Pre-Construction Minor Works Approval Form

Minor Works are defined as any low impact activities that are undertaken prior to the commencement of 'construction' as defined in the project's applicable planning approval. However if Minor Works affect or potentially affect heritage items, threatened species, populations or endangered ecological communities, these works are defined as 'construction' unless otherwise determined by the applicable planning authority.

Minor Works approvals do not remove any obligation to comply with the project's applicable planning approval conditions (including requirements prior to 'any works' commencing) or obtain any other applicable permits, licenses or approvals as necessary.

This application and all supporting information must be submitted to TfNSW/the Environmental Representative as one (1) PDF file at least 10 business days prior to the commencement of the proposed Minor Works.

Part 1: Application	
Contractor:	RPS Pty Ltd
Project:	Sydney Metro – Utility Investigations
Application Title: (e.g. Smith St trenching works)	Utility investigations including slit trenching: - Regent St, Chippendale
Application Number:	1
Application Date:	27/01/17
Planning Approval:	Chatswood to Sydenham
Minor Works Categories: • Highlight as applicable. • If Items 4, 8 or 11 are applicable, this form must be endorsed by an Environmental Representative.	1. Survey, survey facilitation and investigations works (including road and building dilapidation survey works, drilling and excavation). 2. Treatment of contaminated sites. 3. Establishment of ancillary facilities (excluding demolition), including construction of ancillary facility access roads and providing facility utilities. 4. Operation of ancillary facilities that have minimal impact on the environment and community. 5. Minor clearing and relocation of vegetation (including native). 6. Installation of mitigation measures, including erosion and sediment controls, temporary exclusion fencing for sensitive areas and acoustic treatments. 7. Property acquisition adjustment works, including installation of property fencing and utility relocation and adjustments to properties. 8. Utility relocation and connections. 9. Maintenance of existing buildings and structures. 10. Archaeological testing under the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010) or archaeological monitoring undertaken in association with other Minor Works to ensure there is no impact on heritage items. 11. Any other activities that have minimal environmental impact, including construction of minor access roads, temporary relocation of pedestrian and cycle paths and the provision of property access.
Planning Authority Determination: Will the proposed works affect or have the potential to affect heritage items, threatened species, populations or endangered ecological communities?	No

Part 2: Details	
Describe the proposed Minor Works: Including work methodologies, site location(s) and site description(s) (e.g. landscape type, waterways, etc.).	***Subsurface detection / survey*** ▪ Commencement of utility location survey with 2 teams (2 people in each team] ▪ Survey of all located assets via: o Electromagnetic Detection Tracing - 'electromatic wand' to allow for detection of all power and conducting lines, such as copper communication cables and cast iron water and gas mains o Small-scale Ground Penetrating Radar - 'In the field' resolution of non-conducting services such as PVC ducting, optic fibre, asbestos pipes o Large-Scale 3D Ground Penetrating Radar – to allow large scale blanket coverage of area. ▪ Compilation and processing of all required data. ▪ Confirmation of status of all DBYD located information. ▪ Production of initial service plans based on located assets in CAD and other formats. ***Exposure detection*** ▪ Confirmation of all locations for slit trenching. ▪ Review and finalisation of all approvals and work plans related to slit trenching. ▪ Final program submitted and implemented ▪ Commencement of slit trenching works as follows: o Traffic control – set up o Service locate and mark up (via EMI/GPR and water soluble marking paint or chalk) o Concrete cut/asphalt cut if required. Two process options: – Use a wheel saw mounted on a high flow Bobcat: This process is suitable for trenches up to 200mm wide and 600 mm deep. With the saw operating over this width and grinding the trench with increments as small as 10mm the operator will often feel the change in material that allows the vac truck to investigate; or – Concrete cutting and breaking out: The concrete is cut using a concrete saw until the subbase is exposed allowing it to be broken and removed. A jack hammer is used cautiously to break the concrete into smaller sections. Once this breaking of concrete is complete the concrete is removed. o Removal of surface material o Excavate using 1 hydro vacuum excavation truck – (maximum pressure of 2000 PSI as per DBYD recommended pressure) to the following dimensions: o Regent Street: Width 200 mm, Length 5m and Depth 2m. ~~o Mowbray Rd: Width 200 mm, Length 5m and Depth 2m.~~ ~~o Hickson Road: Width 200 mm, Length 30m and Depth 2.4m~~ o Field verification of existing infrastructure and services o Mark out exposed service positions measure and catalogue findings o Backfill to approved specification – with a 6 tonne jumping jack pneumatic compactor and vibration wacker plate will be used to ensure compaction o Re-instate surface using premium cold mix product (EZ Street or similar) o Ensure the work site is clean o Traffic control – pack up

	○ Soil disposal will take place offsite at an appropriate licences facility and will be fully contained from site to disposal. ▪ RPS team leader for utility surveys seconded to Vac Group to work with Works Manager to confirm and re-confirm or relocate utilities for slit trenching as well as be on site to confirm, attribute and assist in survey of exposed assets. ▪ RPS Surveyor to attend site as required to survey exposed assets.
Planned Commencement Date:	30/01/17
Local Sensitivities: Describe the presence (if any) of local sensitive environmental areas and community receptors.	Refer to attached environmental control map.

Part 3: Environmental Risk Assessment and Management	
Prepare an Environmental Risk Assessment (in accordance with the *Sydney Metro Risk Management Standard*) and an Environmental Control Map for the proposed Minor Works and attach as Appendix 1. If an Environmental Risk Assessment and/or an Environmental Control Map for the proposed Minor Works is/are already contained in existing documentation, attach the relevant section(s) as Appendix 1.	
Documentation: List any existing documents (including those referenced above) that the proposed Minor Works will be undertaken in accordance with and attach as Appendix 2 (e.g. plans, procedures, procedures, etc.).	Environmental control map attached.

Part 4: Workforce Notification	
How will the environmental and community risks and associated mitigation measures of the proposed Minor Works be communicated to the contractor's workforce?	• Site induction • Pre-start meeting • Toolbox talks

Part 5: Community Consultation	
What community consultation has been undertaken already?	Out-of-hours works notification (dated 23/01/17) – refer appendix 2.
What community consultation is planned to be undertaken?	Nil
If drafted already, attach applicable Community Notification as Appendix 3.	

Part 6: Contact Details					
Nominate contractor's project manager, environmental and communications contact(s).					
Name:	Stanley Tan	**Position:**	Project Manager and communications contact	**Phone:**	0400 839 369
	Gareth Thomas		Environment contact		0414 228 613

Part 7: Signature			
This signature acknowledges that the proposed Minor Works will be undertaken in accordance with this application, have minimal environmental impact and are not defined as 'construction' in accordance with the applicable planning approval.			
Name:	Gareth Thomas		
Signature:		**Date:**	27/01/17

Determination Page

(TfNSW/Environmental Representative Use Only)

12. Endorsement/Approval

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

	TfNSW Principal Manager, Communication & Engagement – Endorsement (required for all applications)	**TfNSW Principal Manager, Sustainability, Environment & Planning** – Approval (required for all applications)	**Environmental Representative** – Endorsement (required as necessary in accordance with the applicable planning approval, optional for all other circumstances)
Signature:			
Name:	Michael Lloyd	FIL CERONE	
Date:	30/1/17	30/1/17.	
Comments:	As per OOHWA	—	*Supporting letter attached as Appendix 4 if necessary.*
Conditions:	As per OOWHA	Minor works application to append SoHI & implement all 3 recommendations during works.	*Supporting letter attached as Appendix 4 if necessary.*

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

Appendix 1: Environmental Control Map

ENVIRONMENTAL CONTROL MAP
SITE NAME: REGENT STREET. CHIPPENDALE

Prepared by:	Gareth Thomas	Reviewed & approved by:	

General Construction Notes

- This control plan is to be read together with the relevant project environmental documentation i.e. CEMP.
- Vehicles to use designated access points outlined in the Traffic Control Plans (TCPs).
- Spill kits to be stored at designated points within the site that are readily accessible to the construction team.
- Ensure measures/materials are ready to mitigate for unforseen erosion during heavy rainfall

Legend	
	Slit trenches
	Sensitive receivers (residential)
	Sensitive receivers (Place of Worship – Masonic Temple)
	Site boundary (to be determined by TCP)
	Local heritage item (LEP)
	State heritage item
	Heritage conservation area (LEP)
	Spill kit

STOP WORK REQUIRMENTS	
Aspect	**Requirements**
Unexpected heritage find	Stop all work in vicinity immediately. Contact Project Environmental Manager. Project Environmental Manager to contact TfNSW Environmental Manager.
Water discharge	Do not proceed without prior approval from Environmental Manager. The TfNSW form *Approval to discharge or reuse water 9TP-FT-160* is to be completed for all off site dewatering.
Contamination / Hazardous Materials – Suspected contamination material discovered	Stop all work in vicinity immediately. Contact Project Environmental Manager. Contact TfNSW Environmental Manager. Contact the Project ER.
Environmental Incident – Hydrocarbon / Chemical Spill, Contaminated Material Release or Turbid Run-off to Surface Water	Contact the Project Environmental Manager immediately and without delay. Follow incident response guidelines in the CEMP.

CONTACT INFORMATION		
Project Manager	Stanley Tan	0400 839 369
Environmental Manager	Gareth Thomas	0414 228 613
WHS Manager	Stanley Tan	0400 839 369
TfNSW Response Line		1800 775 465
Transport Project Line		1800 684 490
EPA Environmental Line		131 555
Fire and Rescue		000
City of Sydney Council		02 9265 9333
WorkCover		13 10 50
Ministry of Health		(02) 9391 9000
WIRES		1300 094 737

HOURS OF WORK
Out-of-hours works approved hours for these works- 10pm to 5am ROLs specify works between the hours 10:00pm and 5:00am

Appendix 2: Construction Environmental Management Plan

Sydney Metro City & Southwest

Utility Investigations Construction Environmental Management Plan

Prepared by:

RPS MANIDIS ROBERTS PTY LTD

Level 13, 255 Pitt Street
Sydney, New South Wales 2000

T: 02 9248 9800
F: 02 9248 9810
E: infrastructure.solutions@rpsgroup.com.au

Prepared by: [Name]
Reviewed: Gareth Thomas
Approved: Stanley Tan
Project No.: IS 16167
Version: 2.0
Date: December 2016

Prepared for:

TRANSPORT FOR NSW

22 Giffnock Avenue
Macquarie Park NSW 2113

T:
F:
E:
W:

DOCUMENT STATUS

Version	Purpose of Document	Prepared by	Reviewed by	Review Date
0.1	Draft template for tender	AB	ST	28/08/16
1.1	Draft CEMP for review by TfNSW	SR	GT	05/10/16
1.2	Final draft CEMP	SR	GT	04/11/16
2.0	Final CEMP	SR	GT	23/12/16

APPROVAL FOR ISSUE

Name		Date
S Tan		23/12/16

Contents

Appendices

Abbreviations and definitions

Term	Definition
AHIMS	Aboriginal Heritage Information Management System
AS	Australian Standards
BDA	Barangaroo Delivery Authority
CEMF	Sydney Metro Construction Environment Management Framework
CEMP	Construction Environmental Management Plan
DP&E	Department of Planning and Environment
ECM	environmental control map
EIA	environmental impact assessment
EPA	Environment Protection Authority
EPL	Environmental Protection Licence
EWMS	environmental work method statement
EP&A Act	*Environmental Planning and Assessment Act 1979*
Heritage Act	*Heritage Act 1977*
NPW Act	National Parks and Wildlife Act 1974
OEH	Office of Environment and Heritage
OOHW	Out of Hours Work
POEO Act	*Protection of the Environment Operations Act 1997*
RMS	Roads and Maritime Services
SEPP	State Environmental Planning Policy
SWMS	Safe Work Method Statement
TfNSW	Transport for NSW

1 Introduction

1.1 Background

Sydney Metro

Sydney Metro is currently Australia's biggest public transport project.

A new standalone railway, this 21st century network will deliver 31 metro stations and more than 65 kilometers of new metro rail for Australia's biggest city – revolutionising the way Sydney travels.

Services start in the first half of 2019 using Sydney's new-generation of fully-automated metro trains.

From Sydney's booming North West region, metro rail will run under Sydney Harbour, through new underground stations in the CBD and beyond to the south west.

Customers will not need a timetable when Sydney Metro opens – they'll just turn up and go. When Sydney Metro is extended into the CBD and beyond in 2024, there will be ultimate capacity for a metro train every two minutes in each direction under the city – a level of service never before seen in Sydney.

Sydney's new metro railway will have a target capacity of about 40,000 customers per hour, similar to other metro systems worldwide. Sydney's current suburban system can reliably carry 24,000 people an hour per line.

Sydney Metro, together with signalling and infrastructure upgrades across the existing Sydney rail network, will increase the capacity of train services entering the Sydney CBD – from about 120 an hour today to up to 200 services beyond 2024. That's an increase of up to 60 per cent capacity across the network to meet demand.

Sydney Metro has two core components:

- Stage 1: Sydney Metro Northwest – formerly the 36km North West Rail Link. This $8.3 billion project is now under construction and will open in the first half of 2019 with a metro train every four minutes in the peak. Tunnelling has finished and construction is progressing rapidly; and
- Stage 2: Sydney Metro City & Southwest – a new 30km metro line extending metro rail from the end of Sydney Metro Northwest at Chatswood under Sydney Harbour, through new CBD stations and southwest to Bankstown. It is due to open in 2024 with the capacity to run a metro train every two minutes each way through the centre of Sydney.

Both stages of Sydney Metro have been identified by the NSW Government as priority projects.

Utility Survey

RPS propose to undertake a utility survey in accordance with RMS *QA specification G73 - Detail Survey in CADD Forma*t and *AS5488-2013 Classification of subsurface utility information* for separate sites across Sydney (i.e. Barangaroo, Chatswood and Central).

The following information is required for survey and inclusion in the deliverable 3D CAD model:

- Surface features (i.e. pits/poles/covers etc.) and RL of light fittings;
- Stormwater mains – Invert Level, material and size, pit dimensions;
- Sewer – Invert Level , material and size, manhole and join pit dimensions;
- Communications – pit dimensions and number of conduits and how many are used, including Class B tracing and noting if pit labelled by other communications provider (i.e. Optus, AAPT);

- Water – Surface covers, Class B tracing of alignment to confirm connection location;
- Power – pit dimensions and number of conduits and how many are used, including Class B tracing;
- Gas – Surface covers, Class B tracing of alignment to confirm connection location;
- Details of any aerial services to 2 poles outside/past the project limits and included in the model – surveyor to join aerial line work; and
- Photographs are to be taken looking inside all pits accessed and referenced in the Utilities Data Report

1.2 Works staging

RPS propose to deliver the Works in accordance with the milestone dates identified in Table 1 and Table 2.

Table 1 Works staging – survey

Survey works	Millstone start date and approximate duration
Regent Street	
Utility Survey via	9-14 November 2016 (2 days, 1 night)
Chatswood	
Utility Survey	14 November – 7 December 2016 (12 days, 6 nights within this period)
Barangaroo	
Utility Survey	8 – 15 December (5 Days, 3 nights within this period)
Central Station	
Utility Survey: This utility survey requires existing pits within Central Station and Eddy Avenue to be opened to locate services identified in Figure 4. Detailed methodology is provided in Section 2.	16 – 22 December (All nights)

Regent Street, Chatswood and Barangaroo sites will require the following:

- Safe Work Method Statement (SWMS)
- Traffic Control Plan (TCP)
- Road occupancy Licence (ROL) and
- An Out Of Hours Works (OOHW) approval.

Central Station will require the following:

- SWMS
- Sydney Train Access permits
- Sydney Train heritage exemption
- ROLs (Eddy Avenue)
- Service provider notifications
- An Out Of Hours Works (OOHW) approval.
- Confined spaces approval.
- Exempt development checklist.

Table 2 Works staging – slit trenches

Trenching works	Millstone start date and approximate duration
Regent Street	
Apply for all required approvals: ▪ SWMS ▪ TCP and ROL ▪ CBD Coordination Office approvals and notification (via Metro) ▪ Service Authorities ▪ OEH – [RPS heritage team to confirm] ▪ Exempt development checklist ▪ OOHW approval (minimum 10 business days prior to the proposed works) ▪ Dial Before You Dig	TBC
Community consultation including: ▪ City of Sydney Council ▪ Impacted residents/businesses (minimum 7 days)	TBC
Trenching	Mid-January 2017
Office work	January 2017
Chatswood	
Apply for all required approvals: ▪ SWMS ▪ Traffic Control Plan and ROL ▪ CBD Coordination Office approvals and notification (via Metro) ▪ Service Authorities ▪ OEH – [RPS heritage team to confirm] ▪ Exempt development checklist ▪ OOHW approval (minimum 10 business days prior to the proposed works) ▪ Dial Before You Dig ▪	TBC
Community consultation including: ▪ Willoughby /Lane Cove Council ▪ Impacted residents/businesses (minimum 7 days)	TBC
Trenching	Late January 2017
Office work	Late January 2017

Trenching works	Millstone start date and approximate duration
Barangaroo	
Apply for all required approvals: ▪ SWMS ▪ Traffic Control Plan and ROL ▪ Barangaroo Delivery Authority (BDA) permits ▪ CBD Coordination Office approvals and notification (via Metro) ▪ Service Authorities ▪ OEH – [RPS heritage team to confirm] ▪ Exempt development checklist ▪ OOHW approval (minimum 10 business days prior to the proposed works) ▪ Dial Before You Dig	TBC
Community consultation including: ▪ City of Sydney Council ▪ Impacted residents/businesses (minimum 7 days)	TBC
Trenching	Late January 2017
Office work	Late January 2017
Central Station **(non-destructive digging on platforms and rail corridor survey)**	
Apply for all required approvals: ▪ SWMS ▪ Sydney Trains - Permits\applications [Speak to Sydney Train's rep.] ▪ CBD Coordination Office notification (Metro to coordinate) ▪ Service Authorities ▪ OEH – [possibly heritage exemptions] ▪ Exempt development checklist ▪ OOHW approval (minimum 10 business days prior to the proposed works)	
Community consultation – Central Station (minimum 7 days)	
Central Station UDR: Subsurface utilities railway corridor Survey of utilities day	February 2017
Office Work	February 2017

An overview of the Sydney Metro utilities investigations at Regent Street, Chatswood, Barangaroo and Central Station is provided in Figures 1 to 4.

Figure 1 Sydney Metro Utilities investigation along Regent Street – Chippendale

*Survey area shown in green highlight. Slit trench locations are shown in red. Note slit trenches are not to scale.

Figure 2 Sydney Metro Utilities investigation along Mowbray Road, Hampden Road and Pacific Highway - Chatswood

*Survey area shown in yellow. Slit trench locations are shown in red. Note slit trenches are not to scale.

Figure 3 Sydney Metro Utilities investigation along Hickson Road – Barangaroo

*Survey area shown in blue. Slit trench locations are shown in red. Note slit trenches are not to scale.

Figure 4 Sydney Metro Utilities investigation – Central Station

*Green line denotes Telstra asset. Yellow line denotes Ausgrid asset. Group of blue lines denote Sydney Water sewer and storm water assets. Single slanted blue line denotes Sydney Water Bondi Ocean Outfall Sewer.

1.3 Purpose of this document

The purpose of this CEMP is to provide an approach to the management of environmental issues during utility investigation works, and to ensure that the requirements are meet under Clause 82(a) of the *State Environmental Planning Policy (Infrastructure) 2007*.

The CEMP has been designed to ensure best practice and/or appropriate environmental management practices are applied throughout the construction phase of the proposed works.

This CEMP has been prepared in accordance with the *Sydney Metro Construction Environment Management Framework* (CEMF) (Transport for NSW, 2016), Guideline for the *Preparation of Environmental Management Plans* (Department of Infrastructure Planning and Natural Resources, 2004). It is also generally consistent with AS/NZS ISO 14001.

RPS and its delivery partners Vac Group Operations Pty Ltd and Altus Traffic Control Pty Ltd, will carry out the utility investigations works. Unless otherwise identified, the contractor will be responsible for the ongoing review and implementation of this CEMP and related environmental documents based on detailed construction information.

This CEMP and associated documents will be made available, and are applicable, to all employees and persons involved in the delivery of the utility investigations, including relevant sub-contractors.

1.4 Compliance

As outlined in the Sydney Metro Works Brief (TfNSW, 2016) the Contractor is required to produce a Construction Environmental Management Plan, as a minimum that:

(a) Addresses the requirements of Sections 3.3 (a) and (f), 3.5, 3.8, 3.9, 3.10, 3.11, 3.13(a) to (c) and (f), 3.15, 5.1, 5.2 and 5.3 of the CEMF; and

(b) Includes a risk assessment against the environmental issues identified in Sections 6 to 17, and includes appropriate mitigation responses. Separate sub-plans against these issues may not be required.

It is noted that nothing in items (a) and (b) above remove the Contractor's obligation to comply with requirements from TfNSW's approval of Exempt Development Checklist(s).

Detailed contractor CEMP minimum requirements and references are outlined in Table 3.

Table 3 Compliance table

Section	Requirement	CEMP Reference
(a) **Sydney Metro Construction Environment Management Framework (CEMF)**		
3.3(a) and (f) Construction Environmental Management Plans	(a) Principal Contractors are required to prepare and implement a Construction Environmental Management Plan (CEMP) relevant to the scale and nature of their scope of works.	This document.
	(f) The CEMP and associated sub-plans will be reviewed by TfNSW and/or an independent environmental representative (see Section 3.11) prior to any construction works commencing. Depending on the conditions of approval, the CEMP and certain sub-plans may also require the approval of the Department of Planning and Environment (DP&E), and other government agencies.	This CEMP and sub-plans identified in Section 1.7 will be reviewed by TfNSW or environmental representative, prior to any construction works.
3.5 Environmental Procedures and	(a) The Principal Contractor will prepare and implement activity specific environmental procedures. These procedures should	Section 1.7 and

<table>
<tr><td rowspan="3">Control Maps</td><td>supplement environmental management sub-plans, but may substitute for sub-plans in agreement with Sydney Metro if a reasonable risk based justification can be made and the sub plan is not a requirement of approval.</td><td>appendices</td></tr>
<tr><td>(b) The procedures will include:
A breakdown of the work tasks relevant to the specific activity and indicate responsibility for each task.
Potential impacts associated with each task.
A risk rating for each of the identified potential impacts.
Mitigation measures relevant to each of the work tasks.
Responsibility to ensure the implementation of the mitigation measures.</td><td>Section 1.2, Section 2, Section 4, Appendix A, B, C, D and E</td></tr>
<tr><td>(c) The Principal Contractor will prepare and implement site based progressive Environmental Control Maps (ECM’s) which as a minimum:
Is a progressive document depicting a current representation of the site.
Indicates which environmental procedures, environmental approvals, or licences are applicable.
Illustrates the site showing significant structures, work areas and boundaries.
Illustrates environmental control measures and environmentally sensitive receivers.
Is endorsed by the Principal Contractors Environmental Manager or delegate.
Relevant workers will be trained in the requirements of and will sign off the procedures prior to commencing works on the specific site and/or activity.</td><td>Appendix E</td></tr>
<tr><td rowspan="2">3.8 Register of Hold Points</td><td>(a) Principal Contractors will identify hold points, beyond which approval is required to proceed with a certain activity. Example activities include vegetation removal and water discharge. Hold points will be documented in relevant CEMPs.</td><td>Section 3.2</td></tr>
<tr><td>(b) Table 1.4 provides the structure for the register of hold points as well as a preliminary list of hold points which will be implemented.
Table 1.4 Preliminary Register of Hold Points
<table>
<tr><th>Hold Point</th><th>Release of Hold Point</th><th>By Who</th></tr>
<tr><td>Prior to Vegetation Clearing / Ground Disturbance</td><td>Pre-clearing inspection
Erosion and sediment control plan</td><td>Qualified Ecologist
Contractor’s Environmental Manager or delegate</td></tr>
<tr><td>Discharge of water</td><td>Water tested to verify compliance and approval to discharge</td><td>Contractor’s Environment Manager or delegate</td></tr>
<tr><td>Out of hours works</td><td>Noise assessment</td><td>Contractor’s Environment Manager</td></tr>
<tr><td>Use of local roads by</td><td>Road Dilapidation</td><td>Appropriate</td></tr>
</table></td><td>Noted. See Section 3.2</td></tr>
</table>

	heavy vehicles	Report	Professional nominated by Principal Contractor	
	Construction identified as affecting buildings	Building Condition Survey	Appropriate Professional nominated by Principal Contractor	
3.9 Training, Awareness and Competence	(a) Principal Contractors will be responsible for determining the training needs of their personnel. As a minimum this will include site induction, regular toolbox talks and topic specific environmental training as follows: ▪ The site induction will be provided to all site personnel and will include, as a minimum: ▪ Training purpose, objectives and key issues. ▪ Contractor's environmental policy and key performance indicators. ▪ Due diligence, duty of care and responsibilities. ▪ Relevant conditions of any environmental licence and/or the relevant conditions of approval. ▪ Site specific issues and controls including those described in the environmental procedures. ▪ Reporting procedure for environmental hazards and incidents. ▪ Communication protocols.			Section 5 of this CEMP
	(b) Toolbox talks will be held on a regular basis in order to provide a project or site wide update, including any key or recurring environmental issues.			Section 5 of this CEMP
	(c) Topic specific environmental training, (e.g. erosion and sediment control training) will be undertaken for relevant site personnel as determined by the Principal Contractor.			Section 5 of this CEMP
	(d) Principal Contractors will conduct a Training Needs Analysis which: ▪ Identifies the competency requirements of staff that hold environmental roles and responsibilities documented within the Construction Environmental Management Plan and sub-plans. ▪ Identifies appropriate training events and the frequency of training to achieve and/or maintain these competency requirements. ▪ Implements a documented training schedule which plans attendance at training events, provides mechanisms to notify staff of their training requirements, and identifies staff that fail to attend scheduled training events or who have overdue training requirements. ▪ Identifies that all staff are to receive an environmental induction and undertake environmental incident management training.			Section 5 and Section 7 of this CEMP Appendices
3.10 Emergency and Incident Response	(a) Principal Contractors will develop and implement a Pollution Incident Response Management Plan, in accordance with the requirements of the POEO Act. Contractors' emergency and incident response procedures will also be consistent with any relevant TfNSW procedures and will include:			Section 7 of this CEMP.

	▪ Categories for environmental emergencies and incidents. ▪ Notification protocols for each category of environmental emergency or incident, including notification of TfNSW and notification to owners / occupiers in the vicinity of the incident. This is to include relevant contact details. ▪ Identification of personnel who have the authority to take immediate action to shut down any activity, or to affect any environmental control measure (including as directed by an authorised officer of the EPA). ▪ A process for undertaking appropriate levels of investigation for all incidents and the identification, implementation and assessment of corrective and preventative actions; ▪ Depending on the nature of the incident the EPA, DP&E or OEH will be notified by the Principal Contractor or TfNSW as appropriate.	
	(b) The Contractor will make all personnel aware of the plan and their responsibilities.	Section 5 of this CEMP
3.11 Independent Environmental Representatives	(a) TfNSW will engage Independent Environmental Representatives (ERs) to undertake the following, along with any additional roles as required: ▪ Review, provide comment on and endorse (where required) any relevant environmental documentation to verify it is prepared in accordance with relevant environmental legislation, planning approval conditions, relevant standards and this CEMF. ▪ Monitor and report on the implementation and performance of the above mentioned documentation and other relevant documentation. ▪ Provide independent guidance and advice to TfNSW and the Contractors in relation to environmental compliance issues and the interpretation of planning approval conditions. ▪ Be the principal point of advice for the DP&E in relation to all questions and complaints concerning the environmental performance of the project. ▪ Ensure that environmental auditing is undertaken in accordance with all relevant project requirements. ▪ Recommend reasonable steps, including 'stop works', to be taken to avoid or minimise adverse environmental impacts.	Noted.
3.13 (a) to (c) and (f) Environmental Monitoring, Inspections and Auditing	(a) Issue specific environmental monitoring will be undertaken as required or as additionally required by approval, permit or licence conditions.	Section 8 of this CEMP
	(b) The results of any monitoring undertaken as a requirement of the EPL will be published on the Principal Contractor's, or a project specific, website within 14 days of obtaining the results.	If any monitoring takes place, results will be provided to TfNSW for upload to project website.
	(c) Environmental inspections will include: ▪ Surveillance of environmental mitigation measures by the Site Foreman. ▪ Periodic inspections by the Principal Contractor's Environmental Manager (or delegate) to verify the adequacy of all environmental mitigation measures. This will be documented in a formal inspection record.	Section 8 of this CEMP

	(f) TfNSW (or an independent environmental auditor) will also undertake periodic audits of the Principal Contractor's E&SMS and compliance with the environmental aspects of contract documentation, including this Construction Environmental Management Framework.	Noted.
3.15 Environmental Records and Compliance Reporting	(a) Principal Contractors will maintain appropriate records of the following: ▪ Site inspections, audits, monitoring, reviews or remedial actions. ▪ Documentation as required by performance conditions, approvals, licences and legislation. ▪ Modifications to site environmental documentation (eg CEMP, sub-plans and procedures). ▪ Other records as required by this Construction Environmental Management Framework.	Section 8 of this CEMP Appendix E and F
	(b) Records will be retained onsite for the duration of works.	Section 8 of this CEMP
	(c) Additionally records will be retained by the Principal Contractor for a period of no less than 7 years in total. Records will be made available in a timely manner to TfNSW (or their representative) upon request.	Section 8 of this CEMP
	(d) Compliance reports detailing the outcome of any environmental surveillance activity including internal and external audits (refer to Section 3.13) will be produced by the Principal Contractors Environmental Manager or delegate. These reports will be submitted to TfNSW at an agreed frequency.	Section 8 of this CEMP
5.1 Working Hours	(a) Standard working hours are between 7am –6pm on weekdays and 8am-1pm on Saturdays.	Section 3 of this CEMP
	(b) Works which can be undertaken outside of standard construction hours without any further approval include: ▪ Those which have been described in respective environmental assessments as being required to take place 24/7. For example, tunneling and underground excavations and supporting activities will be required 24/7. ▪ Works which are determined to comply with the relevant Noise Management Level at sensitive receivers. ▪ The delivery of materials outside of approved hours as required by the Police or other authorities (including RMS) for safety reasons. ▪ Where it is required to avoid the loss of lives, property and / or to prevent environmental harm in an emergency. ▪ Where written agreement is reached with all affected receivers.	Section 3 of this CEMP
	(c) Principal Contractors may apply for EPA approval to undertake works outside of normal working hours under their respective Environment Protection Licences.	Noted. Trenching works are located outside of BDA EPL.
5.2 Site Layout	(a) Principal Contractors will consider the following in the layout of construction sites: ▪ The location of noise intensive works and 24 hour activities in relation to noise sensitive receivers. ▪ The location of site access and egress points in relation to noise and light sensitive receivers, especially for sites	Appendix A, B and C.

	proposed to be utilised 24 hours per day. ▪ The use of site buildings to shield noisy activities from receivers. ▪ The use of noise barriers and / or acoustic sheds where feasible and reasonable for sites proposed to be regularly used outside of daytime hours. ▪ Aim to minimise the requirement for reversing, especially of heavy vehicles.	
5.3 Reinstatement	(a) Mitigation measures for reinstatement will be produced in consultation with TfNSW, the community and stakeholders.	Exempt development checklist to specify.
	(b) Mitigation measures required for reinstatement will be incorporated into the CEMP and will include as a minimum: ▪ Principal Contractors will clear and clean all working areas and accesses at project completion. ▪ At the completion of construction all plant, temporary buildings or vehicles not required for the subsequent stage of construction will be removed from the site. ▪ All land, including roadways, footpaths, loading facilities or other land having been occupied temporarily will be returned to their pre-existing condition or better. Reinstatement of community spaces, infrastructure and services will occur as soon as possible after completion of construction.	Noted. See Appendix A, B and C.
(b) risk assessment against the environmental issues identified in Sections 6 to 17 of the CEMF		
Risk assessment	Includes a risk assessment against the environmental issues identified in Sections 6 to 17, and includes appropriate mitigation responses. Separate sub-plans against these issues may not be required.	Appendix A, B and C.
Additional requirements services brief		
Exempt development checklist	All sites will require an Exempt Development Checklist (the form of which is included as Exhibit C of the Contract) submitted to and approved by the Principal prior to the commencement of any Works on Site.	Section 3 and Appendix F
Consultation	A high level of environmental and community management is expected of the Contractor, however is led by the Project communications manager.	Section 1.5 and 1.7 of this CEMP
Working hours	The Contractor shall take note that the standard working hours, unless otherwise approved by the relevant authority and the Principal, are: ▪ 0700 to 1800 Monday to Friday; 0800 to 1300 Saturday ▪ No work on Sundays and Public Holidays Out of Hours working applications are to be submitted to TfNSW for approval at least 10 business days prior to the proposed works.	Out of hours works applications are to be submitted to TfNSW for approval. Appendix F.
Final CEMP	The final CEMP shall be submitted to the Principal within 15 business days after Commencement Date.	Final CEMP submitted to Principal

1.5 Consultation

Consultation is an ongoing and vital component of TfNSW's approach to delivering the Sydney Metro. The primary objective of consultation is to keep stakeholders informed and involved with the development of the Metro, and to establish effective lines of communication between TfNSW (as the lead), RPS (as the support role), the community and key stakeholders during each stage.

Those agencies consulted during the development of this CEMP include:

- Barangaroo Delivery Authority
- Roads and Maritime Services
- City of Sydney Council
- Willoughby Council
- Sydney Water
- Ausgrid
- Telstra
- Sydney Trains
- Heritage Division OEH
- Affected community residents and businesses.

Consultation with relevant stakeholders and government authorities will continue throughout the delivery of the utility investigations, as identified in Section 4 (Stakeholder and Community involvement) of the Sydney Metro CEMF. The outcome of any future consultation will be documented where relevant in subsequent revisions of this CEMP.

1.6 Certification and approval

This CEMP must be submitted for approval to the Principal Manager, Environment no later than 15 days following commencement or as otherwise agreed.

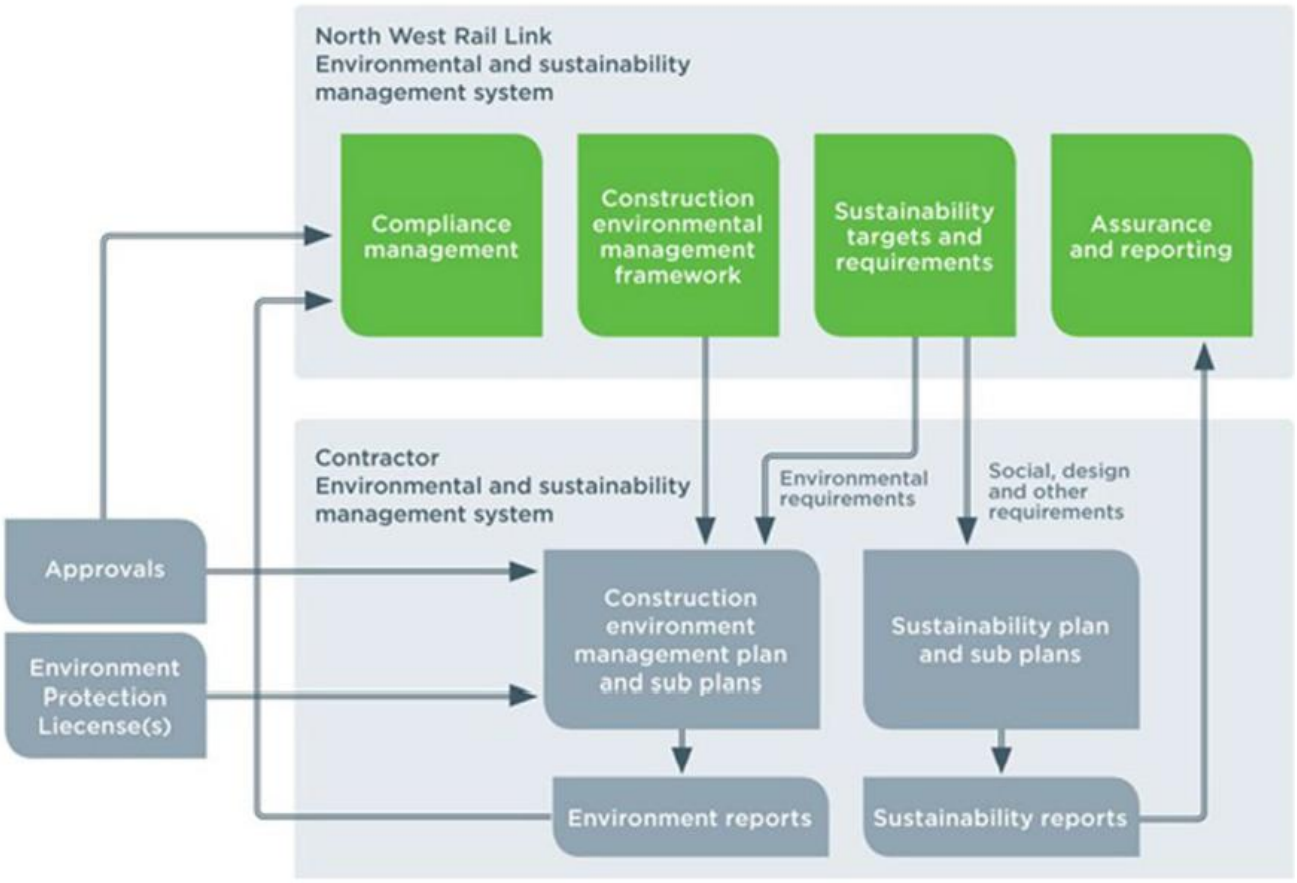
1.7 Environmental management system structure

Sydney Metro CEMF

All contractors engaged will be required to work under the Sydney Metro Environment and Sustainability Management System as shown in Figure 1.

RPS as the lead contractor for the Sydney Metro utility investigation works will produce a CEMP and sub plans in accordance with any EPLs or approvals required. Environmental reporting will be undertaken weekly to ensure compliance management. This is discussed in further detail below.

Figure 5 Sydney Metro CEMF- Environmental management and sustainability structure



RPS Construction Environmental Management Plan

This CEMP provides the system to manage and control the environmental aspects of the utility investigations. It provides the overall framework to ensure environmental impacts are minimised and legislative and other requirements are fulfilled. RPS will be responsible for implementing this CEMP and developing supportive documents and registers to assist with the implementation, including:

- Site inspection checklists;
- Non-compliance and corrective action reports;
- Complaints report;
- Environment incident reports;
- Environment training registers; and
- Monitoring checklists.

Sub plans

A number of environmental management sub plans support the overarching CEMP. These documents have been prepared to identify and manage the specific risks/impacts or aspects of the activities described in Section 2.

An Environmental Management Sub-Plans table for all sites has been has been prepared to support this CEMP (Appendix A)

Environmental control maps

Environmental control maps will be prepared to manage the impacts of construction on the environment at the works site. If required, a map will be prepared at a scale that ensures all controls are clearly identified.

