excavation should proceed to a depth designated by the specifications of the development.

A suitably qualified archaeologist skilled in the identification, assessment, excavation and management of Aboriginal archaeological sites would be nominated, prior to the commencement of archaeological excavation works (Aboriginal Excavation Director).

The process for identifying, assessing and investigating potential archaeological deposits and implementing the Aboriginal archaeological test excavation program is discussed below.

Prior to Construction:

- The ACHAR will be implemented prior to excavation works
- The site compound will be located away from significant heritage items and areas of archaeological potential. The compound should be constructed in a way that requires minimal ground disturbance.
- A heritage induction will be formulated to include information on the heritage values of the SMu site; archaeologically sensitive zones, and protocols that apply to their protection.
- Physical protection measures will be developed for areas where significant archaeological items may be located that will not be impacted by development works, in consultation with the design/construction teams, so as to retain integrity of such items.
- If intact natural soils or Aboriginal objects are identified prior to construction works, this may trigger the need for Stage One test excavation works, and the project ACHAR would be implemented in accordance with MCoA E24. The Aboriginal Excavation Director would assess the need for Stage One excavations, taking into consideration the nature and context of the object or area of intact soil, and the extent of the proposed impacts.
- If the Aboriginal Excavation Director determines that Stage One excavations are not required, they will provide written sign off (in the form of a brief email or equivalent) to the ER. Once confirmation received, construction works may proceed in that area, subject to the Unexpected Finds Procedure (Appendix D).
- If the Aboriginal Excavation Director determines Stage One excavations are required, they prepare an Archaeological Method Statement (AMS) in accordance with Section 7.2 of the ACHAR, which includes the following:
  - A site-specific excavation methodology to determine the size, number and depth of test pits to be excavated;
  - Provision for the detailed analysis of any Aboriginal items discovered during the investigations;
  - Detailed site-specific archaeological management and artefact management strategies.
- If it is determined that a Stage One testing program is required, this should be carried out prior to construction. Test excavation would provide further information on the presence, extent, nature and significance of potential archaeological deposits, so that adequate management can be developed prior to Stage Two testing.
- If the Stage One testing program triggers further archaeological investigation, a Stage Two salvage program should be carried out prior to construction. Salvage would aim to recover the full spatial extent/footprint of the archaeological resource to be impacted by the proposed works.



- Any Aboriginal object, whether previously identified or not, must not be destroyed, modified or otherwise physically affected, in accordance with MCoA E23.

#### During Construction:

- The Sydney Metro Unexpected Finds Procedure would apply across the SMu site, in accordance with MCoA E19 (Section 7.5, Appendix D).
- In order to implement relevant heritage/archaeological controls, the Aboriginal Excavation Director would be regularly included in the project team communication about the progress of construction works on site. This will ensure timely decision making and timely delivery of advice in the event of any changes to the project, unexpected archaeological discoveries, etc.
- In the event that intact natural soils and/or an Aboriginal object(s) are identified during construction works, works will cease in that area and the Aboriginal Excavation Director will be notified, in accordance with MCoA E24. Implementation of the ACHAR, in accordance with MCoA E24, will be required. The Aboriginal Excavation Director would undertake a site inspection, where required, to assess the need for Stage One archaeological excavations, taking into consideration the nature and context of the object or area of intact soil, and the extent of the proposed impacts.
- If the Aboriginal Excavation Director determines that Stage One excavations are not required, they will provide written sign off (in the form of a brief email or equivalent) to the ER. Construction works in that area may not recommence until approval has been given from the Aboriginal Excavation Director, in accordance with MCoA E25.
- If the Aboriginal Excavation Director determines Stage One excavations are required, they prepare an Archaeological Method Statement (AMS) in accordance with Section 7.2 of the ACHAR.
- The Aboriginal Excavation Director will notify the NSW Heritage Division of OEH, if unexpected or intact historical archaeological relics of State heritage significance are discovered (MCoA E20).
- Where appropriate, such as when highly significant and/or intact historic or Aboriginal sites are excavated, consideration should be given to holding Public Open Day(s) for the public (MCoA E21).
- Subsurface disturbance should be limited to those areas identified in the project documents so as to avoid unnecessary disturbance of other potential archaeological remains at the site.
- State significant archaeological remains should be retained in situ, wherever possible. In situations where removal is required, they will be thoroughly recorded, carefully removed and their fabric (should integrity allow) retained for future interpretation.
- Any Aboriginal object, whether previously identified or not, must not be destroyed, modified or otherwise physically affected, in accordance with MCoA E23.

#### Post Construction:

- Following completion of Aboriginal archaeological works (if any), an archaeological excavation report will be prepared to present the results of the onsite archaeological works (MCoA E18). The report will also provide recommendations for future management of the site's archaeological resources. The report will be prepared in accordance with the requirements outlined in Section 5.2.4 below.

The preliminary Aboriginal Technical Report and ACHAR divided all Metro station, construction sites and power supply routes into three Method Areas (MAs) for the purposes of managing Aboriginal archaeological resources, and the SMu project area falls within Method Area 3:

- **Method Area 3 (MA3):** Project sites where there is high potential for the survivability of natural soils and deep sands, and where there will be less intensive historical archaeological excavation than at MA2 sites.

Further archaeological assessment during the preparation of this Heritage sub-plan has since refined the model of Aboriginal archaeological potential for the SMu site, taking into consideration historical disturbance and the depth of the underlying soil profile. The Aboriginal archaeological management zone mapping is based on a 'traffic light' coding, and is shown in Figure 6:

- **Red (Zone 1):** Areas of high Aboriginal archaeological potential, where historical disturbance has been minimal, or material has been imported to fill the area, thus protecting the underlying deposits. Construction to proceed in accordance with unexpected finds procedure, but archaeological investigation is likely to be required in event that intact natural soils or Aboriginal objects are identified.

- **Amber (Zone 2):** Areas of moderate Aboriginal archaeological potential, where localised historical disturbance has occurred and may have truncated Aboriginal archaeological deposits. Construction to proceed in accordance with unexpected finds procedure, but archaeological investigation may be required, in event that intact natural soils or Aboriginal objects are identified.
- **Green (Zone 3):** Areas of low Aboriginal archaeological potential, where historical development activities have significantly truncated underlying soils and removed evidence for Aboriginal occupation. Construction to proceed in accordance with unexpected finds procedure, but archaeological investigation is highly unlikely to be required.

The assessment indicates that most of the corridor is regarded as Green (Zone 3) and Amber (Zone 2), though three locations within the corridor have been identified as having high Aboriginal archaeological potential (Zone 1). Management of the discovery of any potential Aboriginal archaeological material would be carried out under the Unexpected Finds Procedure, however, there is a higher likelihood of encountering intact natural deposits in Red (Zone 1) areas. The management of these Amber and Red zones, depending on impacts, may include site inspections and archaeological monitoring, and possible test excavation and salvage of Aboriginal archaeological material. The sections below discuss the specific triggers that would result in formal investigations.

### 5.2.1 Triggers for Stage One Archaeological Test Excavation

The SMu project area has been broadly assessed as a MA3 site and may potentially trigger Stage One archaeological test excavation in the event that natural soils are exposed, or unexpected Aboriginal object(s) are recovered.

Where natural soils are exposed or unexpected Aboriginal object(s) are identified, the Aboriginal Excavation Director will assess the need for Stage One archaeological excavations, taking into consideration the nature and context of the object or area of intact soil, and the extent of the proposed impacts. Where archaeological excavations will be required, the Aboriginal Excavation Director will prepare an area-specific Archaeological Method Statement (AMS) for each activity, which will be provided to the RAPs prior to test excavation works commencing. The AMS is intended to build upon the core excavation methodology that has been prepared within the approved ACHAR, and also provides area- and site-specific archaeological management requirements. RAPs would be consulted with prior to excavation commencing, and would be involved in any Aboriginal archaeological excavation, in accordance with MCoA E24. The core excavation methodology for Stage One test excavations includes:

*Stage one would require hand excavation of test pits in controlled Excavation Units. Excavation Units would comprise of one square metre test pits excavated in either arbitrary 100 mm spits or stratigraphic units where applicable. Excavation Units could be joined together to form a two square metre test pit. In some instances, where very small portions of intact natural soil profile remain, the Excavation Unit size would be smaller than one square metre.*

*Excavation Units would be excavated to archaeologically sterile deposit has been reached, enough information has been retrieved to trigger Stage two salvage excavation, or a depth of 1.5 metres (or safe working depth) has been reached, whichever is the shallowest. If archaeological deposits extend below a safe depth (1.5m) deeper archaeological excavation should be considered such as shoring or stepping.*

*Where there is sufficient space, a grid of Stage one test pits would be established across the area to be tested. The AMS would include the grid layout and spacing of test pits. Where there are constraints on the grid layout, such as disturbed areas or services, test pits may be offset to an adjacent location within the area of proposed impact.*

*Machine excavation would be utilised where required to remove introduced fill layers overlying areas to be hand excavated. Machine excavation of fill overlying areas to be hand excavation will likely cover a greater areal extent than 2 metres x 1 metres for OHS reasons.*

*Due to the potentially deep extent of the archaeological resource in some portions of the study area, the AMS may determine it is more practical to conduct some Stage One excavation by machine. The AMS would determine the areal size, spit depth and spacing between mechanical excavation pits based on a site inspection and input from a geomorphology specialist.*

*All retrieved material from hand excavation would be sieved through nested 5mm and 3mm sieve mesh. It is likely that all material would be wet sieved, however dry sieving may be more appropriate in certain contexts.*



*The amount of fill material retrieved by machine that is sieved will depend upon the nature of the fill and the decision of the supervising archaeologist on site at the time (Artefact Heritage 2016c:45-47).*

Where Aboriginal objects are located in historical archaeological contexts, Stage One excavation would form part of the historical archaeological program, and the excavation methodology would be guided by the AMS prepared for that worksite. RAPs would be involved in excavation of identified Aboriginal objects within archaeological contexts, in accordance with MCoA E24. Where the areal extent of the remaining archaeological resource is very limited, or where Aboriginal objects are identified in historical archaeological contexts, it is anticipated that Stage One would continue to the full extent of the archaeological resource and would not trigger Stage Two salvage excavation.

Where archaeological contexts are encountered during controlled Stage One excavation, the Aboriginal Excavation Director would be consulted on any requirements for an alteration to methodology to account for impacts to historical archaeological remains.

Where Aboriginal objects are identified in fill deposits that are not considered to be historical archaeological contexts, the Aboriginal archaeological Excavation Director would first establish whether further investigation of the find(s) are required. Further investigation may include sample excavation of fill deposits by machine excavator or manual hand excavation, followed by manual sieving of a sample of the recovered sediment. Where no further investigation is required, the find will be recorded and stored in the nominated temporary locked storage area, until it is transferred to the premises of the Aboriginal Excavation Director for further analysis and post excavation reporting. The find will also be recorded by the Aboriginal Excavation Director on the OEH Aboriginal Heritage Information Management System (AHIMS) database.

### 5.2.2 Triggers for Stage Two Excavations

Should Stage One excavations within the MA3 Sydenham Metro upgrade Main Works area trigger the need to undertake Stage Two archaeological salvage excavation, a salvage excavation methodology generally in accordance with that outlined below would be followed. Triggers for Stage Two archaeological salvage excavation within the SMu area include:

- Identification of more than 5 Aboriginal artefacts per Excavation Unit [per test pit] during Stage One excavation.
- Identification of rare or significant artefacts, features or site type, including hearths, middens, sites associated with outcropping sandstone or Contact Archaeology sites.
- Identification by the Aboriginal archaeological consultant and/ or the geomorphologist of Aboriginal artefacts in contexts that may provide significant information on site formation, including the potential for extracting samples suitable for dating.

Stage Two excavation would proceed under the methodology discussed in the existing AMS (which will be updated if required), and in adherence to the core methodology and MA3 specific considerations. RAPs would be consulted with prior to excavation commencing, and where possible involved in excavation. The core excavation methodology for Stage Two salvage excavations includes:

*Stage Two excavation would involve the continuation of hand excavation in one square metre Excavation Units. Stage Two will cease once the excavation has retrieved a sufficient sample to describe the intactness, nature, extent, significance and is a statistically comparable quantity.*

*OHS considerations would need to be taken into account in the AMS for 'stepping' of excavation in areas of deeper deposit.*

*Machine excavation would be utilised to remove introduced fill layers where required, or to excavate below a safe depth where archaeological sterile deposits have not been reached (Artefact Heritage 2016c:46).*

Stage Two excavation may not always continue on directly from Stage One. Where the archaeological resource cannot be adequately protected between Stage One and Stage Two excavation, back-filling may be required. This should be conducted under the guidance of an archaeologist and include protection of any remaining archaeological resource using geo-fabric material or similar and clean back-fill.

### 5.2.3 Geomorphological Investigations

Intrusive geomorphological investigations of different types will be conducted throughout the SMu Main Works area. These investigations would potentially be associated with development of the AMS for each

worksite and be conducted as part of Stage One and Stage Two excavations, or could occur separately from the archaeological excavation process. These investigations would provide detailed information about environmental site formation processes across the site and would give an indication of the depth of associated soils, and any associated Aboriginal archaeological deposits. Given the depth restrictions imposed by archaeological test excavation (which is typically constrained to <1.5m, for health and safety reasons), there may be a requirement to retrieve samples from deeper contexts in order to inform the construction program.

The potential scope and outline of geomorphological investigation at each project site would be outlined in the SMu Works specific AMS.

#### 5.2.4 Post-Excavation Analysis and Reporting

Should archaeological excavation be required within the SMu Main Works area and Aboriginal object(s) be identified, the AMS would detail the requirements of post-excavation analysis and recording. The core excavation methodology sets out the following requirements:

*All Aboriginal objects retrieved during the course of test excavation would be washed and placed in re-sealable bags for further analysis and recording. Once test/salvage excavation has been completed, the artefact assemblage would be recorded and stored as stipulated in the OEH Code of Practice. This includes recording key attributes of material, artefact type, platform type, termination type and dimensions, as well as photographic and drawn records of representative artefacts. All recorded information would be entered into a Microsoft Excel (or similar) table with detail linked to the provenance of each artefact. Once entered into the Excel table, the data can be readily supplied with associated reporting to RAPs and the proponent in either electronic or hard-copy form. An archaeologist experienced in stone artefact recording will conduct the attribute recording and analysis.*

*All artefacts would be given a unique number and stored in double re-sealable snap lock bags. A permanent marker will be used to record the provenance and unique number of artefacts in each bag. All artefacts would be given a unique number and stored in double re-sealable snap lock bags. A permanent marker will be used to record the provenance and unique number of artefacts in each bag in writing on the outside of the bag and on an archival grade tag such as Dupont™ Tyvek® paper (Artefact Heritage 2016c:50).*

#### 5.2.5 Temporary and Long-Term Care and Management of Retrieved Aboriginal objects

Any recovered Aboriginal object(s) would be securely stored at the Metro Store for temporary safekeeping until they can be transferred to a locked cupboard on the premises of the archaeological consultant, for further analysis. Further consultation with RAPs will be required to determine the long-term care and management of any retrieved artefacts. These may include:

- Deposition with the Australian Museum;
- Reburial within the SMu Main Works area; or
- Deposition with a RAP group in accordance with a Care and Control Agreement

During the initial archaeological assessment process, the RAPs indicated a preference for any recovered Aboriginal object(s) to be reburied in close proximity to their original location.

### 5.3 Non-Aboriginal Archaeological Management

Given that the SMu project area may contain intact natural soils, archaeological test investigations may need to be coordinated. In principle, historical archaeological excavations (e.g. test excavation or open area excavation) will precede Aboriginal archaeological test excavations. Qualified archaeologists skilled in the identification and investigation of historical archaeological deposits will monitor and then manually excavate designated areas until they expose either identifiable historical archaeological deposit. In general, excavation should proceed to a depth designated by the specifications of the development.

Before excavation of archaeological sites or deposits, the Proponent must nominate a suitably qualified historical archaeological Excavation Director who complies with the Heritage Council of NSW's *Criteria for Assessment of Excavation Directors* (July 2011) to oversee and advise on matters associated with historic archaeology and advise the Department of Planning and Environment and the Heritage Division of the Office of Environment and Heritage. See Section 8.1 for the nominated Excavation Director and delegate.

A suitably qualified archaeologist skilled in the identification, assessment, excavation and management of Aboriginal archaeological sites would be nominated.

The process for identifying, assessing and investigating potential archaeological deposits and implementing the Non-Aboriginal archaeological test excavation program is discussed below.

Prior to Construction:

- The site compound should be located away from significant heritage items and areas of archaeological potential. The compound should be constructed in a way that requires minimal ground disturbance.
- A heritage induction should be formulated to include information on the heritage values of the SMu site, extant built heritage form and landscape items and archaeologically sensitive zones, and protocols that apply to their protection.
- Physical protection measures will be developed for areas where significant archaeological items may be located that will not be impacted by development works, in consultation with the design/construction teams, so as to retain integrity of such items.
- If required, AMS's would be prepared by the Heritage Specialist/ED in accordance with CoA E17. The timing trigger for an AMS will be before the start of archaeological excavation works, and must include the following:
  - must be prepared in consultation with the Heritage Council of NSW (or its delegate)
  - provide for the detailed analysis of any heritage items discovered during the investigations;
  - include detailed site-specific archaeological management and artefact management strategies;
  - provide for a sieving strategy.

During Construction:

- The Sydney Metro Unexpected Finds Procedure would apply.
- The Project Archaeologist/Excavation Director will notify the NSW Heritage Division of OEH, if unexpected or intact historical archaeological relics of State heritage significance are discovered (MCoA E20).
- Where appropriate, such as when highly significant and/or intact historic sites are excavated, consideration should be given to holding Public Open Day(s) for the public.
- Subsurface disturbance should be limited to those areas identified in the project documents so as to avoid unnecessary disturbance of other potential archaeological remains at the site.
- State significant archaeological remains should be retained *in situ*, wherever possible. In situations where removal is required, they will be thoroughly recorded, carefully removed and their fabric (should integrity allow) retained for future interpretation.
- Any Heritage item not identified in documents referred to in Condition A1 Proponent must not be destroyed, modified or otherwise physically affected. Additional assessment and approval would be sought where additional impacts are proposed

Post Construction:

- Following completion of archaeological works, an archaeological excavation report will be prepared to present the results of the onsite archaeological works. The report will also provide recommendations for future management of the site's archaeological resources. The report will be prepared in accordance with the requirements outlined in the core methodology below and supplemented by any specific reporting requirements as stipulated in the MCoA.

The AARD divided all Metro station and construction sites into archaeological management zones based on archaeological potential and construction impacts as submitted with the EIS.