The environmental control map will include information such as:

- The worksite layout and boundary, including entry/exit points
- Location of adjoining land-use and nearest noise sensitive receivers
- Location of site offices
- Location of spill containment and clean-up equipment
- Location of worksite waste management facilities
- Hours of work applicable to the worksite (including deliveries and any restrictions on high noise generating activities)
- Document control and approval details
- Location of environmentally sensitive areas (for example, threatened species, critical habitat, contaminated areas and heritage sites (Aboriginal and European))
- Specific environmental management requirements from licenses, approvals or permit conditions
- Key environmental risk issues
- Project specific controls for the key risks identified.

The environmental control map will be developed by the RPS Environment and Planning Manager, and is to be implemented prior to works commencing at the sites.

The RPS Environment and Planning Manager will maintain a register of environmental control plans. The environmental control maps are provided in Appendix B.

Traffic Control Plans

Due to the nature of the works a Traffic Control Plan for each site is to be prepared to ensure that the risk of road accidents and disruption to surrounding land uses is minimized.

Traffic control plans are to be prepared in consultation with the relevant roads authority during, as required. Traffic control plans are provided in Appendix C.

Pollution Incident Response Management Plan

A Pollution Incident Response Management Plan (PIRMP) has been developed and will be implemented, in accordance with the requirements of the POEO Act. See Section 7.

Inspection and incident report templates

Regular site inspections will be undertaken to ensure compliance with relevant legislation. A copy of inspection template can be found at Appendix D.

Should any incidents occur, reports per the templates provided in Appendix E are to be completed. Notably these templates vary according to the type of incident and location.

Other project approvals/permits

RPS is responsible for the preparation and submission of all planning approvals/permits as required by the works. These include:

- Exempt development checklist (for each site)
- CBD Co-ordination office
- Heritage approvals/exemptions
- CBD Coordination Office approvals and notification (via Metro)
- BDA approvals/permits
- Sydney Trains approvals/permits
- Applicable EPLs

A copy of all approvals/permits obtained are to be provided in Appendix F.

1.8 Distribution

This CEMP will be made available to all personnel, the contractor and sub-contractors.

The CEMP is uncontrolled when printed. One controlled hard copy of the CEMP and supporting documentation will be maintained at RPS' office.

If requested, controlled copies will be distributed to:

- TfNSW
- RPS
- RMS
- Barangaroo Delivery Authority
- Willoughby Council
- City of Sydney Council
- Sydney Trains.

1.9 Revision

A document review process ensures that environmental documentation including this CEMP is updated as appropriate for the specific works that are occurring on site or in response to environmental incidents. This includes following the document review process described in Section 9.1.

In addition, the CEMP and environmental management plans will be reviewed by the Environment and Planning Manager after any notifiable event or environmental incident. The Project Environment and Planning Manager will ensure that any additional measures arising from the incident investigation are incorporated into the relevant plans.

The contractor will coordinate the review and distribution, as appropriate, of this CEMP, management plans and other environmental documents during construction of the works, in consultation with TfNSW.

For any revision of this CEMP, the contractor will ensure that documentation is:

- Developed, reviewed and approved prior to issue
- Issued for use
- Controlled and stored for the legally required timeframe
- Removed from use and archived when superseded or obsolete

Where the by TfNSW and/or an independent environmental representative determines that the change is not minor, the revised CEMP will be sent by RPS to TfNSW for approval.

A register (refer to page ii) will identify the current revision of particular documents. Revised documents will be distributed to controlled-copy holders.

2 Project description

2.1 General features

RPS is responsible for verifying the known and unknown utilities and the provision of factual data at four locations:

1. Regent Street – Chippendale
2. Mowbray Road, Hampden Road and Pacific Highway – Chatswood
3. Hickson Road – Barangaroo
4. Central Railway Station.

These works would consist of the following:

- Utility Survey at Regent Street, Chatswood, Barangaroo and Central Station (addressed separately).
- Slit trenching at Regent Street, Mowbray Road and Hickson Road,

2.2 Utility investigation activities

Table 4 Methodology for utility investigation works (surveyand slit trenching) at Chippendale, Chatswood and Baranagroo.

Stage 1 Planning and Assessment
▪ Confirmation of project teams, interaction protocols and points of contact; ▪ Commencement and coordination of all approval, consultation, communications and interface requirements; ▪ Presentation and agreement on various formats for UDR, Work / CEMP plans and other required documentation. ▪ Setting up KPIs and other indicators for project contract governance.
Stage 2 Preliminary Investigations
▪ Application and planning for Traffic Control ▪ DBYD assessment and review of other documentation ▪ Finalisation of Project Plans and delivery ▪ Schedules ▪ Site Visits ▪ Confirmation and commencement of delivery of required management and other plans.
Stage 3 Surface Investigations
▪ Surface Detail review, survey and visual identification of features. ▪ Confirmation of survey control. ▪ Compilation and confirmation of all approvals. ▪ Production of aerial sketch maps and other field required documentation – SWMS, Risk Assessments, Environmental Approvals etc. ▪ Scheduling, Traffic Management preparation/booking. ▪ Production of final works program.
Stage 4 Subsurface Detection/Survey
▪ Commencement of utility location survey with 2 teams (2 people in each team] ▪ Survey of all located assets via:

- Electromagnetic Detection Tracing - 'electromatic wand' to allow for detection of all power and conducting lines, such as copper communication cables and cast iron water and gas mains
- Small-scale Ground Penetrating Radar - 'In the field' resolution of non-conducting services such as PVC ducting, optic fibre, asbestos pipes
- Large-Scale 3D Ground Penetrating Radar – to allow large scale blanket coverage of area.

- Compilation and processing of all required data.
- Confirmation of status of all DBYD located information.
- Production of initial service plans based on located assets in CAD and other formats.
- Review of all plans with client and stakeholders to identify any issues, anomalies as well as to inform and define slit trenching works.

Stage 5 Exposure Detection

- Confirmation of all locations for slit trenching.
- Review and finalisation of all approvals and work plans related to slit trenching.
- Final program submitted and implemented
- Commencement of slit trenching works as follows:
  - Traffic control – set up
  - Service locate and mark up (via EMI/GPR and water soluble marking paint or chalk)
  - Concrete cut/asphalt cut if required. Two process options:
    - Use a wheel saw mounted on a high flow Bobcat: This process is suitable for trenches up to 200mm wide and 600 mm deep. With the saw operating over this width and grinding the trench with increments as small as 10mm the operator will often feel the change in material that allows the vac truck to investigate; or
    - Concrete cutting and breaking out: The concrete is cut using a concrete saw until the subbase is exposed allowing it to be broken and removed. A jack hammer is used cautiously to break the concrete into smaller sections. Once this breaking of concrete is complete the concrete is removed.
  - Removal of surface material
  - Excavate using 1 hydro vacuum excavation truck – (maximum pressure of 2000 PSI as per DBYD recommended pressure) to the following dimensions:
  - Regent Street: Width 200 mm, Length 5m and Depth 2m.
  - Mowbray Rd: Width 200 mm, Length 5m and Depth 2m.
  - Hickson Road: Width 200 mm, Length 30m and Depth 2.4m
  - Field verification of existing infrastructure and services
  - Mark out exposed service positions measure and catalogue findings
  - Backfill to approved specification – with a 6 tonne jumping jack pneumatic compactor and vibration wacker plate will be used to ensure compaction
  - Re-instate surface using premium cold mix product (EZ Street or similar)
  - Ensure the work site is clean
  - Traffic control – pack up
  - Soil disposal will take place offsite at an appropriate licences facility and will be fully contained from site to disposal.
- RPS team leader for utility surveys seconded to Vac Group to work with Works Manager to confirm and re-confirm or relocate utilities for slit trenching as well as be on site to confirm, attribute and assist in survey of exposed assets.
- RPS Surveyor to attend site as required to survey exposed assets.

Stage 6 Quality Assurance & Delivery

- Data processing, integration and coding.
- Preparation of all UDR's and other required documentation
- Review and quality checking of all documentation
- Final delivery of all required documentation.

Central Station

The survey works at Central Station involve the opening of service pits within state heritage listed item. The methodology proposed is a follows:

- Subsurface utilities will be detected onsite using a portable mala ground penetrating radar scanner and a radio detection electromagnetic transmitter
- Services are marked on the ground in appropriate colour and coding in non-permanent chalk paint
- When opening service pits appropriate delineation/ barricading of the area is implemented to ensure a safe work space for pedestrians, workers and traffic.
- Service pits usually have specifically designed lifting points however these can sometimes be damaged due to age, weathering and regular traffic load.
- In the event that a pit lid be sealed up/ weathered into place etc., a number of means can be used to open. This can involve shocking the outside rim using a sledge hammer or driving a wedge between the seal again using hammer and chisel
- In some instances it is necessary to enter the pit to feed a traceable rod into a duct, to visualise and clamp cables or to measure pipe inverts etc.

Details of service pits and locations:

Table 5 Methodology for utility investigation works at Central Station.

Service	Location description	Picture
Telstra	Telstra sump located In the foot path at George St and Pitt St intersection.	
Ausgrid	Ausgrid lines located In pedestrian tunnel that runs from Railway Square to Chalmers St. 4 access chambers located along the length of the pits. .	

Service	Location description	Picture
Sydney Water Storm Water	Located in pedestrian tunnel that runs from Railway Square to Chalmers St. Total of 5 pits located within walkway.	 
Sydney Water Sewer Mains	Located in pedestrian tunnel that runs from railway square to Chalmers St. Total 4 manholes within pedestrian walk way.	
Sydney Water Bondi Ocean Out Fall Sewer	Pits located Eddy Avenue, Central Station, Lee St. 3 pits in total. 2 within roadway.	

2.3 Defining work areas

The environmental control map will be used in conjunction with the traffic control plan to help identify key risk areas and to promote ongoing communication to construction personnel during construction.

The environmental constraints map outlines the environmentally sensitive and 'no go' areas for the site. The environmental control plan, to be prepared, will clearly define work areas, including access tracks. Refer to Appendix D and E further detail.

Areas that are to be protected during construction will be fenced with exclusion fencing and the fencing will remain in place for the duration of construction activities. Fencing type will be determined based on the sensitivity of the area and the potential for unauthorised access, but may include chain wire fencing, parawebb fencing or flagging tape.

3 Planning

3.1 Legal and other requirements

Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) provides the framework for environmental planning and assessment in NSW. Sydney Metro Northwest is subject to an environmental assessment under the EP&A Act. The project is classified as Critical State Significant Infrastructure. The Concept Plan for the project was approved on 6 May 2008 and is taken to be a Staged Infrastructure Approval under Part 5.1 of the EPA Act.

The Sydney Metro City & Southwest was declared by Ministerial Order on 10 December 2015 to be State significant infrastructure and critical State significant infrastructure under Sections 115U(4) and 115V of the EP&A Act, respectively. The Sydney Metro City & Southwest EIS was recently made available for public exhibition.

The utility investigations (to which this CEMP applies) are intended to verify known and unknown utilities to enable detailed design of the enabling works contract as part of the Sydney Metro – City and Southwest project delivery strategy.

State Environmental Planning Policy (Infrastructure) 2007

The Infrastructure SEPP is the key environmental planning instrument which determines the permissibility of the utility works.

Clause 82(a) allows for '*investigation (including geotechnical and other testing, surveying and sampling) at, above or below the surface of the ground'* is exempt development if:

- it is carried out by or on behalf of a public authority;
- is in connection with a railway or rail infrastructure facilities;
- and complies with clause 20; and
- involves no greater disturbance to the ground or vegetation than necessary, and does not result in an increase in stormwater drainage or run-off from the site concerned

Clause 20 lists general requirements for exempt development:

(2) To be exempt development, the development:

(a) must meet the relevant deemed-to-satisfy provisions of the Building Code of Australia, or if there are no such relevant provisions, must be structurally adequate, and

(b) must not, if it relates to an existing building:

(i) cause the building to contravene the Building Code of Australia, or

(ii) compromise the fire safety of the building or affect access to any fire exit, and

(c) must be carried out in accordance with all relevant requirements of the Blue Book, and

(d) must not be designated development, and

***Note.** Designated development is defined in section 77A of the Act as development that is declared to be designated development by an environmental planning instrument or the regulations.*

(e) if it is likely to affect a State or local heritage item or a heritage conservation area, must involve no more than minimal impact on the heritage significance of the item or area, and

(f) must be installed in accordance with the manufacturer's specifications, if applicable, and

(g) must not involve the removal or pruning of a tree or other vegetation that requires a permit or development consent for removal or pruning, unless that removal or pruning is undertaken in accordance with a permit or development consent.

***Note.** A permit for the removal or pruning of a tree or other vegetation may be granted under a local environmental plan. A development consent for the removal of native vegetation may be granted under the Native Vegetation Act 2003.*

Environmental Protection and Biodiversity Conservation Act 1999

The Commonwealth EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places – defined in the EPBC Act as matters of National Environmental Significance (NES).

The proposed utility works do not impact on matters of NES or Commonwealth land. Consequently, a referral to the Australian Department of the Environment and Energy is not required.

All works should be located and limited to existing road ways and footpaths.

Protection of the Environment Operations Act 1997

The works are not considered a 'scheduled activity' under Schedule 1 of the PoEO Act. Accordingly, an environment protection licence (EPL) is not required for the Proposal.

However, in accordance with Part 5 of the PoEO Act, TfNSW would notify the EPA of any pollution incidents that occur onsite. This would be managed through this CEMP (Section 7) and Appendix G.

Barangaroo Delivery Authority EPL – no.13336

Barangaroo former site use as the Millers Point Gasworks has caused significant contamination to the site. As a result a remediation action plan has been proposed by BDA. This process involved acquiring an EPL, the conditions of which relate to pollution prevention and monitoring. BDA undertakes air, noise and water quality monitoring, which is regularly reported back to the EPA in line with the licence.

Locations of the proposed slit trenches are located outside EPL no.13336. ECM in appendix X shows EPL area.

Sydney Trains EPL – no. 12208

Sydney trains hold several EPLs, however there is a specific EPL for railway systems activities. Consultation with Sydney Trains Environmental representative confirmed that survey and potholing at Central will require compliance with this EPL and associated management plans (particularly for safety and pollution incident management).

Heritage Act 1977

The Heritage Act provides for the conservation of environmental heritage in NSW. Development or activities cannot be carried out which may affect an item on the State Heritage Register without approval under Section 60 of the Heritage Act or an exemption under section 57(2).

An exemption under section 57(2) of the Heritage Act would be sought from the Heritage Division prior to any of the following works:

- Works in the curtilage of Warehouses at 6-20 Munn Street, Millers Point, NSW 2000 SHR No: 00526
- Potholing works at Central Railway Station group including buildings, station yard, viaducts and building interiors SHR 1824. This may also include other state heritage items
- Works in the curtilage of two reservoirs at 366 Mowbray Road, Artarmon, NSW SHR No: 15.
- Regent Street?
- All intrusive works that are within the Millers Point and Dawes Point Village Precinct, SHR 01682

Under section 139 of the Heritage Act, approval is also required prior to the disturbance or excavation of land if it would, or is likely to, result in a relic being discovered, exposed or damaged.

The slit trenches are approximately up to 200mm wide and 600 mm deep, in existing disturbed urban areas.

However, if previously unidentified Indigenous heritage/archaeological items are uncovered during construction works, all works in the vicinity of the find shall cease and appropriate advice shall be sought from a suitably qualified heritage consultant (and in consultation with the OEH Heritage Branch where appropriate). Works in the vicinity of the find shall not re-commence until clearance has been received from the heritage consultant.

In addition all construction personnel would be briefed on the presence and significance of the nearby heritage items, their obligations under the *Heritage Act 1977* and the measures required ensuring the protection of any items of heritage significance for the duration of the works.

National Parks and Wildlife Act 1974

Sections 86, 87 and 90 of the NPW Act require consent from OEH for the destruction or damage of Indigenous objects.

The areas where slit trenches are proposed have been significantly disturbed as a result of the construction of existing roadways and footpaths. In addition the dimensions of the trenches are approximately up to 200mm wide and 600 mm deep. Due to the significant disturbance of the existing site and surrounding area it is considered unlikely that any sub surface Aboriginal objects would be encountered.

However, if unexpected archaeological items or items of Indigenous heritage significance are discovered during the construction of the Proposal, all works would cease and appropriate advice sought.

Roads Act 1993

Section 138 of the Roads Act requires consent from the relevant road authority for the carrying out of work in, on or over a public road.

Clause 5(1) in Schedule 2 of the Roads Act states that public authorities do not require consent for works on unclassified roads.

BDA are the relevant roads authority for Hickson Road. However prior to any works, consent would be required from Barangaroo Delivery Authority for:

- Road Opening Application
- Temporary works application

Mowbray Road is a classified road and concurrence (including any Road Opening Approvals and Road Occupancy Licences) would be obtained from RMS, prior to the construction works. Hampden Road is an unclassified road.

Regent Street is a classified road and concurrence (including any Road Opening Approvals and Road Occupancy Licences) would be obtained from RMS, prior to the construction works.

Speak to Sydney Train regarding permits/approvals in relation to train access.

All works will require notification with the CBD Coordination Office (Metro to coordinate).

Contaminated Land Management Act 1997

Section 60 of the CLM Act imposes a duty on landowners to notify the Office of Environment and Heritage (OEH), and potentially investigate and remediate land if contamination is above EPA guideline levels.

A search of OEH contaminated lands register revealed the following:

- Former AGL Gasworks site – part of Hickson Road –contamination currently regulated under the CLM Act
- Former Caltex Service Station at 607 Pacific Highway Chatswood - contamination currently regulated under the CLM Act

A search of Willoughby's and City of Sydney Councils LEPs reveals that Pacific Highway and Central Station are affected by Acid Sulphate Soils Class 5.

3.2 Hold Points

The activities outlined in the table below are not to proceed without objective review and approval by the nominated authority. The activities below are considered hold points.

Table 6 Hold points as a result of required approvals/permits

Hold Point	Release of Hold Point	By Who
Prior to Vegetation Clearing / Ground Disturbance	Pre-clearing inspection Erosion and sediment control plan	Qualified Ecologist Contractor's Environmental Manager or delegate
Discharge of water	Water tested to verify compliance and approval to discharge	Contractor's Environment Manager or delegate
Out of hours works	Approval from TfNSW	Sydney Metro Principal Manager Sustainability, Environment and Planning
Use of local roads by heavy vehicles	Road Dilapidation Report	Appropriate Professional nominated by Principal Contractor
Construction identified as affecting buildings	Building Condition Survey	Appropriate Professional nominated by Principal Contractor
Impact to heritage items (European and Aboriginal)	Heritage impact assessment or approval/exemption	Qualified Heritage Specialist
Sydney Train approvals/permits	Approval from Sydney Trains	Contractor's Environment Manager or delegate
BDA approvals/permits	Approval from BDA	Contractor's Environment Manager or delegate
RMS/Council ROLs ROPs	Approval from RMS/Council	Contractor's Environment Manager or delegate
Exempt development checklist	Approval from TfNSW	Sydney Metro Planning Team

3.3 Objectives and targets

Environmental objectives and targets have been established as a way to monitor and evaluate environmental performance during the utility investigations. These objectives and targets have been developed with consideration of the key issues identified through the environmental assessment and risk assessment process. The performance of the utilities investigations against the objectives and targets will be documented in the weekly project compliance reports.

Environmental objectives and targets for the utility investigations are provided in Table 7.

Table 7 Environmental objectives and targets

Objective	Target	Management tool
Comply with all statutory and legal requirements.	Full compliance with statutory approvals. No regulatory infringements (prosecutions, penalty infringement notices). No formal regulatory warnings.	Environmental inspections and audits, and completion of incident report templates.
Comply with: ▪ The Interim Construction Noise Guideline (ICNG). The guideline provides a framework to consider the impacts of construction noise on residences and other sensitive land uses. ▪ Construction Noise Strategy (CNS) (TfNSW,2012) provides guidance in relation to minimum safe working distances for intensive activities, such as, jackhammering.	Full compliance No regulatory infringements (prosecutions, penalty infringement notices). No formal regulatory warnings. No unapproved OOH work.	Use of TfNSW out of hours form and approvals.
Excavated material will to be disposed of in accordance with relevant legislative requirements.	Full compliance No regulatory infringements (prosecutions, penalty infringement notices). No formal regulatory warnings.	Works would be undertaken in accordance with this (CEMP) and appropriate erosion and sediment controls outlined in Appendix A, B and C and would be installed and maintained in accordance with the requirements of the 'Blue Book' Managing Urban Stormwater: Soils and Construction (Landcom, 2004).
Traffic management	Full compliance	A traffic control plan outlined in Appendix E would be complied with by all staff and personnel. Traffic control plan to be completed in consultation with relevant roads authority.
Community notification and consultation	Reduce number of potential complaints	A high level of environmental and community management is expected of the Contractor, in consultation with the Principal's planning manager and public communications manager. Community to be notified a minimum 7 days prior to works.

3.4 Project alterations

Changes to the location of survey and slit trenches may result from detailed design refinement or changes identified during the delivery period.

RPS' Project Manager is responsible for ensuring that all project refinements are assessed for consistency against the Planning Approval and any associated heritage exemptions or permits (i.e. exempt development checklist). During delivery any changes in scope of works will be communicated by RPS to TfNSW. RPS will undertake a consistency assessment to determine whether the proposed alteration is consistent with the approved project.

Where RPS determines that the change is generally consistent, this CEMP would be reviewed and revised as per the procedures outlined in Section 1.8 and 1.9.

A copy of the consistency assessment will be provided to the TfNSW Environmental Representative, prior to the commencement of substantial works associated with the proposed alteration. All Project alterations and the outcome of any consistency assessments or modifications will be tracked through the Compliance Tracking Program.

Where RPS determines that the proposed alteration is generally not consistent with the approved Project, a modification to the approved project (or a new planning approval and associated heritage exemptions/permits) is required.

RPS will seek guidance on how to proceed from TfNSW should changes in scope trigger additional environmental impact assessment.

4 Implementation and operation

4.1 Roles and responsibilities

Environment and Planning Manager

The RPS Environment and Planning Manager includes:

- Oversee the implementation of all environmental management plans and monitoring programs.
- Advise the project team and TfNSW on its compliance obligations in relation to all approvals, permits and licences.
- Advise the project team of its achievement of all environmental outcomes.
- Recommend reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts.
- Stop work as soon as reasonably practicable if there is likely to be a significant risk of an adverse impact on the environment, until reasonable steps are implemented to avoid such impact, and immediately advise the RPS Project Manager/TfNSW.

Project Manager

The environmental responsibilities of the RPS Project Manager include, but are not limited to:

- Review the CEMP and any environmental management plans and related documents prepared for the utility investigations.
- Ensure all project alterations are assessed for consistency against the approved Project.
- Oversee the implementation of the CEMP and environmental management plans for the works.
- Liaise with agency stakeholders and provide notification/information where environmental incidents have occurred.
- Monitor the environmental performance of the works in relation to TfNSW requirements through the Compliance Tracking Program.

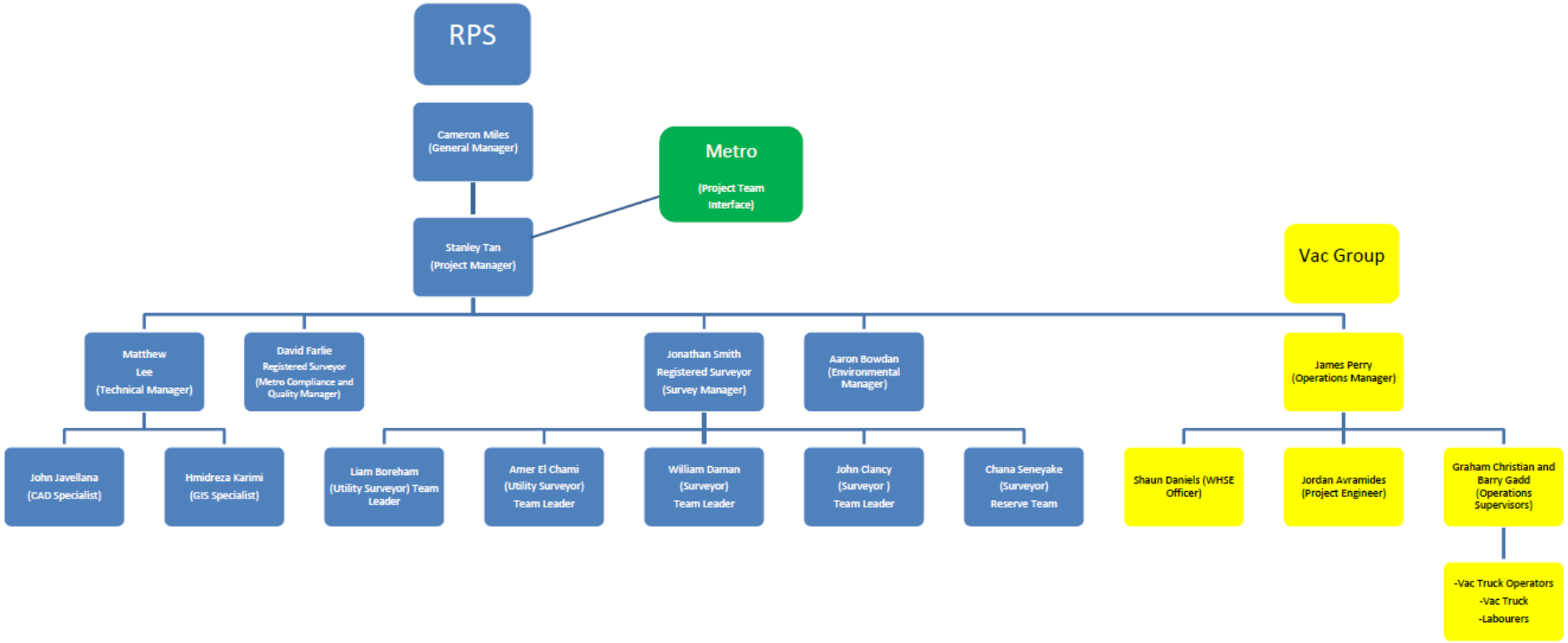
Wider project team (including sub-contractors)

The environmental responsibilities of the wider project team include, but are not limited to:

- Comply with the relevant requirements of the CEMP, or other environmental management guidance as instructed by the Project Manager.
- Participate in the compulsory project/site specific induction program, toolbox talks and daily pre-start meetings.
- Stop activities where there is an actual or immediate risk of harm to the environment and report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Project Manager or Environment and Planning Manager.

A copy of the RPS organisational chart is provided in Figure 6.

Figure 6 RPS organisational chart



*Note Aaron Bowden has been replaced by Sofia Romic

4.2 CEMP availability

A copy of this CEMP will be held in the site office. Supporting documents, for example relevant environmental and traffic control plans will be held on site and on any online document control management systems.

5 Competence, training and awareness

5.1 Purpose

To ensure that this CEMP is effectively implemented, each level of management is responsible for ensuring that all personnel reporting to them are aware of the requirements of this CEMP. The Environment and Planning Manager will coordinate the environmental training. Several forms of environmental training will be provided, including:

- A project site induction, including environmental roles and responsibilities;
- Toolbox talks;
- Pre-start meetings; and
- Environmental awareness training for specific issues.

The Project Environment Manager will maintain a register of all project site inductions and environmental training carried out. Records of attendees at toolboxes will be kept on file.

5.2 Site inductions

All personnel (including sub-contractors) will attend a site induction prior to commencing any work on site.

The site induction will include an environment component and will ensure all personnel are aware of the environmental risks on site, the requirements of the CEMP and their responsibilities around the implementation of environmental management measures.

The environmental component will include, but not be limited to, an overview of:

- Purpose and objectives of the CEMP.
- Conditions of environmental licences, permits and approvals.
- Key environmental issues and responsibilities.
- Working hours.
- Mitigation measures for the control of environmental issues.
- Boundaries for vegetation clearing, location of exclusion zones, and other environmental constraints.
- Responsibilities under the *Heritage Act 1977* and *National Parks and Wildlife Act 1974*, for example if a potential relic/item is uncovered during construction.
- Incident management, response and reporting requirements.
- A record of all environment inductions will be maintained by the Project Environment Manager and kept on site.

5.3 Toolbox talks, training and awareness

Toolbox talks will typically be held weekly and will be used to raise awareness and educate personnel on issues related to all aspects of construction including environmental issues. Toolbox talks will include details of environmental issues relevant to upcoming works and targeted to relevant personnel.

Environmental issues may include (but are not limited to):

- Erosion and sedimentation control;

- Incidents and spill response;
- Managing noise and amenity impacts;
- Threatened species, endangered ecological communities and protection of vegetation;
- Heritage and managing unexpected finds;
- Improvements to existing procedures based on findings of environmental inspections, monitoring and audits (refer Section 8.0);
- Toolbox attendance is mandatory and attendees of toolbox talks are required to sign an attendance form;
- Each attendee is required to sign off on the toolbox talk to register their understanding, and records of attendance will be maintained;
- For activities with high environmental risk, targeted environmental awareness training will be provided. The content of targeted training may include the topics outlined above, or as otherwise required, dependant on the nature of construction activities and the type of impact and environmental risk;
- The Project Environment Manager will maintain a register of environmental training. The register will include a record of the topic, content, dates, name(s) and qualifications of trainers, names and signatures of personnel trained.

5.4 Pre-start meetings

The pre-start meeting is a tool for informing the workforce of the day's activities, including information relating to the work schedule, safety, environment or other information that may be relevant to the day's work.

Environmental concerns covered in the pre-start meeting will include any aspect of the day's activities that may be impacted by, or may impact on, the environment. Risks and measures to manage those risks will be discussed.

All workers will be required to attend a daily pre-start meeting, prior to commencement of that day's construction and sign on to a pre-start meeting attendance sheet. The Environment and Planning Manager will record pre-start topics, dates delivered and a register of attendees.

6 Communication and consultation

6.1 Internal communication

A key to ensuring compliance with environmental obligations and continual improvement is the ongoing communication to project personnel.

RPS will communicate regularly to discuss any issues or concerns with onsite environmental management, any amendments to environmental management documents that might be required or any changes to construction activities.

RPS will ensure regular communication around the environmental requirements and performance updates is carried out, for example through training and awareness raising as described in Section 5.3.

Both the Project Manager and Environment and Planning Manager are responsible for notifying TfNSW of any environmental incidents as soon as they become aware of the incident.

The Environment and Planning Manager has the responsibility to report on the ongoing environmental performance of the construction of the project. The Environment and Planning Manager will report on progress and key environmental issues through the preparation of weekly environment reports (refer to Appendix F).

6.2 Communication with government agencies and community

The Project Manager will be the main point of contact regarding specific environmental issues and has the responsibility to notify the EPA or any other relevant agencies of environmental incidents.

Communication with relevant Councils and other agencies will be undertaken in accordance with TfNSW advice from the Communications manager.

The Project Manager would notify TFNSW of activities with the potential to impact on any member of the community. The Project Manager will provide this advice sufficiently in advance of the activity commencing so as to enable TfNSW to provide the community with a minimum of 7 days prior notice of the activity.

The Project Manger would submit the following to TfNSW:

(a) details of the activity and potential impacts;

(b) proposed mitigation measures and strategy for managing impacts; and

(c) a list or description of the target audience (e.g. impacted area).

Complaints Management Procedure

RPS is responsible for providing information to TFNSW, to enable TfNSW to respond to complaints and enquiries received regarding the works.

Information will be provided to TfNSW within 2 hours of receiving notice that a complaint/enquiry has been registered by the community. Information should include the confirmation of any rectification actions to be undertaken (where appropriate).

RPS will:

(a) immediately make any enquiry/contact by the news media known to TfNSW;

(b) not make any statement (verbal or written) or provide any photographs or illustrations or other data to the news media regarding the Works without the prior written approval of TfNSW;

(c) not permit any news media on the Site without the prior written approval of TfNSW;

(d) provide TfNSW with relevant information in a timely manner, as required to respond to news media enquiries; and

(e) ensure all its subcontractors are aware of and comply with these requirements.

7 Incidents and emergencies

Note Section 7 forms the Pollution Incident Response Management Plan for the proposed works.

7.1 Background

Pollution Incident Response Management Plan

The *Protection of the Environment Legislation Amendment Act 2011* (POELA Act) has introduced several changes to improve the way pollution incidents are reported, managed and communicated to the general community. This includes a new requirement (under Part 5.7A of the POELA Act) to prepare, keep, test and implement a pollution incident response management plan.

Notably some of the proposed works are located within sites that hold existing EPLs (i.e. Barangroo and Central Station). The ECMs provided in Appendix D denote EPL areas.

7.2 Environmental incident

Sydney Metro has defined an environmental incident as:

An occurrence or set of circumstances, as a consequence of which pollution (air, water, noise, and land) or an adverse environmental impact has occurred or is likely to occur.

Adverse environmental impact includes contamination, harm to flora and fauna (either individual species or communities), damage to heritage items or adverse community impacts.

Examples of environmental Incidents:

- Air:
  - Odour that travels beyond the site boundary
  - Dust exceeding reasonable levels without active management measures in place
  - Operation or maintenance of plant in a manner that causes or is likely to cause air pollution
- Water Pollution
  - Discharge of water on or off site in a manner that causes or is likely to cause water pollution
- Noise and Vibration
  - Noise that travels beyond the site boundary as a result of poorly maintained plant or operation of plant in an inefficient manner
  - Failure to comply with the approved hours of work
- Land Contamination
  - Cause any substance to leak, spill or otherwise escape (whether or not from a container) in a manner that harms or is likely to harm the environment
  - Spill/deposit material or allow material to be deposited on land in a manner that causes or is likely to cause land pollution
  - Cause contamination of land
  - Dispose of waste in a manner that harms or is likely to harm the environment

- Flora and Fauna
  - Harm or “pick” a threatened species, endangered population or endangered ecological community
  - Damage to vegetation, fauna or habitat including watercourses
- Heritage
  - Damage, disturbance, destruction or works to heritage items/relics
  - Damage, disturbance, or destruction of Aboriginal objects or places

7.3 Classification of environmental incidents

There are three types of environmental incident classification each of which trigger a variety of management actions and/or legislative requirements.

- Class 1 - Irreversible large-scale environmental impact with loss of valued ecosystems
- Class 2 -
  - C2- Long-term environmental impairment in neighbouring or valued ecosystems. Extensive remediation required.
  - C3- Impacts external ecosystem and considerable remediation is required
- Class 3 –
  - C4- Short-term and/or well-contained environmental effects. Minor remedial actions probably required.
  - C5- Change from normal conditions within environmental regulatory limits and environmental effects are within site boundaries.
  - C6- No appreciable changes to environment and/or highly localised event.

7.4 Notifiable events

A notifiable event is *any environmental incident or issue that triggers a specific statutory requirement to notify a regulatory authority*. Some event types are summarised below:

Table 8 Notifiable events types

Event type	Legislation		Notification to
Pollution incident	POEO Act 1997	Part 5.7	EPA Pollution Line as soon as practicable after becoming aware of the incident
	POEO (General) Regulation 2009	Section 101	
Land contamination	Contaminated Land Management Act 1997	Section 60(1)	EPA in writing as soon as practicable after becoming aware of the contamination, where required as prescribed in the EPA Guidelines on the Duty to Report Contamination
Discover aboriginal relic	National Parks & Wildlife Act 1974	Section 91	Director General of EPA in writing within a reasonable time after becoming aware
Discover Aboriginal Remains	Commonwealth Aboriginal & Torres Strait Islanders Heritage Protection Act 1984	Section 20	Commonwealth Minister of the Environment in writing as soon as practicable after becoming aware

Event type	Legislation		Notification to
Discover relic	Heritage Act 1977	Section 146	Heritage Council in writing within a reasonable time after becoming aware.

The Environment and Planning Manager must determine whether an incident or issue is notifiable, with advice from the Manager Environment or Principal Manager, Sustainability, Environment & Planning as required.

Figure 7 provides environmental incident classification and reporting procedures for Sydney Metro projects, that RPS and its sub-contractors is to comply with.

7.5 Incident management and reporting

Section 153F of the POEO Act requires the PIRMP is implemented if a pollution incident occurs. This section provides a detailed description of the actions that will be taken immediately after a pollution incident to reduce or control any pollution.

Category one pollution incident reporting – notification under the POEO Act

All pollution incidents causing or threatening material harm to the environment must be notified to the EPA via the EPA Environment Line (telephone 131 555) in accordance with Section 148 of the POEO Act.

A 'pollution incident' includes a leak, spill or escape of a substance, or circumstances in which this is likely to occur. Material harm is defined under the POEO Act:

- If the actual or potential harm to the health or safety of human beings or ecosystems is not trivial.
- If actual or potential loss or property damage (including clean-up costs) associated with an environmental incident exceeds $10,000.

All pollution incidents causing or threatening material harm to the environment must be notified to each relevant authority in accordance with Section 148 of the POEO Act. For Category one pollution incidents, RPS will immediately (that is promptly and without delay, after they become aware of the incident) notify:

- TfNSW
- EPA
- Ministry of Health.
- WorkCover.
- The relevant local Council.
- Fire and Rescue NSW.

An environment incident report (provided in Appendix E – Sydney Metro template) will be prepared by RPS and provided to TfNSW within two days of the incident occurring, including learnings from the incident and proposed measures to prevent the occurrence of a similar incident.

Within seven days of the incident occurring, TfNSW will provide a detailed incident report and copy of the root cause analysis investigation to the EPA, including the following information in accordance with Section 150 of the amended POEO Act:

- The time, date, nature duration and location of the incident.
- The location of the place where pollution is occurring or is likely to occur.
- The nature, the estimated quantity or volume and the concentration of any pollutants involved, if known.

- The circumstances in which the incident occurred, including the cause of the incident, if known.
- The action or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.
- Other information prescribed by the regulations.

Category two incident reporting

Category two incidents include:

- Pollution incidents that can be cleaned up without material harm to the environment or people (as per Part 5.7 of the POEO Act).
- A non-conformance with the environmental management system does not result in a category one incident.

For Category two incidents, RPS will immediately notify TfNSW. TfNSW (through RPS) will advise DP&E, Council and EPA of the incident in writing within 2 days.

An environment incident report will be prepared by RPS and provided to TfNSW within one week. TfNSW is to report the incident in to DP&E.

All other incident reporting

For all other incidents (events that occur outside the scope of reasonable controls and measures), RPS will notify TFNSW immediately and any relevant agencies as soon as practicable. Incident will be recorded and appropriate guidelines to be followed.

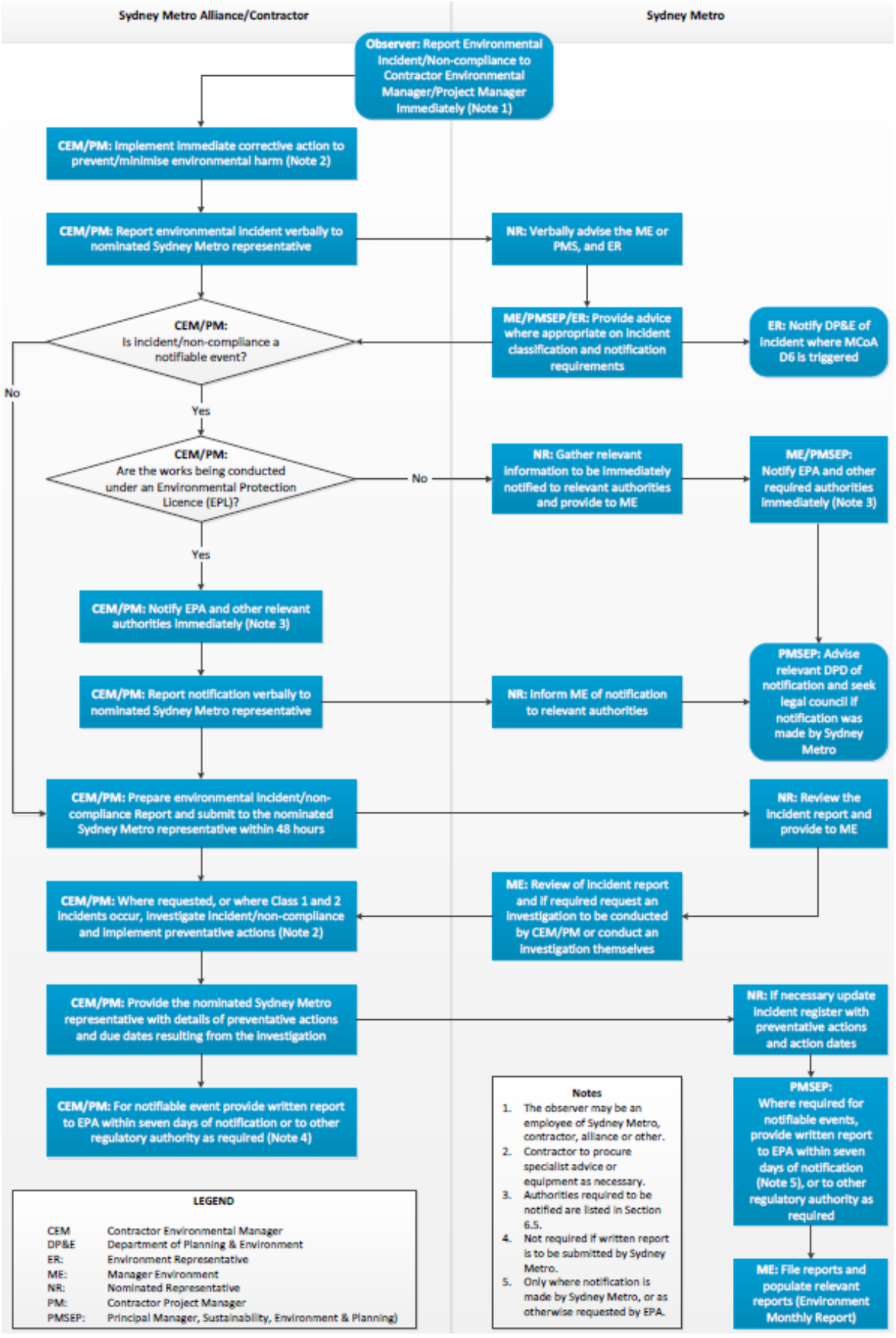
Key contacts for environmental emergencies are provided in Table 9.

List of emergency contacts

Table 9 Emergency contacts

Contact/Agency	Name	Contact details
RPS Project Manager	Stanley Tan	0437348346
RPS Environment and Planning Manager	Sofia Romic	0431 545 120
TfNSW	Paul Rogers	0435 106 173
EPA (Pollution incidents)	N/A	131 555
Office of Environment and Heritage	N/A	Main switchboard: (02) 9995 5000
NSW Health	N/A	(02) 9391 9000
NSW Rural Fire Service	N/A	000
Heritage Division OEH	N/A	9873 8500
Work Cover NSW	N/A	131 050
Police	N/A	000 (or 112 from mobiles)
Ambulance	N/A	000
Local council - City of Sydney	N/A	(02) 9265 9333
Local Council – Willoughby	N/A	Phone: 02 9777 1000 After Hours Emergencies: 02 9777 1000

Figure 7 Incident reporting flow chart Sydney Metro procedure



7.6 Incident investigation

All environmental incidents will be investigated. A root cause analysis approach will adopted to identify the origin of the problem in order to:

- Determine what happened.
- Determine why it happened.
- Identify and implement measures to reduce the likelihood that it will happen again.

The CEMP and environmental management plans will be reviewed by the Environment and Planning Manager after every Category One incident. The Environment and Planning Manager will ensure that any additional measures arising from the incident investigation are incorporated into the relevant plans.

Where TfNSW provides recommendations to address the cause or impact of any incident reported to the EPA, RPS will meet the requirements of the EPA's recommendations, in the timeframe specified, unless otherwise agreed.

Incidents will be closed out as quickly as possible, taking all required action to resolve each environmental incident.

Any recommended actions to improve existing processes or systems will be managed through the Non-Conformance Register, as outlined in Section 8.3.

7.7 Emergency response

A project Health and Safety Management Plan has been undertaken for the proposed works. This document is separate from the CEMP. This document describes the systems and processes RPS will use to manage risks associated with undertaking on the project.

This plan will manage risks to a level as low as reasonably practicable and includes strategies to manage and control hazards as they arise during the execution of the contract scope of works. This document applies to all personnel working for and on behalf of RPS, including subcontractors.

7.8 Community notification

Local community stakeholders that may be potentially affected by a pollution incident include nearby residents. In the unlikely event of a pollution incident that could result in impacts to residents, RPS will contact the TfNSW communication manager community for appropriate protocol.

7.9 Staff training

Several forms of environmental training will be provided (as outlined in Section 8), including:

- A project site induction, including environmental roles and responsibilities
- Toolbox talks
- EWMS for site activities to which all site personnel will be inducted
- Environmental awareness training for specific issues.

The Environment Manager will undertake training and maintain a register of all project site inductions and environmental training carried out will be maintained.

7.10 Testing and review

The POEO (General) Regulation 2009 (Clause 98E) states for testing of the PIRMP:

(1) The testing of a plan is to be carried out in such a manner as to ensure that the information included in the plan is accurate and up to date and the plan is capable of being implemented in a workable and effective manner.

(2) Any such test is to be carried out:

- *Routinely at least once every 12 months, and*
- *Within 1 month of any pollution incident occurring in the course of an activity to which the licence relates so as to assess, in the light of that incident, whether the information included in the plan is accurate and up to date and the plan is still capable of being implemented in a workable and effective manner.*

Due the short nature of the proposed works testing of this PIRMP is unlikely.

8 Environmental inspections, monitoring and auditing

8.1 Environmental inspections

Weekly inspections

The Project Manager or Environmental Manager will undertake at least weekly inspections of the work sites to monitor and evaluate the effectiveness of environmental management measures. If any environmental controls require maintenance, are ineffective, or require installation to address an actual or potential environmental issue, these observations will be recorded on the environmental inspection checklist. Any action will also be given a priority.

The Project Manager will undertake at least weekly inspections of the work sites to monitor and evaluate the effectiveness of environmental management measures in line with the CEMP.

If any environmental controls require maintenance, are ineffective, or require installation to address an actual or potential environmental issue, these observations will be recorded on the site Environment Checklist. If any action is required this will be recorded on the checklist. Rectification works will be carried out and noted on the same checklist.

If the issue is not (or cannot be) addressed in a reasonable time, or if a significant breach of the environmental controls occurs, a Non Conformance/Corrective Action (NCA) Report will be issued. In the event of an environmental incident (e.g. TfNSW, public complaint or EPA Warning/Fine) a Non Conformance/Corrective Action (NCA) Report will be completed. All NCA reports are review by RPS management and subsequent corrective and preventive actions are taken as required.

8.2 Environmental monitoring

Monitoring will be undertaken to measure the effectiveness of environmental controls and implementation of this CEMP, and to address approval, permit or EPL requirements. The monitoring requirements for required aspects are included in the relevant environmental sub plans.

8.3 Non-conformance, corrective and preventative actions

A non-conformance is an action or omission that does not conform with the requirements of this CEMP and supporting environmental documentation, or any legal or other requirement. Any member of the project team can identify a non-conformance.

An opportunity for improvement may be identified through the review and monitoring processes that will be implemented during delivery of the project. Review, monitoring or auditing may identify a variety of improvements that must or should be made to ensure continual improvement. For example, an internal audit of the incident register may identify an opportunity for improvement in areas such as documentation (CEMP, management plans, procedures, checklists etc) or resourcing (number and experience of environmental or other personnel). Any member of the project team can identify an opportunity for improvement.

Identifying non-conformance

Non-conformances may be identified in one of the following ways:

- Environmental incidents.
- Through monitoring and/or reporting.

- CEMP audits/review.
- Project team communication/feedback.

Reporting non-conformance

Non-conformances will be investigated and reported. The following details must be included:

- Details of the person reporting the non-conformance.
- Description of the non-conformance including time, date and location.
- Summary of the non-conformance including personnel involved, cause and environmental impact.
- Summary of actions taken to remediate the situation and mitigate further environmental impact.
- Further action required, a timeframe for completion and responsibility to correct or prevent future non-conformances.

Recording non-conformance

Following the investigation and reporting, a summary of the non-conformance will be recorded. Improvement opportunities will also be recorded in the non-conformance register, for example to capture any system improvements recommended as the result of an incident investigation.

Review of the non-conformance register

The register will be reviewed regularly to ensure actions are closed out in a timely manner or as required.

Procedures for rectifying any non-compliance identified during environmental auditing or review of compliance are also documented in the Compliance Tracking Program.

8.4 Reporting

Weekly environment report

The Environment Manager will prepare a weekly environment report to track progress on environmental performance. The weekly report will include relevant details including, but not limited to:

- Environmental inspections.
- Environmental monitoring.
- Environmental incidents.
- Environmental non-conformances.
- Environmental audits.
- Planned and completed construction notifications to the community.
- Complaints and enquiries.
- Training.

This report will be provided to TfNSW on a weekly basis. A template for reporting is located in Appendix H.

9 Documentation

9.1 Environmental records

The Project Manager and Environment and Planning Manager are responsible for maintaining all environmental management records. Types of records include:

- All monitoring, inspection and compliance reports/records.
- Reports on environmental incidents, environmental non-conformances, complaints and close out actions.
- Copy of environmental control plan register, site induction register, environmental training register, incident register and non-conformance register.
- Weekly environmental reporting and other environmental reporting as required by the contract documentation.
- Induction and training records.
- Correspondence with government agencies and other stakeholders.
- Community engagement and stakeholder management information.

All environmental management documents are subject to ongoing review and continual improvement. This includes changes to legislative or licensing requirements.

All approved exempt development checklists and heritage approvals are to be kept onsite all times.

Appendix A

Environmental Management Sub-Plans Table – All sites

Table 9.1 Environmental management sub-plans table applicable to all sites.

Note specific site mitigation measure have also been included.

Objective	Environmental action	Timeframe	Monitoring/reporting	Person responsible
General				
To minimise the risk of environmental incidents and complaints and to effectively manage incidents and complaints if they occur.	All project staff and contractors will be inducted on the environmental sensitivities of the work site(s) and relevant safeguards prior to commencement.	Prior construction	Induction records	PM/EM
	TfNSW will be notified immediately of any complaints relating to management of environmental issues.	As required	Weekly environmental report template	PM/EM
	To ensure compliance with Section 148 of the *Protection of the Environment Operations Act 1997*, RPS employees and contractors will inform TfNSW representatives as soon as they become aware of any pollution incidents that have caused or threaten material harm to the environment.	As required	Incident reports	All
Sediment and Erosion Control				
No sedimentation of waterways.	Erosion and sediment control measures will be consistent with those specified in the NSW Government's Blue Book (4th Edition, 2004) on erosion and sediment control.	Site establishment	Weekly environmental report template and ECM	SS/ PM/EM
	Establish erosion and sediment control measures before work begins and maintain them in effective working order during works, until the site has been stabilised to prevent on-site erosion and off-site transport of eroded sediments.	Site establishment / Prior to works / During construction	Weekly environmental report template and ECM	SS /PM/EM

Objective	Environmental action	Timeframe	Monitoring/reporting	Person responsible
	Establish appropriate sediment controls at the entry points to any stormwater drains and channels to minimise sediment entering the stormwater system.	Site establishment	Weekly environmental report template and ECM	SS /PM/EM
	Sediment and erosion control devices will be inspected weekly and immediately after rainfall to ensure effectiveness over the entire duration of the project. Any damage to erosion and sediment controls will be rectified immediately.	During construction	Weekly environmental report template	SS /PM/EM
	Measures will be taken to prevent tracking of soils/sediments across roadways and footpaths as a result of work vehicle/machinery movement.	During construction	Weekly environmental report template	SS /PM/EM
	Any sediment/soil transferred onto roadways/footpaths will be swept up at least daily or prior to the onset of rainfall, and reused on site where appropriate.	During construction	Weekly environmental report template	SS /PM/EM
	In the event of rain developing during works execution, site area will be made secure against soil erosion	During construction	Weekly environmental report template	SS /PM/EM
	Disturbed areas will be stabilised as soon as possible and in a progressive manner as works are completed.	During construction	Weekly environmental report template	SS /PM/EM
Minimise tracking of sediment and mud	All vehicles carrying waste materials capable of discharging free liquid will be watertight to prevent leaks and will be checked to confirm the absence of leaks before they leave the site.	During construction	Weekly environmental report template	SS /PM/EM
Water Quality and hydrology				
No pollution of waterways from fuels or chemicals.	A functioning 'spill kit' will be kept on site at all times for clean-up of accidental chemical/fuel spills.	During construction	Weekly checklist	SS /PM/EM
	Equipment will not be used if there are any signs of fuel, oil or hydraulic leaks. Leaks will be repaired immediately or the equipment will be removed from site and replaced with a leak-free item.	During construction	Weekly checklist	SS /PM/EM
Flora, Fauna and ecosystems				

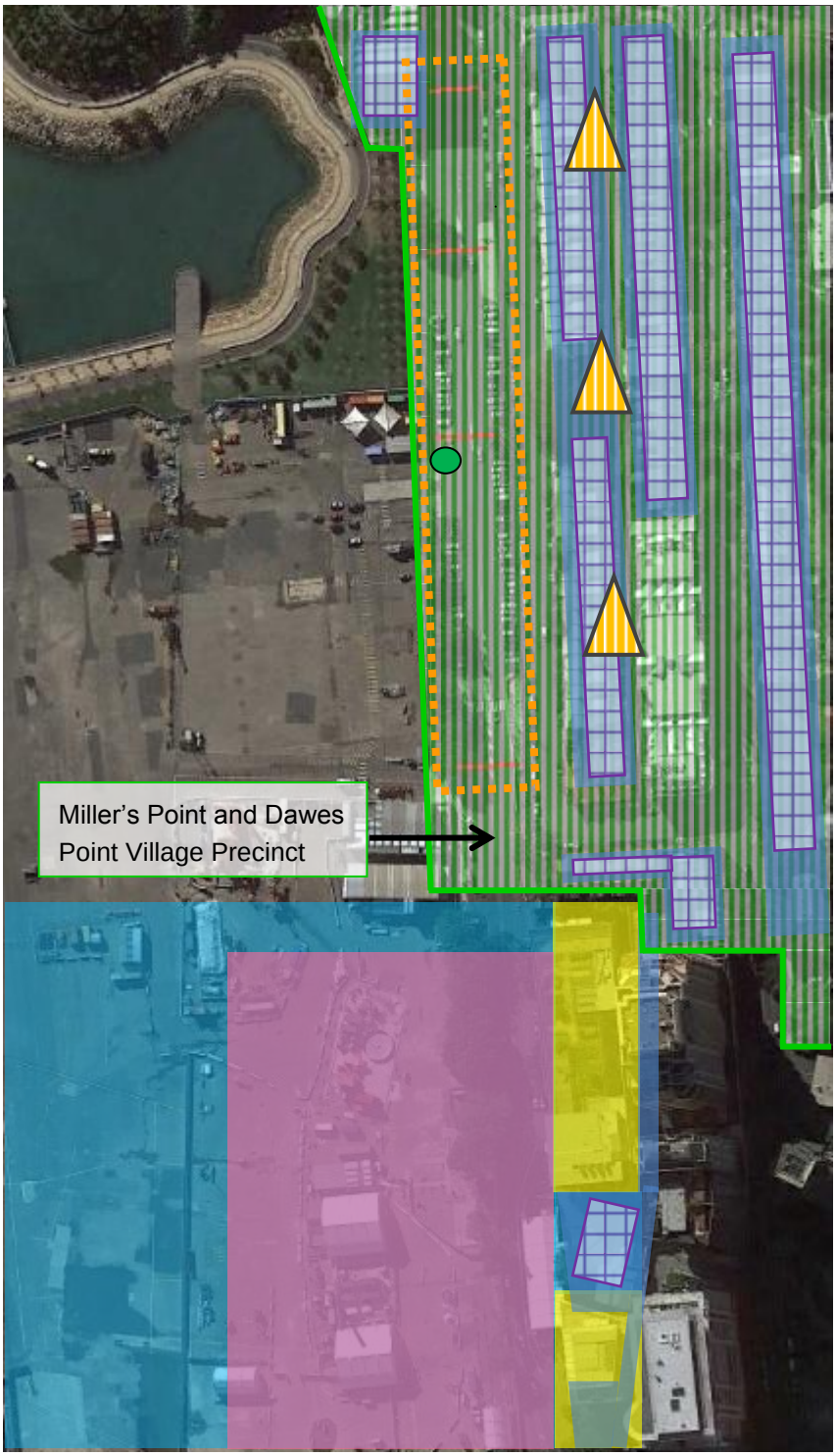
Objective	Environmental action	Timeframe	Monitoring/reporting	Person responsible
No harm to or unapproved removal of vegetation.	Any removal or pruning is not permitted. Should removal or pruning be required approval from the EM is to be sought.	During construction	Weekly checklist	SS /PM/EM
	Works within the Structural Root Zone of a tree would be undertaken in accordance with AS 4970-2009. Generally this would require the root system being exposed using non-destructive excavation.			
Noise and vibration				
Minimise construction noise	OOHW works approval is to be complied with.	During construction	Inductions /Toolbox	EM
	Affected surrounding residents and businesses to be given minimum 7 days' notice.	Prior to works	Correspondence	TfNSW
	Maintain and operate all equipment efficiently, according to manufacturer's specifications, to reduce adverse noise impacts.	During construction	Weekly checklist	SS /PM/EM
	Turn off plant and equipment when it is not being used.	During construction	Weekly checklist	SS /PM/EM
Air quality				
Minimise dust	Where watering is used to suppress dust, appropriate non-potable water sources will be used where at all possible	During construction	Weekly checklist	SS /PM/EM
	All loads of excavated material, soil, fill and other erodible matter that is transported to or from the work site will be kept covered at all times during transportation.	During construction	Weekly checklist	SS /PM/EM
Heritage				
No damage to known or unknown items of heritage significance	If there are unexpected or unidentified historic finds (of unknown origin or significance) during construction, we will cease work and seek the advice of a qualified archaeologist.	During construction	Weekly checklist	All staff
	The likelihood of artefact being found within the Barangaroo site is low (SOHI 2016). As such the TfNSW unexpected finds procedure is to be followed.	During construction	Weekly checklist	All staff
	The likelihood of artefact being found within Regent Street is low(SOHI 2016). As such the TfNSW unexpected finds procedure is to be followed.	During construction	Weekly checklist	All staff

Objective	Environmental action	Timeframe	Monitoring/reporting	Person responsible
	Any damaged tile surfaces in Central Station will be replaced like for like for like.	During construction	Weekly checklist	PM
Waste				
Waste handling	Environmental Controls Map would identify areas of known contamination, including appropriate controls for the management of the contamination.	Prior construction and during construction	Inductions /Toolbox Weekly checklist	SS /PM/EM
	Any material requiring off-site disposal would be transported by a suitably licensed contractor and disposed of at an appropriately licensed facility.	During construction	Weekly checklist	SS /PM/EM
Contamination				
Potential encounter	Slit trenching located at Hickson Road located near an EPL site currently undergoing remediation. Contractor (Vac Group) is to be made aware of waste handling requirements.	Prior construction	Weekly checklist and toolbox talk	SS/PM/EM
Traffic and access				
Traffic Control Plan and Safety	Road occupancy licences for temporary closure of roads would be obtained, where required.	Prior construction	Weekly checklist	SS /PM/EM
	Prior to the commencement of works, a Traffic Control Plan would be prepared in consultation with the relevant roads authority.	Prior construction	Traffic control Plan	PM/EM
	Traffic Control Plan and associated hazards and emergency response plans are to be communicated to all personnel.	Prior construction and during construction	Inductions /Toolbox Weekly checklist	All staff

Appendix B

Environmental Control Maps – One for each site

ENVIRONMENTAL CONTROL MAP
SITE NAME: BARANGAROO



General Construction Notes

- This control plan is to be read together with the relevant project environmental documentation i.e. CEMP.
- Vehicles to use designated access points outlined in the Traffic Control Plans (TCPs).
- Spill kits to be stored at designated points within the site that are readily accessible to the construction team.
- Ensure measures/materials are ready to mitigate for unforseen erosion during heavy rainfall

Legend	
	Slit trenches
	Sensitive receivers – row of terraces (residential)
	Site boundary (to be determined by TCP)
	Local heritage item (LEP)
	State heritage items
	Heritage conservation area (State) (Miller's Point and Dawes Point Village Precinct)
	Spill kit
	Declared investigation area
	Remediated area
	Remediation declaration area
	Contaminated land (EPL)

Prepared by:		Reviewed & approved by:		Date developed:	

Endorsed by EPM: DD/MM/YY

STOP WORK REQUIRMENTS	
Aspect	**Requirements**
Unexpected heritage find	Stop all work in vicinity immediately. Contact Project Environmental Manager. Project Environmental Manager to contact TfNSW Environmental Manager.
Water discharge	Do not proceed without prior approval from Environmental Manager. The TfNSW form *Approval to discharge or reuse water 9TP-FT-160* is to be completed for all off site dewatering.
Contamination / Hazardous Materials – Suspected contamination material discovered	Stop all work in vicinity immediately. Contact Project Environmental Manager. Contact TfNSW Environmental Manager. Contact the Project ER.
Environmental Incident – Hydrocarbon / Chemical Spill, Contaminated Material Release or Turbid Run-off to Surface Water	Contact the Project Environmental Manager immediately and without delay. Follow incident response guidelines in the CEMP.

HOURS OF WORK
Approved hours of work: Monday – Friday, 6am to 6pm; Saturday, 8am to 5pm Any works outside of the hours above require an out of hours work approval.

CONTACT INFORMATION		
Project Manager		
Construction Manager		
Environmental Manager		
WHS Manager		
TfNSW Environmental Manager		
TfNSW Response Line		1800 775 465
Transport Project Line		1800 684 490
EPA Environmental Line		131 555
Fire and Rescue		000
City of Sydney Council		
WorkCover		13 10 50
Ministry of Health		(02) 9391 9000
WIRES		1300 094 737

ENVIRONMENTAL CONTROL MAP
SITE NAME: MOWBRAY ROAD. CHATSWOOD

General Construction Notes
▪ This control plan is to be read together with the relevant project environmental documentation i.e. CEMP.
▪ Vehicles to use designated access points outlined in the Traffic Control Plans (TCPs).
▪ Spill kits to be stored at designated points within the site that are readily accessible to the construction team.
▪ Ensure measures/materials are ready to mitigate for unforseen erosion during heavy rainfall

Legend	
	Slit trenches
	Sensitive receivers (residential)
	Site boundary (to be determined by TCP)
	Local heritage item (LEP)
	State heritage item
	Spill kit

Prepared by:		Reviewed & approved by:		Date developed:	

Endorsed by EPM: DD/MM/YY

STOP WORK REQUIRMENTS	
Aspect	**Requirements**
Unexpected heritage find	Stop all work in vicinity immediately. Contact Project Environmental Manager. Project Environmental Manager to contact TfNSW Environmental Manager.
Water discharge	Do not proceed without prior approval from Environmental Manager. The TfNSW form *Approval to discharge or reuse water 9TP-FT-160* is to be completed for all off site dewatering.
Contamination / Hazardous Materials – Suspected contamination material discovered	Stop all work in vicinity immediately. Contact Project Environmental Manager. Contact TfNSW Environmental Manager. Contact the Project ER.
Environmental Incident – Hydrocarbon / Chemical Spill, Contaminated Material Release or Turbid Run-off to Surface Water	Contact the Project Environmental Manager immediately and without delay. Follow incident response guidelines in the CEMP.

CONTACT INFORMATION		
Project Manager		
Construction Manager		
Environmental Manager		
WHS Manager		
TfNSW Environmental Manager		
TfNSW Response Line		1800 775 465
Transport Project Line		1800 684 490
EPA Environmental Line		131 555
Fire and Rescue		000
City of Sydney Council		
WorkCover		13 10 50
Ministry of Health		(02) 9391 9000
WIRES		1300 094 737

HOURS OF WORK
Approved hours of work: Monday – Friday, 6am to 6pm; Saturday, 8am to 5pm Any works outside of the hours above require an out of hours work approval.

ENVIRONMENTAL CONTROL MAP
SITE NAME: REGENT STREET. CHIPPENDALE

General Construction Notes
▪ This control plan is to be read together with the relevant project environmental documentation i.e. CEMP.
▪ Vehicles to use designated access points outlined in the Traffic Control Plans (TCPs).
▪ Spill kits to be stored at designated points within the site that are readily accessible to the construction team.
▪ Ensure measures/materials are ready to mitigate for unforseen erosion during heavy rainfall

Legend	
	Slit trenches
	Sensitive receivers (residential)
	Sensitive receivers (Place of Worship – Masonic Temple)
	Site boundary (to be determined by TCP)
	Local heritage item (LEP)
	State heritage item
	Heritage conservation area (LEP)
	Spill kit

Prepared by:		Reviewed & approved by:		Date developed:	

Endorsed by EPM: DD/MM/YY

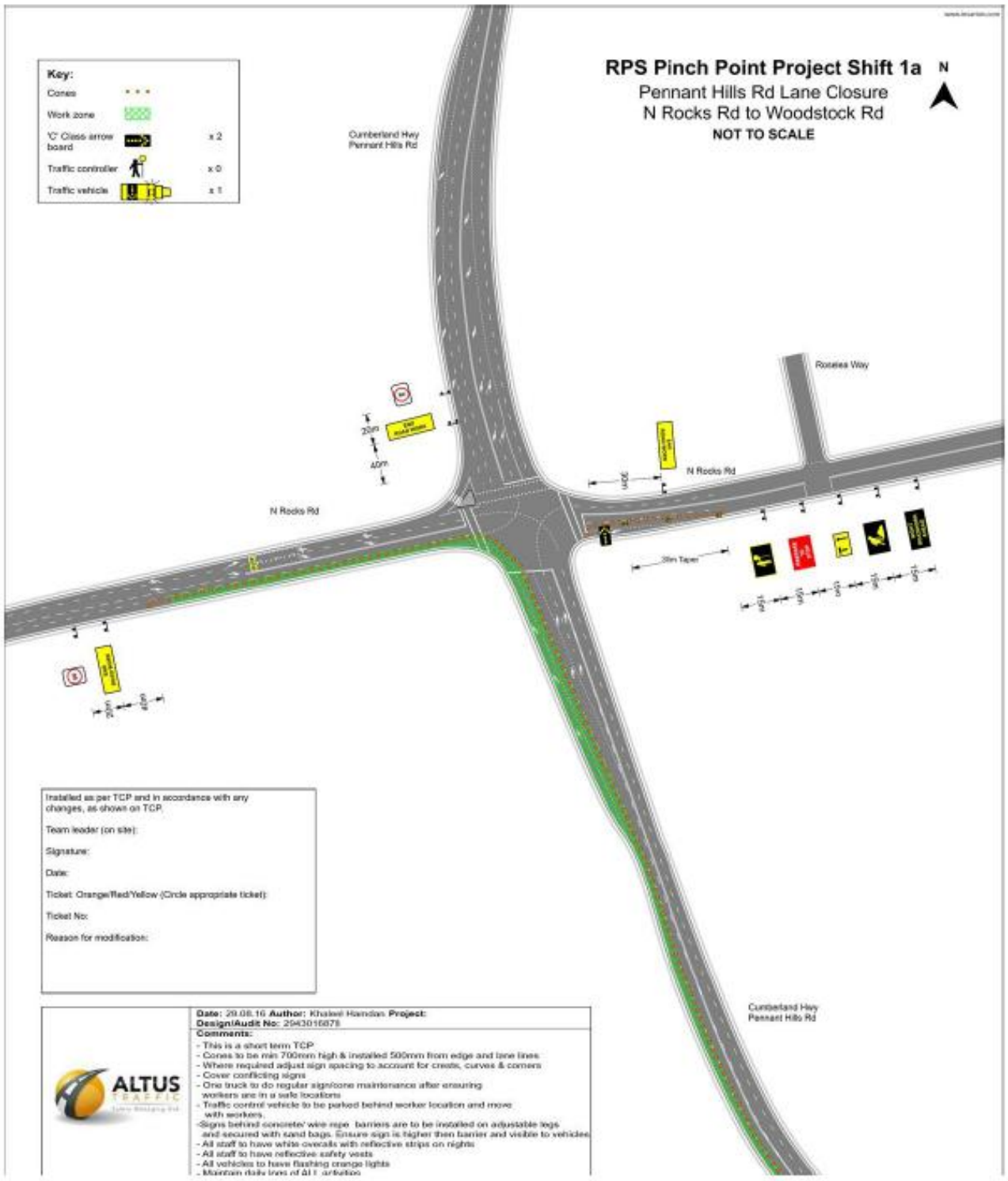
STOP WORK REQUIRMENTS	
Aspect	**Requirements**
Unexpected heritage find	Stop all work in vicinity immediately. Contact Project Environmental Manager. Project Environmental Manager to contact TfNSW Environmental Manager.
Water discharge	Do not proceed without prior approval from Environmental Manager. The TfNSW form *Approval to discharge or reuse water 9TP-FT-160* is to be completed for all off site dewatering.
Contamination / Hazardous Materials – Suspected contamination material discovered	Stop all work in vicinity immediately. Contact Project Environmental Manager. Contact TfNSW Environmental Manager. Contact the Project ER.
Environmental Incident – Hydrocarbon / Chemical Spill, Contaminated Material Release or Turbid Run-off to Surface Water	Contact the Project Environmental Manager immediately and without delay. Follow incident response guidelines in the CEMP.

CONTACT INFORMATION		
Project Manager		
Construction Manager		
Environmental Manager		
WHS Manager		
TfNSW Environmental Manager		
TfNSW Response Line		1800 775 465
Transport Project Line		1800 684 490
EPA Environmental Line		131 555
Fire and Rescue		000
City of Sydney Council		
WorkCover		13 10 50
Ministry of Health		(02) 9391 9000
WIRES		1300 094 737

HOURS OF WORK
Approved hours of work: Monday – Friday, 6am to 6pm; Saturday, 8am to 5pm Any works outside of the hours above require an out of hours work approval.

Appendix C

Traffic Control Plan – one for each site (example shown)



Level 1 660 Lorimer St
Port Melbourne Vic 3207
1300 TRAFFIC / www.altustraffic.com.au

Appendix D

Weekly environment report template

D1.1 Scope

This weekly Environmental Report is to be provided to TfNSW weekly to track progress on environmental performance. The report must include relevant details including but not limited to:

- Environmental inspections.
- Environmental monitoring.
- Environmental incidents.
- Environmental non-conformances.
- Environmental audits.
- Environmental reporting against licences, approvals, permits etc.
- Planned and completed notifications to the community regarding construction activities.
- Complaints and enquiries.
- Training.

D1.2 Project description

[Provide description of utility works]

D1.3 Reporting period

Period starting	Period ending	Was CEMP updated during reporting period? (Y/N)	Current CEMP revision no.

D1.4 Scope of construction activities undertaken

Provide details on specific construction activities undertaken during the reporting period.

Area	Key Activities

D1.5 Environmental inspections

Provide details on environmental inspections undertaken during the reporting period.

Inspection type (weekly or daily)	Date	Key identified issues	Actions taken (identify any actions taken or further action required)

D1.6 Environmental monitoring

Provide details of any environmental monitoring undertaken during the reporting period.

Monitoring type and location (noise, vibration, water quality etc)	Date	Outcome (identify any exceedances of criteria and provide explanation)	Actions taken (identify any actions taken or further action required)

D1.7 Discussion of environmental monitoring results

[Insert discussion]

D1.8 Environmental incidents

List all environmental incidents that occurred during the reporting period. Note the notification specified below.

Incident type (Cat 1 or Cat 2) and location	Date	Summary of incident	Date report provided to TfNSW	Outstanding actions

D1.9 Environmental non-conformances

Identify any other non-conformances that occurred or were identified during the reporting period (eg. failure to issue notification letters two weeks prior). Note. Environmental incidents listed above are excluded from this section.

Details of non conformance	Date	Status	Actions taken (identify any actions taken or further action required)

D1.10 Environmental audits

Provide details on internal and external audits undertaken during the reporting period.

Audit type (internal or external)	Date	Undertaken by	Description	No. of non conformances (detail in N1.8 above)

D1.11 Environmental reporting against licences, approvals, permits

Provide details on any other reporting undertaken during the period e.g. relating to the Exempt development checklist, and list any other statutory licences or permits obtained (e.g. Section 138 Certificate, s57 exemptions, ROLs, ROP etc.)

Licence, approval or permit details	Date	Description

D1.12 Completed construction notifications

Provide details of completed construction notifications issued during the reporting period.

Notification type	Date sent	Sent to	Description
E.g. letter	*XXXX*	*Sent to sensitive receivers and Council*	*E.g. Letter issued to notify of blasting activities scheduled for [date].*

D1.13 Upcoming construction notifications

Provide details of planned construction notifications for the upcoming reporting period e.g. relating to other staged works. Note that all notifications must be reviewed by TfNSW prior to issue.

Notification type	Date to be sent by	To be sent to	Description
E.g. letter	*E.g. at least 7 days prior works*	*Sent to sensitive receivers and Council*	*E.g. Letter issued to notify of blasting activities scheduled for [date].*

D1.14 Community complaints/enquiries

This section should provide a summary record of environmental complaints received during the reporting period and outline the response and status (open/closed).

RPS is responsible for providing information to TFNSW, to enable TfNSW to respond to complaints and enquiries received regarding the works.

Information will be provided to TfNSW within 2 hours of receiving notice that a complaint/enquiry has been registered by the community. Information should include the confirmation of any rectification actions to be undertaken (where appropriate).

RPS will:

(a) immediately make any enquiry/contact by the news media known to TfNSW;

(b) not make any statement (verbal or written) or provide any photographs or illustrations or other data to the news media regarding the Works without the prior written approval of TfNSW;

(c) not permit any news media on the Site without the prior written approval of TfNSW;

(d) provide TfNSW with relevant information in a timely manner, as required to respond to news media enquiries; and

(e) ensure all its subcontractors are aware of and comply with these requirements.

Complaint made by	Date	Issue raised	Actions taken

D1.15 Training

Training type (e.g. induction, toolbox talk)	Date	Topics covered	No of staff trained

Appendix E

Incident report templates

a. RPS incident Report Form, for incident or issue in respect of WHS;

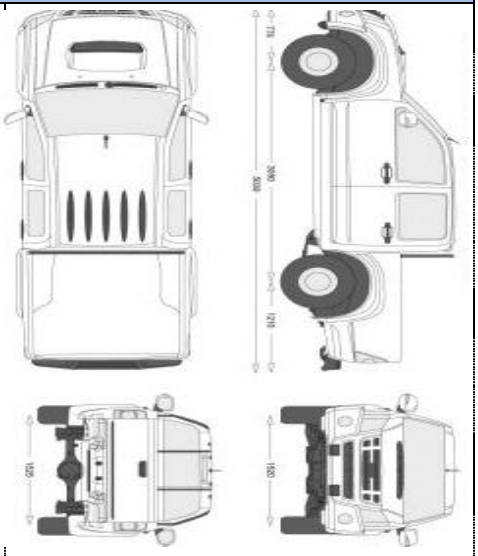
b. Sydney Metro Northwest Environmental Incident/Non-compliance Report, for environmental incident;

Incident Report Form

PART ONE: Event Type (select one) and Personal Details					
☐ Injury/Illness ☐ Equipment Damage ☐ Near Miss ☐ Env Damage ☐ Vehicle ☐ Loss/Theft					
Personal Details					
Person/s Involved			Occupation		
Date of Birth:	Sex: M / F	Are you: ☐ An Employee ☐ Contractor ☐ Visitor			
RPS Business Unit:			Office Site:		
Phone:			Mobile:		
Incident Details (Attach or Insert photo/s if available)					
Date and Time of Incident: / / : am/pm			Location: (where did the incident occur)		
Report Number:			Job Number Client:		
Description of Incident:					
Immediate Action Taken:					
Name of Witness (if applicable):			Occupation :		
Injury/Illness Details					
Severity of Injury ☐ Fatality ☐ Lost Time Injury ☐ Medical Treatment ☐ First Aid					
Duty status at time of injury	☐ On duty	☐ Off duty	☐ Travelling to / from work		
Hours on duty:			Days into Shift / Swing:		
Nature of Injury / Illness / part of Body:					
Type of Treatment:			None / First Aid / Nurse / Doctor / Other		
Name of Treating Person and Date Initial Treatment Given:					
Was the Injured Person Admitted to Hospital: Y / N					
Name of Hospital/Medical Centre			Date & Time of Admission: / / : am/pm		

Incident Report Form

Manager	
Name of Immediate Manager:	**Date & Time Notified: : / /** **: am/pm**
Line Manager:	

Actual and Potential Impact (Near Miss/Equipment Damage/Vehicle)	***circle damaged area***
Description of the damages caused by incident: **(e.g. damage caused to instrument, vehicle etc)**	
Name of other parties involved	
Estimated cost of repair	

Environmental					
Air: ☐ Noise	☐ Dust	☐ Odour	☐ Emission	☐ Other	
Land: ☐ Spill Hydrocarbon	☐ Disturbance	☐ Fire	☐ Erosion	☐ Cultural Heritage	
Flora: ☐ Vegetation Disturbance ☐ Weed Infestation		**Fauna:** ☐ Disturbance	☐ Injury	☐ Death	
Water	☐ Ground Contamination	**Surface:** ☐ Spill Hydrocarbon	☐ Other uncontrolled Discharge		
	Marine: ☐ Spill Hydrocarbon ☐ Marine life Injury/Death	**Other Pollutant:**			
Waste: ☐ Incorrect disposal	☐ Cross contamination				

PART TWO: Incident Investigation (This is to be carried out by the Line Manager)
What was the Employee/Contractor/Visitor doing at the time? (e.g. description of work being conducted)
What Happened Unexpectedly? (include name of process, chemical, product or equipment involved)
How was the injury/illness sustained (e.g. working at desk, walking on uneven surface)

Incident Report Form

Causal/Contributing Factors			
Category	**Factors**		**Describe**
6.1 Equipment:	■ **Not suited to task**	☐	
	■ **Defective**	☐	
	■ **Other**	☐	
6.2 Organisational:	■ **Supervision provided**	☐	
	■ **Time pressure/deadlines**	☐	
	■ **Other**	☐	
6.3 Environmental:	■ **Weather**	☐	
	■ **Housekeeping**	☐	
	■ **Other**	☐	
6.4 People:	■ **Actions**	☐	
	■ **Competence**	☐	
	■ **Other**	☐	
6.5 Procedures:	■ **Procedure/JHA for task**	☐	
	■ **Current and applicable**	☐	
	■ **Other**	☐	

Corrective Actions (Uncompleted actions are to be carried over to Corrective Action Register)		
Corrective Action (Follow the Hierarchy of Control)	**Responsible**	**Due Date**

Line Manager:		**Employee Involved:**	
Signature:		**Signature:**	
Date:		**Date:**	

HSE/Management Comment/Close Out					
HSE Advisor:		**Signature:**		**Date:**	
Comment:					
Other details					

Environmental Incident and Non-Compliance Report Template

Record only factual information that you know to be correct. Do not make assumptions, be succinct and avoid speculation.