Archaeological management zone mapping is based on a 'traffic light' coding:

- **Red** (Zone 1): Direct impact to significant archaeology. Archaeological investigation required prior to any construction impacts (bulk excavation etc.)
- **Amber** (Zone 2): Potential impact to significant archaeology. Prepare Work Stage Specific Archaeological Method Statement (AMS) once construction methodology and impacts are known. Archaeological investigation is likely required.



- **Green** (Zone 3): Unlikely to contain significant archaeology. Construction to proceed with unexpected finds procedure as nil-low potential for significant archaeological remains.

The additional assessment carried out for the corridor indicates that most of the corridor is regarded as a Green (Zone 3). Management of the discovery of any potential historical archaeological material would be carried out under an unexpected finds protocol. However, there is one location within the project area with the potential to contain archaeological remains of local significance – the site of the Sydenham Pottery Company. This area is not proposed to be impacted during the works. If there are any sub-slab works in the location of the former Sydenham Pottery Company this will be subject to the preparation of an AMS. The management of this particular location, depending on impacts, may include archaeological monitoring, recording and possible salvage of material.

## 6. Construction Impacts

Impacts directly related to SMu construction are described in Table 7 and Table 8 below.

Except for heritage significant elements affected by the project, direct impact on other heritage significant elements forming part of the following items would be avoided:

- The existing Sydenham Station
- Brick retaining walls near Sydenham Station.

Overarching heritage related risks are assessed within Appendix C of the Construction Environmental Management Plan (CEMP).

Ongoing risk analysis is a function of the following:

- Regular risk review workshops
- Subcontractor evaluation process
- Site inspections (both internal and ER inspections)
- Compliance tracking
- Audits
- Daily visual inspections from site teams

## 6.1 Aboriginal Heritage Impacts

Table 7 - Aboriginal Heritage – Aspects, Impacts

Activity	Aspect/s	Impact/s	Mitigation
Demolition of buildings on platforms 1 and 6 Demolition of platforms 1 and 2 Construction of metro operational facilities, station forecourts and station services building.	<ul style="list-style-type: none"> <li>Excavation works</li> <li>Piling</li> <li>Demolition activities</li> </ul>	<p><u>Direct impacts</u></p> <ul style="list-style-type: none"> <li>No direct impacts</li> <li>No new areas of potential archaeological deposits were identified during field surveys as part of the modification report</li> </ul> <p><u>Indirect impacts</u></p> <ul style="list-style-type: none"> <li>No indirect impact</li> </ul> <p><u>Potential direct impact</u></p> <ul style="list-style-type: none"> <li>Potential Inadvertent damage, destruction or removal of previously unidentified Aboriginal archaeological resources</li> </ul>	<ul style="list-style-type: none"> <li>Refer to Section 7.2</li> <li>Unexpected heritage finds procedure</li> </ul>
Demolition of 11 Sydenham Road	<ul style="list-style-type: none"> <li>Excavation works</li> <li>Demolition activities</li> </ul>	<p><u>Direct impacts</u></p> <ul style="list-style-type: none"> <li>No direct impacts</li> <li>No new areas of potential archaeological deposits were identified during field surveys as part of the modification report</li> </ul> <p><u>Indirect impacts</u></p> <ul style="list-style-type: none"> <li>No indirect impact</li> </ul>	<ul style="list-style-type: none"> <li>Inspection of cleared area by Heritage Specialist for intact soil profiles</li> <li>Refer to Section 7.2</li> <li>Unexpected heritage finds procedure</li> </ul>



Activity	Aspect/s	Impact/s	Mitigation
		<u>Potential direct impact</u> <ul style="list-style-type: none"> <li>Potential Inadvertent damage, destruction or removal of previously unidentified Aboriginal archaeological resources</li> </ul>	
Construction of a new aerial concourse across all platforms at Sydenham Station.	<ul style="list-style-type: none"> <li>Excavation works</li> <li>General construction works</li> </ul>	<u>Direct impacts</u> <ul style="list-style-type: none"> <li>No direct impacts</li> <li>No new areas of potential archaeological deposits were identified during field surveys as part of the modification report</li> </ul> <u>Indirect impacts</u> <ul style="list-style-type: none"> <li>No indirect impact</li> </ul> <u>Potential direct impact</u> <ul style="list-style-type: none"> <li>Potential Inadvertent damage, destruction or removal of previously unidentified Aboriginal archaeological resources</li> </ul>	<ul style="list-style-type: none"> <li>Refer to Section 7.2</li> <li>Unexpected heritage finds procedure</li> </ul>
Realignment and encasing of existing open channels in the vicinity of the Sydney Metro Trains Facility South.	<ul style="list-style-type: none"> <li>Bulk earthworks,</li> <li>General construction</li> </ul>	<u>Direct impacts</u> <ul style="list-style-type: none"> <li>No direct impacts</li> <li>No new areas of potential archaeological deposits were identified during field surveys as part of the modification report</li> </ul> <u>Indirect impacts</u> <ul style="list-style-type: none"> <li>No indirect impact</li> </ul>	<ul style="list-style-type: none"> <li>Refer to Section 7.2</li> <li>Unexpected heritage finds procedure</li> </ul>

Activity	Aspect/s	Impact/s	Mitigation
		<u>Potential direct impact</u> <ul style="list-style-type: none"> <li>Potential Inadvertent damage, destruction or removal of previously unidentified Aboriginal archaeological resources</li> </ul>	
Construction of new aqueduct structure over existing Sydenham Pit and Drainage Pumping Station and adjustments to access ramp to Sydenham Pit and Drainage Pumping Station.	<ul style="list-style-type: none"> <li>Bulk earthworks</li> <li>Construction</li> <li>Piling</li> </ul>	<u>Direct impacts</u> <ul style="list-style-type: none"> <li>No direct impacts</li> <li>No new areas of potential archaeological deposits were identified during field surveys as part of the modification report</li> </ul> <u>Indirect impacts</u> <ul style="list-style-type: none"> <li>No indirect impact</li> </ul> <u>Potential direct impact</u> <p>Potential Inadvertent damage, destruction or removal of previously unidentified Aboriginal archaeological resources</p>	<ul style="list-style-type: none"> <li>Refer to Section 7.2</li> <li>Inspection of cleared area by Heritage Specialist around the pit</li> <li>Unexpected heritage finds procedure</li> </ul>
Construction of a new buried cross-drainage structure with inlets to carry water from southern side of Rail Corridor within Bolton Street to the existing Sydenham Pit and Drainage Pumping Station.	<ul style="list-style-type: none"> <li>Bulk earthworks</li> <li>Construction</li> </ul>	<u>Direct impacts</u> <ul style="list-style-type: none"> <li>No direct impacts</li> <li>No new areas of potential archaeological deposits were identified during field surveys as part of the modification report</li> </ul>	<ul style="list-style-type: none"> <li>Refer to Section 7.2</li> <li>Unexpected heritage finds procedure</li> </ul>

Activity	Aspect/s	Impact/s	Mitigation
		<u>Indirect impacts</u> <ul style="list-style-type: none"> <li>No indirect impact</li> </ul> <u>Potential direct impact</u> <ul style="list-style-type: none"> <li>Potential Inadvertent damage, destruction or removal of previously unidentified Aboriginal archaeological resources</li> </ul>	
Track realignment around Sydenham Station, Sydenham Maintenance Centre, the Goods Line to facilitate separation of metro tracks from existing rail network.	<ul style="list-style-type: none"> <li>Bulk earthworks</li> <li>Construction</li> <li>Track works (tamping, grinding)</li> </ul>	<u>Direct impacts</u> <ul style="list-style-type: none"> <li>No direct impacts</li> <li>No new areas of potential archaeological deposits were identified during field surveys as part of the modification report</li> </ul> <u>Indirect impacts</u> <ul style="list-style-type: none"> <li>No indirect impact</li> </ul> <u>Potential direct impact</u> <ul style="list-style-type: none"> <li>Potential Inadvertent damage, destruction or removal of previously unidentified Aboriginal archaeological resources</li> </ul>	<ul style="list-style-type: none"> <li>Refer to Section 7.2</li> <li>Unexpected heritage finds procedure</li> </ul>
Installation of permanent ancillary infrastructure, including fencing and intruder detection system, maintenance access, noise barriers and drainage.	<ul style="list-style-type: none"> <li>Bulk earthworks,</li> <li>General construction</li> <li>Piling</li> </ul>	<u>Direct impacts</u> <ul style="list-style-type: none"> <li>No direct impacts</li> <li>No new areas of potential archaeological deposits were identified during field surveys as part of the modification report</li> </ul>	<ul style="list-style-type: none"> <li>Refer to Section 7.2</li> <li>Unexpected heritage finds procedure</li> </ul>



Activity	Aspect/s	Impact/s	Mitigation
		<u>Indirect impacts</u> <ul style="list-style-type: none"><li>No indirect impact</li></ul> <u>Potential direct impact</u> <ul style="list-style-type: none"><li>Potential Inadvertent damage, destruction or removal of previously unidentified Aboriginal archaeological resources</li></ul>	

## 6.2 Non – Aboriginal Heritage Impacts

As noted in Section 5.1 there are not expected to be any archaeological impacts which respect to Non-Aboriginal heritage. This would be managed in accordance with the Heritage Unexpected Finds Procedure in Appendix D.

Table 8 - Non-Aboriginal Heritage – Aspects, Impacts

Activity	Aspect/s	Impact/s	Mitigation
<b>Sydenham Station Group (SHR (No. 01254))</b>			
Demolition of Platform 1 Parcel's Office and Platform 6 building (Type 11) Demolition works to enable straightening of platforms 1 and 2 Construction of metro operational facilities, station forecourts and station services building.	<ul style="list-style-type: none"> <li>Excavation works</li> <li>Piling</li> <li>Demolition activities</li> </ul>	<p><u>Direct</u></p> <ul style="list-style-type: none"> <li>Overall, the works would result in a major direct impact</li> <li>Loss of two significant buildings</li> <li>Impact on the fabric of the platform including the loss of the original brick face.</li> </ul> <p><u>Indirect Impacts</u></p> <ul style="list-style-type: none"> <li>The works would result in an overall moderate impact on the character and setting of the station due to the proposed large-scale canopy structure, covered concourse and station and platform buildings</li> <li>Construction activities would result in a temporary minor visual impact on the item during construction</li> </ul> <p><u>Potential direct impact</u></p> <ul style="list-style-type: none"> <li>Minor potential for vibration impacts to buildings and structures located close by</li> <li>Inadvertent damage to items located close by</li> </ul>	<ul style="list-style-type: none"> <li>Refer to Section 7.1 and 7.3</li> <li>All elements of exceptional significance and most elements of significance would be retained and adaptively reused</li> <li>Preparation of salvage register and inventory complete, with items of significance removed and retained for potential reuse or reinstallation</li> <li>Photographic archival recording complete</li> <li>Vibration monitoring</li> <li>Heritage Interpretation</li> </ul>

Activity	Aspect/s	Impact/s	Mitigation
Retrofitting of buildings on platforms 2/3 and 4/5	<ul style="list-style-type: none"> <li>• Installation of new services (drilling, cutting etc)</li> <li>• Painting</li> <li>• Refurbishment of furniture</li> </ul>	<p><u>Direct</u></p> <ul style="list-style-type: none"> <li>• The retention of the building is a positive heritage outcome in the context of the works</li> <li>• Minor physical disturbance during refurbishment works</li> </ul> <p><u>Indirect Impacts</u></p> <ul style="list-style-type: none"> <li>• Minor impact on the heritage values of the building and station overall.</li> </ul> <p><u>Potential Direct Impact</u></p> <ul style="list-style-type: none"> <li>• Minor potential for damage to existing fabric during works</li> </ul>	<ul style="list-style-type: none"> <li>• See Section 7.1 and 7.3</li> <li>• Any additions to the building and platform should be designed to be sympathetic to the heritage context and minimise fabric and visual impacts.</li> <li>• Photographic archival recording completed</li> <li>• Salvage register and inventory is complete, with items of value to be retained for potential reuse or relocation</li> </ul>
Regrade and improvement work of Gleeson Avenue overbridge	<ul style="list-style-type: none"> <li>• Painting</li> <li>• Structural upgrades (drilling etc)</li> <li>• Installation of anti-throw screens</li> </ul>	<p><u>Direct</u></p> <ul style="list-style-type: none"> <li>• Minor direct impacts from physical disturbance</li> </ul> <p><u>Indirect Impacts</u></p> <ul style="list-style-type: none"> <li>• Minor indirect impacts to views and vistas</li> </ul> <p><u>Potential direct impact</u></p> <ul style="list-style-type: none"> <li>• Minor potential for vibration impacts to buildings and structures located close by</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to Section 7.1 and 7.3</li> <li>• Vibration monitoring</li> </ul>
Construction of a new aerial concourse across all platforms at Sydenham Station.	<ul style="list-style-type: none"> <li>• General construction</li> <li>• Piling works</li> <li>• Excavation</li> </ul>	<p><u>Direct</u></p> <ul style="list-style-type: none"> <li>• The new paid concourse, access stairs, lifts, overhead canopy structure, platform buildings and protective barriers would be located on the new platform and would not further impact significant fabric</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to Section 7.1 and 7.3</li> <li>• Design would involve input from Heritage Architect and DRP as per Section 7.11</li> </ul>



Activity	Aspect/s	Impact/s	Mitigation
		<u>Indirect Impacts</u> <ul style="list-style-type: none"> <li>Minor indirect impacts to views and vistas</li> </ul> <u>Potential direct impact</u> Minor potential for vibration impacts to buildings and structures located close by	
<b>Sydenham Pit and Drainage Pumping Station 1 (SHR (No. 01644))</b>			
Construction of new aqueduct structure over existing Sydenham Pit and Drainage Pumping Station and adjustments to access ramp to Sydenham Pit and Drainage Pumping Station. Expansion of existing inlet.	<ul style="list-style-type: none"> <li>Bulk earthworks</li> <li>Construction</li> <li>Piling</li> <li>Installation of precast elements</li> </ul>	<u>Direct</u> <ul style="list-style-type: none"> <li>Moderate impact on the heritage item due to the Installation of an aqueduct over the flood storage of Sydenham Pit and Drainage Pumping Station with pylons to be anchored into the storage pit</li> <li>Construction of an access road, ramp and retaining wall which would impact some of the pit wall</li> <li>Removal of oleander trees</li> </ul> <u>Indirect Impacts</u> <ul style="list-style-type: none"> <li>Moderate visual impact on the pit from the aqueduct and pylons</li> <li>The access ramp would add a new visual element in the pit and alter the current open views of the pit, which would result in a moderate visual impact</li> <li>Overall, the visual impacts on Sydenham Pit and Drainage Pumping Station 1 would be major</li> <li>Construction activities would result in a temporary minor visual impact on the item during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to Section 7.1 and 7.3</li> <li>Photographic archival recording completed</li> <li>Design would involve input from Heritage Architect and DRP as per Section 7.11</li> <li>Vibration Monitoring</li> <li>Sydenham Pit &amp; Drainage Pumping Station 1 Conservation Management Plan (Sydney Water, 2004).</li> </ul>

Activity	Aspect/s	Impact/s	Mitigation
		<u>Potential direct impact</u> <ul style="list-style-type: none"> <li>Minor potential for vibration impacts to buildings and structures located close to the project area</li> <li>Inadvertent damage to items located close to the project area.</li> </ul>	
<b>Brick Retaining Walls (Marrickville LEP (I287))</b>			
General construction works around the station	<ul style="list-style-type: none"> <li>General construction</li> <li>Piling</li> <li>Demolition</li> <li>Service installation</li> <li>Precinct road works</li> </ul>	<u>Direct</u> <ul style="list-style-type: none"> <li>No direct impacts</li> </ul> <u>Indirect Impacts</u> <ul style="list-style-type: none"> <li>The removal of the existing brick wall and station building along platform 1 of the station would have some visual impact on the item. New structures to be located along Railway Parade would alter the existing setting and have a negligible to minor impact on the item</li> </ul> <u>Potential direct impact</u> <ul style="list-style-type: none"> <li>Minor potential for vibration impacts to buildings and structures located close to the modification area</li> <li>Potential for vibration impacts to buildings and structures during trenching for service installation</li> <li>Inadvertent damage to items located close to the project area</li> </ul>	<ul style="list-style-type: none"> <li>Refer to Section 7.1 and 7.3</li> <li>Vibration Monitoring for trenching with hammer within 5m of retaining wall</li> <li>Dilapidation report for brick retaining wall if trenching within 5m of the retaining wall</li> </ul>
Sydenham (Illawarra Line) Underbridge (RailCorp s170 (4805746))			
Structural upgrades to the bridge	<ul style="list-style-type: none"> <li>Structural upgrades (drilling, welding etc)</li> <li>Painting</li> </ul>	<u>Direct impact</u> <ul style="list-style-type: none"> <li>The project would have a minor impact on the brick piers as a result of</li> </ul>	<ul style="list-style-type: none"> <li>Refer to Section 7.1 and 7.3</li> </ul>

Activity	Aspect/s	Impact/s	Mitigation
		<p>strengthening works for collision loads.</p> <p><u>Indirect impact</u></p> <ul style="list-style-type: none"><li>• Views onto Sydenham Station from the Sydenham (Illawarra Line) Underbridge are mostly screened and would be very limited.,</li><li>• Visual impacts on the Sydenham (Illawarra Line) Underbridge would be minor.</li></ul> <p><u>Potential direct impact</u></p> <ul style="list-style-type: none"><li>• Minor potential for vibration impacts to buildings and structures located close to the modification area</li><li>• Inadvertent damage to items located close to the project area.</li></ul>	



## 7. Management Measures

This Section describes the overall approach and principles associated with managing and mitigating risks across Aboriginal and non-Aboriginal heritage during the Project Construction. The management measures are based on the mitigation measures compiled from the relevant requirements of the Project Approval (EIS, Submissions Report and Minister's Conditions of Approval, the SWTCs the ACHAR, and the requirements and standards of John Holland and Laing O'Rourke.

The actions that John Holland and Laing O'Rourke undertake to fulfil the consent conditions (as outlined in Appendix A are broken into Aboriginal and Non-Aboriginal classifications, with actions categorised into Management and Incident Response.

It is noted that JHLOR must not destroy, modify or otherwise physically affect any Heritage item not identified in documents referred to in Condition A1.