Section 1: General Details			
Contractor:			
Site:			
TfNSW ID Code: (If known)		**Contractor reference:** (If known)	
Date of incident/ non-compliance:		**Time of incident/ non-compliance:**	
Date of notification:		**Time of notification:**	
Method of notification:			
Notification received by – Name:			
Notification received by – Position:			
Incident Classification:		**Duration**	
☐ Non-compliance only (complete Section 6 and 7 only)	☐ Class 3	☐ Short term (less than 1 week)	☐ Medium term (less than 3 months)
☐ Class 2	☐ Class 1	☐ Long term (greater than 3 months)	☐ Permanent
Incident Properties: (Tick as many as appropriate, where significant off-site impacts on people or the biophysical environment occurs this incident is also notifiable to DP&E)	☐ **Notifiable event** (also complete Section 4)		
	☐ **Non-compliance** (also complete Section 6)		

Incident type (choose one):		
☐ **Air & Dust** (e.g. dust or odour emission, excessive exhaust from plant or equipment)	☐ **Unauthorised Works** (e.g. work being carried out prior to approval or permits being obtained)	☐ **Noise & Vibration** (e.g. exceedances of noise and vibration limits)
☐ **Flora and Fauna** (damage/harm to species /habitat/ecological community)	☐ **Water Pollution** (e.g. discharge to any onsite or offsite waterway)	☐ **Traffic, Transport & Access** (e.g. Issues regarding the management of traffic flow)
☐ **Land Contamination** (e.g. events where harmful materials escape into soil)	☐ **Community** (e.g. events causing impacts on community amenity/property)	☐ **Waste & Hazardous Materials** (e.g. disposal causing environmental harm)
☐ **Systems & Documentation** (e.g. Non-Compliance with project approval, or a CEMP requirement)	☐ **Heritage** (e.g. damage/disturbance to heritage item/object/place)	

Section 2: Circumstances and Corrective Actions	
Exact location: (address, chainage, nearest cross street, landmarks etc., attach sketch if appropriate.)	
Circumstances: (Outline the circumstances of the incident leading up to the event and detail the activity being conducted)	
Corrective Actions: (Actions taken immediately to prevent or minimise environmental harm)	

Section 3: Other Relevant Information (pollution events only)			
Pollutant:			
Quantity or volume:		**Concentration:**	
Location of Pollution: (If different from the exact location of the event, also describing the extent of the pollution)			

Section 4: Notification to Relevant Authorities (notifiable events only)	
Relevant Authorities to be notified: (relevant information to be given in this notification is contained within this form)	**Incident Observer immediate verbal notification made to:** ☐ Sydney Metro Nominated Representative ☐ Environmental Representative **Sydney Metro Nominated Representative Immediately notify:** ☐ Local Authority (Council) ☐ EPA (through the Pollution Hotline on 131 555) ☐ Ministry of Health ☐ WorkCover Authority **As soon as possible following immediate notification requirements:** ☐ Sydney Metro Nominated Representative ☐ Environmental Representative
Notification made by – Name:	
Notification made by – Position:	
Date of notification:	**Time of notification:**
Sydney Metro Manager, Environment to be notified:	**Has the Environmental Representative determined significant off-site impacts on people or the biophysical environment?** ☐ Yes – Verbally notify Sydney Metro Manager, Environment as soon as possible ☐ No – Provide this incident report to the Manager, Environment within 24 hours

Section 5: Investigation and Preventative Actions	
Investigation Details: (Actions taken immediately to prevent or minimise environmental harm)	☐ Report Only (Class 3 Incidents Only) ☐ Minor Investigation (Class 3 and 2 Incidents Only) ☐ Major Investigation (Any Class of Incident)

Preventative Actions

(Actions taken after an investigation to minimise the risk of the event re-occurring)

Due Date	Allocated to	Action

Section 6: Non Conformance (leave blank if unsure)			
Description of non-compliance:			
Relevant approval:		**Relevant condition:**	
Action required for closure: (Where an individual is assigned an action to close a non-compliance they must notify the Sydney Metro Manager, Environment once this is achieved)			
Assigned to:		**Status:**	☐ Open ☐ Close immediately

Section 7: Signoff	
Signature:	
Name:	
Position:	

Appendix F

Approvals and permits

Appendix 3: Statements of Heritage Impacts

Sydney Metro

Statement of Heritage Impact – Regent Street, Chippendale

Prepared by:

RPS AUSTRALIA EAST PTY LTD

Level 13, 255 Pitt Street,
Sydney, New South Wales 2000

T: 02 9249 9800
E: sydney@rpsgroup.com.au

Prepared for:

TRANSPORT FOR NEW SOUTH WALES

PO Box 588
NORTH RYDE BC NSW 1670

Prepared by: Deborah Farina
Reviewed: Erin Williams
Approved: Deborah Farina
Project No.: PR132497
Version: 1.0
Date: December 2016

IMPORTANT NOTE

We have prepared this report for the sole purposes of Transport for New South Wales ("**Client**") for the specific purpose of only for which it is supplied ("**Purpose**"). This report is strictly limited to the purpose and the facts and matters stated in it and does not apply directly or indirectly and will not be used for any other application, purpose, use or matter.

In preparing this report we have made certain assumptions. We have assumed that all information and documents provided to us by the Client or as a result of a specific request or enquiry were complete, accurate and up-to-date. Where we have obtained information from a government register or database, we have assumed that the information is accurate. Where an assumption has been made, we have not made any independent investigations with respect to the matters the subject of that assumption. We are not aware of any reason why any of the assumptions are incorrect.

This report is presented without the assumption of a duty of care to any other person (other than the Client) ("**Third Party**"). The report may not contain sufficient information for the purposes of a Third Party or for other uses. Without the prior written consent of RPS Australia East Pty Ltd:

(a) this report may not be relied on by a Third Party; and

(b) RPS Australia East Pty Ltd will not be liable to a Third Party for any loss, damage, liability or claim arising out of or incidental to a Third Party publishing, using or relying on the facts, content, opinions or subject matter contained in this report.

If a Third Party uses or relies on the facts, content, opinions or subject matter contained in this report with or without the consent of RPS Australia East Pty Ltd, RPS Australia East Pty Ltd disclaims all risk and the Third Party assumes all risk and releases and indemnifies and agrees to keep indemnified RPS Australia East Pty Ltd from any loss, damage, claim or liability arising directly or indirectly from the use of or reliance on this report.

In this note, a reference to loss and damage includes past and prospective economic loss, loss of profits, damage to property, injury to any person (including death) costs and expenses incurred in taking measures to prevent, mitigate or rectify any harm, loss of opportunity, legal costs, compensation, interest and any other direct, indirect, consequential or financial or other loss.

DOCUMENT STATUS

Version	Purpose of Document	Orig	Review	Review Date
1.0	Draft assessment of impact from geotechnical works	Deborah Farina	Erin Williams	12/12/2016

APPROVAL FOR ISSUE

Name	Signature	Date
Deborah Farina		12/12/2016

Contents

Executive Summary

RPS was engaged by Transport of New South Wales to prepare a Statement of Heritage Impact as part of the geotechnical works associated with the Sydney Metro project. The geotechnical works comprise pot-holing and slit trenching in areas of impact of the proposed rail link infrastructure. The purpose of the geotechnical works is in order to locate underground utility services.

The Sydney Metro project is a new standalone rail network with two core components:

- The construction of an underground rail line between Chatswood Station and Sydenham station; and
- The upgrade the existing rail line between Sydenham station and Bankstown station.

As part of the Chatswood – Sydenham portion of the Sydney metro project, RPS Subsurface Utilities have been engaged to undertake slit trenching to locate subsurface utility services. According to earlier studies three areas where the slit trenching is to occur have heritage items in the vicinity. These three areas are:

- Regent Street, Chippendale;
- Mowbray Street, Chatswood; and
- Hickson Road, Barangaroo.

RPS has been engaged to undertake heritage assessments at these three locations. RPS heritage staff will also monitor the slit trenching to ensure that no subsurface items or significant archaeological deposits are impacted.

The study area for this assessment is located along **Regent Street, Chippendale**. The study area is wholly within the Sydney City local government area and is located along the eastern kerb of Regent Street, approximately between 54 and 64 Regent Street, Chippendale (see Figure 1).

Two separate trenches will be excavated measuring approximately 20 centimetres wide, five metres in length and two metres deep. The location of the trenches will be on the kerbside of the footpath and extending to the outer edge of the road corridor. As the purpose of these trenches is to locate underground utility services the dimensions and precise locations of the trenches are approximate to allow for flexibility in locating the services and for this reason an area of approximately 70 metres x 20 metres around the proposed location of the two trenches is being assessed (see Figure 1 below). It should be noted that trenching will not take place outside of this area without additional assessment.

Searches of Federal, State and local heritage registers show that there is one State heritage item (Mortuary Station) and five local heritage items within the area investigated, which is considerably larger than the study area to give context to this report (see Section 2 below). The study area is outside of but adjacent to the curtilage of Mortuary Station, however the current location for the closest proposed slit trenches is over 50 metres from that item. It is not proposed that trenches be excavated in front of Mortuary Station. Locally listed Co Masonic Temple at 54 Regent Street, Chippendale and the proposed trenching, barriers will be erected in the front of the temple to protect the facade from accidental damage by either workers or their equipment. The remaining four heritage items are located on the western side of Regent Street and will not be affected by the proposed works.

The historical context and literature review indicates that there is no potential for impacting on potential archaeological resources.

Based on the available information it is concluded that there is little potential for the significance of any heritage items within the study area to be adversely impacted. The following general recommendations are therefore offered.

Recommendation 1 – Archaeological Monitoring

Although the archaeological potential for the study area is considered to be low, any archaeological deposits may be of high research value, given the long historical use of the area. It is therefore recommended that a qualified archaeologist be present during the slit trenching.

Recommendation 2 - Heritage Induction

It is recommended that a heritage induction exercise be carried out in advance of the proposed works. All relevant staff, contractors and subcontractors will be made aware of their statutory obligations for heritage under the *Heritage Act 1977*, through the site induction and toolbox talks.

Recommendation 3 – Unexpected Finds

The Transport for New South Wales Unexpected Finds Protocol should be followed in the event of significant archaeological deposits being uncovered. At a minimum, however, if, during the course of the proposed works suspected archaeological relics, as defined by the *Heritage Act 1977* (as amended), are uncovered, work should cease in that area immediately. The Heritage Branch, Office of Environment and Heritage (Enviroline 131 555) should be notified and works only recommence when an approved management strategy developed.

1 Introduction

RPS was engaged by Transport of New South Wales to prepare a Statement of Heritage Impact as part of the geotechnical works associated with the Sydney Metro project. The geotechnical works comprise pot-holing and slit trenching in areas of impact of the proposed rail link infrastructure. The purpose of the geotechnical works is in order to locate underground utility services.

1.1 Study area

The study area for this assessment is located along Regent Street, Chippendale. The study area comprises an area covering two trenches and an additional area (see Section 1.2 and Figure 1 below) is wholly within the Sydney City local government area and is located along the eastern kerb of Regent Street, approximately between 54 and 64 Regent Street, Chippendale.

1.2 Proposal

The Sydney Metro project is a new standalone rail network with two core components:

- The construction of an underground rail line between Chatswood Station and Sydenham station;
- The upgrade the existing rail line between Sydenham station and Bankstown station.

As part of the Chatswood – Sydenham portion of the Sydney metro project, RPS' Subsurface Utilities team has been engaged to undertake slit trenching to locate subsurface utility services. According to earlier studies (Artefact Pty Ltd 2016) three locations within the Chatswood – Sydenham portion of the Sydney Metro project where slit trenching is proposed in the vicinity of heritage items. These three areas are:

- Regent Street, Chippendale;
- Mowbray Street, Chatswood; and
- Hickson Road, Barangaroo.

This SoHI relates to the Regent Street, Chippendale location.

It is proposed that two trenches will be excavated measuring approximately 20 centimetres wide, five metres in length and two metres deep. As the purpose of these trenches is to locate underground utility services the dimensions of the trenches are approximate to allow for accurate identification. For this reason an area of approximately 70 metres x 20 metres around the proposed location of the trenches is being assessed. Trenching will not take place outside of this area without additional assessment.

The study area is adjacent to but well outside the curtilage of the Mortuary Station complex.

In order to minimise disruption to pedestrian and vehicle traffic, the trenches are planned to be excavated after hours.

1.3 Methodology

This Statement of Heritage Impact has been prepared in accordance with *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (*Burra Charter*) (2013) and associated Guidelines as well as best practice standards set by the NSW Heritage Branch. Best practice guidance followed in this report includes *Assessing Heritage Significance* (Heritage Officer (former), 2001) and *Statements of Heritage Impact* (Heritage Office and Department of Urban Affairs & Planning (former), 1996, revised 2002).

1.4 Authorship and Acknowledgements

This report has been prepared by RPS Heritage Manager Sydney, Deborah Farina with the assistance of Claire Rayner. A technical review was undertaken by RPS Senior Executive – Environment and Heritage, Erin Williams.

The assistance in the preparation of this report by the following people and organisations is also gratefully acknowledged.

Table 1 : Acknowledgements

Name	Organisation
Stanley Tan	RPS Spatial, Visual and Subsurface Consultant
Sofia Romic	RPS Senior Consultant, Environment
Nicole Williams	Transport for New South Wales

RPS

Figure 1: Study Area

N:\Projects\Conics_Sydney\PR132497 Sydney Metro\Cultural Heritage -2\GIS\mxd\132497 Figure 1-20161213.mxd, 13/12/2016, 15:59, by mark.durkan

No.	Date	Revision Details	INI

PREPARED FOR:

CHECKED BY/DATE:	MD/13-12-2016	CO-ORDS:	MGA
APPROVED BY/DATE:	INI/DD-MM-YYYY	DATUM:	N/A
GIS REF:	132497 Figure 1-20161213		
JOB REF:	SPA	DATE OF PLAN:	13-12-2016

N

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0 7 14 21 28 35 42

Metres

2 Heritage Significance Assessment Framework

2.1 Basis of Assessment of Heritage Significance in NSW

The following section provides an overview of the legislative framework relating to the protection and management of historic heritage. This overview is provided solely as information for the client rather than as legal advice. The findings from a review of national, state and local statutory heritage registers are provided in Section 2.2 below. The relevant planning requirements as set out in current statutory planning instruments prepared by the Council of the City of Sydney are described in Section 2.3.

Heritage Act 1977 and the NSW Heritage Branch

Historical archaeological relics, buildings, structures, archaeological deposits and features are protected under the *Heritage Act 1977* (and subsequent amendments) and may be identified on the State Heritage Register (SHR) or by an active Interim Heritage Order.

The Heritage Council of NSW, constituted under the *Heritage Act 1977*, is appointed by the Minister and is responsible for heritage in NSW. The Council reflects a cross-section of community, government and conservation expertise with the NSW Heritage Branch being the operational arm of the Council. The work of the NSW Heritage Branch includes:

- Working with communities to help them identify their important places and objects;
- Providing guidance on how to look after heritage items;
- Supporting community heritage projects through funding and advice; and
- Maintaining the NSW Heritage Database, an online list of all statutory heritage items in NSW.

The 1996 NSW Heritage Manual, published by the NSW Heritage Branch and the then Department of Urban Affairs and Planning, provides guidelines for conducting assessments of heritage significance. The Manual includes specific criteria for addressing the significance of an item and this assessment has been completed in accordance with those guidelines. These criteria are addressed more fully in Section 7 of this report.

Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) regulates a system of environmental planning and assessment for NSW. Land use planning requires that environmental impacts are considered, including the impact on cultural heritage. Assessment documents prepared to meet the requirements of the EP&A Act including Reviews of Environmental Factors, Environmental Impact Statements and Environmental Impact Assessments, should address cultural heritage where relevant. Statutory planning documents such as Local Environment Plans (LEPs) and State Environmental Planning Policies typically contain provisions for heritage.

Exempt development

Section 76 of the EP&A Act states that exempt development may be carried out without the need for development consent under Part 4 of the Act or for assessment under Part 5 of that Act. Exempt development must be of minimal environmental impact.

In addition, cl 82 of the *State Environmental Planning Policy (Infrastructure) 2007* (SEPP Infrastructure) holds that development for certain purposes on behalf of a public authority in connection with railway or

railway infrastructure facilities are within the definition of exempt development. The purposes include geotechnical and other testing at, above or below the surface of the ground.

Based on the above, the project complies with the definition of an exempt development.

The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 2013

The *Burra Charter* is a set of best practice principles and procedures for heritage conservation. It was developed by Australia ICOMOS (International Council for Monuments and Sites), the Australian group of the international professional organisation for conservation. Although without statutory weight, the *Burra Charter* underpins heritage management in New South Wales and Australia. The policies and guidelines of the Heritage Council of NSW and the NSW Heritage Office are consistent with and guided by the *Burra Charter*.

2.2 NSW Heritage Registers Review

Acknowledged heritage items and places are recorded in statutory and non-statutory registers held at the Federal, State and local level depending on their level of significance. Internationally significant sites of 'outstanding universal value' are inscribed in the World Heritage List (WHL) and in turn, such sites are usually recognised through their inclusion on Federal and state-level registers.

Federal designations include the National Heritage List (NHL) and the Commonwealth Heritage List (CHL) created by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Both registers are maintained by the Commonwealth Department of the Environment and are available to view on an online database, the Australian Heritage Database. The NHL includes natural, historic and Indigenous places that are of outstanding national heritage value to the Australian nation. The CHL protects natural, Indigenous and historic heritage places on land owned or leased by the Commonwealth or a Commonwealth Authority. To reach the threshold for the NHL, a place must have 'outstanding' heritage value to the nation whereas to be entered on the CHL, a place must have 'significant' heritage value.

Heritage places of state significance are included on the State Heritage Register (SHR) maintained by the Heritage Branch. Places included on the SHR are available on an online database, the NSW Heritage Inventory database; however, it should be noted that the inventory includes items of state and local significance in NSW, it may not necessarily be comprehensive and inclusion on the inventory does not carry statutory weight in its own right. In order to reach the threshold for inclusion in the SHR, a place needs to meet one of more of the heritage criteria identified by the Heritage Council of NSW. The ultimate decision on whether a place is included on the State Heritage Register is made by the Minister for Heritage.

Places of local significance are included in heritage schedules in LEPs.

2.3 World Heritage

There are **no World Heritage Sites** ('WHS') located within the study area.

2.4 National and Commonwealth Heritage

A search of the Australian Heritage Database was undertaken on 27 October 2016 which indicates that there are **no items within the study area included on the NHL or CHL**.

2.5 State Heritage

A search of the State Heritage Inventory database on 27 October 2016 found **no items** within the study area and one item within the vicinity of the study area. No items subject to an interim, or authorised interim heritage order were identified.

Table 2 : Items of State Significance on the State Heritage Register (SHR) within the vicinity of the study area

Item	Address	Listing No.
Mortuary Railway Station and site	Regent Street, Chippendale	00157

2.6 Section 170 Registers

Section 170 of the *Heritage Act 1977* requires State Government Agencies to keep records of heritage items owned or operated by it. These registers can be found on the NSW Heritage Inventory. A search of this inventory was carried out on 27 October 2016 and no items were identified as being located within the study area.

2.7 Local Heritage

A search of Schedule 5 of the Council of the City of Sydney LEP 2012 identified one heritage item within the study area and four in the vicinity of the study area.

Table 3 : Local heritage items within the study area

Item Name	Address	Significance
Former Co-Masonic Temple including Interior	54 Regent Street, Chippendale	Local

Table 4 : Local heritage items in the vicinity of the study area

Item Name	Address	Significance
Former Crown Hotel including interiors	111-113 Regent Street, Chippendale	Local
Mortuary Railway Station and Gardens	Regent Street, Chippendale	State
Terrace Group including interior	99-105 Regent Street/27 Queen Street	Local

In addition to the above heritage items, the western side of Regent Street is covered by the Chippendale Heritage Conservation Area.

RPS

Figure 2: Slit Trench Locations

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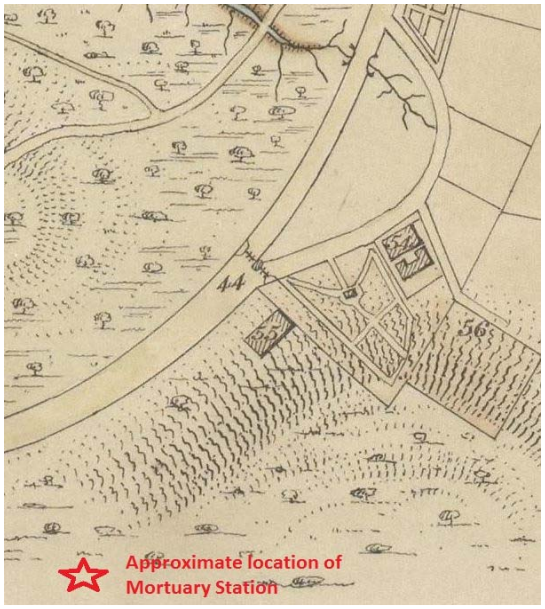
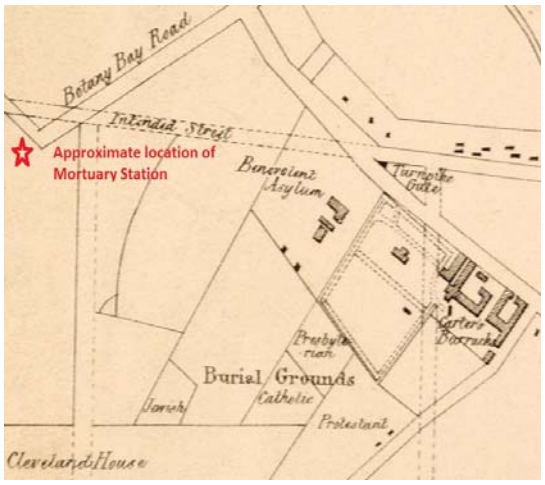
3 Historical context

This historical context sets out the development of historical land use in the study area. This is included in order to provide a context for remaining heritage items as well as allow some predictions of potential archaeological remains.

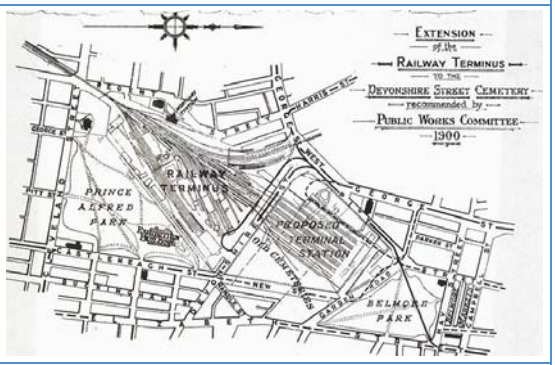
3.1 Broad Historical Context

A summary of the historical development of the study area is provided below, with more detailed information presented in Section 3.2. Because of its size and identifiable location, the maps in Table 5 below contain reference to the approximate location of Mortuary Station as an indication of the study area.

Table 5 : Timeline of broader study area

Year	Land use	Image
Pre 1788	Gadigal land	
1788-1822	Timbered land, south of Benevolent Asylum (no. 55 on map) (Source: Plan of the Town and suburbs of Sydney, August, 1822 [cartographic material] – National Library of Australia)	
1837	Regent Street noted as “Botany Bay Road” (Source: Plan of Sydney with Pyrmont, New South Wales [cartographic material]: the latter the property of Edwn Macarthur Esqre, divided intio allotments for building 1836 – National Library of Australia)	

Year	Land use	Image
1839	Government Paddocks (also known as Cleveland Paddocks) (Source: Government Paddocks Old Botany Road and Parramatta Street – Surveyor General's sketch books, 1839-1843 – State Records NSW).	
1847, 1861	Construction of Wesleyan Chapels and School (Source: State Library of New South Wales).	
1850-1869	Construction of Central Railway Terminus (known as Redfern) and Mortuary Station/Receiving House ("Turning the First turf of the first Railway in the Australian colonies at Redfern, Sydney, NSW, 1850", by John Rae, courtesy State Library of NSW)	

Year	Land use	Image
1898	Demolition and construction of new Wesleyan school hall; construction of various commercial premises	
1902	Trams commenced operations in Sydney in the 1880s, with Regent St becoming a major tram thoroughfare for trams to Alexandria, Waterloo, Cooks River, Erskinville and Botany routes. The photo at right shows Regent Street in 1953, from the corner of Meagher St (in foreground) south towards Cleveland Street (Source: Archive Pix, Council of the City of Sydney).	
1903	Demolition of Devonshire Street Cemetery and construction of new Central Station (Source: State Records of New South Wales)	
1918	Sale of Wesley Church and school hall to Liberal Catholics and Co Masons respectively; church named "St Albans".	
1966	Demolition of St Albans church, installation of petrol station	

Year	Land use	Image
2008	Construction of apartment building	

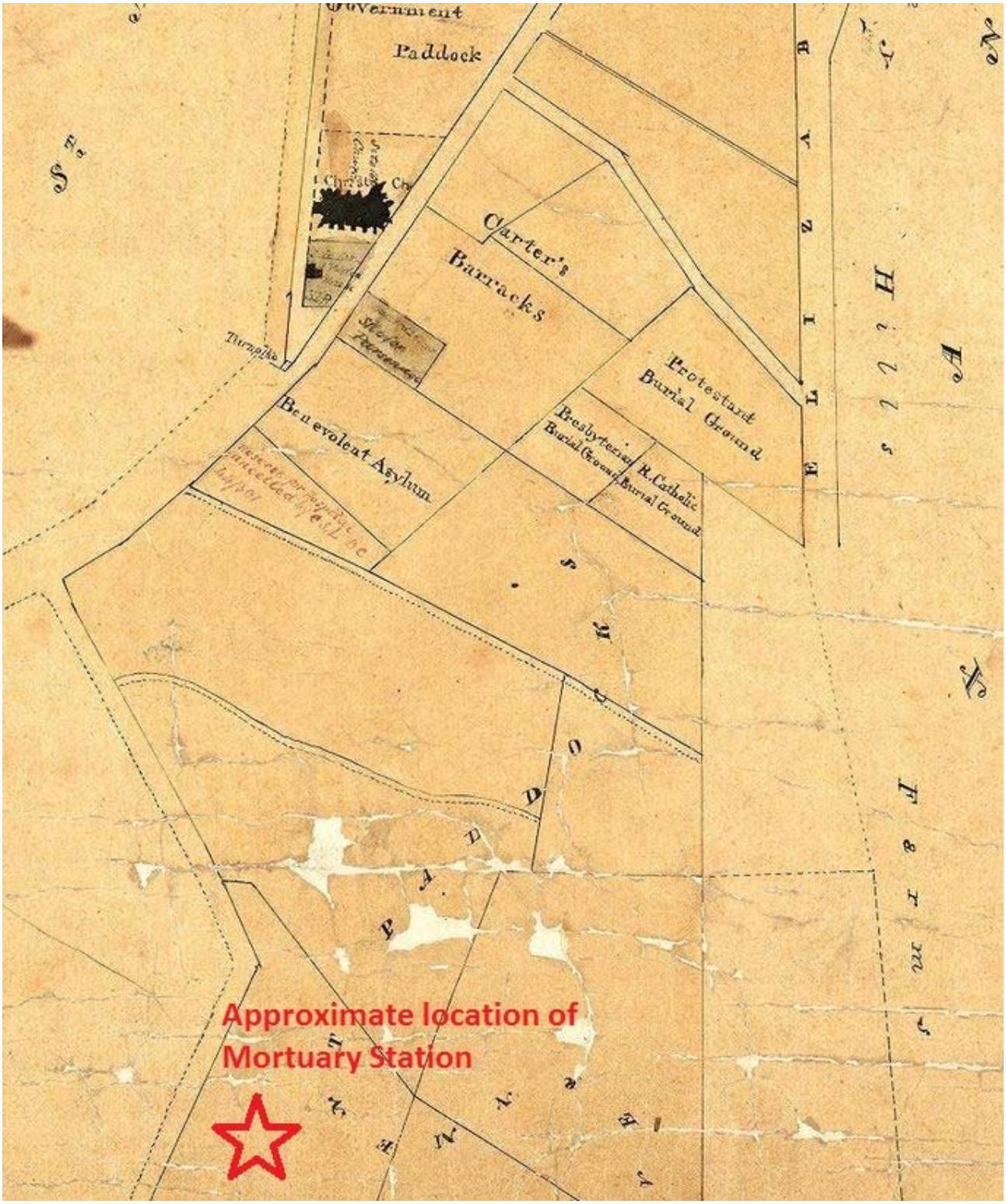


Plate 1 : Detail of c1855 map of the parish of St Lawrence (Courtesy Land and Property Information).

3.2 Historical Background to Study Area

Chippendale's Grant

The study area is in the suburb of Chippendale in Sydney's inner west. Chippendale was originally part of a 95 acre grant to William Chippendale in 1819 that encompassed the modern suburbs of Chippendale and

parts of Darlington. Although it became known as the "Chippendale Grant", Chippendale sold his grant to Solomon Levey in 1821. Levey died in 1833 and the estate was sold to William Hutchinson.

The eastern boundary of Chippendale's Grant was formed by Regent Street (formerly known as Botany Road and Old Botany Road). The land on the western side of Regent Street was therefore within Chippendale's Grant.

Government Paddocks

The land comprising the study area, however, was once part of a large parcel of land taken up by Government Paddocks (see Plate 2 below). This land was located south of the Devonshire Street Cemetery, also known as Sandhills Cemetery, which operated from 1820 to 1869. Much of Central Station terminus is on the site of the former cemetery.

The Government Paddocks were public lands dotted around the early city of Sydney and were often used for public grazing of livestock. However, in 1869, the Agricultural Society's Secretary, Jules Joubert, described it as "A quagmire with a filthy drain running across it – a plague spot" (McPherson 2016:116).

Plate 2 : Cleveland Paddocks, looking north, c1860 (Courtesy State Library of New South Wales).

The Paddocks were whittled down gradually from 1850, with the construction of the first railway in Australia. The first station, known as Redfern, was located in the current rail corridor near St Pauls church (now a Greek Orthodox church) near the corner of Cleveland Street.

Regent Street

It is probable that Regent Street developed from a track leading through the Government Paddocks and joined other paths leading to the southern suburbs of Sydney. Known variously from the mid nineteenth century as "George Street South", "the Botany Road" and then "the Old Botany Road", it became known as Regent Street from late in the 19th century, although the road was colloquially known as "Botany Road" for many years after its official name change (Heritage Division 2006). Even today the road is known as Regent Street from its intersection with Lee Street, near Central Station to Redfern, at which point it becomes Botany Road.

Through the years the road has changed alignment several times, although the alignment has been relatively constant since the middle of the twentieth century. Earlier alignments are evident from early maps and building frontages; however a 1943 aerial of the area appears similar to today's alignment. Regent Street was also covered in tram tracks during the first half of the twentieth century; it is unknown whether these tracks were removed or merely covered over during resurfacing following the decommissioning of the tram system.

Mortuary Station

Mortuary Station was built as part of a connection between Sydney and the Necropolis at Rookwood in 1869. It has been known by various names, including "Mortuary", "Regent Street Station", "Necropolis Receiving Station" and its modern name, Mortuary Station. It provided a vital transport of human remains and the mourning from the Sydney area to the cemeteries at Rookwood, Sutherland and Sandgate cemetery at Newcastle.

Plate 3 : Mortuary Station, 1871. Note the Chippendale Wesleyan Chapel in far left of frame (Courtesy State Library of New South Wales).

52 Regent Street, Chippendale

Wesleyan Chapel and School

To the south of the Mortuary Station building was the Chippendale Wesleyan Chapel and School building. Predating the Mortuary Station, a Chapel was constructed in 1847 and replaced an earlier church at Queen Street, Chippendale (Fitzgerald 2008). The building shown in Plate 4 below, however, was constructed in 1866 (Sydney Mail 1866:8). A contemporary description of the church following construction stated:

> "*the ground is situated at the back or chancel end of the old church, with an extensive frontage to Botany Road, and is one unusually difficult to deal with, its shape being that of a truncated triangle. The arrangement of the building has been adapted to the strange and difficult site in a most successful manner. The style is gothic. ... The accommodation on the ground floor is for 669 adults, twenty inches apart, and the gallery for 500 children, or a total of 1,040 adults. The internal dimensions of the church are94 x 43 50 feet in chancel; the minister's vestry 12 feet 6 inches by 11 feet and the crypt vestries 17 feet 10 inches by 13 feet 6 inches each " (*Sydney Mail 1866).

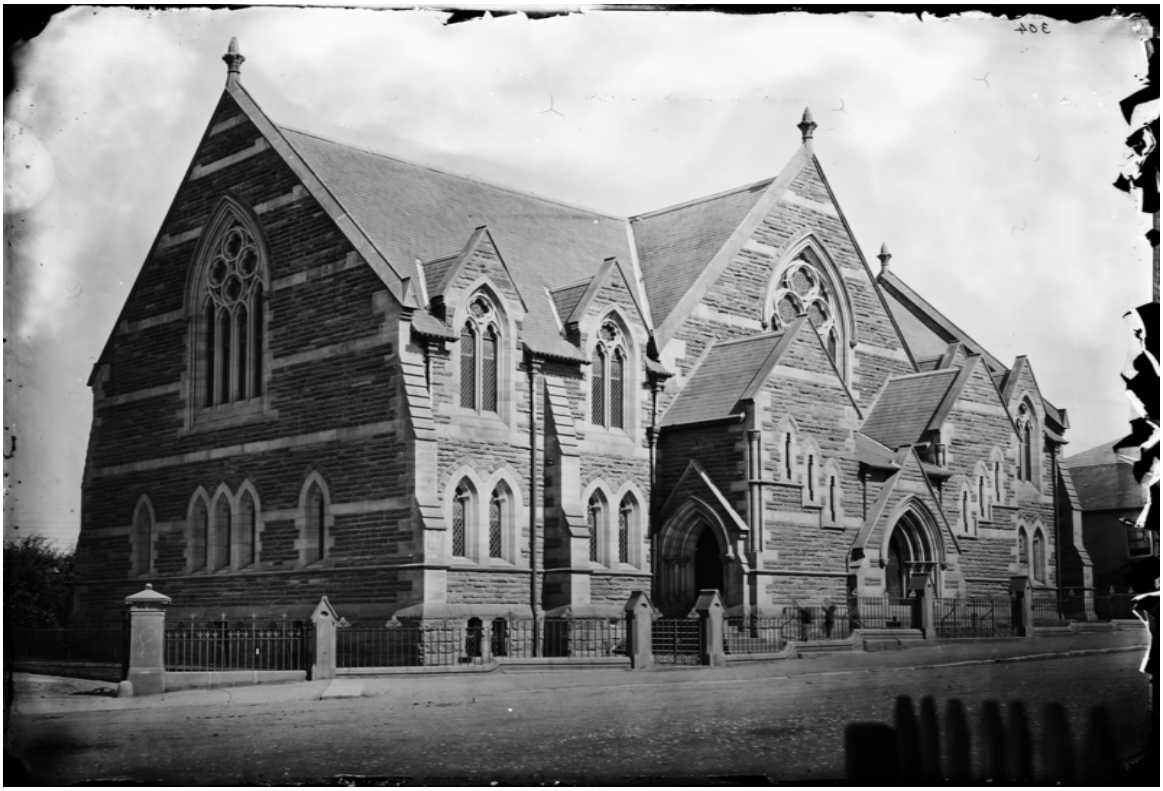


Plate 4 : Wesleyan Church, looking south east (Courtesy State Library of New South Wales)

Contemporary maps show that the Wesleyan church owned the land to the west of the railway corridor on the eastern side of Regent Street for the latter half of nineteenth century, with the church and school occupying the entire parcel of land from Mortuary Station in the north to Cleveland Street in the south (see Plate 5 below).

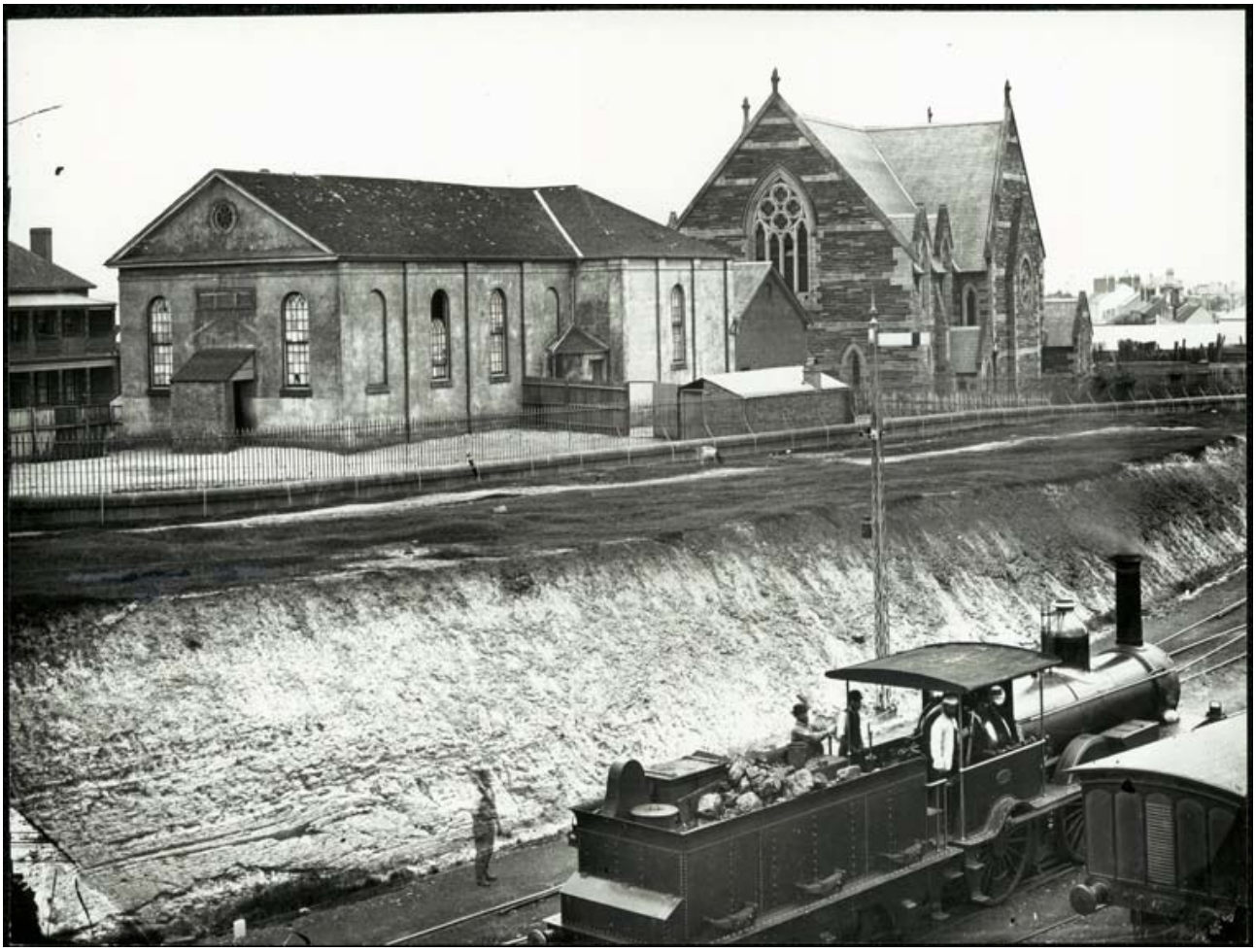


Plate 5 : Chippendale Wesleyan Chapel and School, looking north west from the railway corridor, c 1860 (courtesy State Records of New South Wales).

St Albans Liberal Catholic Church

The Wesleyans used the church until 1918, after which it became St Albans Liberal Catholic Church. The School was demolished to make way for the Co-Masonic Temple (see 54 Regent Street below), which still stands on the site. This Church operated until 1966 when the walls became unstable and needed to be demolished. It is said that during the demolition one of the walls collapsed onto the Co Masonic Temple, causing extensive damage.

According to the State Heritage Inventory Sheet for the Co Masonic Temple, there is some conjecture as to how the Liberal Catholics came into possession of the Wesleyan Church:

> *The Liberal Catholic history of events states that the money for the old Wesley Church was raised by their Sydney congregation. Elaine Murdoch, member of the Sydney Co-Masons, states that two wealthy benefactors bought the Church and hall. They gave the church to the Liberal Catholics and the 1898 hall at 54 Regent Street was given to the Co-Masons.* (Heritage Division 2006).

The Liberal Catholic organisation grew out of the Theosophical Society, as did the Co-Masonic movement. It is therefore clear that there were physical and ideological links between the St Albans Liberal Catholic Church and the adjacent Co-Masonic Temple, and both were given the name “St Albans” (Heritage Division 2006).

Shell Service Station

Following the demolition of the church in 1966, a service station was constructed on the site (see Plate 6). The service station survived until urban renewal forced its closure c. 1985.

Plate 6 : Shell Service Station at 52 Regent Street, c 1985. The green building is the Co Masonic Temple (Courtesy City of Sydney Archives).

54 Regent Street

Wesleyan School/School Hall

The original Wesleyan school (see Plate 5 above) was originally the Wesleyan chapel until the construction of the new church next door in c.1860. The old school hall was demolished and rebuilt in 1898 using material from the demolished hall. The hall was smaller, so the additional land was subdivided and used to construct a group of commercial premises (see 56-64 Regent Street below) (Heritage Division 2006).

Co Masonic Temple

Following shrinking congregations, the church and hall were sold to the Liberal Catholics c. 1918-1922. The church was renamed as St Albans Liberal Catholic Church, while the hall was leased to the Co-Masonic movement.

During demolition of the adjacent Church in 1966, part of a wall collapsed and destroyed the rear of the old hall. It was described as “a lofty room with exposed rafters” . The rear hall was replaced in 1975.

The Co-Masonic movement is similar to Freemasonry, but admits both men and women. In Australia, both the Liberal Catholics and the Co-Masonic movement grew from the Theosophical Society. The hall was

used by six co-Masonic Lodges in the 1930s, which was reduced to three by the 1970s. The Co-Masons used the hall until 1999. In 2008 it was converted to residential apartments.

Group of shops, 56-64 Regent Street

This group of nineteenth century shops were constructed following the demolition of the Wesleyan School in 1898 on the site of the original Wesley church, later the Wesley School Hall (Heritage Division 2006).

Plate 7 : From left to right: Co Masonic temple, group of shops at 56-64 Regent Street, Chippendale (RPS, 2016).

4 Visual Inspection

In keeping with best heritage practice, a visual inspection of the study area was made on 17 November 2016. The following paragraphs include a discussion of the general physical context of the study area, and more detailed analyses of the heritage items:

- Adjoining the study area; and
- In the vicinity of the study area.

The locations of identified heritage items are shown in Figure 3.

4.1 General Physical Context

The general physical context of the study area is that of a heavily urbanised streetscape, with a mix of modern and nineteenth century buildings. Regent Street is a major vehicular thoroughfare joining the CBD to arterial roads servicing the southern suburbs of Sydney, with both motor vehicles and buses using the route. Regent Street runs along the western boundary of the main western railway lines between Central and Redfern Stations, with the buildings mentioned in the heritage inventory sandwiched between the two.

The physical context of the area was noted as once being of a lower socio-economic character but now in the process of rejuvenation. The former site of the Wesleyan Chapel is now a multistorey residential building, and many of the nineteenth century buildings on both sides of Regent Street display evidence of recent renovation.

4.2 Study Area

The original landscape of the study area has been heavily modified. It currently appears to be on a slight rise leading south to Cleveland Street, however it is uncertain whether this rise is natural or whether it has been introduced as part of the Cleveland Street overbridge crossing the railway lines. The railway cutting seen in Plate 5 however would suggest that the rise is natural, and that the railway lines were constructed after extensive removal of bedrock.

Plate 8 : Regent Street, Chippendale, looking south. Slit trenches are proposed at left, beyond tree (RPS, 2016).

The study area covers numbers 54-64 Regent Street, Chippendale. As noted in Section 1.2 above, two slit trenches are proposed within that area, however the exact location of the trenches is dependent upon geotechnical considerations and the success of locating services. It is anticipated, however, that the slit trenches, will be excavated between the kerb side of the pedestrian footpath and the kerb side of the road corridor. The footpath area comprises trees, lighting poles, a bitumen path and concrete kerb, while the roadway area comprises a three lane marked bitumen road.

The only heritage item within the study area is the Co Masonic Temple. The Temple is slightly set back from the building line of adjoining properties and may have had a fence along the property boundary when it was first built. Along the Regent Street frontage, a modern apartment block adjoins the Temple to the north and a group of late nineteenth century commercial premises adjoins to the south. It comprises a two storey Free Federation Style Institutional building of rendered brick on sandstone footings. The west elevation (Regent Street facade) has three bays, with two slightly recessed bays on each end and a central arched entrance way/carriageway flanked by Diocletian windows on either side in the central bay.

Plate 9 : Co Masonic Temple (RPS, 2016)

Plate 10 : Diocletian Window (RPS, 2016).

The Diocletian windows on the lower floor contains three square panes of frosted glass on the lower compartment and three gridded sections fitted into the arched upper sill, each containing nine square panes of red, yellow, purple, blue and green glass. The signage reading “Co Masonic Temple” is located on the between floors and directly above the arched entrance way.

On the upper floor, there are two rectangular windows above each Diocletian window, and three rectangular windows above the arched entrance. An oculus window is located within a gabled pediment in the centre of the elevation’s roofline.

4.3 Heritage Items in the Vicinity of the Study Area

The western side of Regent Street is typical of an urban streetscape constructed in nineteenth century. It has a number of modified nineteenth century shopfronts, with hotels and former hotels occupying corner premises. The western side of Regent Street is located within the Chippendale Heritage Conservation Area (see Plate 8 at right of frame).

RPS

Figure 3: Location of Heritage Items

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5 Heritage Significance Assessment

In line with the *Burra Charter*, before making decisions about the future of a heritage item it is first necessary to understand its heritage significance and the values it embodies. The following section contains an assessment of the heritage significance of the Co Masonic Temple using the NSW state significance heritage criteria as explained in *Assessing Heritage Significance* (Heritage Office (former), 2001. The aim of this particular significance assessment is to understand the heritage values embodied by the heritage items within the Study Area. The results of the significance assessment will be used to assess whether the proposed works will impact on that significance. The findings of the following heritage assessment are summarised in a Statement of Significance contained within Section 5.3.

Because the impact is confined to the eastern side of Regent Street the heritage significance of terrace group, the former Crown Hotel and the Chippendale Heritage Conservation Area on the western side of Regent Street will not be assessed. In addition, the Mortuary Station is a State listed heritage item but is well outside the study area and will therefore not be impacted, directly or indirectly, by the proposed trenching.

5.1 Historical themes in evidence

National and state-level patterns of historical development are useful in determining the historical value of a site. Nine historical themes have been developed and adopted by NSW Heritage Council. They are derived from the Australian historical themes prepared by the Australian Heritage Commission. The following table notes the NSW historical themes considered to be in evidence.

Table 6 NSW Historical Themes Considered to be in Evidence

Australian Theme	NSW Theme	Local
Developing local, regional and national economies	Transport	Activities associated with the moving of people and goods from one place to another, and systems for the provision of such movements
Developing Australia's cultural life	Religion	Activities associated with particular systems of faith and worship
Developing Australia's cultural life	Social institutions	Activities and organisational arrangements for the provision of social activities

5.2 Significance assessment

The following assessment uses the NSW State Significance Criteria as set out in 'Assessing Heritage Significance' ((former) Heritage Office, 2001). With reference to the SHR citation the items are assessed below.

Co Masonic Temple

Table 7 : Significance assessment of the Co-Masonic Temple

Criterion	Assessment
Historical significance – (SHR Criteria A – An item is important in the course, or pattern, of NSW's cultural history (or the cultural or natural history of the local area)	There is some evidence to suggest that the building comprising the Co Masonic Temple is the former Wesleyan School Hall connected with the adjacent former Wesleyan church. The Wesleyan School Hall was an important venue for the local area and conducted the regular meetings for a number of organisations, as well as operating as a Sunday school for children of the Wesleyan parishioners. Such a building has been present on the site since 1860. The building also has important historical significance for its later use as a Co Masonic temple for its links with the Liberal Catholic Church and the Theosophy Society. It therefore complies with this criterion at a **moderate local level.**
Associative Significance (SHR Criteria B – An item has strong or special association with the life or works of a person, or a group of persons, of importance in NSW's cultural or natural history)	As noted above, the Co Masonic temple as associations with the Wesleyan movement, the Co Masons, the Liberal Catholic Church and the Theosophy Society. It therefore fulfils this criterion at a **moderate local level**.
Aesthetic Significance (SHR Criteria C – An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement)	The building does not demonstrate any important aesthetic characteristics or any creative/technical achievement. It therefore **does not fulfil this criterion**.
Social Significance (SHR Criteria D – An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons)	As noted above, the item has a strong and special association with the Co Masonic movement, which is a relatively small movement. The item therefore is considered to fulfil this criterion at a **low local** level.
Research Potential (SHR Criteria E – An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history)	The item does not have the potential to yield information that will contribute to NSW's cultural or natural history. It therefore **does not fulfil this criterion**.
Rarity (SHR Criteria F – An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area))	The Co Masonic movement is a relatively rare movement, and the building is the only known example of a Co Masonic Temple listed on the State Heritage Inventory. It therefore fulfils this criterion to a **high local level**.
Representativeness (SHR Criteria G – An item is important in demonstrating the principal characteristics of a class of NSW's (or the local area's) cultural or natural places; or cultural or natural environments)	The building is relatively utilitarian and is therefore representative of ecclesiastical and social halls. It therefore **fulfils this criterion**.

Integrity and intactness

The front part of the building is considered to be of relatively high integrity and is intact. The rear of the building is a later addition and is of neutral/detrimental heritage value.

5.3 Statement of Heritage Significance

The Co Masonic Temple is considered to be of historical, associative and social significance, is rare and is representative of halls built for church and social purposes. Overall, it is considered to be of moderate local significance.

6 Statement of Heritage Impact

The following section assesses the likely heritage impacts of the proposed development on the heritage significance of the Co Masonic Temple. Consideration is also given to the likely impact of the proposal on the archaeological potential within the area.

When considered along with a policy or plan for conservation and management, a SoHI allows an informed decision to be made on whether a development proposal is acceptable in heritage terms. No known Conservation Management Plan exists for the Co Masonic Temple, and very few archaeological investigations have been conducted in the area. No known archaeological investigations have been undertaken within the study area.

6.1 Summary of Proposed Changes

The Sydney Metro project is a new standalone rail network with two core components:

- The construction of an underground rail line between Chatswood Station and Sydenham station;
- The upgrade the existing rail line between Sydenham station and Bankstown station.

As part of the Chatswood – Sydenham portion of the Sydney metro project, RPS' Subsurface Utilities team has been engaged to undertake slit trenching to locate subsurface utility services. According to earlier studies (Artefact Pty Ltd 2016) three locations within the Chatswood – Sydenham portion of the Sydney Metro project where slit trenching is proposed in the vicinity of heritage items. These three areas are:

- Regent Street, Chippendale;
- Mowbray Street, Chatswood; and
- Hickson Road, Barangaroo.

This SoHI relates to the Regent Street, Chippendale location.

It is proposed that two trenches will be excavated measuring approximately 20 centimetres wide, five metres in length and two metres deep. As the purpose of these trenches is to locate underground utility services the dimensions of the trenches are approximate to allow for accurate identification. For this reason an area of approximately 70 metres x 20 metres around the proposed location of the trenches is being assessed. Trenching will not take place outside of this area without additional assessment.

The study area is adjacent to but well outside the curtilage of the Mortuary Station complex.

6.2 Impact of Proposal on Physical Fabric, Attributes, and Setting

The proposed slit trenching is planned to be conducted outside of the curtilage of any heritage items or nearby heritage conservation areas. As such, there is no anticipated impact, either directly or indirectly as a result of the proposal.

6.3 Impact of Proposal on Potential Archaeological Deposits

It is not anticipated that there are significant archaeological deposits that will be impacted by the proposal. However, given the proximity of the former Wesleyan church and the former Wesleyan school, and the potential for realignment of Regent Street/Old Botany Road/George Street over the past century, unexpected finds are possible.

For this reason, it is considered prudent to have the slit trenching monitored by a qualified archaeologist. The “Unexpected Finds” protocols for Transport for New South Wales projects will be implemented in the event of any archaeological deposits being uncovered during the slit trenching.

6.4 Summary of Heritage Impact

It is concluded that there is no potential for impact, either directly or indirectly, to any built heritage items within the study area. It is concluded further that significant archaeological deposits are not anticipated, however given the long historical use of the study area and the depth of impact proposed by the slit trenching, archaeological monitoring is recommended.

7 Conclusion and Recommendations

7.1 Conclusion

This report has considered the historical context of the study area and the heritage significance of the co Masonic Temple and other heritage items in the vicinity, as well as the nature and scale of likely heritage impacts as a result of the proposal.

It is concluded that:

- There is little to no potential for impact, directly or indirectly, on built heritage items within or in the vicinity of the study area;
- Significant archaeological deposits are not anticipated to be disturbed by the proposed works.

However, the long historical use of the study area is recognised, thus unanticipated archaeological deposits are therefore possible. Recommendations are therefore made to manage potential archaeological deposits.

7.2 Recommendations

The following management recommendations and mitigation measures have been formulated with consideration of all available information in accordance with relevant legislation:

Recommendation 1 – Archaeological Monitoring

Although the archaeological potential for the study area is considered to be low, any archaeological deposits may be of high research value, given the long historical use of the area. It is therefore recommended that a qualified archaeologist be present during the slit trenching.

Recommendation 2 - Heritage Induction

It is recommended that a heritage induction exercise be carried out in advance of the proposed works. All relevant staff, contractors and subcontractors will be made aware of their statutory obligations for heritage under the *Heritage Act 1977*, through the site induction and toolbox talks.

Recommendation 3 – Unexpected Finds

The Transport for New South Wales Unexpected Finds Protocol should be followed in the event of significant archaeological deposits being uncovered. At a minimum, however, if, during the course of the proposed works suspected archaeological relics, as defined by the *Heritage Act 1977* (as amended), are uncovered, work should cease in that area immediately. The Heritage Branch, Office of Environment and Heritage (Enviroline 131 555) should be notified and works only recommence when an approved management strategy developed.

8 References/Bibliography

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Appendix A

State Heritage Inventory Sheets

Former Co-masonic Temple Including Interior

Item details

Name of item: Former Co-masonic Temple Including Interior
Type of item: Built
Group/Collection: Community Facilities
Category: Hall Masonic
Primary address: 54 Regent Street, Chippendale, NSW 2008
Local govt. area: Sydney

All addresses

Street Address	Suburb/town	LGA	Parish	County	Type
54 Regent Street	Chippendale	Sydney			Primary Address

Statement of significance:

Of historic significance due to its strong physical link to the Wesleyan Church and the Co-masons. The Co-masonic temple is a rare and intact example of a Co-masonic Hall. Of aesthetic signifciance as a rare example of this building type in the city, for its strong streetscape contribution to Regent Street, for its continuity of the the precinct centred around the Mortuary Station and the adjacent commercial terraces and as a well designed modest instituional building. The site has archaeological potential in relation to the earlier Wesleyan Church that occupied the site.

Date significance updated: 12 Jan 06

Note: There are incomplete details for a number of items listed in NSW. The Heritage Division intends to develop or upgrade statements of significance and other information for these items as resources become available.

Description

Designer / Maker:	Not known
Builder / Maker:	Not known
Construction years:	1898-1898
Physical description:	A simply detailed institutional building of 2 stories at the front sitting on a rasied plinth and a single storey addition at the rear. The main elevations have a strong symmetry, the Regent Street elevation featuring a curved head entry flanked by curved windows and topped with a gabled roof form. A small projection of the front cetnral bay and a series of string courses relating to openings articulate the elevation. The rear wing is a simple hall extension with low pitched gabled roof and simple openings. Category:Individual Building. Style:Federation Free Style. Storeys:2 storeys, plus one storey hall at rear. Facade:Rendered brick. Side/Rear Walls:Rendered brick. Internal Walls:Plastered brick, some decoration. Roof Cladding:Concrete tile, profiled metal sheet. Internal Structure:Loadbearing brickwork. Floor:Timber, concrete. Roof:Timber framed. Ceilings:Timber lining boards, acoustic tile. Stairs:One stair to first floor, timber framed. Fire Stairs:Nil. Lifts:None.
Physical condition and / or Archaeological potential:	The site has archaeological potential related to the earlier Church building located on the site, the re-use of materials from that building in the present building and the relatively large area of site remaining undeveloped that may contain material dating from first use of the site. Intrusive Elements:Applied services.
	Date condition updated:12 Jan 06
Modifications and dates:	1898
Further information:	High Significance:The external form of the 1898 structure, the internal finishes and surviving fitout from the 1898 construction. Low Significance:The rear hall addition. Streetscape:The southern Regent Street section of the Precinct is an unusual remnant collection of structures that have been created by the alignment of the railway and the former Botany Road. Formerly containing an early church and hall (earlier church) the site now contains the impressive Mortuary Station, the Co-masonic Temple (former school built on the site of the earliest church) and a row of terrace commercial properties that also occupy the site of the earlier church. The predominant scale of the precinct is two storey which forms an appropriate backdrop to the precinct opposite and the narrowness of the strip of land. Apart

from the service station and vacant land, the buildings are all potential heritage items. They are important in their relationship to the Victorian buildings opposite the site and as part of the streetscape.

Heritage Inventory sheets are often not comprehensive, and should be regarded as a general guide only. Inventory sheets are based on information available, and often do not include the social history of sites and buildings. Inventory sheets are constantly updated by the City as further information becomes available. An inventory sheet with little information may simply indicate that there has been no building work done to the item recently: it does not mean that items are not significant. Further research is always recommended as part of preparation of development proposals for heritage items, and is necessary in preparation of Heritage Impact Assessments and Conservation Management Plans, so that the significance of heritage items can be fully assessed prior to submitting development applications.

Current use: Vacant

Former use: Wesleyan School, later Co-masonic Temple

History

Historical notes: The "Eora people" was the name given to the coastal Aborigines around Sydney. Central Sydney is therefore often referred to as "Eora Country". Within the City of Sydney local government area, the traditional owners are the Cadigal and Wangal bands of the Eora. There is no written record of the name of the language spoken and currently there are debates as whether the coastal peoples spoke a separate language "Eora" or whether this was actually a dialect of the Dharug language. Remnant bushland in places like Blackwattle Bay retain elements of traditional plant, bird and animal life, including fish and rock oysters.

With the invasion of the Sydney region, the Cadigal and Wangal people were decimated but there are descendants still living in Sydney today. All cities include many immigrants in their population. Aboriginal people from across the state have been attracted to suburbs such as Pyrmont, Balmain, Rozelle, Glebe and Redfern since the 1930s. Changes in government legislation in the 1960s provided freedom of movement enabling more Aboriginal people to choose to live in Sydney.

(Information sourced from Anita Heiss, "Aboriginal People and Place", Barani: Indigenous History of Sydney City http://www.cityofsydney.nsw.gov.au/barani)

The Wesleyan Church was first built on Regent Street in 1847, and was replaced by a new building in 1867. The old Church seems to have continued to be used as a hall. In 1898 they demolished the old hall and built a new school house. To save money the church planned to reuse as much of the old building materials as possible, and to relocate the hall closer to the Church in order to allow for a block of land that could be leased in order to pay for the new building. Despite the building program the congregation continued to dwindle until 1918 when the church was sold.

There are conflicting accounts of how the property came in to the possession of the Liberal Catholics and the Co-masons. The Liberal Catholic history of events states that the money for the old Wesley Church was raised by their Sydney Congregation. Elaine Murdoch, member of the Sydney Co-masons, states that two wealthy benefactors bought the Church and hall. They gave the Church to the Liberal Catholics, and the 1898 hall at 54 Regent Street was given to the Co-masons. There is also some question of when the Temple was first used by the Co-masons. Elaine Murdoch states that the Co-masons moved into the hall in c.1920. The hall is first listed in the Council's Assessment Books as the property of "St Alban's Universal Co-masonry" in 1921, the Assessment Books for 1920 show the property still belonging to the Wesleyans. The Co-masonic Temple on Regent Street was first listed in the Sands Directory in 1925, it is possible that it was not listed earlier due to a desire to maintain their privacy. The evidence shows that the hall at 54 Regent Street was definitely owned by the Co-masons by 1921, and was probably in use as a Co-masonic Temple from that time. It was definitely in use by the Co-masons by 1925.

The Co-masons were associated with the Liberal Catholics, both groups in Australia having grown out of the Theosophical society. Both the Liberal Catholic Church and the Co-masonic Temple on Regent Street were given the name of St Alban's. The Co-masonry movement in Australia was probably at its membership peak in the 1930s. Six Co-masonic Lodges used the Temple in Regent Street for their meetings during the 1930s. In the 1970s the Co-masonic Temple was still the meeting place for at least 3 different Co-masonic Lodges.

In 1966 St Alban's Liberal Catholic Church at 52 Regent Street was demolished. During the demolitions, part of the hall at the back of the Co-masonic Temple was destroyed. The old hall was described as a lofty room with exposed rafters. The Co-masons moved their

meetings temporarily to other premises and made use of the upstairs hall. In c.1975 the Co-masons replaced the rear hall with the current structure.
In c.1999 the Co-masons sold the hall and moved to new premises at Beaconsfield.

Assessment of significance

SHR Criteria a) [Historical significance]	Of high historical significance for its association with and strong physical link to the Wesleyan Church and the Co-masons and for its ability to demonstrate a pattern of institutional/religious use in the Regent Street area. Of historical significance as a rare and intact surviving example of the Co-masonic movement within the City of Sydney and NSW. The Co-masonic Temple is one of a small group of buildings associated with Co-masonry in New South Wales. It was the Centre of Sydney Co-masonry for aproximately 80 years. Has historic significance at a State level. Has historic significance locally.
SHR Criteria c) [Aesthetic significance]	Of aesthetic significance for its strong streetscape form, for its strong visual links with the Mortuary Station and the adjacent terraces as as a rare example in the city and city edge area of small-scale institutional religious building from the Federation period. Has aesthetic significance locally.
SHR Criteria e) [Research potential]	The site has archaeological potential for the early stages of the development of the site by the Wesleyan Church. Has archaeological significance at a State level. Has archaeological significance locally.
SHR Criteria f) [Rarity]	There are no other Co-masonic Temples currently listed on the State Heritage Inventory or the City of Sydney Schedule of Heritage Items. This is a rare and intact physical example of the co-masonic movement in New South Wales. Is rare at a State level. Is rare locally.
Assessment criteria:	Items are assessed against the **State Heritage Register (SHR) Criteria** to determine the level of significance. Refer to the Listings below for the level of statutory protection.

Recommended management:

General: Retain the building as an essential component of the streetscape and Regent Street Precinct. Retain an adequate curtilage that allows the streetscape extending from the Dispensary on the corner of Regent and Lee Streets, the Mortuary Station, the Co-masonic Temple and the 5 adjacent terraces to be the dominant visual elements in that section of Regent Street. Exterior: Retain the form and detail of the two storey main block, replace the roof cladding with original material (appears to be slate from inspection), retain early joinery and detailing. If the rear hall is retained there are no constraints on its external adaptation

as it was not intended to be viewed from a public place. Interior: Retain early finishes to the front block including plasterwork, skirtings, architraves, picture rails, vents, ceiling linings and joinery, conserve as required. Current floor coverings may be removed. The hall addition to the rear does not have architectural or aesthetic significance and may be adapted or removed to allow future use of the site. If the wing were to be retained it should preferably reflect its current spatial arrangement as a large single room demonstrating its former function. A Conservation Management Plan should be prepared for the building and site prior to guide any proposals for future adaptation or use.

The building should be retained and conserved. A Heritage Assessment and Heritage Impact Statement, or a Conservation Management Plan, should be prepared for the building prior to any major works being undertaken. There shall be no vertical additions to the building and no alterations to the façade of the building other than to reinstate original features. The principal room layout and planning configuration as well as significant internal original features including ceilings, cornices, joinery, flooring and fireplaces should be retained and conserved. Any additions and alterations should be confined to the rear in areas of less significance, should not be visibly prominent and shall be in accordance with the relevant planning controls.

Listings

Heritage Listing	Listing Title	Listing Number	Gazette Date	Gazette Number	Gazette Page
Local Environmental Plan	Sydney LEP 2012	I195	14 Dec 12		
Heritage study					

References, internet links & images

Type	Author	Year	Title	Internet Links
Written	Anita Heiss		Aboriginal People and Place, Barani: Indigenous History of Sydney City	

Written	G. J. Pitt,		'Wesley Church, Chippendale' The Australasian Methodist Historical Society, Sydney, Journal and Proceedings, Vol II, Part 4, No.7, Jul	
Written	Jill Roe	1986	Beyond Belief: Theosophy in Australia, 1879-1939	

Note: internet links may be to web pages, documents or images.

Data source

The information for this entry comes from the following source:

Name: Local Government

Database number: 2424289

Return to previous page

Every effort has been made to ensure that information contained in the State Heritage Inventory is correct. If you find any errors or omissions please send your comments to the **Database Manager**.

Sydney Metro - Location of Subsurface Utilities

Statement of non- Aboriginal (historic) Heritage Impact & Aboriginal Archaeological Assessment - Barangaroo

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Reviewed: Ali Byrne
Approved: Ali Byrne

Project No.: PR132497-2
Version: 1.0
Date: December 2016

Prepared for:

TRANSPORT FOR NSW

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DOCUMENT STATUS

Version	Purpose of Document	Orig	Review	Review Date
1.0	Draft heritage impact assessment for slit trenching at Hickson Road, Barangaroo	Claire Rayner	Alexandra Byrne	21/12/2016

APPROVAL FOR ISSUE

Name	Signature	Date
Alexandra Byrne		21/12/2016

Executive Summary

RPS was engaged by Transport for New South Wales (TfNSW) to prepare a Statement of Heritage Impact ahead of the proposed subsurface utility location trenching on Hickson Road, Barangaroo.

The proposed works are located within an area of Aboriginal and non-Aboriginal archaeological sensitivity as identified by the Sydney Metro City and Southwest – Chatswood to Sydenham Non-Aboriginal Heritage Impact Assessment (Artefact 2016a) and Sydney Metro City and Southwest – Chatswood to Sydenham Aboriginal Heritage Impact Assessment (Artefact 2016b).

This report has considered the significance of the study area and the nature and scale of likely heritage impacts as a result of the development proposal.

It was found that:

Aboriginal Heritage

- There are no registered AHIMS sites located within the study area
- There is an area of moderate to high Aboriginal archaeological potential associated with the former shoreline of Cockle Bay located within the study area.
  - The proposed works are unlikely to impact the area of Aboriginal archaeological potential.

Non-Aboriginal (historic) Heritage

- There is one state significant conservation area within the study area, this is:
  - The Miller's Point & Dawes Point Village Precinct (01682)
  - The proposed works would have minor impacts on this conservation area
- There is one state significance conservation area and one state significant item located adjacent to the study area, these are:
  - Miller's Point Conservation Area (00884)
  - Warehouses/Dalgety's Bond Store (00526)
  - The proposed works would have nil impacts on to this conservation area and item
- The study area has been assessed to have low to moderate potential to contain intact archaeological deposits associated with 19th maritime activities and the early 20th century redevelopment of the site
  - The proposed works would have minor impacts to the archaeological resource.

Recommendations

The following management recommendations and mitigation measures have been formulated with consideration of all available information in accordance with relevant legislation:

Recommendation 1 – Archaeological Monitoring

The archaeological potential for the study area is considered to be low to moderate for historical archaeology and moderate to high for Aboriginal archaeology. Any archaeological deposits may be of high research

value, given the long continuous use of the area since before colonisation. It is therefore recommended that a qualified archaeologist be present during the slit trenching.

Recommendation 2 – Heritage Induction

It is recommended that a heritage induction exercise be carried out in advance of the proposed works. All relevant staff, contractors and subcontractors will be made aware of their statutory obligations for heritage under the Heritage Act, and the NPW Act through the site induction and toolbox talks.

Recommendation 3 – Unexpected Finds

If, during the course of development works, suspected archaeological relics, as defined by the Heritage Act (as amended), or Aboriginal objects, as defined by the NPW Act are uncovered, work should cease in that area immediately. The Heritage Branch and the Office of Environment & Heritage (Enviroline 131 555) should be notified and works only recommence when an approved management strategy developed.

Contents

Tables

Figures

Plates

1 Introduction

RPS was engaged by Transport for New South Wales (TfNSW) to prepare a Statement of Heritage Impact ahead of the proposed subsurface utility location trenching on Hickson Road, Barangaroo.

The proposed works are located within an area of Aboriginal and non-Aboriginal archaeological sensitivity as identified by the Sydney Metro City and Southwest – Chatswood to Sydenham Non-Aboriginal Heritage Impact Assessment (Artefact 2016a) and Sydney Metro City and Southwest – Chatswood to Sydenham Aboriginal Heritage Impact Assessment (Artefact 2016b).

The subsurface investigations would comprise slit trenching (see Section 1.2 below) and therefore constitutes ground disturbance. This report assesses the potential for impacts to Aboriginal and Non Aboriginal archaeological resources and heritage values previously identified within the study area. This report provides appropriate mitigation measures to manage any potential impacts to these archaeological resources and heritage values associated with the proposed works.

1.1 Study area

The study area consists of Hickson Road extending south of Argyle Street to the High Street Steps. The western boundary is formed by the Barangaroo Parklands and construction area and the eastern boundary is formed by the high sandstone cliffs beside which Hickson Road is located. (see Figure 1.1).

1.2 The Proposal

The proposal involves the excavation of four slit trenches within the study area. Each trench would measure approximately 200 millimetres wide, 30 metres in length and 2.4 metres deep. The location and dimensions of the trenches shown in Figure 1.2 are indicative only. As the purpose of these trenches is to locate underground utility services the study area includes the areas surrounding the trenches in order to allow flexibility in identifying these subsurface services. In order to minimise disruption to pedestrian and vehicle traffic, the proposed excavation of the trenches has been planned for after hours.

1.3 Methodology

The non-Aboriginal Statement of Heritage Impact component of this report has been prepared in accordance with *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (*Burra Charter*) (2013) and associated Guidelines as well as best practice standards set by the NSW Heritage Branch. It has also been prepared in accordance with the Sydney Metro City and Southwest – Chatswood to Sydenham Non-Aboriginal Heritage Impact Assessment (Artefact 2016a) and Sydney Metro Chatswood to Sydenham Historical Archaeological Management Zones and Preliminary Scope (Artefact 2016c).

Best practice guidance followed in this report includes *Assessing Heritage Significance* (Heritage Officer (former), 2001) and *Statements of Heritage Impact* (Heritage Office and Department of Urban Affairs & Planning (former), 1996, revised 2002.

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW [now OEH] 2010) (Due Diligence Code of Practice) has been followed for the Aboriginal heritage assessment component of this report.

1.4 Authorship and Acknowledgements

This report has been prepared by RPS Heritage Consultant Claire Rayner. A technical review was undertaken by RPS Senior Heritage Consultant, Alexandra Byrne.

The assistance in the preparation of this report by the following people and organisations is also gratefully acknowledged.

Table 1 : Acknowledgements

Name	Organisation
Stanley Tan	RPS Spatial, Visual and Subsurface Consultant
Sofia Romic	RPS Senior Consultant - Environment

Figure 1.1 Location of study area

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PREPARED FOR:
Transport for NSW

No.	Date	Revision Details	
A	20-12-2016	First draft	CR INI

CHECKED BY/DATE:	AB/21-12-2016	CO-ORDS:	MGA
APPROVED BY/DATE:	AB/21-12-2016	DATUM:	N/A
GIS REF:	Figure 1.1 Location 20161220		
JOB REF:	SPA	DATE OF PLAN:	DD-MM-YYYY

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Metres

N:\Projects\Conics_Sydney\PR132497 Sydney Metro\Cultural Heritage -2\GIS\mxd\Barangaroo\Figure 1.1 Location 20161220.mxd, 20/12/2016, 18:19, by claire.rayner

Figure 1.2 Indicative location of proposed trenches

DRAFT

PREPARED FOR:
Transport for NSW

No.	Date	Revision Details	
A	20-12-2016	First draft	CR INI

CHECKED BY/DATE:	AB/21-12-2016	CO-ORDS:	MGA
APPROVED BY/DATE:	AB/21-12-2016	DATUM:	N/A
GIS REF:	Figure 1.2 proposed works 20161220		
JOB REF:	SPA	DATE OF PLAN:	DD-MM-YYYY

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0 9.5 19 28.5 38 47.5 57
Metres

N:\Projects\Conics_Sydney\PR132497 Sydney Metro\Cultural Heritage -2\GIS\mxd\Barangaroo\Figure 1.2 proposed works 20161220.mxd, 21/12/2016, 11:24, by claire.rayner

2 Legislative Context

2.1 Non-Aboriginal (historic) Heritage Assessment Context

The following section provides an overview of the legislative framework relating to the protection and management of historic heritage. This overview is provided solely as information for the client rather than as legal advice. The findings from a review of national, state and local statutory heritage registers are provided in Section 4 below.

Heritage Act 1977 and the NSW Heritage Branch

Historical archaeological relics, buildings, structures, archaeological deposits and features are protected under the *Heritage Act 1977* (and subsequent amendments) and may be identified on the State Heritage Register (SHR) or by an active Interim Heritage Order.

The Heritage Council of NSW, constituted under the *Heritage Act 1977*, is appointed by the Minister and is responsible for heritage in NSW. The Council reflects a cross-section of community, government and conservation expertise with the NSW Heritage Branch being the operational arm of the Council. The work of the NSW Heritage Branch includes:

- Working with communities to help them identify their important places and objects;
- Providing guidance on how to look after heritage items;
- Supporting community heritage projects through funding and advice; and
- Maintaining the NSW Heritage Database, an online list of all statutory heritage items in NSW

The 1996 NSW Heritage Manual, published by the NSW Heritage Branch and the then Department of Urban Affairs and Planning, provides guidelines for conducting assessments of heritage significance. The Manual includes specific criteria for addressing the significance of an item and this assessment has been completed in accordance with those guidelines. These criteria are addressed more fully in Section 8 of this report.

Environmental Planning and Assessment Act 1979 (EP&A Act)

The EP&A Act regulates a system of environmental planning and assessment for NSW. Land use planning requires that environmental impacts are considered, including the impact on cultural heritage. Assessment documents prepared to meet the requirements of the EP&A Act including Reviews of Environmental Factors, Environmental Impact Statements and Environmental Impact Assessments, should address cultural heritage where relevant. Statutory planning documents such as Local Environment Plans and State Environmental Planning Policies typically contain provisions for heritage.

The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 2013

The *Burra Charter* is a set of best practice principles and procedures for heritage conservation. It was developed by Australia ICOMOS (International Council for Monuments and Sites), the Australian group of the international professional organisation for conservation. Although without statutory weight, the *Burra Charter* underpins heritage management in New South Wales and Australia. The policies and guidelines of the Heritage Council of NSW and the NSW Heritage Office are consistent with and guided by the *Burra Charter*.

2.2 Aboriginal Heritage Assessment Context

National Parks & Wildlife Act 1974

The National Parks & Wildlife Act 1974 (NPW Act) protects Aboriginal heritage (places, sites and objects) within NSW. Protection of Aboriginal heritage is outlined in s86 of the Act, as follows:

- "A person must not harm or desecrate an object that the person knows is an Aboriginal object" s86(1),
- "A person must not harm an Aboriginal object" s86(2)
- "A person must not harm or desecrate an Aboriginal place" s86(4).

Penalties apply for harming an Aboriginal object or place. **Harm** under the NPW Act is defined as any act that; destroys defaces or damages the object, moves the object from the land on which it has been situated, causes or permits the object to be harmed. However, it is a defence from prosecution if the proponent can demonstrate the following:

1) That harm was authorised under an Aboriginal Heritage Impact Permit (AHIP) (and the permit was properly followed)
2) That the proponent exercised due diligence in respect to Aboriginal heritage.

The 'due diligence' defence (s87(2)), states that if a person or company has exercised due diligence to ascertain that no Aboriginal object was likely to be harmed as a result of the activities proposed for the Project Area (subject area of the proposed activity); then liability from prosecution under the NPW Act will be removed or mitigated if it later transpires that an Aboriginal object was harmed.

Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales

The National Parks and Wildlife Regulation was brought in in 2009 to provide a framework for undertaking activities and exercising due diligence in respect to Aboriginal heritage. The NPW Regulation 2009 outlines the recognised due diligence codes of practice which are relevant to this report, but it also outlines procedures for Aboriginal Heritage Impact Permit (AHIP) applications and Aboriginal Cultural Heritage Consultation Requirements (ACHCRs); amongst other regulatory processes.

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW [now OEH] 2010)* (Due Diligence Code of Practice) establishes the minimum benchmark for acceptable due diligence investigations to be followed. The Due Diligence Code aims to provide reasonable and practicable steps in order to:

1) Establish whether or not Aboriginal objects (and places) are likely to be present in an area
2) Determine whether or not the proposed activity is likely to harm Aboriginal objects
3) Determine whether an AHIP is required based on the above.