### 7.1 General Management

#### 7.1.1 Competence, training and Awareness

All project personnel, subcontractors and consultants will receive training in regard to the heritage aspects of the proponent's environmental obligations during the Site Inductions and Toolbox Talks. Staff will also be required to attend specific training sessions when identified by the EM and/or ED, specifically where the risk of impacting Aboriginal or historic objects is high. Topics that would be covered by project induction and toolbox talks include:

- Known and potential Heritage items in the vicinity of works
- The reporting procedure required in the event that unexpected finds are encountered
- Communication protocols

#### 7.1.2 Site Establishment and Occupation

- Appropriate hoarding, protection, barriers, exclusion zones
- Signs on all protection works should be marked with "protection to heritage fabric, do not remove without authorisation" or similar. The protection works should be inspected on a bi-monthly basis, or frequency as agreed by the Heritage Specialist, and be re-fixed or improved as required.

#### 7.1.3 External Protection Works

To safeguard the building fabric and to ensure that the risk of accidental damage is minimised protection works be installed where necessary. All detailed proposals for protection works and occupation would be advised by the Heritage Architect and installed prior to any demolition / fit out installation works being undertaken. A licenced demolition contractor will prepare a methodology/management plan to minimise direct and indirect impacts to adjacent and / or adjoining heritage items as part of the demolition management plan and associated documents.

The impacts associated with the demolition of the platform buildings are expected to be minimal due to the fact that they are both at the far east ends of the platforms and away from other heritage buildings. Similarly, archaeology as noted in the AARD, was not identified as being an area of any potential archaeology within the station precinct.

The demolition of the Building at 11 Sydenham Road, whilst not a heritage item, has been inspected by the heritage specialist prior to removal of the base slab to determine the presence of any intact soil profiles in accordance with Section 5.1. Based on the result of borehole logs, no additional requirements for heritage protection were added, and potential finds were considered low.

The following mitigation would be applied where required:

- Walls – adjacent to access/egress openings it is recommended that a hard barrier will be installed to protect the façade. This should be fixed in a concealed location and in a manner that will not cause permanent damage to the building and should be approved by the Heritage Specialist.
- Door Frames and Doors - protection to door frames would be provided at access points.

- Protect, label and remove doors for storage and add temporary doors with appropriate security furniture.
- Reuse all existing fix and locking points to ensure no further penetration of heritage fabric.
- Any damage must be reported, assessed and rectified in accordance with specifications from the Heritage Specialist.

#### 7.1.4 Internal Protection Works

Internal protection will be installed to surfaces and elements vulnerable to damage. All detailed proposals for protection works and occupation would be advised by the Heritage Specialist and installed prior to any demolition / fit out installation works being undertaken.

- Significant features – Any significant features susceptible to damage during construction should be encased in a soft foam and boxed out with plywood or similar hard coverings to ceiling height in order to protect surface and paint finish. Extent to be agreed with the Heritage Architect.
- Windows – original windows susceptible to damage during construction should be protected through the installation of a 6 mm hardboard, “Megafilm” translucent protection grade,” fixed in accordance with the manufacturer’s recommendations and with the special vacuum tape to protect the surface of the glass, 15 or 20 LS-FR dependant on size and position of glass to be protected. Indicate that there is glass behind the protection. Detail to be agreed with the Heritage Architect before installation.

#### 7.1.5 Storage item to be removed and reinstated

Where any items of heritage significance are required to be removed for any aspect of the works (, demolition, restoration, etc.) care is to be taken to ensure no damage to the item and surrounding fabric. Items may only be removed upon prior instruction by the Heritage Specialist and where appropriate recording and protection actions have been taken. At a minimum, and subject to approval by the Heritage Specialist, the following is recommended:

- Undertake archival recording in situ prior to removal and record any existing damage.
- Damage must be prevented to components nominate for reinstatement and/or retention, materials and surrounding fabric during removal.

Where items are to be stored on site:

- Record & mark components. Marking system (for example, stickers) to state “heritage fabric to be retained” or similar with an indication of item number and/or location number for reference.
- Stack neatly, adequately protect (including from rainwater where appropriate) and store in a secure, monitored location until required for use in the works as instructed or moved to the Sydney Metro Store

Where items are to be stored off site:

- Obtain approval by the Heritage Specialist prior to the removal of any items from site.
- Record all components, mark and number. Marking system (for example, tags) to state “heritage fabric to be retained” or similar with an indication of item number and/or location number for reference.
- Establish inventory to record all details of components using the Sydney Metro Inventory Registry by the Heritage Specialist
- Relocate to the Sydney Metro Store until required for use in the Works as instructed.

#### 7.1.6 Structural Monitoring / Vibration Monitoring

To ensure the heritage buildings are sufficiently protected during the SMu Main Works contract structural and vibration monitoring is required in accordance with the Construction Noise and Vibration Management

Plan as vibration arising from construction or excavation work has the potential to impact on the fabric of heritage items, potentially causing subsidence, or affecting structural integrity.<sup>15</sup>

Prior to commencement of major construction works, the preparation of a structural report on the effect of movement on the site's buildings should be undertaken where there is the potential for impacts with input from a structural engineer and the Heritage Specialist.

The Environment Manager will review the proposed monitoring plan to ensure vibration screening to 7.5 mm per second peak particle velocity to be undertaken to heritage items<sup>16</sup> in accordance with the assessment technique in Technical Paper 2: Noise and Vibration. All locations of monitoring equipment to detect any signs of movement, methods of fixing and electrical routings should be approved prior to implementation to confirm their acceptability prior to installation. This monitoring plan should allow for a full review of structures in accordance with the Technical Paper. Particular care should be taken when excavation and piling works are undertaken in close proximity to heritage items. Whilst these works are being undertaken the structure should be continually monitored for movement.

#### 7.1.7 Subcontractors & Site Personnel

All subcontracts would be written to ensure all subcontractors comply with the CEMP. In addition, all involved personnel on site would be inducted to include an awareness of the Heritage requirements. This will ensure they all have a thorough understanding of the requirements in the protection and restoration of the preserved elements and their corresponding responsibilities on the project.

#### 7.1.8 Scaffolding Methodology Review

A method statement for the erection of the scaffolding adjacent to heritage items, including proposed fixing methods be provided for review by the Heritage Specialist. Scaffolding is to be designed without fixings into the existing building fabric. Possible methods may include bracing the scaffold through the windows however this will need further exploration with the Heritage Specialist prior to commencement. Further, scaffolding will be installed once, and not undertaken by individual contractors where possible.

#### 7.1.9 Lead Paint & Hazardous Materials

Existing paint on site has the potential to be lead based. Thus, all necessary health and safety precautions should be taken when fabric is disturbed. Care should be taken when removing lead paint surfaces and all removal of lead paint should be carried out in compliance with Australian legislation and safe working practices with appropriate advice from the Heritage Specialist where required. Paint scrapings may be used when preparing Hazmat reports

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<sup>15</sup> Technical Paper 4\_Non Aboriginal Heritage, Artefact, 2017, p.13

<sup>16</sup> Ibid, p.13



## 7.2 Aboriginal Heritage Management

Action	Trigger/Timing	Responsibility	Description of Action
Management			
The Environment Manager will undertake weekly inspections and monitoring of construction activities to ensure compliance with the requirements of the CoA and this plan.	Weekly during construction	Environment Manager	<ul style="list-style-type: none"> <li>Undertake weekly inspections and monitoring of construction activities, together with any specialised staff as required (e.g. Environmental Manager and/or Aboriginal archaeologist) to ensure compliance with the requirements of CoAs and this plan,</li> <li>Maintain a register of documented issues identified through inspections to ensure that any issues or breaches are documented for future action.</li> </ul>
Daily inspections of controls will be undertaken by Supervisors during works.	Daily during Construction	Site Supervisors	<ul style="list-style-type: none"> <li>Complete daily inspections of the project specific controls during works</li> </ul>
Stage 1 (test) and Stage 2 (salvage) excavations	Construction	Environment Manager Aboriginal Excavation Director	<ul style="list-style-type: none"> <li>Aboriginal Excavation Director (or consultant's representative) to undertake inspection of cleared areas, prior to construction, to identify whether intact natural soils are present and likely to be impacted by the proposed works, and whether Stage 1 testing required (based on nature of deposit/objects and proposed works). Where Stage 1 excavations required, an Archaeological Method Statement (AMS) in accordance with methodology in the ACHAR and Section 5.2 of this CEMP Heritage Sub-Plan to be prepared, to guide Stage One test excavation.</li> <li>Where there is a notification by the Historical Excavation Director (Historical ED) that potential intact soil profiles, or Aboriginal objects, have been identified during historical archaeological investigations, seek confirmation from Aboriginal Excavation Director (or consultant's representative). If deemed required, undertake Stage One test excavation as part of historical archaeological program, in accordance with worksite-specific AMS and the ACHAR. RAPs would be involved in excavation of identified Aboriginal objects within historical archaeological contexts.</li> <li>Where on site personnel/contractors recover unexpected Aboriginal object(s), EM to seek confirmation from Aboriginal Excavation Director (or consultant's representative) to determine whether further investigation required. Where no further investigation is</li> </ul>

Action	Trigger/Timing	Responsibility	Description of Action
			<p>required, the Aboriginal archaeological excavation director (or their representative) will record the object(s) in their original setting and transfer them to the nominated temporary storage location for further analysis. Where further investigation is required, prepare an AMS (or consult existing AMS) in accordance with methodology in the ACHAR and Section 5.2 of this CEMP Heritage Sub-Plan.</p> <ul style="list-style-type: none"> <li>Stage Two archaeological salvage excavation may be required where: <ul style="list-style-type: none"> <li>Five (5) or more Aboriginal objects are identified in one test pit during Stage One excavation.</li> <li>Rare or significant artefacts, features or site types are identified during Stage One excavation.</li> <li>Aboriginal artefacts are identified in contexts that provide significant information on site formation process, or where samples may be extracted for chronological dating.</li> </ul> </li> <li>Where Aboriginal objects are located in historical archaeological contexts, Stage 1 excavation would form part of the historical archaeological program, and the excavation methodology would be guided by the AMS prepared for that worksite.</li> <li>Where historical archaeological contexts are encountered during Stage 1 excavation, the Historical ED would be consulted on any requirements for an alteration to methodology to account for impacts to historical archaeological remains.</li> <li>Follow the methodology outlined in the ACHAR and AMS with respect to reporting obligations and the management of Aboriginal objects.</li> </ul>
Site clearance after archaeological management completed	Construction	Environment Manager Aboriginal Excavation Director (or nominated representative)	<ul style="list-style-type: none"> <li>Site clearance would be required from the Aboriginal Excavation Director (or nominated representative) prior to construction commencing. This clearance would be in the form of a memo or email and would apply to a work specific area or the project site as a whole, depending on stage of works.</li> </ul>
All relevant personnel and contractors involved in the design and construction of the Project must be advised of the relevant heritage considerations,	Pre-construction	Environment Manager Aboriginal archaeological excavation director (or nominated representative)	<ul style="list-style-type: none"> <li>Ensure all site personnel and contractors are appropriately trained / inducted and made aware of the cultural significance of the area prior to being allowed to enter any site work areas.</li> <li>Personnel will be instructed to notify the Environment Manager in the event they identify any object which they believe to be of archaeological or cultural origin, who is</li> </ul>

Action	Trigger/Timing	Responsibility	Description of Action
legislative requirements and commitments.			then obligated to contact the Aboriginal archaeological excavation director (or nominated representative) to inspect the find.
Aboriginal stakeholder identification (RAPs) and contact details in case of unexpected finds.	Pre-construction	Environment Manager	<ul style="list-style-type: none"> <li>Identify RAPs for the project (Appendix B)</li> <li>Where Aboriginal archaeological excavation is required and an AMS has been prepared, provide RAPs with finalised AMS for their records.</li> <li>Consult with project RAPs, prior to Stage One excavations commencing, in accordance with the project ACHAR and Section 5.2 of this CEMP Heritage Sub-Plan. RAPs should be given the opportunity to participate in archaeological excavation.</li> <li>Where unexpected finds or potential skeletal remains are identified during works, and the Environment Manager has contacted the Aboriginal Excavation Director who confirms the finds are Aboriginal in nature, contact RAPs in accordance with the Unexpected Finds Protocol (Section 7.4 of this CEMP Heritage Sub-Plan).</li> </ul>

Incident Response			
Unexpected finds procedures for Aboriginal objects.	Identification of potential Aboriginal heritage artefacts or other sensitive cultural values.	Environment Manager	<ul style="list-style-type: none"> <li>Following the discovery of new finds of Aboriginal objects – works will cease in the immediate area and the area secured, and the find reported to the Environment Manager and managed in accordance with the Sydney Metro Unexpected Heritage Finds Procedure.</li> <li>Environment Manager to contact the Aboriginal Excavation Director (or nominated representative), who will undertake an assessment of the site/object. Subsequent management of the site will be carried out in accordance with the protocols provided in Section 5.2 and 7.4 of this CEMP Heritage Sub-Plan.</li> <li>In addition, the site will be recorded on standard AHIMS site cards and lodged with AHIMS.</li> <li>Upon completion of any unexpected finds reporting and required mitigation measures (which may include archaeological test excavation), post excavation reporting in accordance with the site specific AMS will be undertaken. Post-excavation report to</li> </ul>



Incident Response			
			be prepared by the Aboriginal Excavation Director and provided to RAPs for comment and review prior to finalisation.
Unexpected finds procedures for human skeletal remains.	Identification of a potential burial or discovery of skeletal remains.	Environment Manager	<ul style="list-style-type: none"> <li>Following the discovery of potential skeletal remains, works will cease in the immediate area and the area secured. The find will be reported to the Environmental Manager.</li> <li>The Environment Manager contacts the Aboriginal Excavation Director (or nominated representative), who will undertake an assessment of the skeletal remains. If the remains are found to be non-human, the Aboriginal Excavation Director will determine an appropriate management strategy, in consultation with the Historical archaeological excavation director, where necessary. Where the remains are found to be human, the Environment Manager is to notify the NSW Police, who will provide further direction, and the RAPs, for their information.</li> <li>No works to recommence until clearance is provided by OEH and/or the NSW Police.</li> </ul>
Where impacts are identified outside the project area	New impact areas not previously surveyed	Environment Manager	<ul style="list-style-type: none"> <li>Approval would be sought from the DP&amp;E</li> <li>Further consultation with RAPs would be required where any additional assessment identifies impacts to Aboriginal heritage.</li> </ul>

### 7.3 Non-Aboriginal Heritage Management

#### BUILT HERITAGE

##### Management

Action	Trigger/Timing	Responsibility	Description of Action
The Environment Manager will undertake weekly inspections and monitoring of construction activities to ensure compliance with the requirements of the CoA and this plan.	Weekly during construction	Environment Manager	<ul style="list-style-type: none"> <li>Undertake weekly inspections and monitoring of construction activities to ensure compliance with the requirements of CoAs and this plan</li> </ul>
Daily inspections of controls will be undertaken by Supervisors during works.	Daily during Construction	Site Supervisors	<ul style="list-style-type: none"> <li>Complete daily inspections of the controls during works</li> </ul>
Protective measures	Bi-monthly	Environment Manager	<ul style="list-style-type: none"> <li>Signs on all protection works should be marked with “protection to heritage fabric, do not remove without authorisation” or similar. The protection works should be inspected on a bi-monthly basis, or frequency as agreed by the Heritage Specialist, and be re-fixed or improved as required.</li> <li>Daily inspection by the Site Supervisors</li> </ul>
Vibration monitoring	Construction	Environment Manager	<ul style="list-style-type: none"> <li>Vibration monitoring will be undertaken in accordance with the Construction Noise and Vibration Management Plan</li> </ul>
Inventory of Heritage Items	Pre-construction	Heritage Specialist	<ul style="list-style-type: none"> <li>A detailed inventory must be prepared of all buildings, structures, fabric, spaces and vistas of heritage significance that are to be retained. The inventory must:               <ol style="list-style-type: none"> <li>be prepared by the heritage specialists appointed in accordance with clause 3.2;</li> <li>provide an assessment of the heritage significance of each element and the sub-elements that comprise it;</li> </ol> </li> </ul>

## BUILT HERITAGE

			<ul style="list-style-type: none"> <li>(iii) specify its consequent tolerance for change;</li> <li>(iv) include appropriate recommendations for its conservation, relative to the level of heritage significance; and</li> <li>• be approved by the Principal's Representative.</li> </ul>
Design requirements	Pre-construction and construction	Environment Manager Heritage Architect	<ul style="list-style-type: none"> <li>• All SMu design works will be reviewed by an appropriately qualified heritage architect and the project independent design review panel.</li> <li>• Implementation of management processes in Section 8 of the Sydenham <i>Pit &amp; Drainage Pumping Station 1 Conservation Management Plan</i> (Sydney Water, 2004).</li> </ul>
Management of indirect impacts to Sydenham Station and the Sydenham Pump and Drainage Pit 1	Pre-construction and construction	Environment Manager	<ul style="list-style-type: none"> <li>• An exclusion zone would be set up to protect the curtilage of heritage items no directly within defined work areas.</li> <li>• Monitor vibration impacts as required</li> <li>• Implementation of management processes in Section 8 of the Sydenham <i>Pit &amp; Drainage Pumping Station 1 Conservation Management Plan</i> (Sydney Water, 2004).</li> </ul>
Archival recording	Pre-construction	Environment Manager Heritage Specialist	<ul style="list-style-type: none"> <li>• A photographic archival record has been prepared prior to construction in accordance with mitigating measure NAH1 and the SWTCs.</li> </ul>
Salvage, safe storage and re-use of significant items for interpretative or maintenance purposes	Construction	Environment Manager Heritage Specialist	<ul style="list-style-type: none"> <li>• Items of heritage value from heritage listed buildings and structures to be demolished will be salvaged before they are demolished and assess options for its sympathetic reuse (including integrated heritage displays) on the project or other options for repository, reuse and display. Suitable repository locations must be established in consultation with Relevant Council(s). Any State listed items or elements for salvage must be determined in consultation with the Heritage Division of the OEH</li> <li>• JHLOR will undertake salvage and recycling of significant heritage elements and fabric in accordance with Sydney Metro Chatswood to Sydenham; Metro Heritage Salvage and Storage Policy.</li> <li>• A salvage register has been prepared detailing all items salvaged</li> </ul>