3 NSW Heritage Registers Review

Acknowledged heritage items and places are recorded in statutory and non-statutory registers held at the Federal, State and local level depending on their level of significance. Internationally significant sites of 'outstanding universal value' are inscribed in the World Heritage List (WHL) and in turn, such sites are usually recognised through their inclusion on Federal and state-level registers.

Federal designations include the National Heritage List (NHL) and the Commonwealth Heritage List (CHL) created by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Both registers are maintained by the Commonwealth Department of the Environment and are available to view on an online database, the Australian Heritage Database. The NHL includes natural, historic and Indigenous places that are of outstanding national heritage value to the Australian nation. The CHL protects natural, Indigenous and historic heritage places on land owned or leased by the Commonwealth or a Commonwealth Authority. To reach the threshold for the NHL, a place must have 'outstanding' heritage value to the nation whereas to be entered on the CHL, a place must have 'significant' heritage value.

Heritage places of state significance are included on the State Heritage Register (SHR) maintained by the Heritage Branch. Places included on the SHR are available on an online database, the NSW Heritage Inventory database; however, it should be noted that the inventory includes items of state and local significance in NSW, it may not necessarily be comprehensive and inclusion on the inventory does not carry statutory weight in its own right. In order to reach the threshold for inclusion in the SHR, a place needs to meet one of more of the heritage criteria identified by the Heritage Council of NSW. The ultimate decision on whether a place is included on the State Heritage Register is made by the Minister for Heritage.

Places of local significance are included in heritage schedules in Local Environmental Plans (LEPs).

3.1 World Heritage

There are **no World Heritage Sites** ('WHS') located within the study area.

3.2 National and Commonwealth Heritage

A search of the Australian Heritage Database was undertaken on 9 November 2016 which indicates that there are **no items within the study area included on the NHL or CHL**.

3.3 State Heritage

A search of the State Heritage Inventory database on 21 November 2016 found that there is one item included on the SHR located within the study area and three items are located adjacent to the study area. These are listed in Table 4.1.

Table 3.1 : Items of State Significance on the State Heritage Register (SHR)

Item	Address	Listing No.	Relation to study area
Millers Point & Dawes Point Village Precinct	N/A	01682	Within
Millers Point Conservation Area	N/A	00884	Adjacent
Warehouses	6-20 Munn Street Millers Point	00526	Adjacent

3.4 State Environmental Planning Policy (State Significant Precincts) 2005 (SEPP 2005)

The study area is located within the Barangaroo State Significant Precinct under the SEPP 2005. This precinct contains one heritage item, Dalgety's Bond Store Group, located to the north of the study area. The curtilage is similar to state heritage item "Warehouses" ID 00526. The heritage inventory sheets lodged with the state heritage inventory confirmed that "Dalgety's Bond Store Group" and the "Warehouses" are the same item.

Table 3.2 : Items listed on SEPP 2005

Item Name	Significance	Relationship to study area
Dalgety's Bond Store Group	State	adjacent

3.5 Section 170 Registers

Section 170 of the *Heritage Act 1977* requires State Government Agencies to keep records of heritage items owned or operated by it. These registers can be found on the NSW Heritage Inventory. A search of this inventory was carried out on 21 November 2016 and no items were identified as being located within or adjacent to the study area.

3.6 Local Heritage

A search of Schedule 5 of the Council of the City of Sydney Local Environmental Plan 2012 was conducted on 21 November 2016. There are no LEP listed items located within the study area. The study area is located adjacent to the Millers Point Conservation Area (ID C35).

Table 3.3 : Local heritage items

Item Name	Type	Relationship to study area
Miller's Point	Conservation area	adjacent

3.7 Aboriginal Heritage Information Management System (AHIMS)

An extensive search of the AHIMS database was undertaken on 20 December 2016. If this report is to be published in the public domain the locations of Aboriginal sites should be removed prior to publication.

The search parameters were as follows:

Datum: GDA MGA Zone 56
Eastings: 331718 – 335734
Northings: 6249821 – 6254062
Number of Aboriginal Sites: 57
Client ID: 259824

The search did not identify any Aboriginal sites within the study area. The closest site to the study area is AHIMS site #45-6-1939, MSB Tower, a rock art site that is listed as destroyed. This site is located approximately 145 metres north of the study area. The site features and frequencies in the search area are summarised below and shown in figure 3.1.

Table 3.4 AHIMS extensive search results

Site Feature	Count	Frequency
Aboriginal Ceremony and Dreaming, Artefact, Shell	2	3%
Art (Pigment or Engraved)	9	16%
Art (Pigment or Engraved), Shell, Artefact, Burial	1	2%
Artefact	4	7%
Artefact, Potential Archaeological Deposit (PAD)	1	2%
Burial, Aboriginal Ceremony and Dreaming	1	2%
Habitation Structure	1	2%
Potential Archaeological Deposit (PAD)	11	19%
Potential Archaeological Deposit (PAD), Shell	1	2%
Shell	7	12%
Shell, Artefact	16	28%
Shell, Artefact, Art (Pigment or Engraved)	2	3%
Shell, Non-Human Bone and Organic Material	1	2%
Total	**57**	**100%**

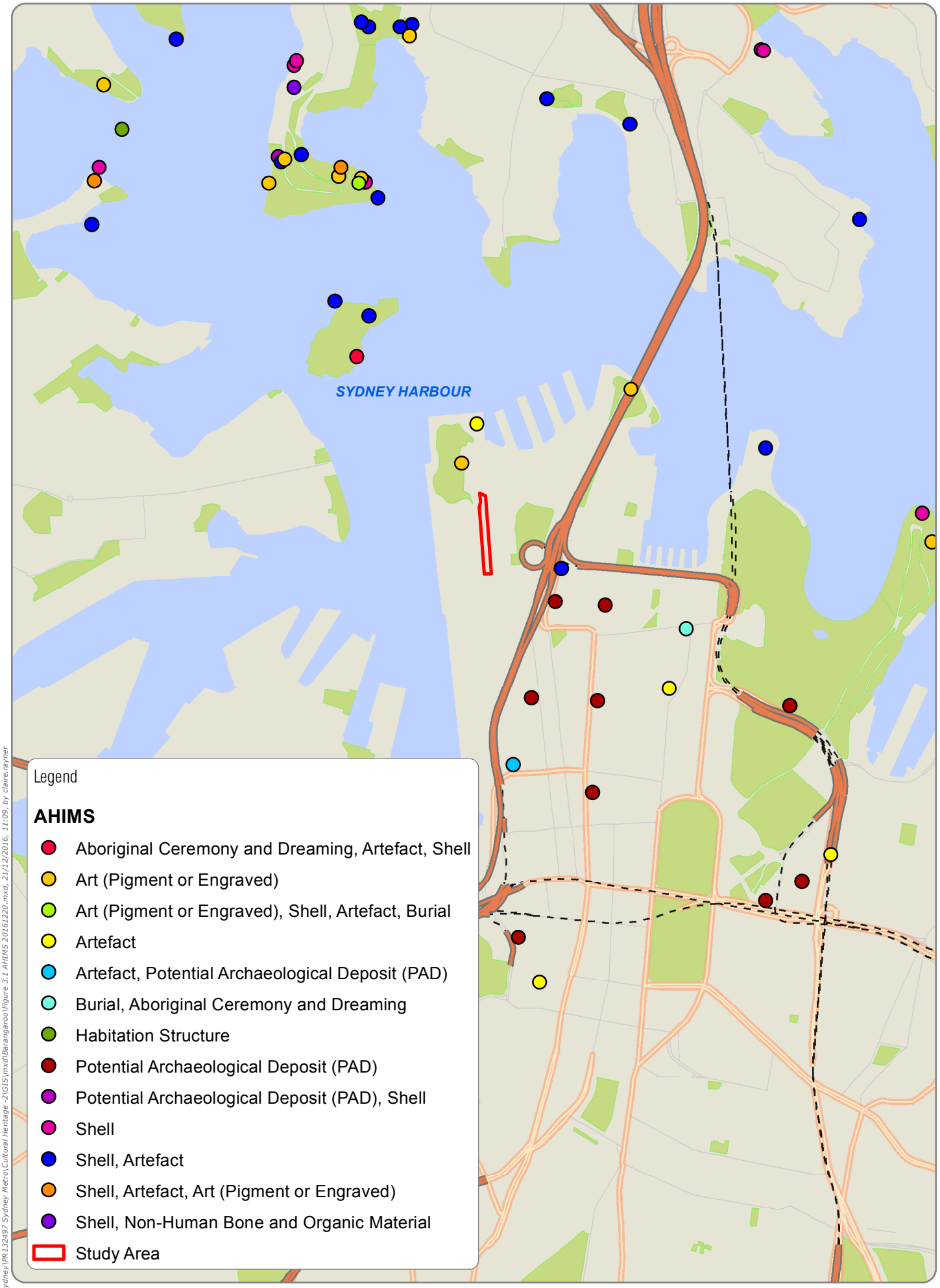
3.8 Summary

The heritage register searches have identified one state significant conservation area within the study area. There are four registered heritage items of state and local significance located next to the study area. There are no registered Aboriginal sites located within the study area. These results are summarised in table 3.5 and figure 3.2 below.

Table 3.5 : Summary of listed heritage items

Item Name/ ID	Significance	Relationship to study area
Millers Point & Dawes Point Village Precinct/ 01682	State	Within
Millers Point Conservation Area/ 00884/ C35	State	Adjacent
Warehouses/ Dalgety's Bond Store Group /00526	State	Adjacent

Figure 3.1 AHIMS Extensive Search Results



DRAFT

PREPARED FOR:
Transport for NSW

No.	Date	Revision Details	
A	20-12-2016	First draft	CR INI

CHECKED BY/DATE: AB/21-12-2016 CO-ORDS: MGA
APPROVED BY/DATE: AB/21-12-2016 DATUM: N/A
GIS REF: Figure 3.1 AHIMS 20161220
JOB REF: SPA DATE OF PLAN: DD-MM-YYYY

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Metres

N:\Projects\Conics_Sydney\PR132497 Sydney Metro\Cultural Heritage -2\GIS\mxd\Barangaroo\Figure 3.1 AHIMS 20161220.mxd, 21/12/2016, 11:09, by claire.rayner

Figure 3.2 Location of State significant listed conservation areas and sites

DRAFT

No.	Date	Revision Details	
A	20-12-2016	First draft	CR INI

PREPARED FOR:
Transport for NSW

CHECKED BY/DATE:	AB/21-12-2016	CO-ORDS:	MGA
APPROVED BY/DATE:	AB/21-12-2016	DATUM:	N/A
GIS REF:	Figure 3.2 listed items 20161220		
JOB REF:	SPA	DATE OF PLAN:	DD-MM-YYYY

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0 9.5 19 28.5 38 47.5 57

Metres

N:\Projects\Conics_Sydney\PR132497 Sydney Metro\Cultural Heritage -2\GIS\mxd\Barangaroo\Figure 3.2 listed items 20161220.mxd, 21/12/2016, 11:15, by claire.rayner

4 Aboriginal Archaeological Context

In order to assess the potential for Aboriginal heritage, all available knowledge and information relating to the Aboriginal cultural heritage resources are considered. This includes reviewing all the relevant environmental and heritage information to assist in identifying whether Aboriginal places are or could be present within the study area.

4.1 Local Environment

Geology and soils

Prior to the arrival of British colonists the study area and surrounds were characterised by high sandstone ridges and plateaus cut by streams and rivers which formed bays and estuaries. Today the study area is located at the base of a high sandstone cliff created when Hickson Road was constructed in the early 20th century. Hickson Road is roughly aligned with the original shoreline of Cockle Bay. The underlying geology of the area is Hawkesbury Sandstone which is composed of sandstone and quartz with some shale inclusions.

The soils of the study area are characterised as disturbed terrain. This reflects the nature of land use practices in Miller's Point and particularly the massive reclamation works that occurred in the early 20th century as part of the Sydney Harbour Trust redevelopments.

Flora and fauna

The marine resources of Cockle Bay and Port Jackson would have been the mainstay of Aboriginal people's diet in the local area. The shell middens along Cockle Bay and Darling Harbour were exploited soon after the arrival of colonists for use in lime production. The local area would have provided a range of habitats that Aboriginal people would have exploited including Eucalypt forests in protected gullies to open woodland on slopes and coastal plains as well as inter-tidal rock platforms, beaches or mangrove mudflats (Attenbrow 2010).

Previous land use and disturbance

The study area has been the location of maritime activities to varying degrees since the early 19th century. A full account of the impacts associated with colonist land use is given in Section 5.

4.2 Archaeological context overview

The study area is located along the approximate original shoreline of Cockle Bay. This location would have provided important resources for Aboriginal people including shell fish. Whilst the study area is located within a highly modified context previous archaeological studies conducted within the region have identified intact archaeological deposits in discrete areas. These archaeological deposits have been preserved beneath the layers of historical development.

An example of this is the excavations at the Bond Store on Moore's Wharf by Lampert and Truscott in 1984 (AHIMS site 45-6-0519, Moore's Wharf). During the historical excavation a shell midden was identified in association with European artefacts. The midden contained stone artefacts and shells such as Rock and Mud Oyster. The stone artefact assemblage consisted of 392 stone artefacts. The site was interpreted to provide evidence for continued Aboriginal use of the site following the arrival of British colonists (Artefact 2016b).

Aboriginal sites have also been recorded on Cumberland Street to the east of the study area and Wynyard Walk. A midden was recorded at Cumberland Street dated to 340 years prior to the arrival of British colonists. The midden was found to include fish species such as Snapper and Bream as well as Rock Oysters and Hairy Mussel.

4.3 Archaeological potential

The search of the AHIMS site register indicates that Aboriginal objects may be identified even within the highly disturbed and modernised context of Sydney City. Indeed the potential for intact Aboriginal deposits to survive depends on the extent and nature of subsequent phases of historical construction activities. The construction of Hickson Road involved the extensive cutting of the high sandstone cliff that runs along its eastern edge. The rubble from this was then used as fill for the finger wharves and the road itself. Prior to the construction of the road, the study area was characterised by maritime activities and early plans indicate the location of wharves and land reclamation along the shoreline.

Artefact Heritage (2016b) considered the archaeological potential of Hickson Road to be moderate to high based on the identification of an Aboriginal midden site at Moore's Wharf and the similarities in the shoreline contexts of these two locations. This assessment also considers the archaeological potential of Hickson Road to be moderate to high. This archaeological potential is limited to the western portion of Hickson Road and would likely be underneath any historical archaeological deposits that remain in the area.

5 Historical context

This historical context sets out the development of historical land use in the study area. This is included in order to provide a context for heritage items as well as allow some predictions of potential archaeological remains.

5.1 Broad Historical Context

Table 2 : Timeline of the broader study area

Pre 1788	The Rocks area occupied by the Eora Clan and known as Warrane
1788	The Sydney Colony established, a flagstaff is erected on the highest point of the new settlement
1797	Windmill constructed on Flagstaff Hill
1804	Work begins on Fort Philip
1815	Government Military Hospital built to the rear of Flagstaff Hill, first prominent structure in the area
1811	Governor Macquarie orders construction of first wharf in Cockle Bay
1830s	Whaling and sealing industries established in Walsh Bay
1840s	Area populated by merchants and wharf workers
1841	Australian Gas Light Company (AGL) gasworks established at 30-34 Hickson Road
1846	Argyle Cut created
1850s	Gold rush period, local area established as the most intensely maritime area of Sydney
1858	New Observatory constructed and Flagstaff Hill is renamed Observatory Hill
1860s	Boom in the wool trade, expansion of warehouses
1880s	Shell middens in Cockle Bay used for production of quicklime, kilns established around the area
1890s	Period of decline
1901-1910	Outbreak of Plague, area quarantined, a large number of residences are demolished
1902-1936	The NSW government gained ownership of the wharves and the Sydney Harbour Trust are given responsibility for the improvement and preservation of the Port of Sydney including Millers Point and the Rocks
1909	Construction of Hickson Road commences
1922	AGL gasworks site demolished and Hickson Road is completed
1936	The Sydney Harbour Trust is dissolved and the Maritime Service Board assumes its responsibilities
1950s	Infilling commences on finger wharves as road and rail begin to replace coastal shipping and large container shipping becomes prevalent
2006	Shipping activities cease at wharf adjacent to Hickson Road
2012	Construction commences on Barangaroo Precinct

5.2 Historical background to study area

Pre-1788

Prior to the arrival of British colonists the study area was located within an environment characterised by high sandstone ridges and plateaus incised by streams and rivers forming bays and estuaries. Sclerophyll forests would have covered the shores of Sydney Harbour providing Aboriginal people with a multitude of resources to exploit (Karskens 2010). The shell middens that were targeted by early colonists for lime-making are evidence of the marine economy employed by Aboriginal people in the past. A midden site was also uncovered during excavations at the Bond Store at Moore's Wharf (AHIMS site 45-6-0519). The study area is located within an area known as Warrane, home to the Gadigal people.

1788 – 1850s – Development of Millers Point

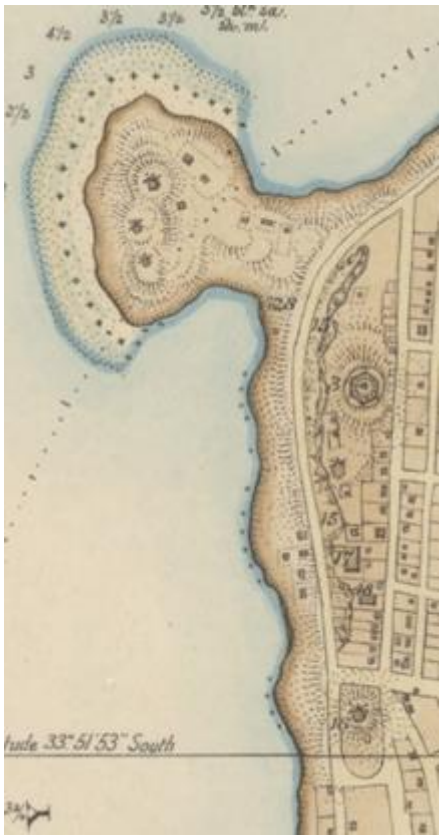
In contrast with other areas close to the early settlement in Port Jackson, the area surrounding the study area was slow to be colonised and developed. This was generally due to the high sandstone cliffs and rises that characterise the area. The earliest prominent structure erected in the area was a flagstaff erected on Flagstaff Hill (now Observatory Hill) (Fitzgerald 2008). Three windmills were later erected close to the site and the locations of the flagstaff and windmills are noted on early plans (see Figure 7.1). These structures would have been conspicuous within the landscape of the early colony and the name Millers Point has been attributed to the early flour milling activities associated with the windmills (Austral 2010).

Another early industry undertaken in the local area was shell burning to create quicklime used in construction (Austral 2010). The colonists targeted the many shell middens lining Cockle Bay, crushing and burning the shells in kilns. These kilns were generally ephemeral in nature and only a few remain intact, none of which are located in the study area (Karskens 2010). A town plan from 1822 indicates the locations of kilns at that time. It also shows the location of quarrying activities undertaken along what would be an early alignment of Hickson Road or Kent Street (Figure 5.1). This plan also shows the location of quarrying activities that influenced the appearance of The Rocks today.

By 1833 the area including the study area had been subdivided to prominent land holders and merchants such as Alexander Brodie Spark (Figure 8.2). This plan shows the original high tide water mark as well as early structures located within the subdivisions. Due to the impassable nature of the surrounding terrain, wharves were constructed and land reclaimed to facilitate the movement of goods and people to and from the area. Existing areas of reclamation and proposed areas of reclamation are also shown on the 1833 plan. One of these proposed reclamations was for the Australian Gas Lighting Company (AGL), located to the south of the study area.

Maritime activities intensified following the economic boom associated with the gold rush during the 1850s. This was followed by the expansion of warehouse and residential facilities and further reclamations to accommodate wharf construction along Darling Harbour. The AGL gas works site expanded through this time with a large annulus excavated into the sandstone measuring 152 feet in diameter and completed in 1882 (Archaeology & Heritage 2004).

Figure 5.1 Excerpt from the 1822 Plan of the Town and Suburbs of Sydney



1900s – 1920s – Decline and Redevelopment

By the end of the 19th century the local area was in decline. The depression of the 1890s bought cause for politicians and the public to criticise the area for the insanitary conditions of the wharves (Fitzgerald 2008). This culminated in the large scale redevelopment of Millers Point sparked by the spread of the Bubonic Plague in 1900. The redevelopment works were carried out by the Sydney Harbour Trust established by the *Wharves Resumption Act* that gave the government ownership of Millers Point. These works altered much of Millers Point and the east Darling Harbour waterfront to be as it exists today (Casey & Lowe 2012). The works included the demolition of wharves, houses and streets. Some streets visible on early plans such as Clyde Street were completely removed.

The construction of Hickson Road was a result of these redevelopment works. Hickson Road was intended to provide a thoroughfare between the new wharves at Walsh Bay and the new and existing wharves at Darling Harbour. The construction of the road required the acquisition of the AGL gas works which occurred in 1912. The site was cleared by 1922 and Hickson Road was completed in 1923.

The construction of Hickson Road involved extensive cutting of the natural sandstone to create the road corridor (Austral 2010). This process significantly altered the topography of the area. The fill from these excavations was then used to construct new finger wharves. The road surface was constructed by pouring a six-inch concrete foundation over a four-inch thick foundation of blue metal (Artefact 2016a). Where there was no underlying bedrock beneath the road surface the foundation was increased to eight-inches (Artefact 2016a). The road was then topped with a bitumen surface. The alignment of the road roughly followed the original high tide mark.

The Sydney Harbour Trust was also responsible for the construction of warehouses, including the state heritage listed item Dalgety's Bond Store to the north of the study area.

1920s to Present Modernisation and decline of shipping activities

The Sydney Harbour Trust assumed the management of Miller's Point and The Rocks up until 1936. The trust was responsible for the demolition of old wharfage and housing and the construction of new port facilities and workers accommodation. The Sydney Harbour Trust was eventually replaced by the Maritime Services Board. The Maritime Services Board commenced the progressive infilling of the finger wharves to accommodate the requirements of modern shipping.

Shipping activities ceased in the area in 2006 when the site was considered to no longer be commercially viable with the increase in size of freight ships.

Hickson Road has continued to be used as a thoroughfare between the northern Rocks area and Darling Harbour. There have been no major alterations to its route other than the southern extension through the gas works site in 1922. The analysis of early maps indicates that the Gas Works were located to the south of the Agar Stairs and are therefore not located within the study area.

6 Visual Inspection

In keeping with best heritage practice, a visual inspection of the Project Area was made on 21 December 2016. The site inspection aimed to located any visible archaeological remains or potential heritage items, gain an understanding of the site topography, assess the condition of the area and identify previous disturbance. The survey was conducted on foot and in accordance with best practice standards.

6.1 Project Area

The study area consists of a flat roadway and paths and most surfaces are covered by bitumen and concrete (Plate 6.1). The eastern boundary of the study area is sharply delineated by the high cliff upon which High Street is located (Plate6.2). The southern boundary is formed by a construction site associated with works at the former AGL site (Plate 6.3). The construction of Hickson Road has highly modified the natural topography of the site and no natural surfaces were identified.

The Hickson Road surface showed evidence of resurfacing and there appears to have been recent kerbing works along the northern portion of the site (Plate 6.1). The Hickson Road cut has been covered in concrete which is falling away in some places as well as brick and in some cases the natural sandstone is visible (Plate 6.4). Subsurface utilities were also noted throughout the site (Plate 6.4). The Dalgety's Bond Store located on the north western corner of the study area spans the Hickson Road level and upper Munn Street level (Plate 6.5).

The visual inspection did not identify any potential unlisted heritage items.

Plate 6.1 View south from northern end of study area,

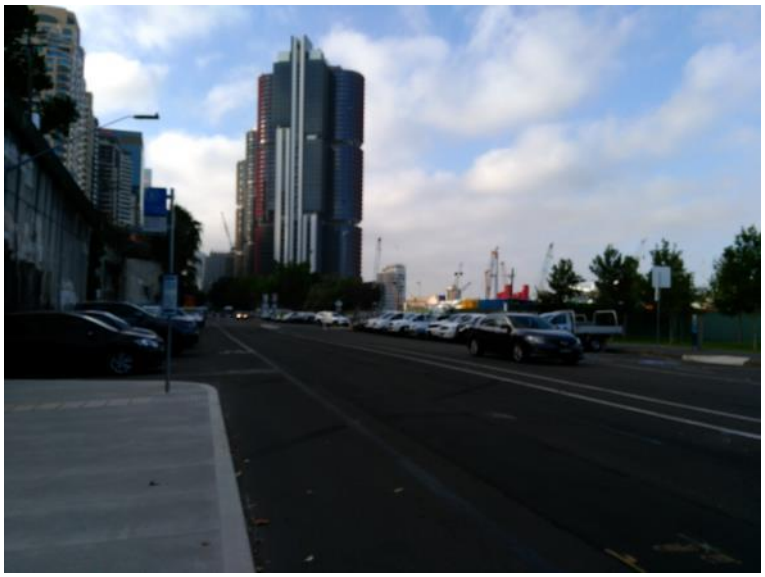


Plate 6.2 View north east towards cut

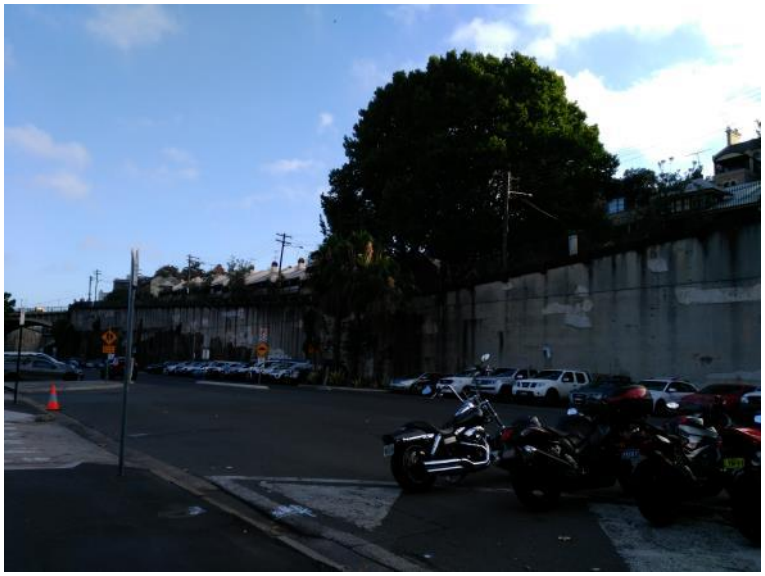


Plate 6.3 Works associated with the AGL site delineating the southern boundary of the site

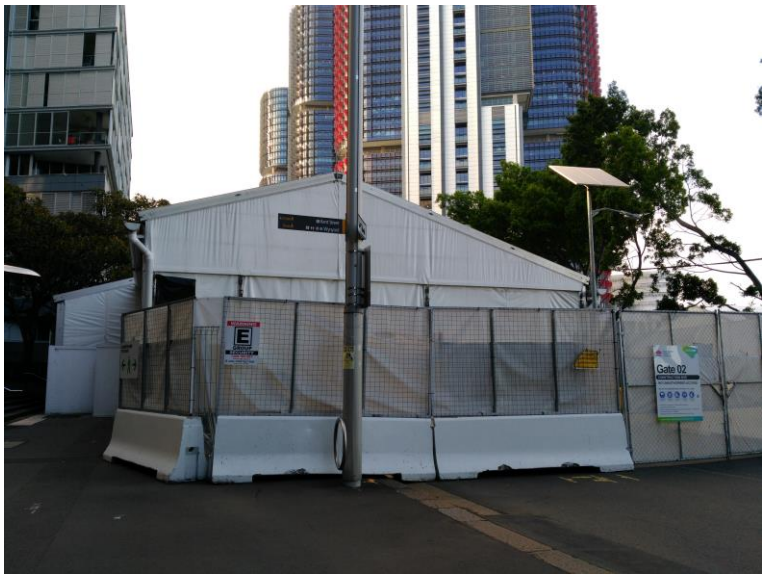


Plate 6.4 Section of cut where concrete has fallen away revealing sandstone beneath, also note Telstra pillar indicating subsurface utilities

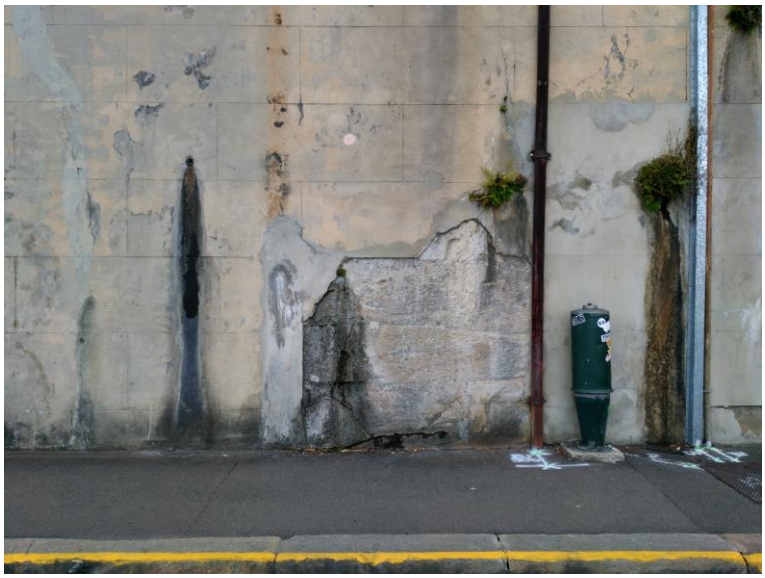


Plate 6.5 State heritage listed item Dalgety's Bond Store located outside of the study area

7 Heritage Significance Assessment

7.1 Listed Heritage Items

The study area is located within the State Heritage listed Millers Point & Dawes Point Village Precinct. The Study Area is located adjacent to the State Heritage listed Warehouses and Millers Point Conservation Area.

Millers Point & Dawes Point Village Precinct

The Millers Point & Dawes Point Village Precinct is bound on the north by the Walsh Bay state heritage listed precinct. It extends north towards the southern approach to the Sydney Harbour Bridge and south to include the grounds of the National Trust. The western boundary is formed by the Bradfield Express way and the eastern boundary is formed by Hickson Road and the new Barangaroo Parkland development.

The statement of significance as listed on the state heritage register is as follows:

Millers Point & Dawes Point Village Precinct is of state significance for its ability to demonstrate, in its physical forms, historical layering, documentary and archaeological records and social composition, the development of colonial and post-colonial settlement in Sydney and New South Wales.

The natural rocky terrain, despite much alteration, remains the dominant physical element in this significant urban cultural landscape in which land and water, nature and culture are intimately connected historically, socially, visually and functionally.

The close connections between the local Cadigal people and the place remain evident in the extensive archaeological resources, the historical records and the geographical place names of the area, as well as the continuing esteem of Sydney's Aboriginal communities for the place.

Much (but not all) of the colonial-era development was removed in the mass resumptions and demolitions following the bubonic plague outbreak of 1900, but remains substantially represented in the diverse archaeology of the place, its associated historical records, the local place name patterns, some of the remaining merchants villas and terraces, and the walking-scale, low-rise, village-like character of the place with its central 'green' in Argyle Place, and its vistas and glimpses of the harbour along its streets and over rooftops, the sounds of boats, ships and wharf work, and the smells of the sea and harbour waters.

The post-colonial phase is well represented by the early 20th century public housing built for waterside workers and their families, the technologically innovative warehousing, the landmark Harbour Bridge approaches on the heights, the parklands marking the edges of the precinct, and the connections to working on the wharves and docklands still evident in the street patterns, the mixing of houses, shops and pubs, and social and family histories of the local residents.

Millers Point & Dawes Point Village Precinct has evolved in response to both the physical characteristics of its peninsular location, and to the broader historical patterns and processes that have shaped the development of New South Wales since the 1780s, including the British invasion of the continent; cross-cultural relations; convictism; the defence of Sydney; the spread of maritime industries such as fishing and boat building; transporting and storing goods for export and import; immigration and emigration; astronomical and scientific achievements; small scale manufacturing; wind and gas generated energy production; the growth of controlled and market economies; contested waterfront work practises; the growth of trade unionism; the development of the state's oldest local government authority the City of Sydney; the development of public health, town planning and heritage conservation as roles for colonial and state government; the provision of religious and spiritual guidance; as inspiration for creative and artistic endeavour; and the evolution and regeneration of locally-distinctive and self-sustaining communities.

The whole place remains a living cultural landscape greatly valued by both its local residents and the people of New South Wales.

Millers Point Conservation Area

The Millers Point Conservation Area is located within the Millers Point & Dawes Point Village Precinct. The curtilage for this conservation area includes buildings and civic spaces within the precinct. The Millers Point Conservation Area only applies to Department of Housing property and as such is not a contiguous conservation area.

The statement of significance as listed on the state heritage register is as follows:

Millers Point Conservation Area is an intact residential and maritime precinct of outstanding State and national significance. It contains buildings and civic spaces dating from the 1830s and is an important example of nineteenth and early twentieth century adaptation of the landscape. The precinct has changed little since the 1930s.

Warehouses/ Dalgety's Bond Store

Dalgety's Bond Store is located to the north of the study area at 25 Hickson Road, Millers Point. The structure is composed of four stores, although Store B was demolished in c1978. The building has been refurbished for office and residential uses. This item is also listed on the Barangaroo State Significant Precinct under the SEPP 2005.

The statement of significance as listed on the state heritage register is as follows:

The Munn Street former warehouse complex is significant as a townscape feature in an area of dramatic topography. Its different building forms and shapes display a progression of functional architectural style, reflecting the difficulties of building on this contorted terrain. The earliest Bond Store is a rare example of a mid-Victorian Bond Store built entirely of stone with an early timber frame. It also demonstrates the redevelopment and change of the area associated with civil works that followed the bubonic plague of 1901. It perpetuates the memory of Dalgety & Co, one of Australia's large mercantile companies, and maintains an historic link with the maritime activities of Millers Point. The internal structure and remnant industrial archaeological features provide additional research significance.

7.2 Historical (non-Indigenous) archaeological potential and significance

Previous studies conducted within and adjacent to the study area have identified the potential for archaeological remains to be located within the study area. Archaeological potential is assessed by identifying previous land uses and features through historical research and evaluating the impacts of subsequent activities (natural or otherwise) that may have impacted the archaeological resource.

The following discussion of the historical archaeological potential of the study area is based on the background research conducted for this assessment and is not intended to be exhaustive. Based on the extensive history of the site and the nature of the land use in the local area there is always a possibility that unexpected historical archaeological remains would be encountered during works.

Land use summary

There are four broad phases of land use associated with the study area

- Phase 1 (1790s – 1830s): This phase is associated with early land uses including lime production and wharves.
- Phase 2 (1830s – 1890s): This phase is associated with the intensification of maritime activities and land reclamation
- Phase 3 (1890s – 1920s): This phase is associated with the redevelopment of the Millers Point Area by the Sydney Harbour Authority, Hickson Road is constructed
- Phase 4 (1920s – Present): This phase is associated with the rise and decline of the shipping industry in the local area and the continued use of the study area as a roadway.

Map analysis

The analysis of early plans and parish maps available for the area indicate that structures have been located within the study area at varying times. The earliest available plan used for this assessment is Laseurs 1802 plan of Sydney (see Figure 7.1). This map shows the location of the government windmills, however in comparison with the Rocks there was little to no evidence of settlement within the study area.

Plans from 1833 indicate that some land reclamation had taken place within the study area and there was at least one structure located within land attributed to Alex Brodie Spark (Figure 7.2). There is no further information as to what that structure may have been, but it is likely to have been an early warehouse associated with Spark's merchant trade (ADB 1967).

Shields 1844 map of Sydney shows the location of the Australian Gas Works to the south of the study area (Figure 7.3). There appears to have been little in the way of reclamation and wharf construction by this point. The study area is largely bare of any structures.

A plan from 1855 indicates the location of the government quarry that existed to the east of the study area prior to the construction of Hickson Road (Figure 7.3). The steep cliffs that slowed the progress of colonisation in the area are also shown on this plan. The streets to the north of the study area, Clyde Street and Wentworth Street, appear to have been formalised by this time. Two wharves have been added by this time, Trafalgar Wharf to the south and Langfords' Wharf to the north.

Plans available from the 1880s onwards indicate that there was an increase in construction after the 1850s (Figure 8.5). The 1855 plan indicated that the study area and surrounds were still largely characterised by the rugged cliffs and early quarries of the area (Figure 7.4). By 1880 there appear several structures located along Kent Street to the east of the study area. The area adjacent to the shoreline is marked as vacant land.

Following the acquisition of Miller's Point and the Rocks by the Sydney Harbour Trust, resumption plans for the area were made. The resumption plan for the study area shows further construction and resumption along the shoreline as well as the current state of landownership in 1901 (Figure 7.6). The plan indicates that a large area was reserved as the site of a ferry and public landing place which was used as a depot for municipal purposes at the time of recording. No new structures appear on this plan.

The redevelopment of Miller's Point and The Rocks following the acquisition of the area by the Sydney Harbour Trust had the greatest impact on the natural topography and layout of the areas since colonisation. This can be seen in the 1930 Parish of Saint Philip map (Figure 7.7). By this time construction of Hickson Road and the finger wharves to the left of the study area had been completed. The parish map also shows the approximate location of the high water mark similar to that on the 1880 plan.

From the 1950s onwards, as large container shipping became more prevalent, the finger wharves were infilled creating a large broadside wharf to accommodate the larger ships. This was the main use of the area up until the early 2000s when operations were moved to Kurnell.