## BUILT HERITAGE

			<ul style="list-style-type: none"> <li>Where significant elements are to be removed and not reinstated, these elements must be salvaged and safely stored for future reuse or for heritage interpretation purposes.</li> <li>Elements to be salvaged may include, but are not limited to the following: <ul style="list-style-type: none"> <li>(i) joinery (including doors, windows and architraves);</li> <li>(ii) hardware and metalwork;</li> <li>(iii) indicator boards, clocks, communications equipment &amp; other functional elements;</li> <li>(iv) roof tiles;</li> <li>(v) fireplaces;</li> <li>(vi) bricks and sandstone; and</li> <li>(vii) structural wall and roof timbers.</li> </ul> </li> <li>An inventory of significant / early elements has been prepared and recorded for their relevant provenance prior to any removal, storage and/or reuse.</li> <li>The end location / salvage or recycling provider for each element will be documented</li> <li>JHLOR will carefully remove, protect and transport all salvaged stored items to the Principal's nominated facility.</li> <li>The work must be supervised and approved by the heritage specialists.</li> </ul>
Measured Drawings	Pre-construction	Heritage Specialist/Project Architect	<ul style="list-style-type: none"> <li>Measured drawings must be prepared for all affected elements of exceptional or high significance to be removed or subject to substantial alteration, including: <ul style="list-style-type: none"> <li>plans;</li> <li>elevations;</li> <li>sections;</li> <li>details; and</li> </ul> </li> </ul>

## BUILT HERITAGE

			<ul style="list-style-type: none"> <li>○ a general plan showing the relative location of all affected elements and other elements.</li> </ul>
Heritage interpretation	Pre-construction	Heritage Specialist	<ul style="list-style-type: none"> <li>• A Heritage Interpretation Plan has been prepared and approved by DP&amp;E. This plan has been prepared with consideration of the wider Sydney Metro Heritage Interpretation Plan and Strategy</li> </ul>
Heritage Inductions	Ongoing	Environment Manager	<ul style="list-style-type: none"> <li>• All site personnel shall undergo site specific induction training, which will include environmental awareness and heritage management training. Toolbox meetings will also be undertaken as and when required; covering specific environmental issues and heritage control measures as identified in this CHMP.</li> <li>• Personnel directly involved in implementing heritage control measures on site will be given specific training in the various measures to be implemented.</li> <li>• Records of all training are to be filed in accordance with the project filing system.</li> </ul>
Protection of retained heritage elements	Pre-construction	Environment Manager Heritage Specialist	<ul style="list-style-type: none"> <li>• Prior to the commencement of construction of the Project Works, detailed measures must be prepared and implemented for the protection of all significant heritage buildings, structures and fabric proposed for retention, with the potential to be damaged by construction of the Project Works. For elements to be retained in-situ, the measures must comprise the provision of protective covering, screens, barriers. Appropriate hoarding, protection, barriers, exclusion zones</li> <li>• Signs on all protection works should be marked with "protection to heritage fabric, do not remove without authorisation" or similar. The protection works should be inspected on a bi-monthly basis, or frequency as agreed by the Heritage Specialist, and be re-fixed or improved as required.</li> <li>• For elements of moveable heritage, the measures must entail careful removal and relocation to the secure storage area nominated by the Principal.</li> <li>• Proposed protection measures must be approved by the heritage specialists and the Principal's Representative prior to implementation.</li> </ul>
Re-use of retained heritage elements	Pre-construction	Environment Manager	<ul style="list-style-type: none"> <li>• Prior to the commencement of construction of the Project Works, the SMu Contractor must prepare an Adaptive Reuse Strategy for the ongoing use of</li> </ul>

## BUILT HERITAGE

		Heritage Specialist	<p>heritage buildings and other structures to be retained. The Adaptive Reuse Strategy should be integrated throughout the design phase.</p> <ul style="list-style-type: none"> <li>The Adaptive Reuse Strategy must: <ul style="list-style-type: none"> <li>(i) include a detailed analysis of the external and internal components of heritage buildings and other structures;</li> <li>(ii) assess the ability of heritage buildings and other structures to contribute to the ongoing functionality of Sydenham Station and Sydenham Pit;</li> <li>(iii) prioritise continued use of elements for their original purpose, or alternatively for the purpose to which they have been adapted where this is compatible with their design, fabric and heritage significance, whilst ensuring the continued use does not: <ul style="list-style-type: none"> <li>A. result in the removal of significant elements, fabric or design integrity;</li> <li>B. require the subdivision of significant interior spaces;</li> <li>C. require the addition of obtrusive new elements or signage.</li> </ul> </li> <li>(iv) where a new use is proposed, ensure that the proposed use does not: <ul style="list-style-type: none"> <li>A. result in the removal of significant fixtures, fabric or design integrity;</li> <li>B. require the subdivision of significant interior spaces;</li> <li>C. require the addition of obtrusive new elements or signage.</li> </ul> </li> <li>(v) be approved by the heritage specialists; and</li> <li>(vi) be submitted to the Principal's Representative for approval prior to implementation.</li> </ul> </li> <li>Where it is not practicable to use identified elements for any viable purpose that is compatible with their design, fabric and heritage significance, the SMu Contractor must undertake necessary conservation work to secure and protect elements against damage pending their possible future reuse.</li> </ul>
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ARCHAEOLOGY		
Management		
Trigger/Timing	Responsibility	Description of Action
Construction	Environment Manager Heritage Specialist	<ul style="list-style-type: none"><li>Archaeological reporting and find management would be undertaken in accordance with the AARD.</li></ul>

ARCHAEOLOGY		
Pre-construction	Environment Manager Heritage Specialist (Archaeology)	<ul style="list-style-type: none"><li>Prior to excavations, a qualified Excavation Director (ED) would be nominated who complies with the Heritage Council of NSW's Criteria for Assessment of Excavation Directors (July 2011) in accordance with E18. DPE and OEH shall be advised of the nominated ED. Depending on potential impacts identified in the Archaeological Method Statement (AMS), there may be need for two EDs; Historical ED and Aboriginal archaeological ED.</li></ul>

ARCHAEOLOGY		
Construction	Environment Manager Heritage Specialist (Archaeology)	<ul style="list-style-type: none"> <li>Non-Aboriginal archaeological management is to be undertaken in accordance with the AARD. The AARD includes management zoning for all Sydney Metro South and Southwest construction sites.</li> <li>An Archaeological Method Statement (AMS) would be prepared prior to any subsurface works</li> <li>Enter project specific actions</li> <li>In areas identified by the AARD as being managed under the unexpected find procedure no archaeological management is required unless unexpected finds are identified during construction.</li> </ul>
Construction	Sydney Metro Heritage Specialist	<ul style="list-style-type: none"> <li>If any potential relics are found relevant construction must cease in the affected area</li> <li>If any potential relics are located the ED would assess significance of the find and provide advice.</li> <li>If material is identified as a relic of State Significance then an Archaeological Relic Management Plan (ARMP) would be prepared and provided to Heritage Division for review</li> <li>Construction in the location of the relics cannot commence until the recommendations of the ARMP have been implemented in consultation with the ED.</li> </ul>



ARCHAEOLOGY			
		<ul style="list-style-type: none"><li>The Secretary of the DP&amp;E would be notified in writing of the outcome of consultation on the Archaeological Relic Management Plan with the Heritage Council of NSW</li></ul>	
Incident Response			
Action	Trigger/Timing	Responsibility	Description of Action

ARCHAEOLOGY			
Unexpected finds procedure for non-Aboriginal artefacts and relics.	During construction	Environment Manager	<ul style="list-style-type: none"> <li>If unexpected finds are located during works the Sydney Metro Unexpected Heritage Finds Procedure would be followed. Further archaeological work or recording may be recommended.</li> </ul>

HERITAGE COLLECTIONS			
Management			
Action	Trigger/Timing	Responsibility	Description of Action
Inventory of Heritage Items	Pre-construction	Heritage Specialist	<ul style="list-style-type: none"> <li>A detailed inventory must be prepared of all buildings, structures, fabric, spaces and vistas of heritage significance that are to be retained. The inventory must:               <ul style="list-style-type: none"> <li>(v) be prepared by the heritage specialists appointed in accordance with clause 3.2;</li> <li>(vi) provide an assessment of the heritage significance of each element and the sub-elements that comprise it;</li> <li>(vii) specify its consequent tolerance for change;</li> <li>(viii) include appropriate recommendations for its conservation, relative to the level of heritage significance; and</li> </ul> </li> <li>be approved by the Principal's Representative.</li> </ul>
Management of Sydenham Pit and Pumping Station Moveable Heritage items (including machinery of significance identified within the CMP)	During construction	Environment Manager and Heritage Specialist (Collections)	<ul style="list-style-type: none"> <li>Significant items to be managed in accordance with the SWC Movable Heritage Policy and Procedures Manual. (CMP Policy 7.4, p.83)</li> </ul>
Significant heritage items of Sydenham Pit and Pumping Station (including machinery of significance identified within the CMP) nominated for removal	Prior to commencement of works and during construction	Environment Manager and Heritage Specialist (Collections)	<ul style="list-style-type: none"> <li>Items should be assessed for suitability for inclusion in an on-site or off-site public display prior to removal (CMP Policy 7.4, p.83)</li> <li>Removed historic elements should be stored at an allocated location, in accordance with instruction of the Sydney Water Heritage Advisor and in</li> </ul>

HERITAGE COLLECTIONS			
			<p>accordance with the SWC Movable Heritage Policy and Guidelines. (CMP Policy 7.4, p.83)</p> <ul style="list-style-type: none"> <li>Elements scheduled for removal should be recorded for archival purposes and the record deposited with the SWC Archives. (CMP Policy 7.4, p.83)</li> </ul>

HERITAGE LANDSCAPES			
Management			
Action	Trigger/Timing	Responsibility	Description of Action
Protection of significant plantings	Ongoing	Environment Manager	<ul style="list-style-type: none"> <li>Some of the oleander plantings around the Sydenham Pit will require removal to facilitate the works. The surviving oleander plantings along all sides of Sydenham Pit (except where these conflict with new plantings) must be provided with appropriate horticultural treatment to facilitate their ongoing health by the SMu Contractor. Where necessary, missing, damaged or unhealthy trees must be replaced with new plantings by the SMu Contractor.</li> </ul>

7.4 Pre-Construction Works Sequence



Figure 22 - Pre-Construction Works Sequence



## 7.5 Unexpected Finds Procedure

The roles of project, field and environmental personnel (including construction contractors) are critical to the early identification and protection of unexpected heritage items. An 'unexpected heritage find' can be defined as any unanticipated discovery of an actual or potential heritage item for which Sydney Metro does not have approval to disturb and/or does not have an existing management process in place, or is managed under the Sydney Metro Heritage Unexpected Finds Procedure.

If any potential archaeological remains, heritage items, human skeletal remains or Aboriginal heritage objects are uncovered during the works, works stop would immediately in accordance with the procedures set out in the *Sydney Metro Unexpected Heritage Finds Procedure (v2.0)*. This procedure was prepared for the wider Sydney Metro Critical State Significant Infrastructure Planning (CSSI 15\_7400) Project, in fulfilment of Condition E19 of the MCoA. The *Sydney Metro Unexpected Heritage Finds Procedure* provides detailed procedures regarding identification of potential heritage items in the field and the notification and reporting obligations attached to a variety of occurrences, and including stop work orders.

This procedure is contained in Appendix D.

## 7.6 Heritage Awareness Training

All relevant personnel and contractors involved in the SMu Main Works Project will be advised of the relevant heritage considerations, legislative requirements and recommendations contained within relevant impact assessments, including:

- Sydney Metro City and Southwest – Chatswood to Sydenham: Aboriginal Heritage Archaeological Assessment, prepared by Artefact Heritage (2016a)
- Sydney Metro City and Southwest – Chatswood to Sydenham: Non-Aboriginal Heritage Impact Assessment, prepared by Artefact Heritage (2016b).
- Sydney Metro City and Southwest: Additional Heritage Impact Assessment for Mortuary Station by Artefact Heritage (2016d).
- Sydney Metro City and Southwest – Chatswood to Sydenham: Aboriginal Cultural Heritage Assessment Report (ACHAR), prepared by Artefact Heritage (2016e)
- Chatswood to Sydenham – Sydenham Station and Sydney Metro Trains Facility South Modification Report, (2017).
- Chatswood to Sydenham – Sydenham Station and Sydney Metro Trains Facility South Modification Report: Appendix E: Non-Aboriginal Heritage Technical Information (2017).
- Chatswood to Sydenham – Sydenham Station and Sydney Metro Trains Facility South Modification Submissions Report (2017).
- Aboriginal Heritage Impact Assessment (AHMS 2015).

A Project-specific heritage induction was prepared prior to commencement of the SMu Main Works project and has been kept under review and updated by the Environment Manager to reflect changes to the works during the course of construction. The heritage induction should be attended by all site personnel, including subcontractor personnel, prior to being allowed to enter any site work areas. The heritage induction covers the following items:

- A briefing regarding the history and significance of the Sydenham area including Gumbramorra Swamp and its surroundings.
- Information on the Aboriginal archaeological and cultural heritage values of the Project area.
- Information about how to identify stone artefacts and other Aboriginal heritage sites that may be expected to occur in the SMu works area, including representative photos of these sites.
- The location of relevant heritage items and archaeological sites within the SMu Main Works area.
- Information about statutory obligations for heritage under the NSW *National Parks and Wildlife Act 1974* (NP&W Act). It is important to note that failure to report a discovery and those responsible for the damage or destruction occasioned by unauthorised removal or alteration to a site or to archaeological material may be prosecuted under the NPW Act.
- Specific management measures with respect to Aboriginal and Non-Aboriginal heritage, as described in the project ACHAR and this CEMP Heritage Sub-Plan.
- Buffer distances, and other restrictions involving vibration intensive activities.
- Procedures to follow in the event of uncovering an unexpected find.
- All works in close proximity to listed items within, and immediately adjacent to the corridor should be undertaken in accordance with the spirit of the CoA with respect to minimising any impacts on the heritage significance of listed structures. *This will include works or vehicle movements within the immediate environs of, or modifications to structures resulting from the need to satisfy other aspects of the CoA. Works adjacent to the Sydenham Drainage Pit should be conducted in accordance with the conservation requirements of the CMP for this particular site. Monitoring of all ground works within the vicinity of the Drainage Pit will be required given the unconsolidated nature of the substrate on which the pit walls rest.*

The Heritage Specialist is to appoint an appropriate staff member to deliver the site-specific heritage induction. This person must have appropriate communication skills and an understanding of environmental matters specific to the Project. The Environment Manager is to approve the Project induction and any subsequent changes.

An induction record will be maintained in the site office.

All training and tool box meetings will be recorded. All project documentation, including environmental compliance and training records, will be kept as objective evidence of compliance with environmental requirements.

## 7.7 Ongoing Notifications

The following protocol will be followed with respect to ongoing notifications.

- For unexpected Aboriginal archaeological finds, RAPs will be notified immediately once the Aboriginal archaeological excavation director confirms finds are Aboriginal in origin.
- Where changes to the Project scope and/or boundaries are identified that may have implications for Aboriginal heritage management, notification to the RAPs will occur within 1 week.

All notification and consultation records will be kept by JHLOR and its relevant consultants.

## 7.8 Archival Recording

Archival recording has been completed by the Heritage Specialist suitably qualified in completing archival recording in accordance with the following criteria:

- A general photographic archival recording, including the capture of images from key points within and outside the heritage listing boundary showing the relationship of the impacted elements in the context of Sydenham Station and Sydenham Pit as a whole and within their streetscape
- A detailed photographic archival recording of exceptional, high or moderate heritage items identified for removal, or subject to substantial alteration, that corresponds with the level of heritage significance of the building or structure impacted, including:
  - internal images of fabric and structures; and
  - external images of fabric and structures.
- For heritage buildings that are being retained with no change of use, but with a change of setting owing to the Project Works, only recording of the exterior of the building will be completed

The photographic archival recording was completed in accordance with:

- NSW Heritage Council guideline "Photographic Recording of Heritage Items Using Film or Digital Capture (2006)"; and
- NSW Heritage Office publication "How to Prepare Archival Records of Heritage Items (1998)"

External photos of all buildings and structures to be demolished has been undertaken in consultation with and to the relevant standards of Inner West Council.

Within two (2) years of completing the archival recording, or any other later time agreed by the Secretary, it will be submitted to the Department, the OEH, Heritage Council of NSW, Relevant Council(s), relevant local libraries and local historical societies in the Inner West Council area.

## 7.9 Heritage Interpretation

A heritage interpretation plan has been prepared to Identify and interpret the key Aboriginal and Non-Aboriginal heritage values and stories of heritage items and heritage conservation areas impacted by the CSSI. The Heritage Interpretation Plan must inform the Station Design and Precinct Plan referred to in Condition E101. The Heritage Interpretation Plan has been prepared in accordance with the NSW Heritage Manual, the NSW Heritage Office's Interpreting Heritage Places and Items: Guidelines (August 2005), and the NSW Heritage Council's Heritage Interpretation Policy and includes, but is not limited to:

(a) a discussion of key interpretive themes, stories and messages proposed to interpret the history and significance of the affected heritage items and sections of heritage conservation areas including, but not limited to the Sydney Terminal and Central Railway Station Group, and Martin Place Station, Sydenham Station and Sydenham Pit and Drainage Pumping Station Precincts;

(b) Identification and confirmation of interpretive initiatives implemented to mitigate impacts to archaeological Relics, heritage items and conservation areas affected by the CSSI including;

i. use of interpretative hoardings during construction

ii. community open days

iii. community updates

iv. station and precinct design; and

(c) Aboriginal cultural and heritage values of the project area including the results of any archaeological investigations undertaken.

The Heritage Interpretation Plan has been prepared in consultation with the Heritage Council of NSW (or its delegate), Relevant Councils and Registered Aboriginal Parties, and was submitted to the Secretary on 19/02/19.

The plan will also:

- Document the story of the development of the Bankstown line through to the present day.
- Detail the history of the Sydenham Station and Sydenham Pit and Pumping Station, and their contribution to the development of both the Bankstown line and the surrounding suburb.
- Include a review of all existing interpretation
- Incorporate aboriginal heritage
- Where practicable, interpretation must utilise relevant material or elements salvaged from the demolition of buildings and other structures

Significant archaeological findings would be considered for inclusion in heritage interpretation.

A broad Heritage Interpretation Strategy has been prepared for Sydney Metro City & Southwest by Metro (February 2018). This document provides an overarching framework to guide preparation of a Heritage Interpretation Plan (HIP) for SMu in accordance with E21 which would include measures for consulting with the design team and reviewing appropriate Aboriginal and historical interpretive themes.

The HIP has been prepared for SMu in accordance with REMM NAH9 and developed in accordance with Heritage Division and Heritage Council guidelines Interpreting Heritage Places and Items: Guidelines (August 2005) Heritage Interpretation Policy (August 2005).

It is noted that development of the interpretation for the SMu requires research, identification of a wide range of historic themes and heritage values, identification of potential options for interpretation, preliminary consideration for the location and type of interpretive media and consultation with stakeholders who would need to agree to the strategy to facilitate development of the Heritage Interpretation Plan. It is therefore proposed that interpretation be developed in a staged manner. This approach is complementary to the design process, which is ongoing, and allows for heritage interpretation to be incorporated in the design in accordance with the Heritage Division and Heritage Council guidelines referred to above.