Figure 7.1 Leseur Plan of Sydney 1802, general location of study area indicated by red arrow

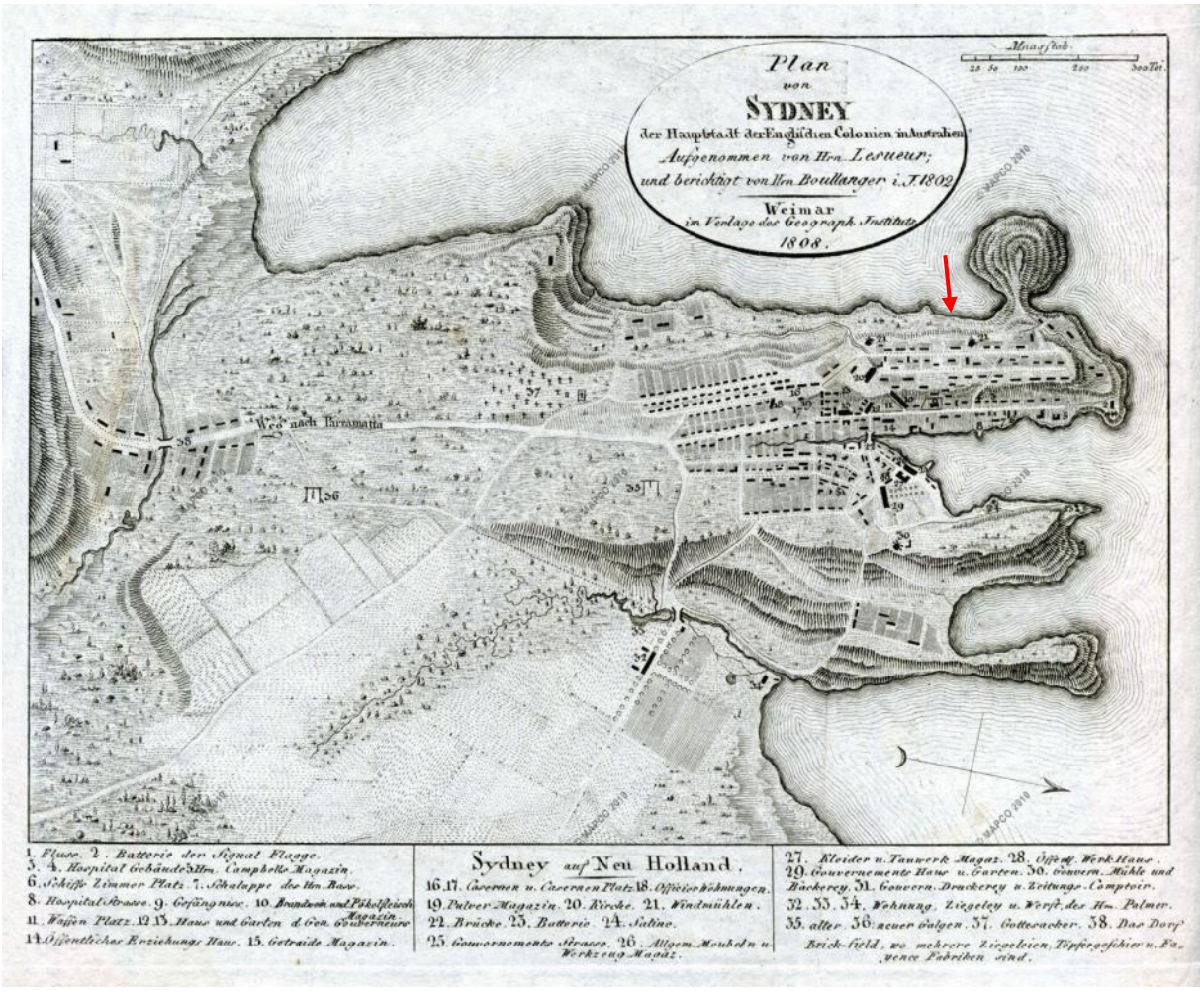


Figure 7.2 1833 Plan of Eastern Darling Harbour, general location of study area outlined in red

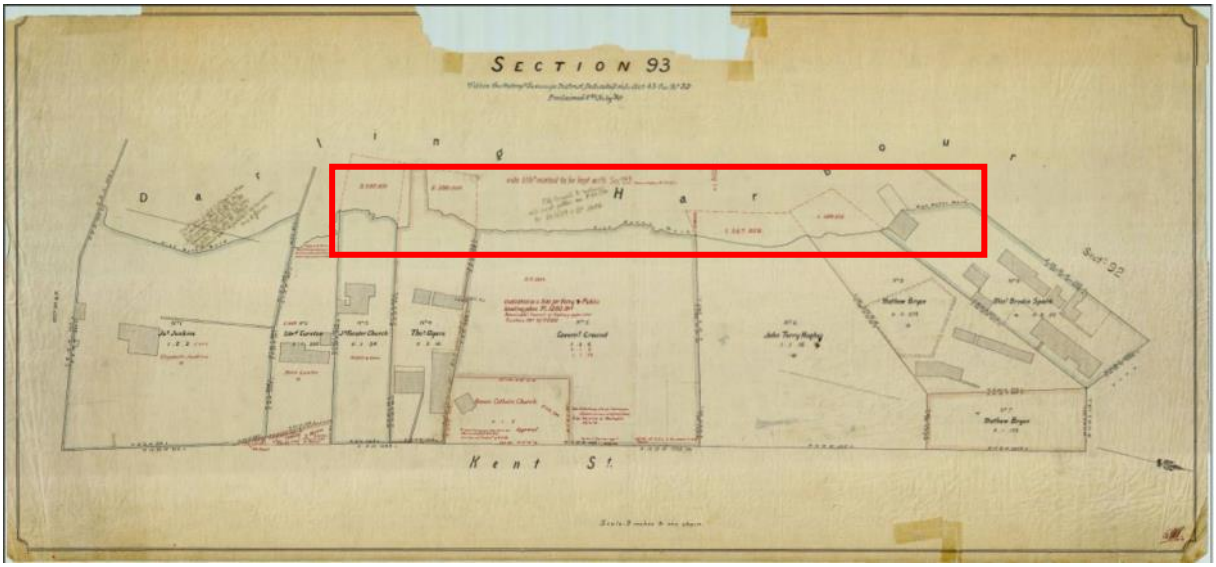


Figure 7.3 1844 Shield's plan of Sydney, general location of study area outlined in red

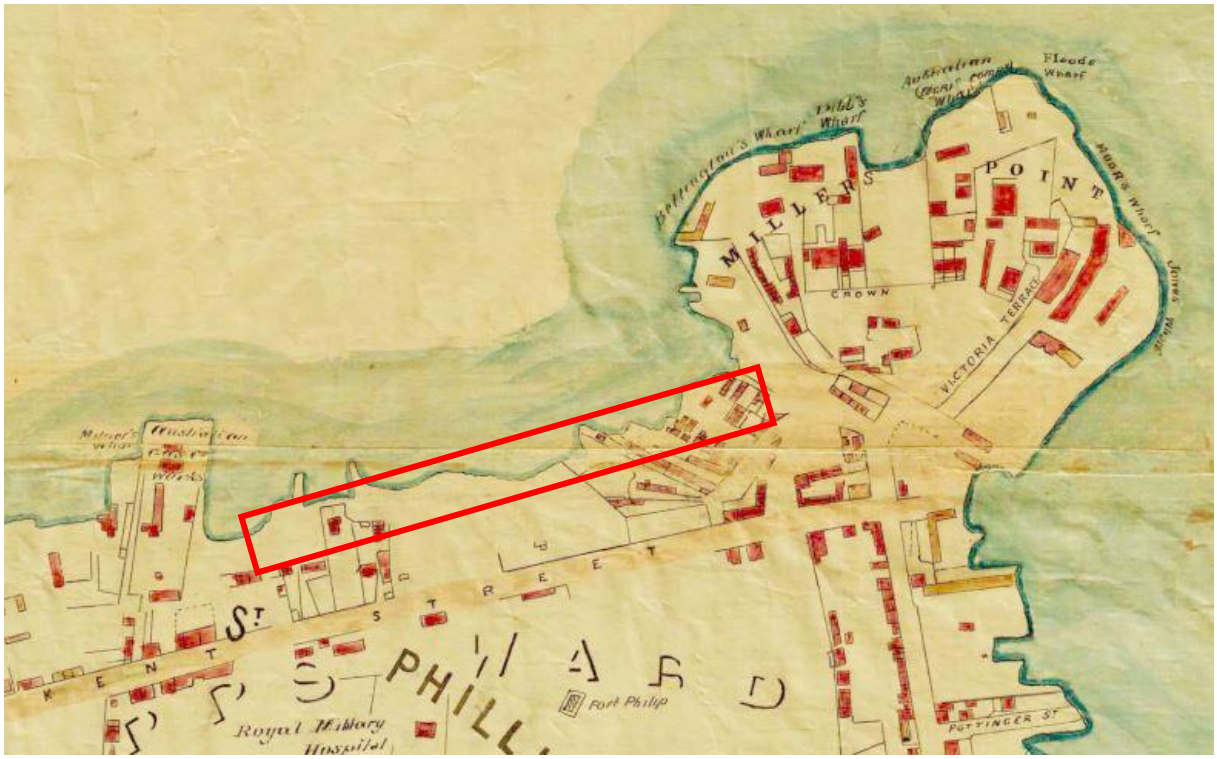


Figure 7.4 1855 Plan of Eastern Darling Harbour, general location of study area outlined in red

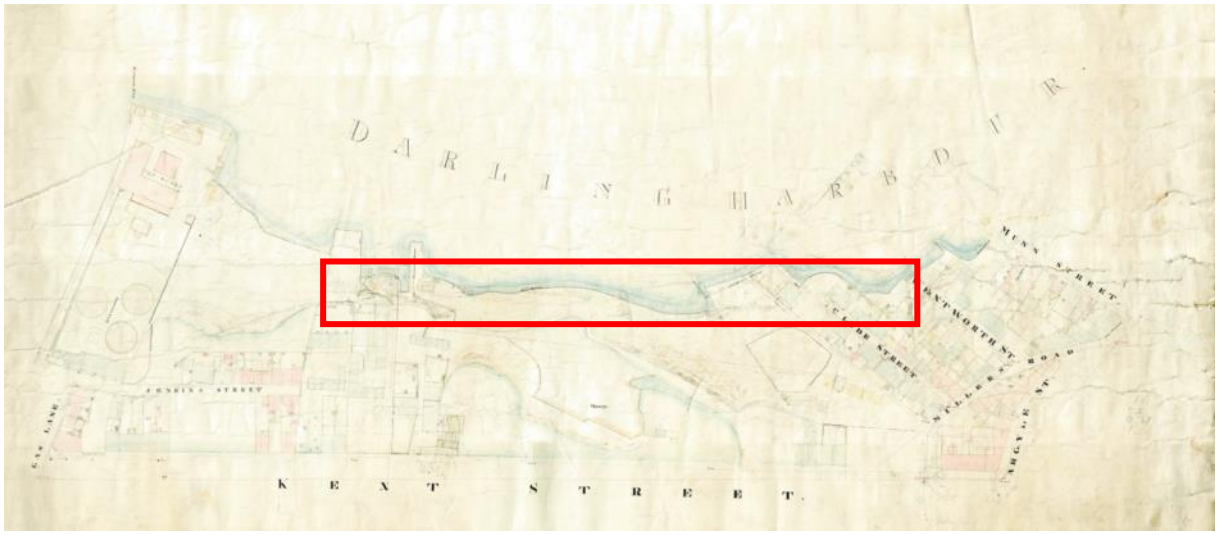


Figure 7.5 Dove's 1880 plans of Sydney, the general area in which the study area is located is marked as vacant land. The left hand side of the top image adjoins to the right hand side of the lower image. The general location of the study area is outlined in red.

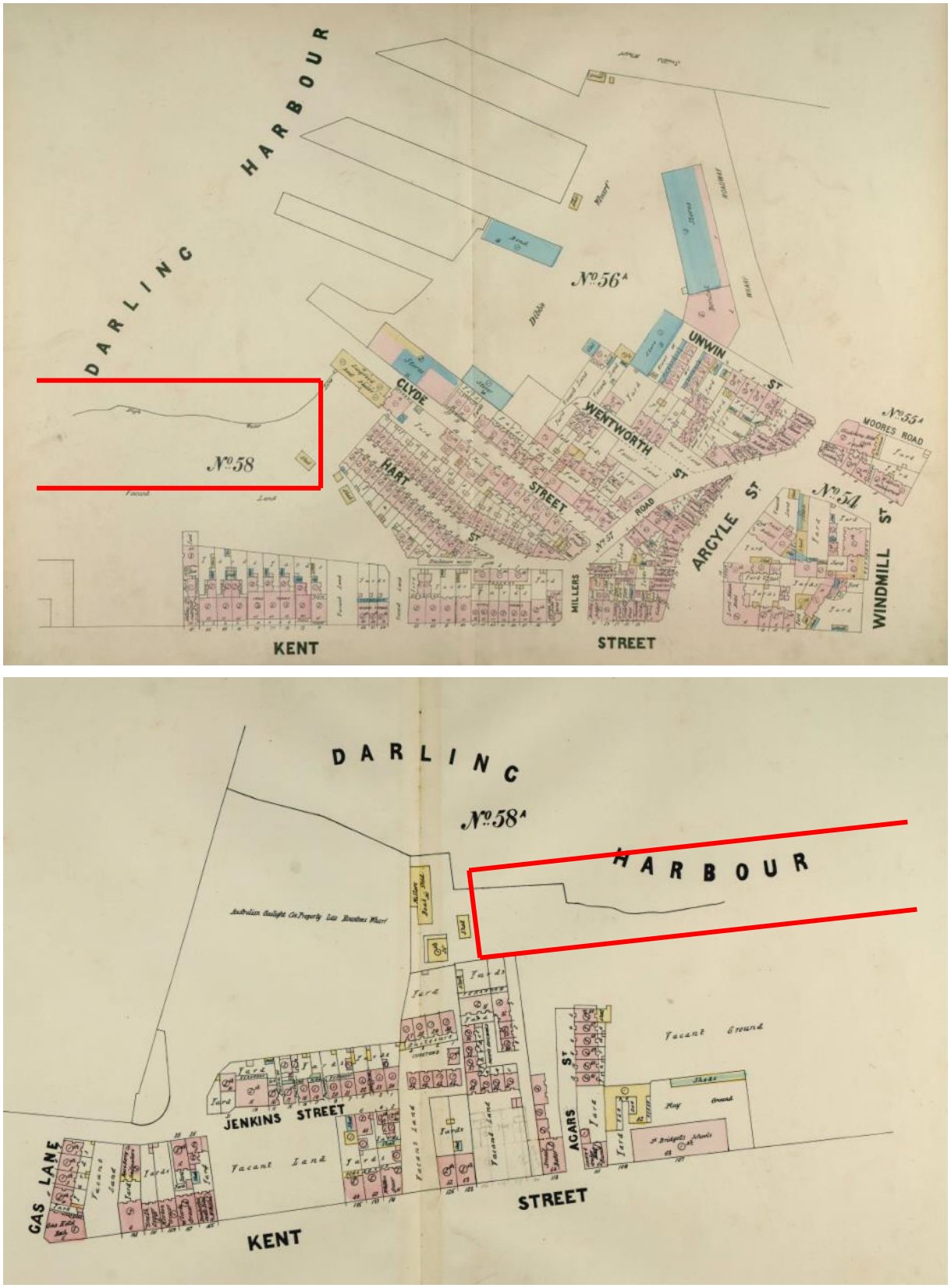


Figure 7.6 1901 Plan G of Darling Harbour Resumptions. General location of study area outlined in red

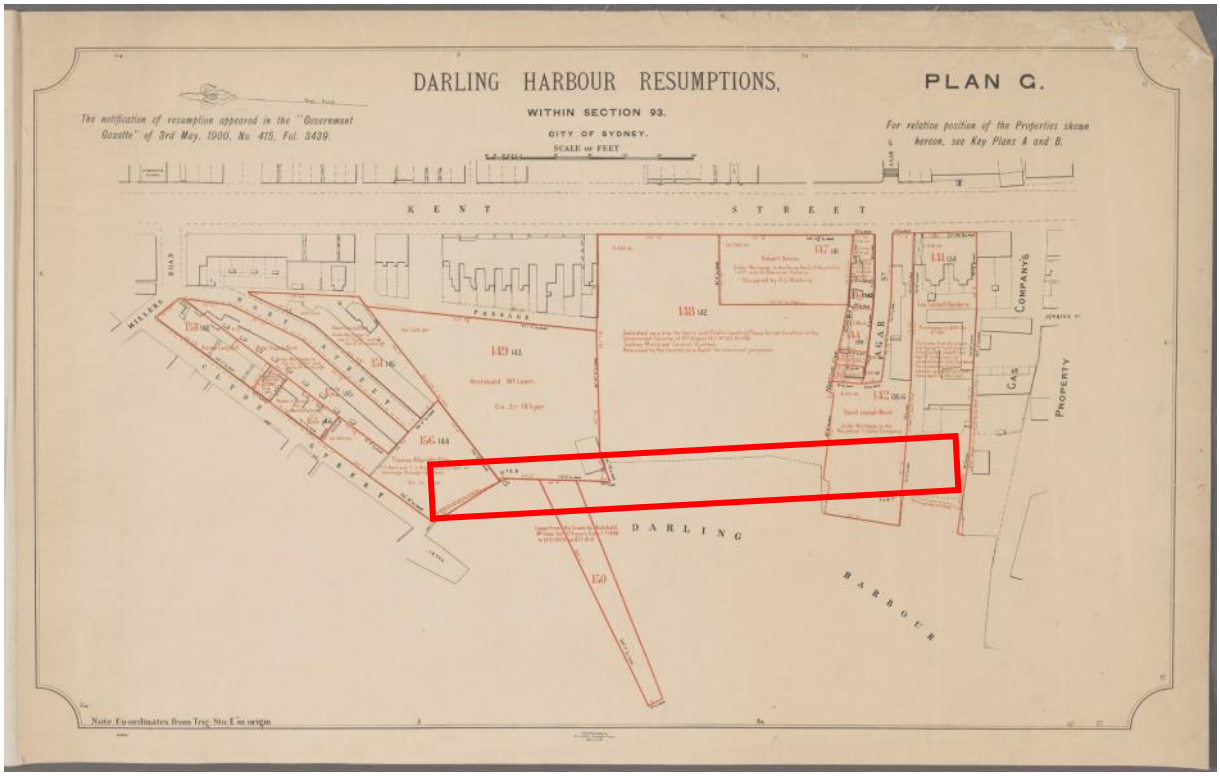
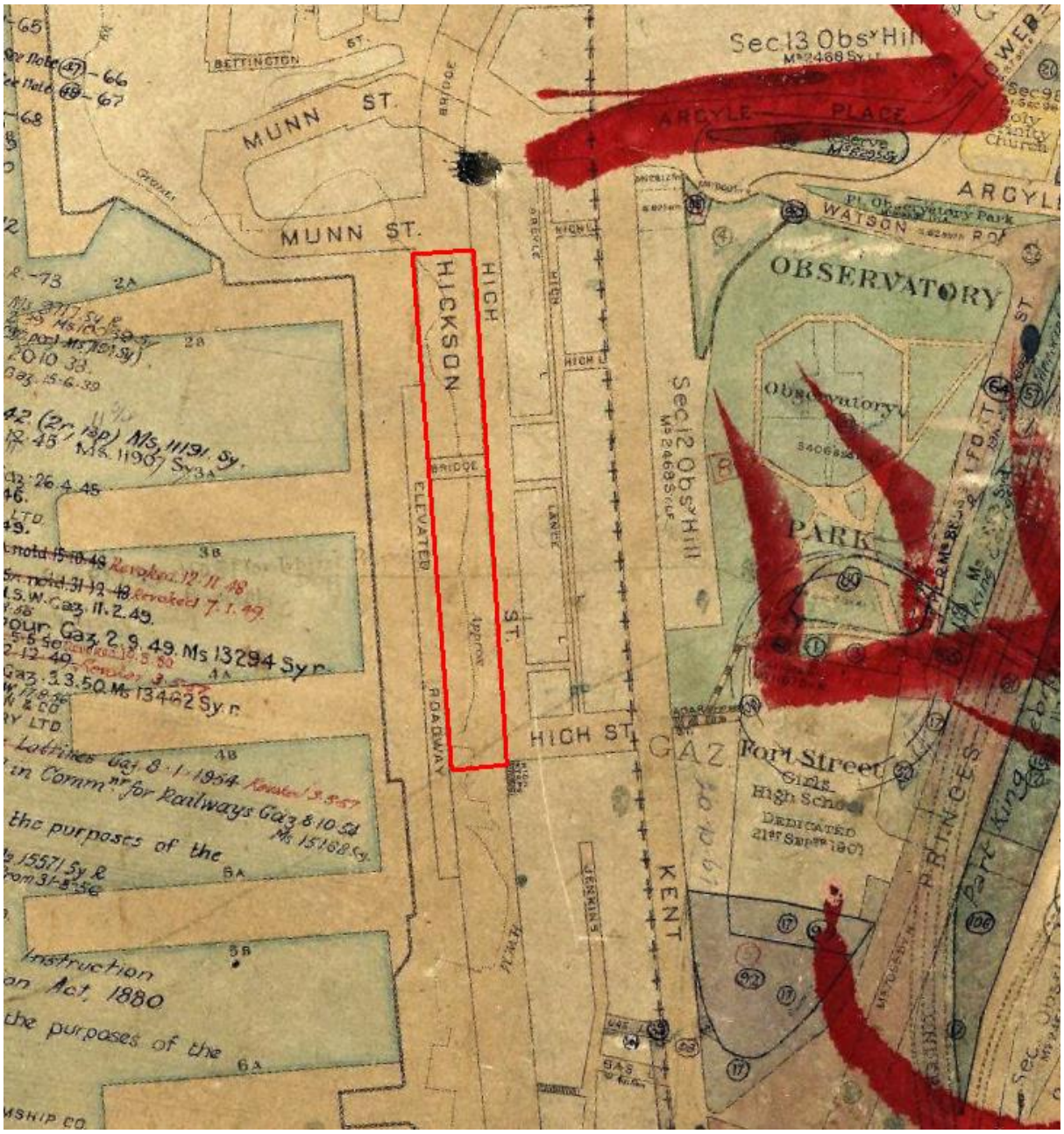


Figure 7.7 1930 Parish of St Philip map, study area is outlined in red, the dotted line indicates the approximate high tide mark. This map shows the finger wharves to the west of the study are that were constructed during the Sydney Harbour Trust Works.



Previous impacts

It is necessary to understand previous impacts that have occurred in order to assess the archaeological potential of an area. Subsurface impacts associated with former or current land uses have the potential to damage or remove potential archaeological remains. The redevelopment of Miller's Point during the early 20th century is likely to have had the greatest impact on any archaeological potential within the study area. These would include the following:

- Phases of reclamation, demolition and construction from the mid-1800s onwards may have impacted earlier phases and have obscured the original shoreline.
- Initial construction of Hickson Road that would have necessitated the demolition of structures

- Subsequent maintenance and installation of subsurface utilities within the road corridor.

The current alignment of Hickson Road roughly indicates the original high watermark. The construction of the road involved extensive cutting of the sandstone cliff along the eastern extent of the road. This rubble was then used as fill in the road construction. Therefore the study area has been subject to moderate levels of disturbance.

Archaeological Potential Assessment

The previous sections have outlined the potential impacts to the archaeological resource of the study area. This section presents a series of gradations of potential to indicate the degree to which the archaeological remains associated with each phase are likely to be present within the study area. The identified levels of potential are:

Phase 1: Early land uses (1790s – 1830s)

Land use during this time is characterised by lime burning and low intensity maritime activities. The study area traverses several early land grants; however documentary evidence and plans indicate that the landholders did not reside on these grants. A plan from 1833 indicates the construction of some wharves and warehouses had commenced.

The likely archaeological remains typically associated with these types of land uses could be kilns used for burning lime, wooden piers used in the base of wharves and foundations of warehouses. Other remnants could also include occupation deposits such as rubbish dumps, cesspits and wells containing deposits and artefacts.

Given the nature of successive occupation of the study area it is unlikely to contain archaeological evidence of this early phase of activity. The rugged terrain of Millers Point slowed the development of the area and analysis of historic plans from this time indicates maritime activities were low-intensity. It is highly likely that subsequent phases of use of the study area would have removed or damaged archaeological remains associated with them.

There is nil – low potential for archaeological remains associated with early land uses to be present within the study area

Phase 2: Intensification of maritime activities (1830s – 1890s)

The second land use phase of the study area is characterised by an increase in land reclamation and construction along the shoreline associated with maritime activities. This phase includes activities such as ship building, goods transportation and passenger transport.

Previous archaeological investigations in the area have identified boat ramps and seawalls as well as evidence of successive land reclamations (Casey & Lowe 2012). Timber and sandstone wharves have also been identified to the north west and south west of the study area (Casey & Lowe 2012).

Based on the analysis of plans conducted for this assessment and review of previous archaeological studies the potential archaeological remains associated with this phase of land use include:

- Wharf piles
- Slip ways
- Building foundations
- Sea walls
- Cesspits

- Landscaping
- Artefact deposits
- Reclamation episodes associated with domestic, commercial and industrial activities.

It was unusual for previous structures to be completely removed; they were often demolished to ground level and constructed over or incorporated into new structures. In the case of reclamation remains would often be buried by fill. It likely that any remains associated with this phase would be located along the western portion of Hickson Road where fill deposits are shallow.

There is low to moderate potential for archaeological remains associated with land use phase 2 to be located within the study area.

Phase 3: Sydney Harbour Trust Redevelopment (1890s – 1920s)

The redevelopment of Millers Point and The Rocks greatly altered the layout and topography of the area. It was during this phase that Hickson Road was constructed. Other developments included the construction of the finger wharves and large scale demolition of streets and houses.

Hickson Road was constructed by pouring six to eight inches concrete over a four inch bluestone base. The road roughly aligns with the natural shoreline and is underlain by bedrock in some portions. The archaeological resource associated within this period of landuse would be evidence of fill, concrete and blue stone used to construct the road as well as early drains. There may also be evidence of the early bitumen surfaces used for the road.

There is moderate potential for archaeological remains associated with phase 3 to be located within the study area.

Phase 4: Modernisation and decline of shipping activities 1920s – Present

This period of land use is characterised by the continued use of the local area for shipping activities until the early 2000s. The study area is confined to the Hickson Road reserve and is unlikely to have been further impacted by this phase.

Archaeological remnants associated with this phase could be early subsurface utilities and drains.

There is moderate potential for archaeological remains associated with phase 4 to be located within the study area.

Summary of archaeological potential

The potential for archaeological remains of each land use phase are summarised below:

Phase 1 – nil to low potential for archaeological remains associated with early lime production and maritime activities.

Phase 2 – low to moderate potential for archaeological remains associated with intensification of maritime activities from the 1850s onwards

Phase 3 – moderate potential for archaeological remains associated with the initial construction of Hickson Road including early road surfaces, drains and utilities

Phase 4 – moderate potential for archaeological remains associated with the modernisation of Hickson Road including drains and utilities

Archaeological significance

Archaeological significance is assessed using the guidelines issued by the Heritage Division of OEH, *Assessing Significance for Historical Archaeological Sites and 'Relics'* (2009). These guidelines consider the values of archaeological sites beyond their research potential. This section discusses the research potential of the potential archaeological resource and provides an assessment against the NSW heritage significance criteria.

Archaeological research potential

The archaeological research potential of a site can contribute to the significance assessment of a site. Bickford and Sullivan (1984) provide a framework in order to assess archaeological research potential based on the sites ability to answer three questions:

1. Can the site contribute knowledge that no other resource can?
2. Can the site contribute knowledge that no other site can?
3. Is this knowledge relevant to general questions about human history or other substantive questions relating to Australian history, or does it contribute to other major research questions?

The study area has low to moderate potential to contain an archaeological resource that is likely to support and enhance the current state of knowledge about its phases of occupation. The process of land reclamation is likely to have buried structures and deposits. Archaeological investigations adjacent to the site have identified the intact nature of deposits and structures beneath this fill. Therefore the site may contain an archaeological resource that can contribute to research questions about land uses in the area prior to the 1920s.

Archaeological significance assessment

The significance assessment of an item is undertaken in line with the *Burra Charter* of Australia ICOMOS. The principles of the Charter are relevant to the assessment, conservation and management of sites and relics. The following section contains an assessment of the heritage significance these items using the NSW state significance heritage criteria outlined through the NSW *Heritage Act 1977* (Heritage Act), the NSW *Heritage Manual* and the *Archaeological Assessment Guidelines*. An item is considered to have heritage significance if it meets one of the seven heritage criteria outlined below.

An item or potential archaeological site may be assessed as being of Local or State significance. If a potential relic is not considered to be of Local or State significance than it is not considered to be a relic under the Heritage Act.

The heritage significance assessment criteria as described in the *Assessing Significance for Historical Archaeological Sites and 'Relics'* (2009) is as follows:

Table 7.1 NSW heritage assessment criteria

Criteria	Description
A – Historical Significance	An item is important in the course or pattern of the local area's cultural or natural history
B – Associative Significance	An item has strong or special associations with the life or works of a person, or group of persons, of importance in the local area's cultural or natural history
C – Aesthetic Significance	An item is important in demonstrating aesthetic characteristics and/or high degree of creative or technical achievement in the local area

Criteria	Description
D – Social Significance	An item has strong or special association with a particular community or cultural group in the local area for social, cultural or spiritual reasons
E – Research Significance	An item has potential to yield information that will contribute to an understanding of the local area's cultural or natural history
F – Rarity	An item possesses uncommon, rare, or endangered aspects of the local area's cultural or natural history
G – Representativeness	An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places of cultural or natural environments (or the cultural or natural history of the local area).

The assessment of the significance of the potential archaeological resource contained within the study area against the NSW heritage assessment criteria is outlined in the table below.

Table 7.2 Assessment of archaeological potential against the NSW heritage criteria

Criteria	Description
A – Historical Significance	The potential archaeological resource could contribute to the understanding of the early use and development of Barangaroo. The study area is associated with nearly 200 years of European occupation. The study area is associated with maritime activities that characterise the area and demonstrate the importance of the study area and Darling Harbour in providing wharves and warehouses close to the city. Previous archaeological investigations have identified intact archaeological deposits beneath phases of demolition and fill therefore the study area has the potential to contain complex layering of events. **The potential archaeological resource meets the state significance threshold under this criterion.**
B – Associative Significance	The study area traverses several land holdings spanning from the earliest land grants to when the area was acquired by the Sydney Harbour Trust. These landowners include members of the colonial merchant class such as Alex Brodie Spark, prominent Bankers such as Thomas Allwright Dibbs and industrial entrepreneurs such as David Joseph Monk. **The potential archaeological resource meets the local significance threshold under this criterion.**
C – Aesthetic Significance	Whilst archaeological remains may be considered to have some aesthetic appeal by some members of the community these do not meet the criteria to be considered significant under criterion C **The potential archaeological resource does not meet the local significance threshold under this criterion.**
D – Social Significance	The study area has a long association with the Millers Point community, including members of the community previously employed there and the union movement. Public consultation conducted during the early works for the Barangaroo development identified these social significance values (Austral 2010: 71) **The potential archaeological resource meets the local significance threshold under this criterion.**

Criteria	Description
E – Research Significance	European occupation of the local area spans from the arrival of the colonists up to the early 21st century. Therefore the potential archaeological resource could contribute to research questions as to the nature of the successive layers of occupation of the area over nearly 200 years. Archaeological deposits within the study area have the potential to demonstrate the evolution of maritime technologies in wharf design, corresponding with the changing needs of the time. The archaeological potential could contribute to understandings of early land reclamation processes, early 19th century wharves and later redevelopment of the local area. **The potential archaeological resource meets the state significance threshold under this criterion**
F – Rarity	Much of the archaeological resource has been destroyed in the Darling Harbour area through subsequent development. The archaeological resource is finite in nature and as development spreads becomes increasingly rare. The study area has potential to contain evidence of 19th century maritime activities including early timber wharf design and to show changes in technology which is rare in Sydney today. **The potential archaeological resource meets the local significance threshold under this criterion**.
G – Representativeness	The potential archaeological resource is likely to be representative of the maritime industry in Australia from the early 19th century to early 20th century. **The potential archaeological resource meets the local significance threshold under this criterion.**

Statement of archaeological significance

There is low to moderate potential for archaeological remains to be located within the study area. These remains are considered to meet the state significant threshold for their potential to contribute to research questions for the local area. These remains are likely to be located within the western portion of Hickson Road.

8 Heritage Impact Assessment

8.1 The Proposal

The purpose of the proposed works is to locate sub surface utilities within the study area. The proposal involves the excavation of four slit trenches within the Hickson Road reserve. These would be excavated using Hydro Excavation, Concrete Bob Saw and backfilled using a Hydrolic Jackhammer. Each trench would be 200mm wide, 30m long and 2.4m in depth. The location of the trenches shown in Figure 8.2 is indicative only as the nature of the proposed works is to locate the sub surface utilities. RPS has been advised that the size of the trenches would likely be reduced on site once the subsurface utilities were located.

8.2 Aboriginal Heritage

There are no registered AHIMS sites located within the study area.

This assessment has identified an area of moderate to high archaeological potential associated with the original shoreline of Cockle Bay (Figure 9.1). The proposed works aim to relocate subsurface utilities. The works would therefore target existing utilities and are unlikely to impact previously undisturbed areas. This assessment therefore considers that the proposed works would be unlikely to impact any potential Aboriginal archaeological deposits.

8.3 Statement of Heritage Impact Assessment

The heritage impact assessment has been undertaken in line with the Heritage Division guidelines (Heritage Division & DUAP 2002). The potential impacts associated with the proposal are given a level of impact. The levels used in this assessment are described in the table below.

Table 8.1 Assessed levels of impact

Level of impact	Description
Minor	The proposed works would impact defining elements inherent to the item's heritage significance such as built fabric, archaeological remains, defining landscape characteristics and/or associated aesthetic elements. However these impacts are not considered to detract from the heritage significance of the item.
Nil	The proposed works would not impact defining elements inherent to the items heritage significance such as built fabric, archaeological remains, defining landscape characteristics and associated aesthetic elements. The works are not considered to detract from the heritage significance of the item.

Built heritage

The proposal would not directly impact any built heritage items located in the vicinity of the study area. Given the nature of the proposal which involves the excavation and backfilling of slit trenches, the proposal would not have any adverse visual impacts to the Warehouse/ Dalgety's Bond Store (see Figure 8.2).

The assessed level of impact to built heritage items adjacent to the study area would be nil.

Conservation areas

The proposal would directly impact the Miller's Point Conservation Area. This conservation area is limited to the Department of Housing properties which does not include Hickson Road (see Figure 8.2).

The assessed level of impact to the Miller's Point Conservation Area would be nil.

The proposal would directly impact the Miller's Point & Dawe's Point Village Precinct. The impacts would be to areas that contain subsurface utilities and therefore have been previously impacted. Therefore the proposal is assessed to have minor impacts to the Miller's Point & Dawe's Point Village Precinct (see Figure 8.2).

The assessed level of impact to the Miller's Point & Dawe's Point Village Precinct would be minor.

The proposed works fall under Standard Exemption 4 2(a) of the *Heritage Council's Standard Exemptions for Works Requiring Heritage Council Approval* (2009). This exemption states that:

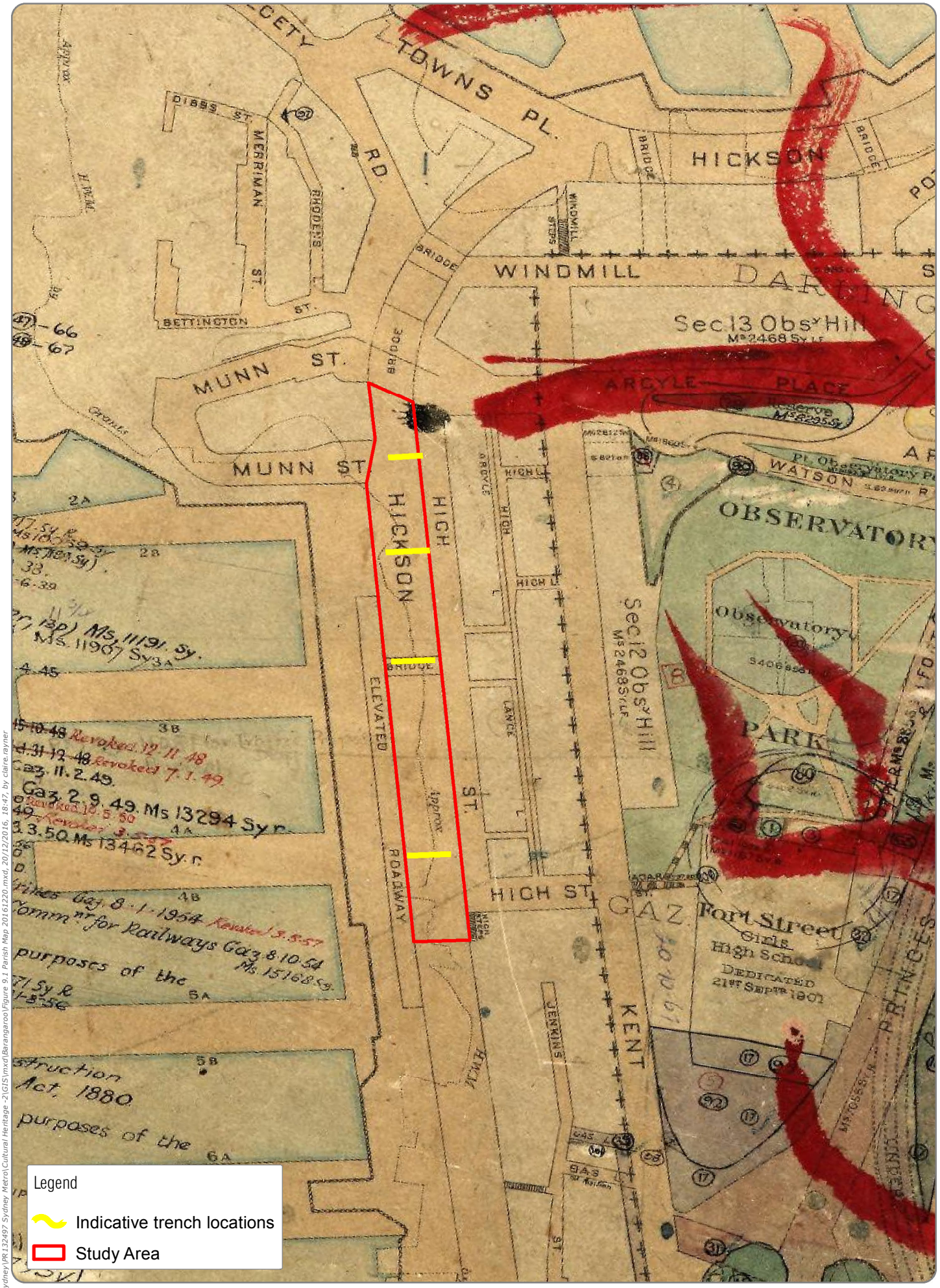
> *Excavation or disturbance of land of the kind specified below does not require approval under subsection 57(1) of the [Heritage] Act:*
>
> *(a) The excavation or disturbance of land is for the purpose of exposing underground utility services infrastructure which occurs within an existing service trench and will not affect any other relics*

Archaeological resource

The proposed works are likely to have minor impacts on the archaeological resource present within the study area. The archaeological potential assessment for this study has indicated that there is low to moderate potential for intact archaeological deposits to be located within the western portion of Hickson Road associated with the alignment of the original shore line (see Figure 8.1). The aim of the proposed works is to relocate existing subsurface utilities and would be excavating areas of existing disturbance associated with these utilities. Therefore the impacts to the archaeological resource are considered to be minor.

The assessed level of impact to the potential archaeological resource within the study area would be minor.

Figure 8.1 1930 s Parish Map overlayed with study area and proposed trench location



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A	20-12-2016	First draft	CR
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PREPARED FOR:
Transport for NSW

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N:\Projects\Conics_Sydney\PR132497 Sydney Metro\Cultural Heritage -2\GIS\mxd\Barangaroo\Figure 9.1 Parish Map 20161220.mxd, 20/12/2016, 18:47, by claire.rayner

Figure 8.2 Indicative trench location and state significant items

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No.	Date	Revision Details	
A	20-12-2016	First draft	CR
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PREPARED FOR:
Transport for NSW

CHECKED BY/DATE:	AB/21-12-2016	CO-ORDS:	MGA
APPROVED BY/DATE:	AB/21-12-2016	DATUM:	N/A
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Metres

N:\Projects\Conics_Sydney\PR132497 Sydney Metro\Cultural Heritage -2\GIS\mxd\Barangaroo\Figure 8.2 listed items and trenches 20161220.mxd, 21/12/2016, 11:20, by claire.rayner

9 Conclusion and Recommendations

9.1 Conclusion

This report has considered the significance of the study area and the nature and scale of likely heritage impacts as a result of the development proposal.