A site specific Heritage Interpretation Strategy for SMu and surrounds will be prepared based on historic research, development of themes, identifying potential audiences and possible media formats for use in conjunction with the Heritage Interpretation Plan. This strategy will be prepared by Purcell and Extent Heritage with input for Aboriginal heritage interpretation provided by Extent in consultation with the RAPs and in accordance with REMM AH4. A Heritage Interpretation Methodology is currently in review in conjunction with Extent and Purcell to inform the actual installation and media to be used to fulfil the outcomes of the Heritage Interpretation Plan.

## 7.10 Heritage Impact Assessment

A Heritage Impact Assessment (HIA) will be prepared with the design documentation for each design stage, so that the overall trend (either positive or negative) for heritage impact is clearly identified.

The measures for protection against damage of all heritage buildings, elements, fabric and moveable heritage items to be retained will be contained in the HIA included in the Design Documentation at each Design Stage.

## 7.11 Design Management

The Design Management Plan describes the process for considering heritage aspects. The design process involves the following:



- Allocation of relevant heritage CoA and REMMs to each design pack in the RATM (Requirements and Traceability Matrix)
- Consultation with the Heritage Working Group (HWG) at relevant stages of the design
- Review of relevant design packages by the Heritage Specialist and preparation of HIA's as per Section 7.10. This would include assessment and records of any impacts avoided or minimised through design or alternative construction methods
- Review and consideration of requirements in Section 8 of the Sydenham Pit & Drainage Pumping Station 1 Conservation Management Plan (Sydney Water, 2004). The requirements in this plan are reviewed as part of the HIA prepared at each Stage of design and an assessment completed against the plan's recommendations.

## 8. Roles and Responsibilities

Relevant roles and responsibilities associated with this CHMP are presented in Table 9 below. All personnel are responsible for ensuring that the clearing limits are addressed and heritage items are protected.

Table 9 - Roles and Responsibilities

ROLES	RESPONSIBILITIES
Department of Industry Planning and Environment	Approval of the Construction Environment Management Plan Heritage Sub-Plan
Project Leader	<p>Ensure that sufficient resources are allocated for the implementation of this CHMP</p> <p>Ensure that the CEMP covers the management and mitigation measures presented in this CHMP</p> <p>Ensure that the outcomes of the visual checks/ compliance construction monitoring/ incident reporting are systematically evaluated as part of ongoing management of construction activities</p> <p>Ensure audits of construction site records/ monitoring records/ incident reports are undertaken with findings are shared with relevant site personnel and corrective actions are implemented</p> <p>Authorise all monitoring reports and any revisions to this CEMP Heritage Sub-Plan</p>
Environment Manager (or delegate)	<p>Oversee the overall implementation of this CEMP Heritage Sub-Plan</p> <p>Ensure all relevant personnel have and understand the most up-to-date copy of this CEMP Heritage Sub-Plan</p> <p>Ensure that any required actions arising from the detection of unexpected heritage items, or where works are required outside of the approved development footprint, these are reported to the relevant personnel for further action and ensure that the actions are effectively implemented</p> <p>Ensure all monitoring reporting requirements are met and maintained on site</p>
Construction Manager Subcontractors	<p>Understand and implement mitigation protocols as required in the CHMP and any other required measures during construction</p> <p>Undertake relevant training to implement the requirements of this CHMP</p>

ROLES	RESPONSIBILITIES
	<p>All personnel are responsible for ensuring that heritage items are protected.</p> <p>All site personnel to undertake toolbox talks in relation to the reporting process for unexpected finds.</p>
Design Manager	Ensure heritage requirements are considered throughout the design phase
Design Review Panel	<p>Responsible for reviewing relevant design requirements and consideration of heritage requirements in the Station Design and Precinct Plan.</p> <p>The objectives of the Design Review Panel (DRP) are to:</p> <ul style="list-style-type: none"> <li>• Provide independent, high level design review of the Sydney Metro Program.</li> <li>• Support the achievement of the Sydney Metro program objectives.</li> <li>• Ensure quality design outcomes.</li> </ul> <p>The NSW Government Architect representative is the Chair of the DRP. If the Chair is absent or unavailable then Yvonne von Hartel AM will be the Alternate Chair.</p> <p>The Director, Place Making and Precinct Activation will convene the meetings on behalf of Sydney Metro.</p> <p>The DRP membership comprises of the following:</p> <ul style="list-style-type: none"> <li>• Peter Poulet NSW Government Architect (Chair)</li> <li>• Yvonne von Hartel AM Architect (Alternate Chair)</li> <li>• Kim Crestani Architect</li> <li>• Tony Caro Architect</li> <li>• Robert Nation AM Architect</li> <li>• Peter Phillips Heritage Architect</li> <li>• Jane Irwin Heritage Council Representative</li> </ul> <p>The Membership of the DRP is to be approved by the Program Director Sydney Metro. Experts in specialist fields such as sustainability, customer experience and transport integration may be invited to review proposals and provide advice to the DRP as required.</p>
Environmental Representative	<p>Receive and respond to communications from the Secretary in relation to the environmental performance of the Critical State Significant Infrastructure (CSSI);</p> <p>Consider and inform the Secretary on matters specified in the terms of the planning approval;</p> <p>Consider and recommend any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community;</p> <p>Review all documents required to be prepared under the terms of the planning approval, ensure they address any requirements in or under the planning approval and if so, endorse them before submission to the Secretary (if required to be submitted to the Secretary) or before implementation (if not required to be submitted to the Secretary);</p> <p>Regularly monitor the implementation of all documents required by the terms of the planning approval for implementation in accordance with what is stated in the document and the terms of the planning approval;</p>

ROLES	RESPONSIBILITIES
	<p>Notify the Secretary of an incident in accordance with Condition A41 of the planning approval;</p> <p>As may be requested by the Secretary, help plan, attend or undertake Department audits of the CSSI, briefings, and site visits;</p> <p>If conflict arises between the Proponent and the community in relation to the environmental performance of the CSSI, follow the procedure in the Community Communication Strategy approved under Condition B3 of the planning approval to attempt to resolve the conflict, and if it cannot be resolved, notify the Secretary;</p> <p>Review any draft consistency assessment that may be carried out by the Proponent, and provide advice on any additional mitigation measures required to minimise the impact of the work;</p> <p>Consider any minor amendments to be made to the CEMP, CEMP sub-plans and monitoring programs that comprise updating or are of an administrative nature and are consistent with the terms of the planning approval and the CEMP, CEMP sub-plans and monitoring programs approved by the Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of the planning approval;</p> <p>Assess the impacts of minor ancillary facilities as required by Condition A18 of the planning approval; and prepare and submit to the Secretary and other relevant regulatory agencies, for information, a monthly Environmental Representative Report detailing the ER's actions and decisions on matters for which the ER was responsible in the preceding month (or other timeframe agreed with the Secretary). The Environmental Representative Report must be submitted within seven (7) days following the end of each month for the duration of works and construction of the CSSI, or as otherwise agreed with the Secretary.</p>
Historical Archaeological Excavation Director	<p>The Excavation Director must be suitably qualified and who complies with the Heritage Council of NSW's <i>Criteria for Assessment of Excavation Directors</i> (July 2011) to oversee and advise on matters associated with historic archaeology and advise the DPE and OEH.</p> <p>The Excavation Director must be present to oversee excavation and advise on archaeological issues.</p> <p>The Excavation Director has the authority to advise on the duration and extent of oversight required as informed by the provisions of the approved AARD and Excavation Methodology.</p>
Heritage Specialist	<p>Preparation of this CHMP</p> <p>Responsible for providing advice to minimise potential impacts to any built heritage values that may be recorded during the construction activities, and for the delivery of the objectives and requirements of Schedule C1 Appendix B6 of the SWTCs.</p>
Aboriginal Archaeological Excavation Director	<p>The Aboriginal Archaeological Excavation Director will be responsible for providing advice to minimise potential impacts to any Aboriginal cultural heritage values, Aboriginal objects or sites during the construction activities. The Excavation Director will also be responsible for investigating and assessing the significance of any intact natural soils or unexpected Aboriginal objects within the SMu Main Works area. The Excavation Director will also be responsible for overseeing the development of any</p>

ROLES	RESPONSIBILITIES
	Archaeological Method Statements (AMS) for specific activities, and for the coordination and delivery of any Stage One or Stage Two archaeological excavations of the SMu Main Works area. The Excavation Director will be responsible for the management of Aboriginal archaeological resources, in accordance with the methodology in the Project ACHAR and Section 5.2 of this CEMP Heritage Sub-Plan.

## 8.1 Excavation Director

Graham Wilson from Extent Heritage is the nominated Excavation Director for the SMu works. Dr Anita Yousif is the supplementary Excavation Director to cover any contingencies. See Appendix C for CVs and assessment against the Excavation Director criteria.



## 9. Monitoring, Auditing and Reporting

Monitoring, auditing and reporting will be undertaken in accordance with the CEMP, as well as additional requirements listed below.

The Environment Manager will undertake weekly inspections and monitoring of construction activities to ensure compliance with the requirements of the CoA and this plan.

The Weekly Environmental Inspection Checklist will be used to maintain compliance and effectiveness of controls and inspection of the effectiveness of heritage mitigation measures.

Items that require action will be documented on the site environmental inspection form. Items that require specific and detailed action will be recorded on the Project's Corrective Action Register. The Site Construction Manager will be responsible for providing appropriate resources in terms of labour, plant and equipment to enable the items to be rectified in the nominated timeframes.

Daily inspections of controls will be made by Supervisors and maintenance will be undertaken during active site works.

All notifications to any of the heritage specialists should consist of a record of telephone contact/email and response in the form of a formal file note that details outcomes (such as no further response required, monitoring, formal intervention and stop-work orders)

Compliance Records would maintained on the project database and include:

- Inspections undertaken in relation to heritage management measures;
- Archival recordings undertaken of any heritage item;
- Unexpected heritage finds
- Records of any impacts avoided or minimised through design or construction method
- Vibration monitoring data
- All plans, strategies and reports required under the project approval, including under other licences or permits.

## 10. Review and Improvement

Continuous improvement of this plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement. These ongoing evaluations would be conducted by the John Holland Laing O'Rourke Joint Venture.

The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of environmental management and performance.
- Determine the cause or causes of non-conformances and deficiencies.
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies.
- Verify the effectiveness of the corrective and preventative actions.
- Document any changes in procedures resulting from process improvement.
- Make comparisons with objectives.

Any revisions to the CHMP will be in accordance with the process outlined in Section 3.1 of the CEMP. A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure.

## 11. Enquiries, Complaints and Incident Management

Environmental incidents and complaints are to be investigated, documented, actioned and closed out as per the details provided in the Community Consultation Strategy and Section 19 of the CEMP, including those related to Aboriginal and non-Aboriginal cultural heritage.

## Appendix A - Compliance Matrix

Condition	Requirement	Timing	Responsibility	Reference																											
Conditions of Approval																															
C3	<p>The following CEMP sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP sub-plan and be consistent with the CEMF and CEMP referred to in Condition C1. The Construction Traffic Management Plan must also be prepared in accordance with the Construction Traffic Management Framework as required by Condition E81.</p> <table><tr><td>ID</td><td>Required CEMP Subplans</td><td>Relevant Government Agencies to be consulted for each CEMP submission</td></tr><tr><td>a)</td><td>Noise and Vibration</td><td>Relevant Council(s)</td></tr><tr><td>b)</td><td>Biodiversity</td><td>OEH and Relevant Councils</td></tr><tr><td>c)</td><td>Air quality</td><td>N/A</td></tr><tr><td>d)</td><td>Soil and Water</td><td>DPI Water, Relevant Council(s), OEH, SES, NSW Fire and Rescue</td></tr><tr><td>e)</td><td>Groundwater</td><td>DPI Water</td></tr><tr><td>f)</td><td><del>Blasting</del></td><td><del>N/A</del></td></tr><tr><td>g)</td><td>Heritage</td><td>Heritage Council (or its delegate) and Relevant Council(s)</td></tr><tr><td>h)</td><td><del>Construction Traffic</del></td><td><del>Relevant road Authorities, RMS, Sydney Coordination Office</del></td></tr></table>	ID	Required CEMP Subplans	Relevant Government Agencies to be consulted for each CEMP submission	a)	Noise and Vibration	Relevant Council(s)	b)	Biodiversity	OEH and Relevant Councils	c)	Air quality	N/A	d)	Soil and Water	DPI Water, Relevant Council(s), OEH, SES, NSW Fire and Rescue	e)	Groundwater	DPI Water	f)	<del>Blasting</del>	<del>N/A</del>	g)	Heritage	Heritage Council (or its delegate) and Relevant Council(s)	h)	<del>Construction Traffic</del>	<del>Relevant road Authorities, RMS, Sydney Coordination Office</del>	Prior Construction to	Environment Manager Heritage Specialist	This Plan Section 1.4 Appendix B
ID	Required CEMP Subplans	Relevant Government Agencies to be consulted for each CEMP submission																													
a)	Noise and Vibration	Relevant Council(s)																													
b)	Biodiversity	OEH and Relevant Councils																													
c)	Air quality	N/A																													
d)	Soil and Water	DPI Water, Relevant Council(s), OEH, SES, NSW Fire and Rescue																													
e)	Groundwater	DPI Water																													
f)	<del>Blasting</del>	<del>N/A</del>																													
g)	Heritage	Heritage Council (or its delegate) and Relevant Council(s)																													
h)	<del>Construction Traffic</del>	<del>Relevant road Authorities, RMS, Sydney Coordination Office</del>																													
C4	The CEMP sub-plans must state how:																														
(a)	the environmental performance outcomes identified in the EIS as amended by the documents listed in A1 will be achieved;	Prior Construction to	Environment Manager	This Table (last section)																											
(b)	the mitigation measures identified in the EIS as amended by documents listed in A1 will be implemented;	Prior Construction to	Environment Manager	This Table																											
(c)	the relevant terms of this approval will be complied with; and	Prior Construction to	Environment Manager	This Table																											

Condition	Requirement	Timing	Responsibility	Reference
(d)	issues requiring management during construction, as identified through ongoing environmental risk analysis, will be managed.	During Construction	Environment Manager Heritage Specialist	Section 6 Section 7
C5	The CEMP sub-plans must be developed in consultation with relevant government agencies. Where an agency(ies) request(s) is not included, the Proponent must provide the Secretary justification as to why. Details of all information requested by an agency to be included in a CEMP sub plan as a result of consultation and copies of all correspondence from those agencies must be provided with the relevant CEMP sub-plan.	Prior Construction to	Environment Manager Heritage Specialist	Section 1.4 Appendix B
C6	Any of the CEMP sub-plans may be submitted to the Secretary along with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before commencement of construction.	Prior Construction to	Environment Manager	Section 1.5
C7	The CEMP must be endorsed by the ER and then submitted to the Secretary for approval no later than one (1) month before the commencement of construction or within another timeframe agreed with the Secretary.	Prior Construction to	Environment Manager	Section 1.5
C8	Construction must not commence until the CEMP and all CEMP sub-plans have been approved by the Secretary. The CEMP and CEMP sub-plans, as approved by the Secretary, including any minor amendments approved by the ER (or AA in regards to the Noise and Vibration sub-plan), must be implemented for the duration of construction. Where the CSSI is being staged, construction of that stage is not to commence until the relevant CEMP and sub-plans have been approved by the Secretary.	Prior Construction to	Environment Manager	Section 1.5
E10	The Proponent must not destroy, modify or otherwise physically affect any Heritage item not identified in documents referred to in Condition A1	During Construction	Environment Manager	Section 7
E13	The Proponent must prepare a Heritage Archival Recording Report, including photographic recording of the heritage items identified in documents referred to in Condition A1. Archival recording must include but not be limited to the following heritage items: (a) any component of the Blues Point Waterfront Group and the McMahon's Point South heritage conservation area to be directly affected or altered, including vegetation and significant landscape features; (b) Hickson Road wall in the vicinity of proposed ventilation risers and skylights for Barangaroo Station or any other project elements to be located in front of the Hickson Road wall; (c) Martin Place, between Elizabeth and Castlereagh Streets, Sydney; (d) the Rolling Stock Officers' Garden, Rolling Stock Officers' Building and Cleaners' Amenities Building in Sydney Yard and any other component of the Sydney Terminal and Central Railway Stations group to be removed or altered; and (e) any component of Sydenham Station or Sydenham Pit and Pumping Station to be removed or altered; and (f) views from Mortuary Station before construction of the Sydney Yard Access Bridge.	Prior Construction to	Heritage Specialist	Section 7.8

Condition	Requirement	Timing	Responsibility	Reference
	<p>(g) Former Metro Goldwyn Mayer' building including interior. 22-28 Chalmers Street, Surry Hills.</p> <p>The archival recording must be undertaken by a suitably qualified heritage specialist and prepared in accordance with NSW Heritage Office's How to Prepare Archival Records of Heritage Items (1998) and Photographic Recording of Heritage Items Using Film or Digital Capture (2006).</p> <p>Within two (2) years of completing the archival recording, or any other later time agreed by the Secretary, the Proponent must submit the Heritage Archival Recording Report to the Department, the OEH, Heritage Council of NSW, Relevant Council(s), relevant local libraries and local historical societies in the respective local government area(s).</p>			
E14	In addition to the archival recording as required by Condition E13, the Proponent must, prior to demolition, undertake external photography of all buildings and structures to be demolished, in consultation with and to the standards of the relevant Council. The recordings must be made available to the relevant Council.	Prior construction to	Heritage Specialist Construction Manager	All demolished heritage structures will be recorded as per E13
E15	The Proponent must salvage items of heritage value from heritage listed buildings and structures to be demolished before demolition, and assess options for its sympathetic reuse (including integrated heritage displays) on the project or other options for repository, reuse and display. Suitable repository locations must be established in consultation with Relevant Council(s). Any State listed items or elements suitable for salvage must be determined in consultation with the Heritage Division of the OEH.	Prior construction to	Heritage Specialist	Section 7.3
E16	<p>The Proponent must prepare a Salvage Report, including photographic recording of the heritage items identified for salvage in documents referred to in Condition A1. The Salvage Report must include:</p> <p>(a) the internal heritage fabric removed from within the curtilage of Mowbray House, Chatswood;</p> <p>(b) the interior, exterior and setting of the shop at 187 Miller Street, North Sydney;</p> <p>(c) the fabric and setting of the North Sydney bus shelters;</p> <p>(d) the interior, exterior and setting of the 'Flat Building' at 7 Elizabeth Street, Sydney;</p> <p>(e) the heritage fabric of the existing Martin Place Station affected by the project; and</p> <p>(f) the heritage fabric of the existing Sydenham Station affected by the project; and</p> <p>(g) directly impacted parts of the Congregational Church at Waterloo.</p> <p>(h) Former Metro Goldwyn Mayer' building including interior. 22-28 Chalmers Street, Surry Hills.</p>	Prior construction to	Heritage Specialist	Section 7.3
E17	The Archaeological Assessment Research Design Report (AARD) in the documents listed in A1 must be implemented. Final Archaeological Method Statements must be prepared in consultation with the Heritage Council of NSW (or its delegate) before commencement of archaeological excavation works. The final methodology must:	Prior Construction to	Heritage Specialist	Section 5.3