It was found that:

- There is one state significant conservation area within the study area, this is:
  - The Miller's Point & Dawes Point Village Precinct (01682)
  - The proposed works would have minor impacts on this conservation area
- There is one state significance conservation area and one state significant item located adjacent to the study area, these are:
  - Miller's Point Conservation Area (00884)
  - Warehouses/Dalgety's Bond Store (00526)
  - The proposed works would have nil impacts on to this conservation area and item
- The study area has been assessed to have low to moderate potential to contain intact archaeological deposits associated with 19th maritime activities and the early 20th century redevelopment of the site
  - The proposed works would have minor impacts to the archaeological resource.

9.2 Recommendations

The following management recommendations and mitigation measures have been formulated with consideration of all available information in accordance with relevant legislation:

Recommendation 1 – Archaeological Monitoring

The archaeological potential for the study area is considered to be low to moderate for historical archaeology and moderate to high for Aboriginal archaeology. Any archaeological deposits may be of high research value, given the long continuous use of the area since before colonisation. It is therefore recommended that a qualified archaeologist be present during the slit trenching.

Recommendation 2 – Heritage Induction

It is recommended that a heritage induction exercise be carried out in advance of the proposed works. All relevant staff, contractors and subcontractors will be made aware of their statutory obligations for heritage under the Heritage Act, and the NPW Act through the site induction and toolbox talks.

Recommendation 3 – Unexpected Finds

If, during the course of development works, suspected archaeological relics, as defined by the Heritage Act (as amended), or Aboriginal objects, as defined by the NPW Act are uncovered, work should cease in that area immediately. The Heritage Branch and the Office of Environment & Heritage (Enviroline 131 555) should be notified and works only recommence when an approved management strategy developed.

10 References

Archaeological and Heritage Pty Ltd (2004) “Archaeological Recording of Annulus of 1882 Gasjolder and Details of 19th Century Gasmaking”. Unpublished Report to Bovis Lend Lease

Artefact Heritage (2016a). “Sydney Metro City and South West – Chatswood to Sydenham: Non Aboriginal Heritage Imapct Assessment” Unpublished Report to Jacobs/Arcadis/RPS

Artefact Heritage (2016b). “Sydney Metro and South West – Chatswood to Sydenham: Aboriginal Heritage Impact Assessment”. Unpublished Report to Jacobs/Arcadis/RPS

Austral Archaeology (2010) “Barangaroo Archaeological Assessment & Management Plan”. Unpublished Report to Barangaroo Delivery Authority

Casey & Lowe (2012). “Archaeological Excavation Barangaroo South”. Unpublished Report to Lend Lease (Millers Point)

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Sydney Metro Subsurface Utilities Location

Statement of Heritage Impact - Mowbray Road

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TRANSPORT FOR NEW SOUTH WALES

Prepared by: Deborah Farina
Reviewed: Erin Williams
Approved: Deborah Farina
Project No.: PR132497-2
Version: 1.0
Date: December, 2016

IMPORTANT NOTE

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DOCUMENT STATUS

Version	Purpose of Document	Orig	Review	Review Date
1.0	Heritage Impact Assessment at Mowbray Road, Artarmon ahead of slit trenching for Sydney Metro	Deborah Farina	Erin Williams	13/12/2016

APPROVAL FOR ISSUE

Name	Signature	Date
Deborah Farina		13/12/2016

Executive Summary

RPS was engaged by Transport of New South Wales to prepare a Statement of Heritage Impact as part of the geotechnical works associated with the Sydney Metro project. The geotechnical works comprise pot-holing and slit trenching in areas of impact of the proposed rail link infrastructure. The purpose of the geotechnical works is in order to locate underground utility services.

The Sydney Metro project is a new standalone rail network with two core components:

- The construction of an underground rail line between Chatswood Station and Sydenham station;
- The upgrade the existing rail line between Sydenham station and Bankstown station.

As part of the Chatswood – Sydenham portion of the Sydney metro project, RPS has been engaged to undertake slit trenching to locate subsurface utility services. According to earlier studies (Artefact Pty Ltd 2016) three areas where the slit trenching is to occur have heritage items in the vicinity. These three areas are:

- Regent Street, Chippendale
- Mowbray Street, Chatswood
- Hickson Road, Barangaroo.

RPS has been engaged to undertake heritage assessments at these three locations. RPS heritage staff will also monitor the slit trenching to ensure that no subsurface items or significant archaeological deposits are impacted.

The study area for this assessment is located along **Mowbray Road, Chatswood**. The study area is wholly within the Willoughby local government area and is located along the northern kerb of Mowbray Road, to the east of Pacific Highway, Artarmon (see Figure 1).

Seven geotechnical trenches are proposed for the study area, five on the northern footpath/road corridor and two on the southern side. The trenches are proposed to be approximately 200 millimetres wide, five metres in length and two metres in depth. As these trenches are for geotechnical purposes, they are considered to be exempt development and no permits are therefore required as long as there is no significant impact on heritage items.

One trench is proposed to be located within the curtilage of the local heritage listed Mowbray House. A significance and impact assessment (at Sections 6 and 7 below), however, conclude that the trench will not detrimentally impact the fabric, setting or significance of Mowbray House. As the purpose of this assessment is to investigate whether the proposed works poses an environmental risk, the proposed trenching therefore falls within the definition of an exempt development (see below).

Subsequent to this assessment, the following mitigation and management recommendations are made:

Recommendation 1 – Heritage Induction

It is recommended that a heritage induction exercise be carried out in advance of the proposed works. All relevant staff, contractors and subcontractors will be made aware of their statutory obligations for heritage under the *Heritage Act 1977*, through the site induction and toolbox talks.

Recommendation 2 – Archaeological Monitoring

It is recommended that as one trench is proposed to be located within the curtilage of Mowbray House that the excavation of that trench be monitored by a qualified archaeologist.

Recommendation 3 – Unexpected Finds

If, during the course of development works, suspected archaeological relics, as defined by the *Heritage Act 1977* (as amended), are uncovered, work should cease in that area immediately and the Transport for New South Wales *Unexpected Finds* protocol be followed. A copy of that document should be kept on site for the duration of the works.

Contents

1 Introduction

RPS was engaged by Transport of New South Wales to prepare a Statement of Heritage Impact as part of the geotechnical works associated with the Sydney Metro project. The geotechnical works comprise pot-holing and slit trenching in areas of impact of the proposed rail link infrastructure. The purpose of the geotechnical works is in order to locate underground utility services.

Geotechnical works in disturbed areas are generally considered to be exempt development under the *Environmental Planning & Assessment Act 1979* (EP&A). One of the provisos of this is that the proposed works poses minimal environmental impact. As one trench is located within the curtilage of the locally significant heritage item known as Mowbray House, this assessment is to investigate whether the geotechnical works fall within the ambit of "minimal environmental impact".

1.1 Study area

The study area for this assessment is located along **Mowbray Road, Chatswood**. The study area is wholly within the Willoughby local government area and is located along the northern kerb of Mowbray Road, to the east of Pacific Highway, Artarmon (see Figure 1).

1.2 Proposal

It is proposed that seven trenches will be excavated measuring approximately 200 millimetres wide, five metres in length and two metres in depth. As the purpose of these trenches is to locate underground utility services the dimensions of the trenches are approximate to allow for accurate identification. For this reason an area of approximately 70 metres x 20 metres around the proposed location of the trenches is being assessed. Trenching will not take place outside of this area without additional assessment.

In order to minimise disruption to pedestrian and vehicle traffic, the trenches are planned to be excavated after hours.

1.3 Methodology

This Statement of Heritage Impact has been prepared in accordance with *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (*Burra Charter*) (2013) and associated Guidelines as well as best practice standards set by the NSW Heritage Branch. Best practice guidance followed in this report includes *Assessing Heritage Significance* (Heritage Officer (former), 2001) and *Statements of Heritage Impact* (Heritage Office and Department of Urban Affairs & Planning (former), 1996, revised 2002).

1.4 Authorship and acknowledgements

This report has been prepared by RPS Heritage Manager Sydney, Deborah Farina with the assistance of Claire Rayner. A technical review was undertaken by RPS Senior Executive – Environment and Heritage, Erin Williams.

The assistance in the preparation of this report by the following people and organisations is also gratefully acknowledged.

Table 1 : Acknowledgements

Name	Organisation
Stanley Tan	RPS Spatial, Visual and Subsurface Consultant
Sofia Romic	RPS
Nicole Williams	Transport for New South Wales

RPS

Figure 1: Study Area

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2 Heritage Significance Assessment Framework

2.1 Basis of Assessment of Heritage Significance in NSW

The following section provides an overview of the legislative framework relating to the protection and management of historic heritage. This overview is provided solely as information for the client rather than as legal advice. The findings from a review of national, state and local statutory heritage registers are provided in Section 2.2 below. The relevant planning requirements as set out in current statutory planning instruments prepared by the Council of the City of Sydney are described in Section 2.3.

Heritage Act 1977 and the NSW Heritage Branch

Historical archaeological relics, buildings, structures, archaeological deposits and features are protected under the *Heritage Act 1977* (and subsequent amendments) and may be identified on the State Heritage Register (SHR) or by an active Interim Heritage Order.

The Heritage Council of NSW, constituted under the *Heritage Act 1977*, is appointed by the Minister and is responsible for heritage in NSW. The Council reflects a cross-section of community, government and conservation expertise with the NSW Heritage Branch being the operational arm of the Council. The work of the NSW Heritage Branch includes:

- Working with communities to help them identify their important places and objects;
- Providing guidance on how to look after heritage items;
- supporting community heritage projects through funding and advice; and
- Maintaining the NSW Heritage Database, an online list of all statutory heritage items in NSW

The 1996 NSW Heritage Manual, published by the NSW Heritage Branch and the then Department of Urban Affairs and Planning, provides guidelines for conducting assessments of heritage significance. The Manual includes specific criteria for addressing the significance of an item and this assessment has been completed in accordance with those guidelines. These criteria are addressed more fully in Section 7 of this report.

Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment act* 1979 (EP&A Act) regulates a system of environmental planning and assessment for NSW. Land use planning requires that environmental impacts are considered, including the impact on cultural heritage. Assessment documents prepared to meet the requirements of the EP&A Act including Reviews of Environmental Factors, Environmental Impact Statements and Environmental Impact Assessments, should address cultural heritage where relevant. Statutory planning documents such as Local Environment Plans and State Environmental Planning Policies typically contain provisions for heritage.

The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 2013

The *Burra Charter* is a set of best practice principles and procedures for heritage conservation. It was developed by Australia ICOMOS (International Council for Monuments and Sites), the Australian group of the international professional organisation for conservation. Although without statutory weight, the *Burra Charter* underpins heritage management in New South Wales and Australia. The policies and guidelines of the Heritage Council of NSW and the NSW Heritage Office are consistent with and guided by the *Burra Charter*.

2.2 NSW Heritage Registers Review

Acknowledged heritage items and places are recorded in statutory and non-statutory registers held at the Federal, State and local level depending on their level of significance. Internationally significant sites of 'outstanding universal value' are inscribed in the World Heritage List (WHL) and in turn, such sites are usually recognised through their inclusion on Federal and state-level registers.

Federal designations include the National Heritage List (NHL) and the Commonwealth Heritage List (CHL) created by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Both registers are maintained by the Commonwealth Department of the Environment and are available to view on an online database, the Australian Heritage Database. The NHL includes natural, historic and Indigenous places that are of outstanding national heritage value to the Australian nation. The CHL protects natural, Indigenous and historic heritage places on land owned or leased by the Commonwealth or a Commonwealth Authority. To reach the threshold for the NHL, a place must have 'outstanding' heritage value to the nation whereas to be entered on the CHL, a place must have 'significant' heritage value.

Heritage places of state significance are included on the State Heritage Register (SHR) maintained by the Heritage Branch. Places included on the SHR are available on an online database, the NSW Heritage Inventory database; however, it should be noted that the inventory includes items of state and local significance in NSW, it may not necessarily be comprehensive and inclusion on the inventory does not carry statutory weight in its own right. In order to reach the threshold for inclusion in the SHR, a place needs to meet one of more of the heritage criteria identified by the Heritage Council of NSW. The ultimate decision on whether a place is included on the State Heritage Register is made by the Minister for Heritage.

Places of local significance are included in heritage schedules in Local Environmental Plans (LEPs).

2.3 World Heritage

There are **no World Heritage Sites** ('WHS') located within the study area.

2.4 National and Commonwealth Heritage

A search of the Australian Heritage Database was undertaken on 9 November 2016 which indicates that there are **no items within the study area included on the NHL or CHL**.

2.5 State Heritage

A search of the State Heritage Inventory database on 9 November 2016 found two items included on the SHR and no items subject to an interim, or authorised interim heritage order.

Table 2 : Items of State Significance on the State Heritage Register (SHR)

Item	Address	Listing No.
Chatswood Reservoirs No. 1 and No. 2	559 Pacific Highway, Artarmon	01321
Chatswood South Uniting Church and Cemetery	518 Pacific Highway, Lane Cove North	00694

2.6 Section 170 Registers

Section 170 of the *Heritage Act 1977* requires State Government Agencies to keep records of heritage items owned or operated by it. These registers can be found on the NSW Heritage Inventory. A search of this inventory was carried out on 9 November 2016 and no items were identified as being located within the study area.

2.7 Local Heritage

A search of Schedule 5 of the Council of the City of Sydney Local Environmental Plan 2012 identified three local heritage items within the study area.

Table 3 : Local heritage items within study area

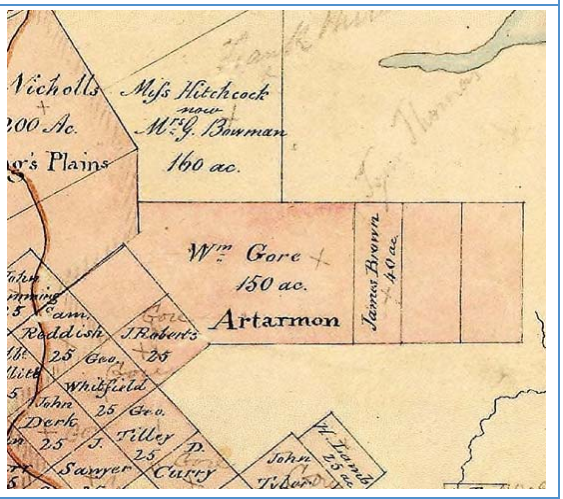
Item Name	Address	Significance
Chatswood Zone substation No. 80 (building only)	Mowbray Road, Artarmon	Local
Great Northern Hotel (including original interiors)	522 Pacific Highway, Chatswood	Local
Mowbray House and 10 metre curtilage	339 Mowbray Road, Artarmon	Local

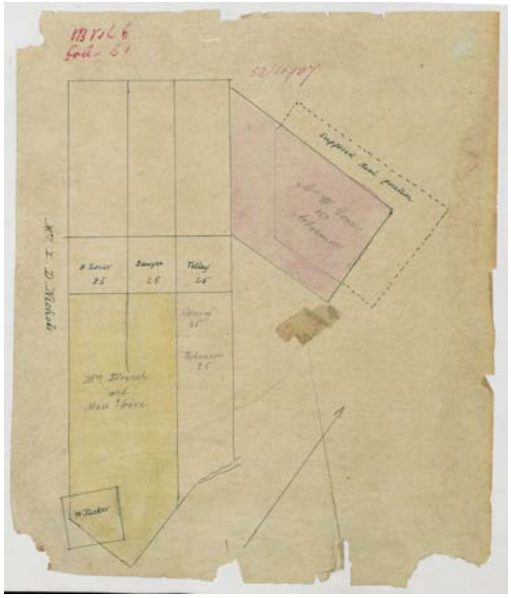
3 Historical context

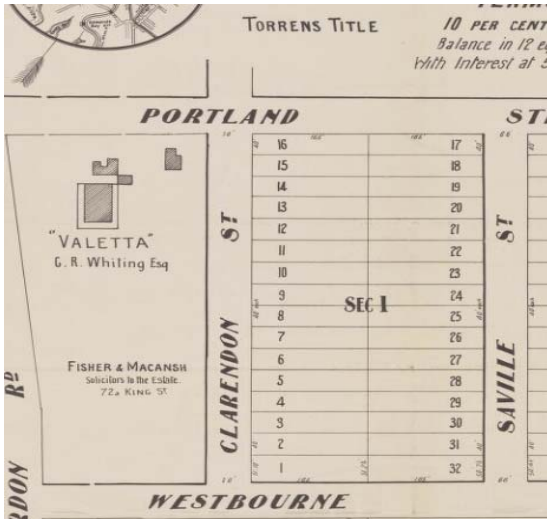
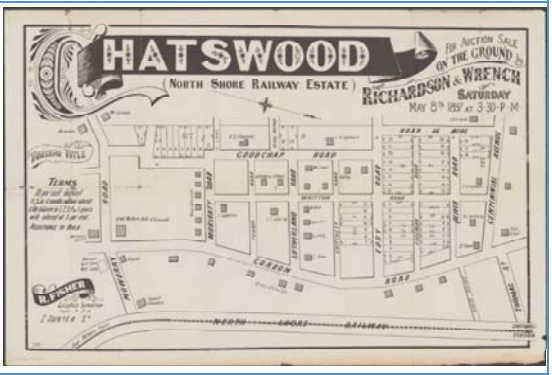
This historical context sets out the development of historical land use in the study area. This is included in order to provide a context for remaining heritage items as well as allow some predictions of potential archaeological remains.

3.1 Broad Historical Context

Table 4 : Timeline of general area

Year	Land use	Image
Pre 1810	Traditional use by the Cammeraygal people, who occupied the lower north shore of Sydney Harbour. Image Courtesy of Aboriginal Heritage Office.	
1810	Land granted to William Gore, Provost-Marshal of New South Wales (Courtesy LPI – Parish Map Preservation Project)	

Year	Land use	Image
1818	Cottage built, named “Artarmon House”, likely to have been named after “Ardtarmon” in Ireland, near Sligo (Courtesy State Archives of New South Wales)	
1845	Death of William Gore, sale of land to entrepreneur Richard Harnett (Courtesy Willoughby District Historical Society Inc.)	
1869	Demolition of original Artarmon House, construction by Harnett of a new Artarmon House, brick stables and a staff residence (Courtesy Willoughby District Historical Society Inc.)	 LATE RICHARD HARNETT, First Commodore of the P.A.Y.C.

Year	Land use	Image
1876	House bought by Richard Seldon (Courtesy Willoughby District Historical Society Inc.)	 Richard Seldon, Mayor of Willoughby 1876-1880.
1880	Purchase of 100 acres of the Artarmon estate by George Robert Whiting, including the new Artarmon House. House is renovated in the Grand Victorian style and renamed it "Valetta". Gardens, a tennis court and bowling green is added. Became known locally as "the Big House". Subdivision of the estate begins (Courtesy State Library of NSW)	
1897	North Shore Railway precipitates subdivisions of remaining estates (Courtesy State Library of New South Wales	
1890s-1950s	Brick-making enterprises become the dominant industry and by 1889 were the largest brickworks in NSW.	

Year	Land use	Image
1920s-1930s	Following the North Shore railway and establishment of industry the interwar period saw a rapid establishment of residential properties.	

3.2 Historical background to Study Area

William Gore arrived in the colony in 1806 with Governor William Bligh, having been appointed as Provost-Marshal of New South Wales. Gore was not well liked in the colony, largely due to his carrying out the duties assigned to him by Bligh, and referred to as “the odious Gore”. Following the deposition of Governor Bligh, Gore was arrested and charged with perjury but refused to recognise the legitimacy of the Court and so refused to plead. After languishing in prison for two months without trial he was sentenced to transportation with hard labour to Coal River (Newcastle).

Following the arrival of Lachlan Macquarie, Gore was restored to his office as Provost-Marshal and granted 150 acres, which he named Artarmon. He continued to buy adjoining grants and by 1815 owned most of the land bounded by Mowbray Road, Elizabeth Street to Artarmon Road (Warne 2005:18). Unfortunately Gore defaulted on his mortgages and lost all but the land upon which Artarmon House was built. He died on his property in 1845 (Willoughby City Library Services 2013).

The original commercial centre of the suburb that became Chatswood was at the intersection of the current Pacific Highway (then known as Lane Cove Road, or Gordon Road) and Mowbray Road on land bought by John Bryson, who had migrated from Ireland in the 1840 with his wife Ann. By 1864 a bush chapel was constructed on the south western corner of the intersection, and John Bryson built his house, named “Bryson” on the north eastern corner. The Great Northern Hotel (Plate 1), briefly named the Artarmon Hotel, was constructed on the north western corner, and the first gas lamp in the area was lit at the junction of Mowbray Road and Pacific Highway on 31 December 1896 (Willoughby District Historical Society Inc. ud).

Plate 1 : Great Northern Hotel, c 1900 (Courtesy Willoughby Museum).

Chambers for the local council were originally in the School of Arts building, also on Bryson’s land, to the east of the Pacific Highway (see Plate 2) This building was used as the council chambers until 1903, before

the construction of Mowbray House School in 1906 (see Plate 3), after which the School of Arts building became the Chapel for the school (see Plate 4 below). One of its notable students was former Prime Minister, Gough Whitlam, who attended the school in the 1920s before starting at Knox Grammar.

The school continued until 1954, when it was acquired by the Sydney County Council as their main depot and administrative centre in the northern suburbs. The chapel was dismantled in 1957 and reconstructed as the Mowbray Chapel of the Holy Trinity Mowbray on the corner of Beaconsfield Road and Dalrymple Avenue, Chatswood. The school building remains standing and is listed as a locally significant heritage item.

Plate 2 : Mowbray Road, 1912 (Courtesy Chatswood West Ward Progress Association).

Plate 3 : Mowbray House, c.1950 (Courtesy Chatswood West Ward Progress Association).

Plate 4 : Mowbray School Chapel, c 1950 (Courtesy Chatswood West Progress Association).

4 Visual Inspection

In keeping with best heritage practice, a visual inspection of the Project Area was made on 12 December 2016. The following paragraphs include a discussion of the general physical context of the study area, and more detailed analyses of the heritage items:

- Adjoining the Project Area; and
- In the vicinity of the Project Area.

The locations of identified heritage items are shown in Figure 2.

4.1 General Physical Context

The study area is an urban streetscape bordered mostly by utility buildings. Mowbray Road is a major arterial road linking the suburbs of Willoughby, Castlecrag and Northbridge in the east to Epping Road and the suburbs of Lane Cove, North Ryde and East Ryde in the west. The study area is approximately halfway along the alignment of Mowbray Road to the west of the main northern railway line and to the east of the intersection with the Pacific Highway.

The landscape is highly modified however it would appear that Mowbray Road follows an east-west trending ridge approximately 100 metres above sea level.

4.2 Study Area

The northern side of the study area is mostly taken up with an Ausgrid site, which includes the local heritage listed Mowbray House. The southern side of Mowbray Road is also taken up with utility services, with the State Heritage listed Chatswood 1 and 2 Reservoirs and the Electricity Substation No. 80, which is an item on Ausgrid's s.170 heritage register.

All trenches are to be excavated within the area occupied by a pedestrian path and the road corridor.

Mowbray House

This Federation era two storey brick and tile building is part of the Ausgrid complex on the northern side of Mowbray Road between the Pacific Highway and the main north rail corridor (Plate 5). The lower storey comprises brick with an arched entry while the upper storey comprises painted render. The lower windows and entrance doors are covered with security screens, however the windows throughout appear to be of original construction. Dense vegetation separates the southern elevation of the building and the property boundary.

There is approximately eight metres' clearance between the southern elevation and the property boundary fence.

Plate 5 : Mowbray House, looking north east (RPS, 2016).

Chatswood Zone Substation No. 80 (building only)

This building is located on the southern side of Mowbray Road (Plate 6). It is described as an “interwar free style electricity substation”. It was constructed in 1923 as part of the expansion of electricity supply to the northern suburbs.

Plate 6 : Chatswood Zone Substation No. 80, looking south east (RPS, 2016).

Chatswood Reservoirs 1 and 2

Both of these Reservoirs are located on the south east corner of Mowbray Road and the Pacific Highway and are listed on the State Heritage Register (Plate 7).

Constructed in 1888, these reservoirs are made of riveted steel and were built as part of the Upper Nepean scheme, which supplied water to Sydney from the Upper Nepean via Prospect Reservoir and the Ryde pumping station (Plate 7). These reservoirs were a key component in the supply of water to the Chatswood area (Heritage Division 2005).

Plate 7 : Chatswood Reservoir, looking south (RPS, 2016).

4.3 Heritage items in the vicinity of the Study Area

Great Northern Hotel

There has been a hotel on this site since 1878. The current structure is an interwar two storey hotel, with the v-shaped facade addressing the intersection of Mowbray Road and the Pacific Highway. The original hotel was constructed between 1870 and1878 by Henry Russell (see Plate 1 above), then demolished after Tooths & Co acquired the site in 1927. The current structure was built sometime before 1930 (Plate 8 below) (Heritage Division 2013).

Plate 8 : Great Northern Hotel, looking west (RPS, 2016).

4.4 Results of visual inspection

It was confirmed during the visual inspection that the proposed trenches as per Figure 1 are to be located either on the footpaths or the road corridor. This poses no risk of impact to either the Chatswood Reservoirs No. 1 and No. 2, or the Chatswood Zone Substation No. 80.

In relation to Mowbray House, although the trenches are proposed to be located outside of the property boundary, it is noted that the curtilage of the heritage item extends 10 metres from the walls of Mowbray House. It was estimated that the distance between the southern elevation and the property boundary was approximately eight metres. It is therefore likely that the proposed trench in front of Mowbray House will be within the heritage curtilage.

RPS

Figure 2: Heritage Items

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5 Heritage Significance Assessment

In line with the *Burra Charter*, before making decisions about the future of a heritage item it is first necessary to understand its heritage significance and the values it embodies. As noted in Section 4 above, there are three items within the study area, however impact is only possible to one, being Mowbray House, with Chatswood Reservoirs No. 1 and No. 2 and the Substation both outside the area of impact.

The following section therefore contains an assessment of the heritage significance of Mowbray House only, using the NSW state significance heritage criteria as explained in *Assessing Heritage Significance* (Heritage Office (former), 2001. Consideration is also given to its integrity and intactness.

The findings of the following significance assessment are summarised in a Statement of Significance contained within Section 5.3.

5.1 Historical themes in evidence

National and state-level patterns of historical development are useful in determining the historical value of a site. Nine historical themes have been developed and adopted by NSW Heritage Council. They are derived from the Australian historical themes prepared by the Australian Heritage Commission. The following table notes the NSW historical themes considered to be in evidence at Mowbray House.

Table 5 HSW Historical Themes Considered to be in Evidence

Australian Theme	NSW Theme	Local theme
Settlement – Building settlements, towns and cities	Utilities – Activities associated with the provision of services, especially on a communal basis	Electricity
Educating - educating	Education – activities associated with teaching and learning by children and adults, formally and informally	Schools

5.2 Significance assessment

The following assessment uses the NSW State Significance Criteria as set out in 'Assessing Heritage Significance' ((former) Heritage Office, 2001). With reference to the SHR citation Mowbray House is assessed as follows:

Table 6 : Significance assessment of Mowbray House

Criterion	Assessment
Historical significance – (SHR Criteria A – An item is important in the course, or pattern, of NSW's cultural history (or the cultural or natural history of the local area)	Mowbray House was constructed in 1906 as Chatswood Preparatory School by Lancelot Bevan. It provided boarding and day independent education for boys. It therefore fulfils this criterion.

Criterion	Assessment
Associative Significance (SHR Criteria B – An item has strong or special association with the life or works of a person, or a group of persons, of importance in NSW's cultural or natural history)	Mowbray House was the former school of former Prime Minister, Gough Whitlam and therefore fulfils this criterion.
Aesthetic Significance (SHR Criteria C – An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement)	Although the building has been modified periodically, it retains many of its original features. The State Heritage Inventory states that it is "still a recognisable example of a good quality Federation Arts and Crafts school building". The building therefore fulfils this criterion to a high local level.
Social Significance (SHR Criteria D – An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons)	It may hold social significance for former students of the school, however the social heritage significance of this would require additional quantitative research.
Research Potential (SHR Criteria E – An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history)	The school was constructed adjacent to the site of the former School of Arts, which was also used as Council chambers from 1878 to 1903. The School of Arts building was dismantled and reconstructed in 1957 as the Holy Trinity Anglican Church at the corner of Beaconsfield Road and Dalrymple Road, Chatswood, was used as the chapel for the school. Both the school and the chapel were built on the former "Bryson" estate, which was also the early mercantile and residential hub of Chatswood. Given the long history of the site, some archaeological potential exists in the surrounds of the Mowbray House building. It therefore fulfils this criterion.
Rarity (SHR Criteria F – An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area))	It is one of the last remaining buildings on the site associated with the school. It therefore fulfils this criterion.
Representativeness (SHR Criteria G – An item is important in demonstrating the principal characteristics of a class of NSW's (or the local area's) cultural or natural places; or cultural or natural environments)	The building is representative of a Federation Arts and Crafts school building. It therefore fulfils this criterion.

Integrity and intactness

Only the exterior of the building was assessed as part of this assessment. The fabric appears to be mostly original and the overall facade is still recognisably of a Federation age. The State Heritage Inventory notes several phases of modification – a first floor extension was undertaken in 1957 and additional modifications were made internally in the 1960s. The inventory sheet notes, however, that the modifications are recoverable.

5.3 Statement of Heritage Significance

Mowbray House is a recognisable example of the Federation Arts and Crafts style. It is significant on the basis of its historical, associative and aesthetic heritage significance, as well as its rarity, research potential and representativeness.

6 Statement of Heritage Impact

The following section assesses the likely heritage impacts of the proposed development on the heritage significance of Mowbray House. Consideration is also given to the likely impact of the proposal on the

6.1 Summary of Proposed Changes

It is proposed that seven trenches will be excavated measuring approximately twenty centimetres wide, five metres in length and two metres deep. As the purpose of these trenches is to locate underground utility services the dimensions of the trenches are approximate to allow for accurate identification. For this reason an area of approximately 70 metres x 20 metres around the proposed location of the trenches is being assessed. Trenching will not take place outside of this area without additional assessment.

In order to minimise disruption to pedestrian and vehicle traffic, the trenches are planned to be excavated after hours.

6.2 Impact of Development Proposal on Physical Fabric, Attributes, and Setting

As the works are subsurface and on the footpath to the south of the item, approximately eight to ten metres from Mowbray House, there is no potential for the proposal to affect the physical fabric, attributes and/or setting of the item. It is, however, considered to be within the curtilage of the item, which is set at ten metres surrounding Mowbray House.

The archaeological potential of the vicinity was considered by the Statement of Heritage Impact (Artefact Pty Ltd 2016) and Historical Archaeological Management Zones and Preliminary Scope (Artefact Pty Ltd 2016:2). Those investigations identified Mowbray House as being of low archaeological potential. It is further noted that the area in which the proposed trench is to be excavated is outside of the property boundary and has been heavily disturbed by the construction of fencing, footpaths and other services.

However, it is noted that the trench is predicted to be two metres deep. Archaeological deposits may therefore still exist below the existing disturbances. As the proposed trench is to be located within the curtilage of Mowbray House, it is considered prudent that an archaeologist be on hand to monitor the excavation of this trench.

Further, as this geotechnical work is considered to be part of an exempt development, **no permit will be required** for the trenching.

6.3 Summary of Heritage Impact

One trench will be located within the curtilage of a locally listed heritage item, namely, Mowbray House, which has a 10 metre buffer listed as part of that curtilage. It is not anticipated that the trenching will cause any detrimental impact to the fabric, setting or significance of Mowbray House. As a precautionary measure, a qualified archaeologist should monitor the excavation of this trench to ensure any archaeological deposits are not disturbed.

7 Conclusion and Recommendations

7.1 Conclusion

This report has considered the significance of the study area and the nature and scale of likely heritage impacts as a result of the development proposal. It is concluded that one trench of the proposed trenching program will be excavated within the curtilage of Mowbray House, however outside of the cadastral boundary. However, as the trench is proposed to be excavated in the footpath or road corridor, it is concluded further that there is no potential for impacting the fabric, setting or significance of Mowbray House.

7.2 Recommendations

The following management recommendations and mitigation measures have been formulated with consideration of all available information in accordance with relevant legislation:

Recommendation 1 – Heritage Induction

It is recommended that a heritage induction exercise be carried out in advance of the proposed works. All relevant staff, contractors and subcontractors will be made aware of their statutory obligations for heritage under the *Heritage Act 1977*, through the site induction and toolbox talks.

Recommendation 2 – Archaeological Monitoring

It is recommended that as one trench is proposed to be located within the curtilage of Mowbray House that the excavation of that trench be monitored by a qualified archaeologist.

Recommendation 3 – Unexpected Finds

If, during the course of development works, suspected archaeological relics, as defined by the *Heritage Act 1977* (as amended), are uncovered, work should cease in that area immediately and the Transport for New South Wales *Unexpected Finds* protocol be followed. A copy of that document should be kept on site for the duration of the works.

8 References/Bibliography

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Appendix 3: Out-of-Hours Works Notification

sydney METRO | city & southwest

Out-of-hours Works Notification

23 January, 2017

Sydney Metro is Australia's largest public transport project. It will transform Sydney, delivering more trains and faster services for customers across the network.

Sydney Metro City & Southwest will deliver 30 kilometres of metro rail between Chatswood and Bankstown, new railway stations in the lower North Shore and CBD, and the upgrade and conversion of the current line between Sydenham and Bankstown.

The Chatswood to Sydenham section of the project received planning approval in early January, 2017 with construction planned to start in the coming months.

Service Location – Regent Street, Chippendale

Service location works will be undertaken from **Monday 30 January, 2017** for a period of **up to four nights**, weather and site conditions permitting (see map overleaf).

These works will involve:

- Excavating two narrow trenches in the footpath and kerb
- Using a vacuum truck to expose underground services such as water and electricity
- Reinstating any affected areas.

Work hours

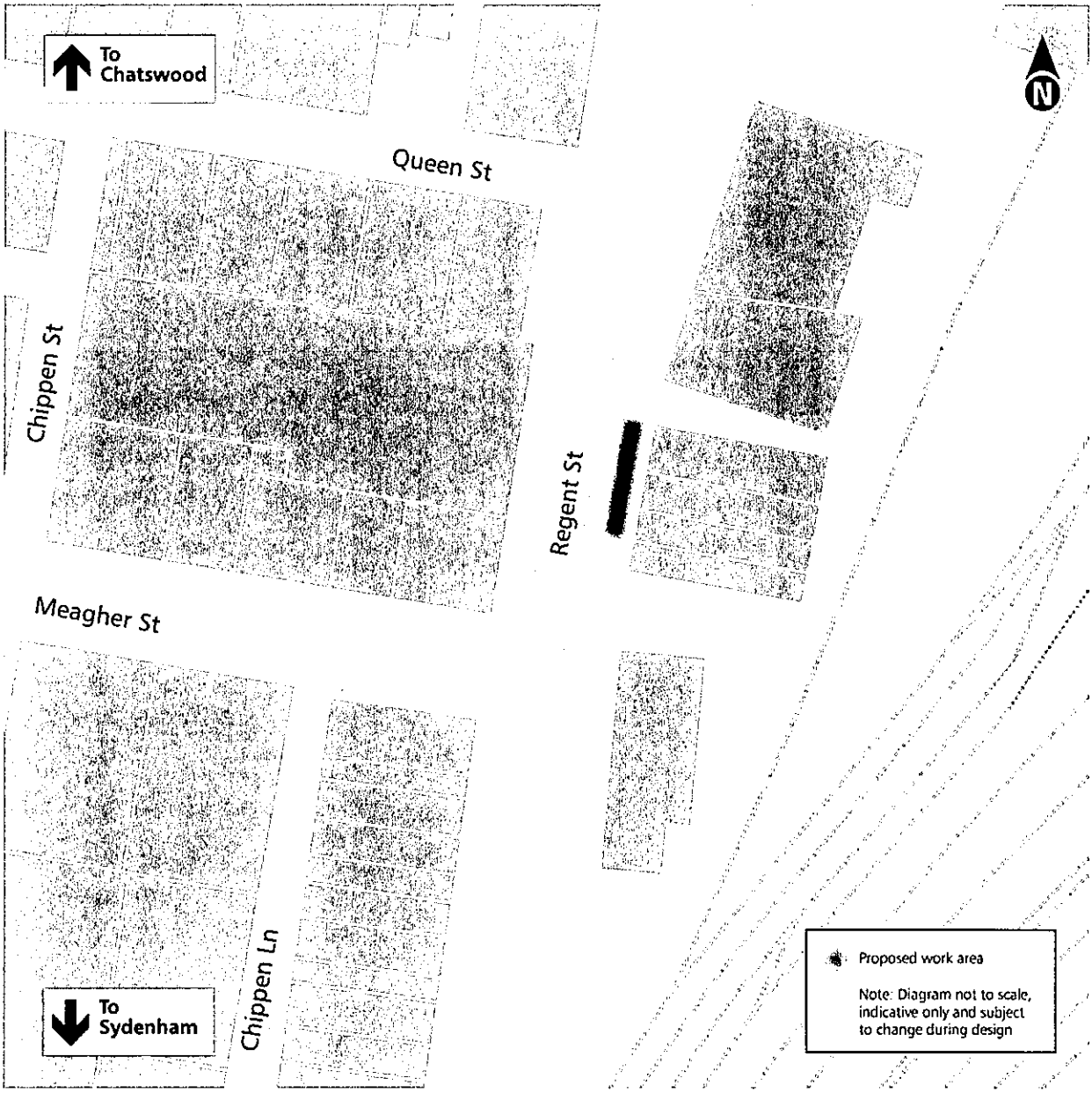
Due to high daytime traffic volumes on Regent Street, these works will need to be completed outside of standard construction hours. Work hours will be **Monday to Wednesday, and Sunday 10pm-5am**.

What you can expect

- Due to the nature of the work, some of these activities will be noisy. The project team will limit these impacts by scheduling the noisiest activities before midnight, wherever possible
- Temporary traffic and pedestrian changes will be required including lane and footpath closures on the east side of Regent Street. Traffic control and directional signage will be in place for the safety of workers and the community
- Up to four car parks will be temporarily removed along Regent Street
- Access to buildings and driveways will be maintained at all times.
- When the works are finished affected areas will be temporarily restored with permanent restoration to occur at a later date.

Thank you for your cooperation during these essential works.

Service Location Works – Regent Street, Chippendale



Contact us

To register for email updates, obtain more information
or
to make a complaint,
please contact the project team

Phone: 1800 171 386

Email: sydneymetro@transport.nsw.gov.au

Website: sydneymetro.info

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

NSW GOVERNMENT | Transport for NSW

NSW MAKING IT HAPPEN