Condition	Requirement	Timing	Responsibility	Reference
	(a) provide for the detailed analysis of any heritage items discovered during the investigations; (b) include detailed site specific archaeological management and artefact management strategies; (c) include cored soil samples for soil and pollen for the Pitt Street site within the Tank Stream Valley; and (d) provide for a sieving strategy			
E18	<p>Before excavation of archaeological management sites, the Proponent must nominate a suitably qualified Excavation Director who complies with the Heritage Council of NSW's Criteria for Assessment of Excavation Directors (July 2011) to oversee and advise on matters associated with historic archaeology and advise the Department and OEH.</p> <p>Where archaeological excavation is required, the Excavation Director must be present to oversee excavation and advise on archaeological issues. The Excavation Director must be given the authority to advise on the duration and extent of oversight required as informed by the provisions of the approved AARD and Excavation Methodology.</p> <p>A final archaeological report must be submitted to the Heritage Council of NSW within two (2) years of the completion of archaeological excavation on the project. The report must include information on the entire historical archaeological program relating to the CSSI</p>	Prior Construction to	Heritage Specialist	Section 8.1 Appendix C
E19	<p>An Unexpected Heritage Finds Procedure must be prepared:</p> <p>(a) to manage unexpected heritage finds in accordance with any guidelines and standards prepared by the Heritage Council of NSW or OEH; and</p> <p>(b) by a suitably qualified and experienced heritage specialist.</p> <p>The procedure must be included in the AARD and must be implemented for the life of the project.</p>	Prior Construction to	Heritage Specialist	Section 7.5 Appendix D
E20	<p>In the event that a potential relic/s is/are discovered, relevant construction must cease in the affected area and the Excavation Director must be notified and assess the significance level of the find/s and provide mitigation advice according to the significance level and the impact proposed. The Excavation Director must attend the site in accordance with E18 to oversee the excavation where relics of State significance are found.</p> <p>The Secretary must be notified at the same time as the Heritage Council of NSW (or its delegate) of any relic of State significance found.</p> <p>An Archaeological Relic Management Plan specific to the relic of State significance must be prepared in consultation with the Heritage Council of NSW (or its delegate) to outline measures to be implemented to avoid and/or minimise harm to and/or salvage the relic of State significance.</p> <p>Construction in the vicinity of the discovery must not recommence until the requirements of the ARMP have been implemented, in consultation with the Excavation Director. The Proponent must notify the Secretary in writing of the outcome of consultation on the Archaeological Relic Management Plan with the Heritage Council of NSW</p>	During Construction	Environment Manager Heritage Specialist Excavation Director	Section 7.3 Appendix D

Condition	Requirement	Timing	Responsibility	Reference
E21	<p>The Proponent must prepare a Heritage Interpretation Plan which identifies and interprets the key Aboriginal and Non-Aboriginal heritage values and stories of heritage items and heritage conservation areas impacted by the CSSI. The Heritage Interpretation Plan must inform the Station Design and Precinct Plan referred to in Condition E101. The Heritage Interpretation Plan must be prepared in accordance with the NSW Heritage Manual, the NSW Heritage Office's Interpreting Heritage Places and Items: Guidelines (August 2005), and the NSW Heritage Council's Heritage Interpretation Policy and include, but not be limited to:</p> <p>(a) a discussion of key interpretive themes, stories and messages proposed to interpret the history and significance of the affected heritage items and sections of heritage conservation areas including, but not limited to the Sydney Terminal and Central Railway Stations Group, Martin Place Station, Sydenham Station and Sydenham Pit and Drainage Pumping Station Precincts;</p> <p>(b) identification and confirmation of interpretive initiatives implemented to mitigate impacts to archaeological Relics, heritage items and conservation areas affected by the CSSI including;</p> <p>i. use of interpretative hoardings during construction</p> <p>ii. community open days</p> <p>iii. community updates</p> <p>iv. station and precinct design; and</p> <p>(c) Aboriginal cultural and heritage values of the project area including the results of any archaeological investigations undertaken.</p> <p>The Heritage Interpretation Plan must be prepared in consultation with the Heritage Council of NSW (or its delegate), Relevant Councils and Registered Aboriginal Parties, and must be submitted to the Secretary before commencement of construction.</p>	Prior Construction to	Heritage Specialist	Section 7.9
E23	The Proponent must take all reasonable steps so as not to harm, modify or otherwise impact any Aboriginal object associated with the CSSI except as authorised by this approval.	During Construction	Environment Manager	Section 1.3 Section 5.2
E24	Before excavation, the Proponent must implement the Aboriginal Cultural Heritage Assessment prepared for the CSSI and included in the PIR. Excavation and/or salvage must be undertaken by a qualified archaeologist in consultation with the Registered Aboriginal Parties for the CSSI.	Prior Construction to	Environment Manager Heritage Specialist Excavation Director	Section 5.2
E25	Where previously unidentified Aboriginal objects are discovered during construction of the CSSI, construction must stop in the vicinity of the affected area and a suitably qualified and experienced Aboriginal heritage expert must be contacted to provide specialist heritage advice, before works recommence. The measures to consider and manage this process must be specified in the Heritage Management sub-plan required by Condition C3 and, where relevant, include registration in the OEH's Aboriginal Heritage Information Management System (AHIMS).	Prior Construction to	Environment Manager Heritage Specialist Excavation Director	Section 5.2 Appendix D

Condition	Requirement	Timing	Responsibility	Reference
E26	This approval does not allow the Proponent to harm, modify, or otherwise impact human remains uncovered during the construction and operation of the CSSI, except in accordance with the Exhumation Management Plan (Condition E27).	During Construction	Environment Manager	Section 1.3 Appendix D
E27	An Exhumation Management Plan must be prepared to guide the relocation of recovered human remains. The Exhumation Management Plan must be prepared: (a) in consultation with, and meeting the requirements of, the OEH and NSW Health; and (b) in accordance with the Guidelines for Management of Human Skeletal Remains (NSW Heritage Office, 1998b) and NSW Health Policy Directive — Exhumation of human remains (December, 2013), and other relevant guidelines and standards prepared by the Heritage Council of NSW or OEH. The Exhumation Management Plan must be provided to the Secretary for information before the commencement of excavation works. Note: Human remains that are found unexpectedly during works are under the jurisdiction of the NSW State Coroner and must be reported to the NSW Police immediately.	During Construction	Sydney Metro	Previously prepared by Sydney Metro on the 1/5/2017
E31	The Proponent must seek the advice of a heritage specialist on methods and locations for installing equipment used for vibration, movement and noise monitoring of heritage-listed structures.	During Construction	Environment Manager Heritage Specialist	Section 7.1.6
<b>Revised Environmental Management Measures</b>				
NAH1	Archival recording and reporting of the following heritage items would be carried out in accordance with the NSW Heritage Office's How to Prepare Archival Records of Heritage Items (1998a), and Photographic Recording of Heritage Items Using Film or Digital Capture (2006): O The internal heritage fabric and any non-original elements removed from within the curtilage of Mowbray House, Chatswood O The interior, exterior and setting of the shop at 187 Miller Street, North Sydney O The fabric and setting of the North Sydney bus shelters requiring removal and temporary relocation at Victoria Cross Station and Blues Point temporary site O Any component of the Blues Point Waterfront Group and the McMahons Point South heritage conservation area to be directly affected or altered, including vegetation and significant landscape features O Hickson Road wall in the vicinity of proposed ventilation risers and skylights for Barangaroo Station O The interior, exterior and setting of the 'Flat Building' at 7 Elizabeth Street, Sydney O Martin Place, between Elizabeth and Castlereagh streets, Sydney O The heritage fabric of areas of the existing Martin Place Station affected by the project	Prior Construction to	Heritage Specialist	Section 7.8

Condition	Requirement	Timing	Responsibility	Reference
	<ul style="list-style-type: none"> <li>O The Rolling Stock Officers Garden, Rolling Stock Officers Building and Cleaners Amenities Building in Sydney Yard and any other component of the Sydney Terminal and Central Railway Stations group to be removed or altered</li> <li>O The Bounce Hostel building (former MGM building)</li> <li>O Directly impacted parts of the Congregational Church at Waterloo</li> <li>O Sydenham Pit and Drainage Pumping Station 1</li> <li>O Sydenham Railway Station Group: Platform 6 building and Platform 1 Parcels Office</li> </ul>			
NAH2	The archaeological research design would be implemented. Significant archaeological findings would be considered for inclusion in heritage interpretation (as per NAH8) for the project and be developed in consultation with the relevant local council.	During Construction	Heritage Specialist	Section 5.3 Section 7.9
NAH3	An Exhumation Policy and Guideline would be prepared and implemented. It would be developed in accordance with the Guidelines for Management of Human Skeletal Remains (NSW Heritage Office, 1998b) and NSW Health Policy Directive – Exhumation of human remains (December, 2013). It would be prepared in consultation with NSW Heritage Office and NSW Health.	During Construction	Sydney Metro	This has been completed previously by Sydney Metro
NAH4	The method for the demolition of existing buildings and / or structures at Chatswood dive site, Victoria Cross Station, Martin Place Station, Pitt Street Station, Central Station and Waterloo Station and Sydenham Station would be developed to minimise direct and indirect impacts to adjacent and / or adjoining heritage items.	During Construction	Environment Manager Construction Manager Demolition Contractor	Section 7.1.3 Section 7.1.4
NAH6	The project design would be sympathetic to heritage items and, where reasonable and feasible, minimise impacts to the setting of heritage items. The detailed design for Martin Place Station, and Central Station, Sydenham Station and the aqueduct over the Sydenham Pit and Drainage Pumping Station would be developed with input from a heritage architect.	Prior Construction to	Design Manager Heritage Specialist	This would be managed through the design process Section 7.11
NAH7	The project design would be sympathetic to heritage items and, where reasonable and feasible, minimise impacts to the setting of heritage items. The detailed design for Martin Place Station, and Central Station, Sydenham Station and the aqueduct over the Sydenham Pit and Drainage Pumping Station would be developed with input from a heritage architect.	Prior Construction to	Design Manager Heritage Specialist	This would be managed through the design process Section 7.11
NAH8	Appropriate heritage interpretation would be incorporated into the design for the project in accordance with the NSW Heritage Manual, the NSW Heritage Office's Interpreting Heritage Places and Items: Guidelines (August 2005), and the NSW Heritage Council's Heritage Interpretation Policy.	Prior Construction to	Design Manager Heritage Specialist	Section 7.9 Section 7.11
NAH11	Except for heritage significant elements affected by the project, direct impact on other heritage significant elements forming part of the following items would be avoided:	During Construction	Environment Manager	Section 6



Condition	Requirement	Timing	Responsibility	Reference
	<ul style="list-style-type: none"> <li>○ The Blues Point Waterfront Group (including the former tram turning circle, stone retaining wall, bollards and steps)</li> <li>○ The Millers Point and Dawes Point Village Precinct</li> <li>○ The existing Martin Place Station</li> <li>○ Sydney Terminal and Central Railway Stations group</li> <li>○ Sydney Yard (including the Shunters Hut and Prince Alfred Sewer)</li> <li>○ The existing Sydenham Station</li> <li>○ Brick retaining walls near Sydenham Station.</li> </ul>			
NAH20	The design and detailed construction planning of works directly impacting the Sydenham Pit and Drainage Pumping Station would consider the requirements of the Sydenham Pit & Drainage Pumping Station 1 Conservation Management Plan (Sydney Water, 2004).	Prior Construction to	Design Manager	This will be considered during the design phase Section 7.3, 7.11
AH1	Aboriginal stakeholder consultation would be carried out in accordance with the NSW Office of Environment and Heritage's Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.	Prior Construction to	Heritage Specialist	Section 1.4
AH2	The cultural heritage assessment report would be implemented.	Prior Construction to	Environment Manager Heritage Specialist	Section 5.2 Section 7.2
AH3	Archaeological test excavation (and salvage when required) would be carried out where intact natural soil profiles with the potential to contain significant archaeological deposits are encountered at the Blues Point temporary site, Barangaroo Station, Martin Place Station, Pitt Street Station, Central Station, Waterloo Station and Marrickville dive site. Excavations would be conducted in accordance with the methodology outlined in the Aboriginal cultural heritage assessment report	Prior Construction to	Environment Manager Heritage Specialist	Section 5.2 Section 7.2
AH4	Appropriate Aboriginal heritage interpretation would be incorporated into the design for the project in consultation with Aboriginal stakeholders.	Prior Construction to	Design Manager Heritage Specialist	Section 7.9
<b>Construction Environmental Management Framework</b>				
10.1(a)	<p>The following heritage management objectives will apply to construction:</p> <ul style="list-style-type: none"> <li>• Embed significant heritage values through any architectural design, education or physical interpretation.</li> <li>• Minimise impacts on items or places of heritage value.</li> <li>• Avoid accidental impacts on heritage items.</li> <li>• Maximise worker's awareness of indigenous and non-indigenous heritage</li> </ul>	During Construction	Environment Manager Design Manager Heritage Specialist	<p>Section 1.3 Section 7.11, 7.9</p> <p>Section 7.1</p> <p>Section 7.6</p>

Condition	Requirement	Timing	Responsibility	Reference
10.2(a)	Principal Contractors will develop and implement a Heritage Management Plan which will include as a minimum: Evidence of consultation with Registered Aboriginal Parties and the NSW Heritage Council;	Prior Construction to	Environment Manager Heritage Specialist	This Plan Section 1.4 Appendix B
	Identify initiatives that will be implemented for the enhancement of heritage values and minimisation of heritage impacts, including procedures and processes that will be used to implement and document heritage management initiatives;	During Construction	Environment Manager Heritage Specialist	Section 7
	The heritage mitigation measures as detailed in the environmental approval documentation.	Prior Construction to	Environment Manager	Appendix A
	The responsibilities of key project personnel with respect to the implementation of the plan.	Prior Construction to	Environment Manager	Section 8
	Procedures for interpretation of heritage values uncovered through salvage or excavation during detailed design	Prior Construction to	Environment Manager Heritage Specialist	Section 7.9 Section 7.2 Section 7.3
	Procedures for undertaking salvage or excavation of heritage relics or sites (where relevant) and any recordings of heritage relics prior to works commencing that would affect them	During Construction	Environment Manager Heritage Specialist	Section 5 Section 7
	Details for the short and / or long term management of artefacts or movable heritage	During Construction	Environment Manager Heritage Specialist	Section 7.1.5
	Details of management measures to be implemented to prevent and minimise impacts on heritage items (including further heritage investigations, archival recordings and/ or measures to protect unaffected sites during construction works in the vicinity);	During Construction	Environment Manager Heritage Specialist	Section 5 Section 7
	Procedures for unexpected heritage finds, including procedures for dealing with human remains.	During Construction	Environment Manager Heritage Specialist	Section 7.5 Appendix D
	Heritage monitoring requirements.	During Construction	Environment Manager Heritage Specialist	Section 7.1.6 Section 7.2 Section 7.3
	Compliance record generation and management.	During Construction	Environment Manager	Section 9
10.2(b)	The Contractor's regular inspection will include checking of heritage mitigation measures	During Construction	Environment Manager	Section 9

Condition	Requirement	Timing	Responsibility	Reference
10.2(c)	Compliance records will be retained by the Contractor. These will include: i. Inspections undertaken in relation to heritage management measures;			Section 9 Section 7.3
	ii. Archival recordings undertaken of any heritage item;			Section 7.8
	iii. Unexpected finds and stop work orders; and			Section 7.5
	iv. Records of any impacts avoided or minimised through design or construction methods			Section 9 Section 7.11
10.3(a)	Examples of heritage mitigation measures include: i. Any heritage item not affected by the works will be retained and protected throughout construction.	During Construction	Environment Manager	Section 7.1.3 Section 7.1.4
	ii. During construction undertake professional archaeological investigation, excavation, and reporting of any historical Indigenous heritage sites of state significance which will be affected. Reporting may be completed as construction progresses;	During Construction	Environment Manager Heritage Specialist Excavation Director	Section 5
	iii. Undertake archival recordings of all non-Indigenous heritage items affected by the works prior to commencement of works	Prior to Construction	Heritage Specialist	Section 7.8
	iv. Implement unexpected heritage find procedures for Indigenous and non-Indigenous heritage items.	During Construction	Environment Manager Heritage Specialist	Section 7.5 Appendix D
<b>Environmental Performance Outcomes (Section 11.3 of the SPIR)</b>				
Table 11-2	Non-Aboriginal heritage <ul style="list-style-type: none"> <li>The project would be sympathetic to heritage items and, where feasible and reasonable, avoid and minimise impacts to non-Aboriginal heritage items and archaeology</li> <li>The design of the project would reflect the input of an independent heritage architect, relevant stakeholders and the design review panel</li> </ul>	During Construction	Environment Manager Design Manager Heritage Specialist	Section 7 Section 8
	Aboriginal heritage <ul style="list-style-type: none"> <li>The project would be sympathetic to heritage items and, where feasible and reasonable, avoid and minimise impacts to Aboriginal heritage items and archaeology</li> <li>The design of the project would reflect the input of an independent heritage architect, relevant stakeholders and the design review panel</li> </ul>	During Construction	Environment Manager Design Manager Heritage Specialist	Section 7 Section 8

## Appendix B - Consultation

Agency	Comment	JHLOR Response
Office of Environment and Heritage	<p>Dear Mr Newling,</p> <p>I refer to your email and letter dated 13 April 2018 requesting review of the Construction Heritage Management Plan for the above described State Significant Infrastructure project.</p> <p>I understand that John Holland Laing O'Rourke Joint Venture have been engaged by Sydney Metro Delivery Office to undertake construction of the Sydenham Station and Junction (SSJ) as part of the approved Sydney Metro Chatswood to Sydenham project. A CHMP has been developed and submitted, as per the planning approval requirement condition CoA C3 (g) of project approval SSI 15_7400 and Modification No. 4 (Sydenham Junction Works). This condition requires the project to develop a Heritage Management Plan in consultation with OEH (Heritage Council delegate).</p> <p>After a brief review, it has been identified that the most up to date design has not been presented within the draft CHMP – based on the presentation at the recent Heritage Working Group.</p> <p>To avoid version control and multiple edit issues, we would appreciate a up to date draft for our review, prior to providing any review comment.</p>	<p>The intent of the CHMP is to provide a management framework for managing heritage impacts. It is not the intent of the plan to be continually updated as the design progresses. The plan would be updated in the event that any design development results in a change to the approved impacts to the project in accordance with Section 10.</p>
	<p>Dear Cameron</p> <p>I refer to your email on 13 April 2018 requesting review of the Construction Heritage Management Plan for the Sydney Metro Sydenham Junction Works.</p> <p>I understand that John Holland Laing O'Rourke Joint Venture have been engaged by Sydney Metro Delivery Office to undertake construction of the Sydenham Station and Junction (SSJ) as part of the approved Sydney Metro Chatswood to Sydenham project. The submitted CHMP fulfils the planning approval requirement condition CoA C3 (g) of project approval SSI 15_7400, which requires the development a Heritage Management Plan in consultation with OEH (Heritage Council delegate).</p>	



Agency	Comment	JHLOR Response
	<p>This project directly affects two State Heritage Register Listed Items - Sydenham Railway Station group (SHR#01254) and the Sydenham Pit &amp; Drainage Pumping Station 1 (SHR#01644).</p> <p>The supplied document 'Construction Heritage Management Plan SMCSWSSJ-JHL-WSS-HE-PLN-000034' Rev 02 (12 April 2018) has been reviewed and the following comments are provided.</p> <ul style="list-style-type: none"> <li>• It is recommended that the CHMP structure be amended to more closely align with other Metro CHMPs. This would be beneficial for consistency and ease of use.</li> <li>• The CHMP discusses the existing mitigation measures required for the proposed modification. These include mitigation measures NAH1, NAH7 and NAH11 (page 10). However, it is understood that Sydenham Station was incorporated into NAH4 as part of SSI 7400 MOD 4. Therefore, the CHMP should include the development of a demolition methodology that minimises direct and indirect impacts to adjacent heritage items (NAH4).</li> </ul> <p>Thank you for the opportunity to provide comment on the CHMP.</p>	<p>The plan has been written using a similar structure under the LOR system used for the Sydney Metro City and Southwest Sydney Yard Access Bridge Project and Central Station Project. We note this plan was reviewed by OEH and approved by the DP&amp;E.</p> <p>Sections 7.1.3 and 7.1.4 describe the external and internal protection measures.</p> <p>Section 7.1.3 has been updated to state that that demolition methodology would be prepared by the demolition contractor to minimise direct and indirect impacts to adjacent and / or adjoining heritage items</p>
Inner West Council	<p>Hi Cameron,</p> <p>Apologies for the late reply.</p> <p>Please find the following comments in relation to Heritage:</p> <p>The nominated construction heritage management controls should adequately deal with the main heritage issues during the construction phase.</p> <ul style="list-style-type: none"> <li>• However, Council should request copies of some of the documents called for in the plan:</li> <li>• heritage site induction (7.1.1)</li> <li>• heritage specialist documents (7.3) including:</li> <li>• archival recording;</li> <li>• inventory of heritage items;</li> <li>• measured drawings;</li> </ul>	<p>The plan has been prepared and reviewed by a number of experienced heritage consultants and environmental professionals. The plan adequately deals with the construction impacts.</p> <p>These documents would be issued to IWC where requested or where required to be submitted under the planning approval. Section 1.4 has been updated to reflect this.</p>

Agency	Comment	JHLOR Response
	<ul style="list-style-type: none"> <li>heritage interpretation plan;</li> <li>adaptive reuse strategy</li> </ul> <p>No other comments have been received.</p>	
<b>Registered Aboriginal Parties</b>		
<p>Emailed or posted a copy of the Sydney Metro City and Southwest – Sydenham Station and Junction Main Works (SSJ) Construction Environmental Management Plan (CEMP) Heritage Sub-plan and an accompanying covering letter that provided updated information about the project. Invited organisations and individuals to confirm their ongoing interest in the project, and to provide feedback and comments on the CEMP.</p> <p>Requested that responses be forwarded to Laressa Barry or Alan Williams by 11th June 2018</p>		
Metropolitan Aboriginal Land Council	Local No response received	Noted.
Tocomwall	No response received	Noted.
Woronora Gundangara Elders Council	Plateau No response received	Noted.
Murra Bidgee Mullangari Aboriginal Corporation	No response received	Noted.
Aboriginal Service Inc.	Archaeology No response received	Noted.
Gundungurra Technical Services	Tribal No response received	Noted.
Bilinga Cultural Heritage Technical Services	Received bounce-back email to state that the email supplied for this organisation does not exist. No further contact details were provided for this group.	Noted.
Gunyyu Cultural Heritage Technical Services	<p>Attempted to contact via an alternative email address supplied through OEH records but received bounce-back email to state that the email supplied does not exist. No further contact details were provided for this group.</p> <p>Attempted to phone using phone number supplied, but phone number has been disconnected.</p>	Noted.

Agency	Comment	JHLOR Response
Munyunga Cultural Heritage Technical Services	Received bounce-back email to state that the email supplied for this organisation does not exist. No further contact details were provided for this group	Noted.
Murrumbil Cultural Heritage Technical Services	Received bounce-back email to state that the email supplied for this organisation does not exist. No further contact details were provided for this group.	Noted.
Wingikara Cultural Heritage Technical Services	Received bounce-back email to state that the email supplied for this organisation does not exist. No further contact details were provided for this group.	Noted.
DJMD Consultancy	No response received	Noted.
Aboriginal Heritage Office	No response received	Noted.
Gandangara Local Aboriginal Land Council	No response received	Noted.
Darug Aboriginal Cultural Heritage Assessments	No response received	Noted.
Kamilaroi Yankuntjatjara Working Group (KYWG)	Advised that KYWG had read the report and support all conclusions and recommendations.	Noted.
Office of Environment and Heritage	Advised OEH that the contact details for some of the listed Aboriginal stakeholder groups was no longer current. Requested that, if available, any additional contact details be supplied in order to consult with them.  Advised that OEH does not have any further contact details for these organisations, and recommended that we make a note of this in our consultation log.	Noted in this table.
Aboriginal Archaeology Service	Advised that AAS agreed with the recommendations as documented by Extent, and further iterated that they would prefer any artefacts recovered are displayed in the local museum, local library or local government building, or that they be reburied on site.  Reiterated they would be available for meetings and fieldwork as required.	Noted. Management of artefacts would be carried out in accordance with Section 5.2.5 of this plan.
Darug Land Observations	Forwarded letter to state that DLO supported the proposed methodology and requested that any recovered artefacts be reburied on Country (the study area).	Noted. Management of artefacts would be carried out in accordance with Section 5.2.5 of this plan





## Appendix C – Excavation Director CV's



**Graham Wilson, Senior Heritage Advisor, Extent Heritage P/L**

**Qualifications**

Bachelor of Science, University of Sydney, NSW

Bachelor of Arts, University of Sydney, NSW

**Experience**

Graham is an archaeologist with over 30 years' experience in archaeology and heritage management. He has worked on archaeological excavations in New South Wales, Victoria, Tasmania, Norfolk Island and Western Australia as well as attachment to the Abu Dhabi Islands Archaeological Survey.

Graham's ability to understand and interpret complex cultural heritage places is evident in his diverse experience including large-scale historic heritage excavations, painstaking historical research and advice on significant interpretation projects. This work has included the preparation of archaeological assessments, impact assessments, archaeological monitoring, formal excavation, field surveys, peer review, teaching and documentary studies. Graham has also contributed to interpretation plans, management plans, conservation plans, and regional and thematic studies. Technical specialisations include material culture, built heritage analysis and recording, archival research, archaeological modelling, understanding site formation processes, field methods, geology and geomorphology.

Excavation work has included projects ranging from small single allotments to field direction of several of Australia's largest archaeological projects. This work has required the management of both historical and indigenous requirements within a range of different legislative frameworks. Graham has an excellent understanding of NSW and Commonwealth heritage legislation and their application as well as the compliance process. Graham is recognised by the NSW Heritage Division as an approved Excavation Director for state significant sites in NSW. As archaeologist attached to the Kingston-Arthur's Vale Historic Area, Norfolk Island he assisted in preparing documents for the world heritage listing of the site (Australian Convict Sites listing 2010).

**Skills**

- Historical archaeology
- Cultural heritage management
- Site survey and assessment
- Interpretation

## Select Projects

### *Archaeological Assessments, Research Designs and Heritage Studies*

- Juniper Hall, Paddington, NSW Historical Archaeological Assessment Moran Arts Foundation
- Burton Street Baptist Tabernacle, Darlinghurst, NSW Historical Archaeological Assessment and Research Design City of Sydney Council
- John Berne School, Lewisham, NSW Historical Archaeological Assessment and Research Design Marist Schools Australia
- Parramatta Police Station, Parramatta, NSW Historical Archaeological Assessment UGL Services
- Former Newcastle West Cemeteries, Newcastle, NSW Historical Archaeological Assessment and Research Design t Ibis Hotels
- Windsor Flood Evacuation Route Historical Archaeological Assessment and Research Design Roads & Traffic Authority
- Westernport Land Use Optimisation Study, Hastings, Vic. AHMS for Lefta Corporation Co-ordinator non-Indigenous heritage study
- Camperdown Memorial Rest Park, Newtown, NSW (with Sophie Brettell) Archaeological Management Plan, Marrickville Council
- Parramatta Riverbank Square, Parramatta, NSW Archaeological assessment, Parramatta City Council
- Lennox Bridge Car Park, Parramatta, NSW Archaeological assessment, Lidus
- St Brigid's Church, Kent St, Sydney, NSW - Preparation of documentation for CMP, John Graham and Associates

### *Archaeological Reporting and Investigations*

- Camperdown Memorial Rest Park, Newtown, NSW (with Sophie Brettell) Excavation report, Marrickville Council
- Burton Street Baptist Tabernacle, Darlinghurst, NSW Excavation report City of Sydney Council
- Castle Hill Heritage Park, Castle Hill NSW Excavation report to Baulkham Hills Shire Council
- Parramatta Police Station, Parramatta, NSW Excavation report for UGL Services
- University Hall, Glebe, NSW (GML) Excavation report
- 330 Church Street, Parramatta, Excavation report for Meriton
- 161 Castlereagh Street, Sydney, NSW for Grocon
- 143 Nepean Highway, Dromana, Vic AHMS for Watsons P/L Director, field study and archaeological assessment
- Prince of Wales Hospital. Randwick Destitute Children's Asylum Cemetery Excavation Report GML/Austral for SEAHS
- Camp Street Precinct, Ballarat, Vic. GML and La Trobe University Report to Ballarat City Council
- 8 Pakenham Street, Fremantle Report to TPG Town Planning Urban Design & Heritage on behalf of Westbridge Property Group Excavation director and reporting
- Cumberland/Gloucester Streets Excavation, Sydney, NSW (GML) Sydney Cove Authority Archaeological Excavation director and reporting

- Casselden Place, Melbourne, (GML/Austral Archaeology/La Trobe University) Excavation director and reporting
- St Patrick's Church, Church Hill, Sydney, NSW (GML) Excavation director and reporting
- Former Bega Cemetery, Bega, NSW Monitoring and reporting

*World Heritage Listed Places (Australia)*

- **Kingston –Arthur's Vale Historic Area, Norfolk Island**—Site archaeologist—Client: KAVHA Board.

**Excavation Director Criteria—Graham Wilson**

*1. Qualifications and Fieldwork Experience*

I hold the following degrees - Bachelor of Science, University of Sydney and Bachelor of Arts, University of Sydney. The BSc was a major in geology – primarily palaeontology, sedimentology and geophysics. The BA was a major in archaeology – classical, near-eastern and historical archaeology. My professional experience in historical archaeology commenced in 1979 as a freelance archaeologist and then as a heritage consultant with AHMS P/L (now Extent Heritage).

My expertise lies in planning and managing historical archaeology projects, including archaeological excavation, report preparation and heritage advice. I am experienced in preparation of archaeological assessments, impact statements, management plans, research designs and excavation reports for a wide range of industrial and historical archaeological sites.

I have directed a range of field projects that include test excavations, monitoring programs and open area excavation on sites of both local and State significance working multi-disciplinary teams of professionals including archaeologists, engineers, geomorphologists, artefact specialists, conservators and architects. These include city block developments such as Casselden Place in Melbourne and the Cumberland-Gloucester Streets site in Sydney.

My overseas experience includes excavation and survey projects for the Abu Dhabi Islands Archaeological Survey.

My memberships and affiliations include:

- Australasian Society for Historical Archaeology (ASHA)
- Australian Institute for Maritime Archaeology

*2. A demonstrated understanding of NSW heritage legislation, assessment criteria and relevant archaeological guidelines/best practice methods and standards.*

I have an excellent understanding of the NSW heritage legislation and am able to provide advice on the application of this legislation for the assessment and management of historical archaeological sites and relics.

As a senior heritage advisor, I have applied assessment criteria in accordance with archaeological potential and heritage significance guidelines. In carrying out of significance assessments ensure that criteria expressed in the Burra Charter, the NSW Heritage Manual (Assessing Significance for Historical Archaeological Sites and 'Relics, December 2009') are applied. These services are provided in accordance with the best practice methods and standards guided by the Historical Archaeology Code of Practice (2006) and Ethical Principles and Practice compiled in the Burra Charter. Some of the key projects include:



- Camperdown Memorial Rest Park, Newtown, NSW
- Burton Street Baptist Tabernacle, Darlinghurst, NSW
- Castle Hill Heritage Park, Castle Hill NSW (SHR listed)
- Parramatta Police Station, Parramatta, NSW
- University Hall, Glebe, NSW
- 330 Church Street, Parramatta
- Kirkham Stables, Kirkham NSW (SHR listed)
- Juniper Hall, Paddington, NSW (SHR listed)
- John Berne School, Lewisham, NSW
- St Patrick's, Church Hill, Sydney, NSW (SHR listed)

3. *Demonstrated experience in the investigation of historical archaeological sites, project management and preparing written archaeological assessments/site management recommendations.*

I have extensive experience in the investigation of historical archaeological sites New South Wales, Tasmania, Victoria and Western Australia. As excavation director and/or team leader I have directed professional archaeologists, students and volunteers and provided training in field methods, recording, artefact processing, data entry and reporting. I have participated in a number of 'Open Day' events across to facilitate community connection with heritage.

As part of heritage requirements for development applications or excavation permits I have prepared archaeological assessments both as standalone reports and sections of larger documents such as Heritage Impact Statements, Conservation management Plans, Plans of Management, etc.

4. *Ability to demonstrate that work under any approvals previously granted by the Heritage Council has been completed in accordance with the conditions of that approval and the final report has been submitted to the Heritage Office.*

- Camperdown Memorial Rest Park, Newtown, NSW. Excavation Permit 2014/S140/01 and variations 2014/S144/06 and 2015/S144/01. Report on excavation results to date.
- Burton Street Baptist Tabernacle, Darlinghurst NSW. Excavation Permit 2012/S140/06. Final report was submitted to the Heritage Division.
- Parramatta Police Station, Parramatta, NSW. S139(4) exception notification endorsed on 26 May 2011. Results of the archaeological testing program submitted to the Heritage Division.
- Castle Hill Heritage Park, Castle Hill NSW. Excavation Approval under s60. Results of the archaeological testing program submitted to the Heritage Branch.
- UWS Westmead, NSW. Excavation Permit 2014/S140/28. Report on excavation.
- 330 Church Street, Parramatta, NSW Results of the archaeological testing program submitted to the Heritage Division. Carried out under part 3A.
- St Patrick's, Church Hill, Sydney. Excavation Approval under s60. Results of the archaeological monitoring program submitted to the Heritage Branch.
- University Hall, Glebe, NSW (GML) Excavation permit under s139. Results of the archaeological testing, monitoring and analysis submitted to the Heritage Branch.

Archaeological work s approved under the following permits are still in progress:

- Eileen O'Connor Catholic College, Lewisham, NSW Permit 2015/s140/18; and
- Camperdown Memorial Rest Park, Newtown, NSW Permit S144 Variation 2016/S144/04.

## *Section B – Testing/Monitoring/Open Area Excavation*

### **Excavation Director needs to demonstrate his/her understanding of the meaning (date, type, common application in the past) of basic fabric types likely to be encountered**

In my professional experience of over thirty years I have gained excellent knowledge of various fabric types. I have been trained in identification, sorting, cataloguing and analysis of historical artefacts while working on projects that have generated some of the largest archaeological assemblages in Australia. I have excavated a number of historical archaeological assemblages ranging from the late eighteenth to the late nineteenth and early twentieth century dates. I have provided advice as a ceramics specialist on a number of Australia's major excavations including The Mint and Hyde Park Barracks and the Cumberland-Gloucester Street site.

My skills include:

- Recognition of various fabric types from different phases of the site.
- Ability to recognise and identify site formation processes.
- Ability to ascertain a degree of disturbance and/or preservation of archaeological remains.
- Comprehensive recording of stratigraphy and preparation of Harris Matrix.
- Ability to prepare an excavation report outlining project initiation, excavation strategy and methodology employed during the project, excavation results, synthesis and conclusions accompanied by a context catalogue
- Management and working within a team of specialists including civil engineers, architects, interpretation specialists, conservators.
- Ability to undertake artefacts analysis and liaise with heritage professionals including artefacts specialists, conservation specialists, heritage architects, historians, planners, engineers, environmental scientists, geophysicists, etc.
- Ability to identify and date building materials
- Specialist excavation management for both former and active cemeteries
- Ability to direct machine excavation and a proven ability to guide the machine excavation with minimal impact on unexcavated or significant fabric

### **Excavation Director needs to demonstrate his/her ability to recognise and interpret taphonomic processes and meaning:**

I have worked on a number of archaeological sites within New South Wales, Tasmania and Victoria in various capacities; from an assistant archaeologist, trench supervisor, site/area supervisor to the Excavation Director. I have worked with a range of soil and landscape types and can identify modified and unmodified landscapes. I have also worked on a large number of complex sites in which both natural and cultural site formation processes have modified the stratigraphic record. I have a demonstrated ability to link deposits to activities and understand a range of processes that result in the creation of a wide range of deposit types.

My experience and professional training allow me to discriminate between deposits that have little or no cultural significance from those that are significant at a local or State level.

### **Excavation Director needs to demonstrate his/her ability to complete adequate recording of stratigraphy, soils, features without needing to re-excavate previous trenches**

I have demonstrated a high level of responsibility for the record keeping on a number of complex projects that have required detailed recording using a written record, context registers and sheets, photo and video record, measured site drawings and on-site 3D recording. The final products include

database records, 2D and 3D imagery, post excavation reports. The recording process is rigorously controlled and back-filling only occurs after the record is regarded as complete. I have never re-excavated a trench except in instances where a partially completed trench has been backfilled for logistical reasons rather than as a result of inadequate recording.

**Excavation Director needs to demonstrate his/her ability to manage/work within a multi-faceted team of heritage professionals;**

I have undertaken many projects that have involved multidisciplinary teams of professionals including artefact specialists, geomorphologist, engineers, architects, historians, interpretation specialists, forensic archaeologist and GIS specialist, as well as documentary film makers.

In a number of instances this work has included on-site design changes resulting from the nature of the archaeological resource and the need to change engineering requirements in order to avoid impacts. Similarly, working with hydraulic and other service engineers, designs have been altered in order to avoid impacts.

**Excavation Director needs to demonstrate his/her commitment to operating within the principles outlined in relevant Heritage Council's guidelines and policies, including but not limited to: Historical Archaeology Code of Practice as well as Managing Change;**

My commitment to working within the relevant State and international guidelines and policies is demonstrated through adherence to the NSW Heritage Manual Guidelines including 'Assessing Significance for Historical Archaeological Sites and Relics', Heritage Branch 2009 and the principles of Australia ICOMOS Burra Charter 2013.

All work completed within New South Wales, such as assessment reports, management documents and excavation reports are framed within the relevant New South Wales guidelines.

**Excavation Director needs to clearly demonstrate his/her understanding of the significance and archaeological research potential of sites of State significance and of the loss of information that can be incurred by application of less than best practice and/or rigorous methods both on-site and during preparation off site (including reviews of the site assessment);**

My work within the heritage discipline in New South Wales and in other states has provided me with thorough understanding of research potential and heritage/archaeological significance of various sites both of local and State significance. Work on any site is based on the full understanding of the site's research potential and significance. As a usual practice the assessment that may drive a project is regularly re-examined during the course of work, and if necessary supplemented by targeted research during on-site works.

**Excavation Director needs to clearly demonstrate his/her experience in project management of on-site interpretation**

I have been involved with a number of projects that required archaeological interpretation at a number of levels. Interpretation has included 'Open Day' tours, on-site (on-going) up-dated notice boards and hand-outs during site work. I have provided significant input in a number of Interpretation Strategies and Plans for various projects such as St Patrick's, Church Hill, 163 Castlereagh Street, The Mint and Hyde Park Barracks. As archaeologist for the Kingston-Arthur's Vale Historic Area (Norfolk Island) I contributed information for both the Norfolk Island Museums as well as on-site interpretation both in the form of strategies and plans from conception to the point of installation.



11 March 2020

Attention: Ryan Dunne  
Environmental Coordinator  
Sydenham Station and Junction Project (SSJ)  
John Holland Laing O'Rourke Joint Venture  
100A Marrickville Road  
Marrickville NSW 2204

Dear Mr Dunne,

## Sydenham Station and Junction Project—Archaeology Secondary Excavation Director

We write to advise that Dr Matthew Kelly, approved Secondary Excavation Director for the above project, no longer works for Extent Heritage.

We therefore nominate Ms Anita Yousif (Extent Heritage) to act as Secondary Excavation Director instead of Dr Kelly. Ms Yousif will be working on the archaeology of the project alongside Mr Graham Wilson, Primary Excavation Director.

Ms Yousif has been approved by Heritage NSW, Department of Cabinet and Premier to direct archaeological investigations of State significant sites and places in NSW.

A Curriculum Vitae (CV) outlining her most recent work is attached to this letter.

Yours sincerely,



**Graham Wilson**

**Principal Heritage Advisor | Extent Heritage**

Built & Urban Heritage | Aboriginal Heritage | Archaeology | Interpretation | Intangible Cultural Heritage | World Heritage

**EXTENT HERITAGE PTY LTD**

ABN 24 608 666 306 ACN 608 666 306  
info@extent.com.au  
extent.com.au

**SYDNEY**

3/73 Union Street  
Pyrmont  
P 02 9555 4000

**MELBOURNE**

13/240 Sydney Road  
Coburg  
P 03 9388 0622

**BRISBANE**

Level 12, 344 Queen St  
Brisbane  
P 07 3051 0171

**PERTH**

1/191 St Georges Tce  
Perth  
P 08 9381 5206



## ANITA YOUSIF

**Archaeology Manager/ Associate Director**

**ayousif@extent.com.au**  
T: +61 2 9555 4000

### QUALIFICATIONS

**Master of Philosophy (Hons),  
University of Sydney**

**Bachelor of Arts, University of  
Belgrade, Yugoslavia**

### MEMBERSHIPS & AFFILIATIONS

**Australian Society for Historical  
Archaeology (ASHA), President**

**ICOMOS Australia (Full Member  
International)**

**World Archaeology Congress (WAC)  
(Member)**

**National Archaeology Week Committee  
(Member)**

### Skills

- Cultural heritage management
- Site survey and assessment
- Cultural tourism
- Project management

### Experience

Anita is an archaeologist with over twenty years' experience in archaeology and heritage management.

Anita's expertise lies in the management of complex historical archaeology projects and the provision of high-level risk management advice. She has managed a number of large-scale archaeological excavations involving multidisciplinary teams.

Anita's skills include preparing archaeological assessments, archaeological impact statements, management plans, research designs and excavation reports for a wide range of industrial and urban historical archaeological sites. Anita has an excellent understanding of New South Wales and Commonwealth heritage legislation and is recognised and approved Excavation Director for state and locally significant sites in New South Wales and Victoria.

Her extensive field experience includes archaeological excavations throughout Australia and internationally (Cyprus, Italy and the Balkans), both in commercial and research contexts.

Anita also has sound knowledge of cultural tourism through her work as a tour leader in association with a Sydney-based travel agency.

Anita's research includes Sydney's urban development and convict past. She presents her work at various local and international industry forums.

### Project Portfolio

- Kingston and Arthur's Vale Historic Area (KAVHA), Norfolk Island Archaeological Zoning and Management Plan, co-author, 2018-current.
- Mt Victoria Station: excavation director, archaeological management plan and research design, 2017–ongoing.
- Windsor Bridge Replacement Project: excavation director, RMS, 2016–ongoing.
- O'Connell Street Public School (Old King's School), Parramatta: excavation director and co-author of archaeological management plan; Department of Education; 2016–2019.
- 116 Bathurst Street, Sydney: project manager and excavation director, UDS, 2016–2019.
- Greater Macarthur Investigation Area: research design and management strategy, Department of Planning and Environment.
- Parramatta Park Gardens Precinct: project director and excavation director, heritage impact statement and historical archaeological research design, Parramatta Park Trust.
- Central Park, Broadway: project manager and excavation director, Frasers Property Australia, 2010–2019.
- Sydney Opera House VAPS Project: excavation director and historical archaeological excavation report, Sydney Opera House Trust, 2016.
- Penrith Lakes: project manager and archaeological management plan, Penrith Lakes Development Corporation, 2010–2015.
- Royal Botanic Garden and the Domain, Sydney: conservation management plan, Cox Richardson for RBG & Domain Trust.
- 143–169 Macquarie Street, Parramatta: project manager and excavation director, Leighton Properties, 2014–2015.

## Appendix D – Unexpected Heritage Finds Procedure



# Sydney Metro Unexpected Heritage Finds Procedure

[SM-18-00105232]

Sydney Metro Integrated Management System (IMS)

<b>Applicable to:</b>	Sydney Metro
<b>Document Owner:</b>	Author/Document owner
<b>System Owner:</b>	IMS element owner (generally a member of the Executive)
<b>Status:</b>	Draft/Final
<b>Version:</b>	2.0
<b>Date of issue:</b>	19 March 2019
<b>Review date:</b>	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 CCSI 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*<sup>1</sup>; 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
<b>AHIP</b>	Aboriginal Heritage Impact Permit
<b>Aboriginal object</b>	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.
<b>CEMP</b>	Construction Environmental Management Plan
<b>CoA</b>	Conditions of Approval
<b>CSSD</b>	Critical State Significant Development
<b>CSSI</b>	Critical State Significant Infrastructure
<b>EP&amp;A Act</b>	<b>NSW Environmental Planning and Assessment Act 1979</b>
<b>Excavation</b>	A person that complies with the Heritage Council of NSW's Criteria for Assessment of

<sup>1</sup> 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.

<b>Director</b>	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.
<b>Heritage Act</b>	NSW <i>Heritage Act 1977</i>
<b>NPW Act</b>	NSW <i>National Parks and Wildlife Act 1974</i>
<b>OEH</b>	Office of Environment and Heritage
<b>SM</b>	Sydney Metro
<b>Relic (non-Aboriginal heritage)</b>	<p>A relic means any deposit, artefact, object or material evidence that:</p> <ul style="list-style-type: none"> <li>a) relates to the settlement of the area that comprises NSW, not being Aboriginal settlement, and</li> <li>b) is of State or local significance.</li> </ul> <p>A relic may include items such as bottles, utensils, remnants of clothing, crockery, personal effects, tools, machinery and domestic or industrial refuse.</p>
<b>TfNSW</b>	Transport for New South Wales
<b>Work (non-Aboriginal heritage)</b>	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 disturb<sup>2</sup> 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:

<sup>2</sup> 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”<sup>3</sup>.*

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 location<sup>4</sup>. 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”<sup>5</sup>.*

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 Council<sup>6</sup>. Also, when a person discovers a relic they must notify the NSW Heritage Council of its location<sup>7</sup>.

### 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.

<sup>3</sup> Section 5(1) NPW Act.

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

<sup>5</sup> Section 4(1) Heritage Act.

<sup>7</sup> 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 old<sup>8</sup> 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

<sup>8</sup> 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
<b><i>Environmental Planning and Assessment Act 1979 (EP&amp;A Act)</i></b>	Section 115ZB Giving of approval by Minister to carry out a project.
<b><i>Environmental Planning and Assessment Act 1979 (EP&amp;A Act)</i></b>	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.
<b><i>Heritage Act 1977 (Heritage Act)</i></b>	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
<b>National Parks and Wildlife Act 1974 (NPW Act)</b>	<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 OEHL 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
<b>1</b>	<b>Stop work, protect item and inform the Excavation Director</b>		
1.1	Stop all work in the immediate area of the item and notify the Project Manager	Contractor/ Supervisor	<b>Appendix 1</b> (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	<b>Appendix 2</b> (Unexpected Heritage Item Recording Form) <b>Appendix 3</b> (Photographing Unexpected Heritage items)
1.4	Is the item likely to be bone? If <b>yes</b> , 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 <b>no</b> , proceed to next step.	Excavation Director	<b>Appendix 4</b> (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 ( <b>Appendix 2</b> ). 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 <b>yes</b> , work may recommence in accordance with that approval or permit. There is no further requirement to follow this procedure. If <b>no</b> , continue to next step.	Contractors Project Manager	
1.8	Has the 'find' been damaged or harmed? If <b>yes</b> , 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	
<b>2</b>	<b>Contact and engage an archaeologist and/or an Aboriginal heritage consultant</b>		
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	<b>Appendix 3</b> (Photographing Unexpected Heritage items)



Step	Task	Responsibility	Guidance and tools
<b>3</b>	<b>Preliminary assessment and recording of the find</b>		
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 <b>Appendix 1</b> (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	
<b>4</b>	<b>Section 4 not used</b>		
<b>5</b>	<b>Notify the regulator, if required.</b>		
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 <b>no</b> , proceed directly to Step 6 If <b>yes</b> , 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	<b>Appendix 6</b> (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	
<b>6</b>	<b>Implement archaeological or heritage management plan</b>		
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	
<b>7</b>	<b>Section 7 Not Used</b>		

Step	Task	Responsibility	Guidance and tools
<b>8</b>	<b>Resume work</b>		
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
<b>Contractor / Supervisor</b>	Stop work immediately when an unexpected heritage find is encountered. Cordon off area until Environmental Manager /Excavation Director advises that work can recommence.
<b>Contractor or Environment Manager</b>	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.
<b>Contractor's or Project Heritage Advisor or Consultant</b>	Provide expert advice to the Sydney Metro Environment Manager on 'find' identification, significance, mitigation, legislative procedures and regulatory requirements.
<b>Environmental Representative</b>	Independent environmental advisor engaged by Sydney Metro Ensures compliance with relevant approvals (new and existing).
<b>Heritage Division of OEH</b>	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
<b>Registered Aboriginal Parties (RAPs)</b>	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> .
<b>Sydney Metro Environment Manager</b>	Notify the Sydney Metro Principal Manager, Environmental Management of 'find' and manage Incident Reporting once completed by Environmental Manager.
<b>Contractors Project Manager</b>	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)	
<b>Project name:</b>			
<b>Description of works being undertaken:</b>			
<b>Description of exact location of item</b>			
<b>Description of item found</b> <i>(What type of item is it likely to be? Tick the relevant boxes).</i>			
<b>A. A relic</b>	<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>B. A 'work', building or structure'</b>	<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	
<b>C. An Aboriginal object</b>	<input type="checkbox"/>	An 'Aboriginal object' may include stone tools, stone flakes, shell middens, rock art, scarred trees and human bones	
<b>D. Bone</b>	<input type="checkbox"/>	Bones can either be human or animal remains. <b>Remember that you must contact the local police immediately by telephone if you are certain that the bone(s) are human remains.</b>	
<b>E. Other</b>	<input type="checkbox"/>		
<b>Provide a short description of the item</b> <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>			

<b>Sketch</b> <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>			
<b>Action taken</b> (Tick either A or B)			
A. Unexpected item <b>would not</b> be further impacts on by the works	<input type="checkbox"/>	<b>Describe how works would avoid impact on the item.</b> (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"/>	<b>Describe how works would impact on the item.</b> (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 1<sup>9</sup>. 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.

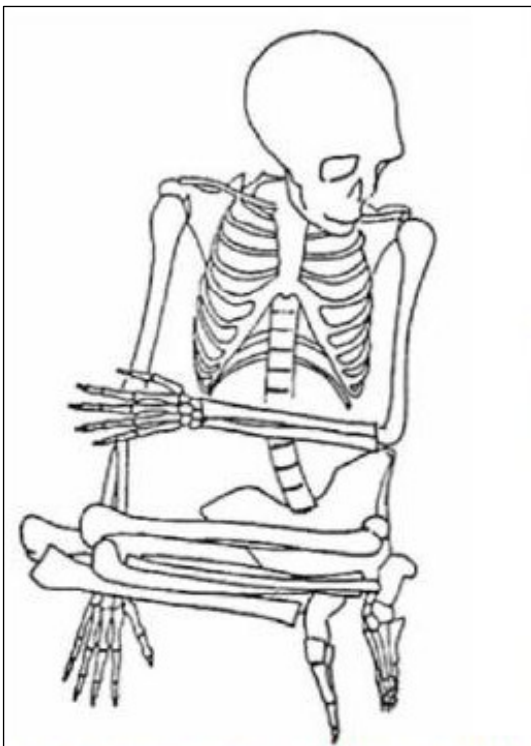


Figure 1: Schematic of a complete skeleton that is 'obviously' human<sup>12</sup>.



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

<sup>9</sup> 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.



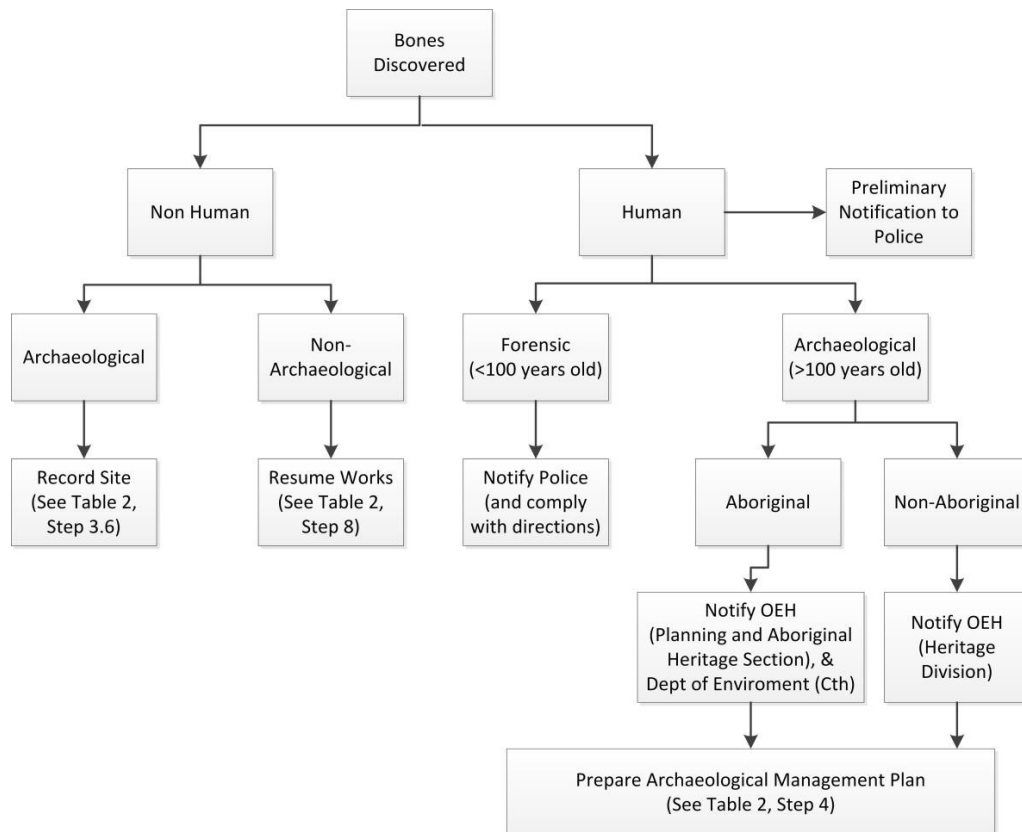


Figure 3 Overview of steps to be undertaken on the discovery of bones

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)<sup>10</sup>.

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.

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<sup>10</sup> 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
<b>Assessment and investigation</b>		
• Assessment of significance	Yes/No	
• Assessment of heritage impact	Yes/No	
• Archaeological excavation	Yes/No	
• Archival photographic recording	Yes/No	
<b>Heritage approvals and notifications</b>		
• 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	
<b>Stakeholder consultation</b>		
• Aboriginal stakeholder consultation	Yes/No	
<b>Artefact/heritage item management</b>		
• 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]