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: - Hickson Rd Barangaroo
Application Number:	4
Application Date:	Original submission: 03/02/17 Resubmission: 10/02/17
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?	Yes – the works would be conducted within the Millers Point and Dawes Point village precinct (State Heritage Register Listing No 01682). Statement of non-Aboriginal (historic) Heritage Impact and Aboriginal Archaeological Assessment in provided in Appendix 2.

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 sub-base 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. – Both concrete saw cutting methods would require the water hose to be correctly fitted and operational for dust suppression. Water would be contained from excavated area (i.e. silt socks) o Removal of surface material. Material to be directly into the truck tray. o Excavate using 1 hydro vacuum excavation truck – (maximum pressure of 2000 PSI as per DBYD recommended pressure) to the following dimensions: 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 (with sand and lean mix) 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. In addition archaeological monitoring by a heritage specialist will be undertaken by during excavation due to heritage potential within the area.
Planned Commencement Date:	20/02/17
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.).	Key environmental risks as a result of the nature of the site and proposed works are listed below: Heritage: the site has the potential for Aboriginal and non-Aboriginal finds. Refer to attachment 2 for further detail. As a result archaeological monitoring by a heritage specialist will be undertaken by during excavation. Should unexpected find be encountered advice from the heritage specialist is to be followed. Contamination: previous gas works within the area, deems the area likely to be contaminated. As a result all excavated material is to be put directly into the truck tray and be processed off-site at a suitably licensed waste facility. Concrete sawing will cause dust and a water hose is to be used to suppress the dust. Water from the hose will be contained from excavated area via the use of silt socks, to avoid water entering nearby drains. Noise: An out of hours work application form is to be approved prior to the commencement of works. Any mitigation measures outlined in the approval (such as plant sequencing) are to be implemented. All mitigation measures as outlined in the CEMP (RPS 2017) and Environmental control map (attached Appendix 1) are to be complied with.

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?	As per Sydney Metro CEMF

What community consultation is planned to be undertaken?	As per Sydney Metro CEMF. The out of hours work application requires a community notification to be issued 7 days in advance.
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:**	10/02/17

Determination Page

(TfNSW/Environmental Representative Use Only)

12. Endorsement/Approval

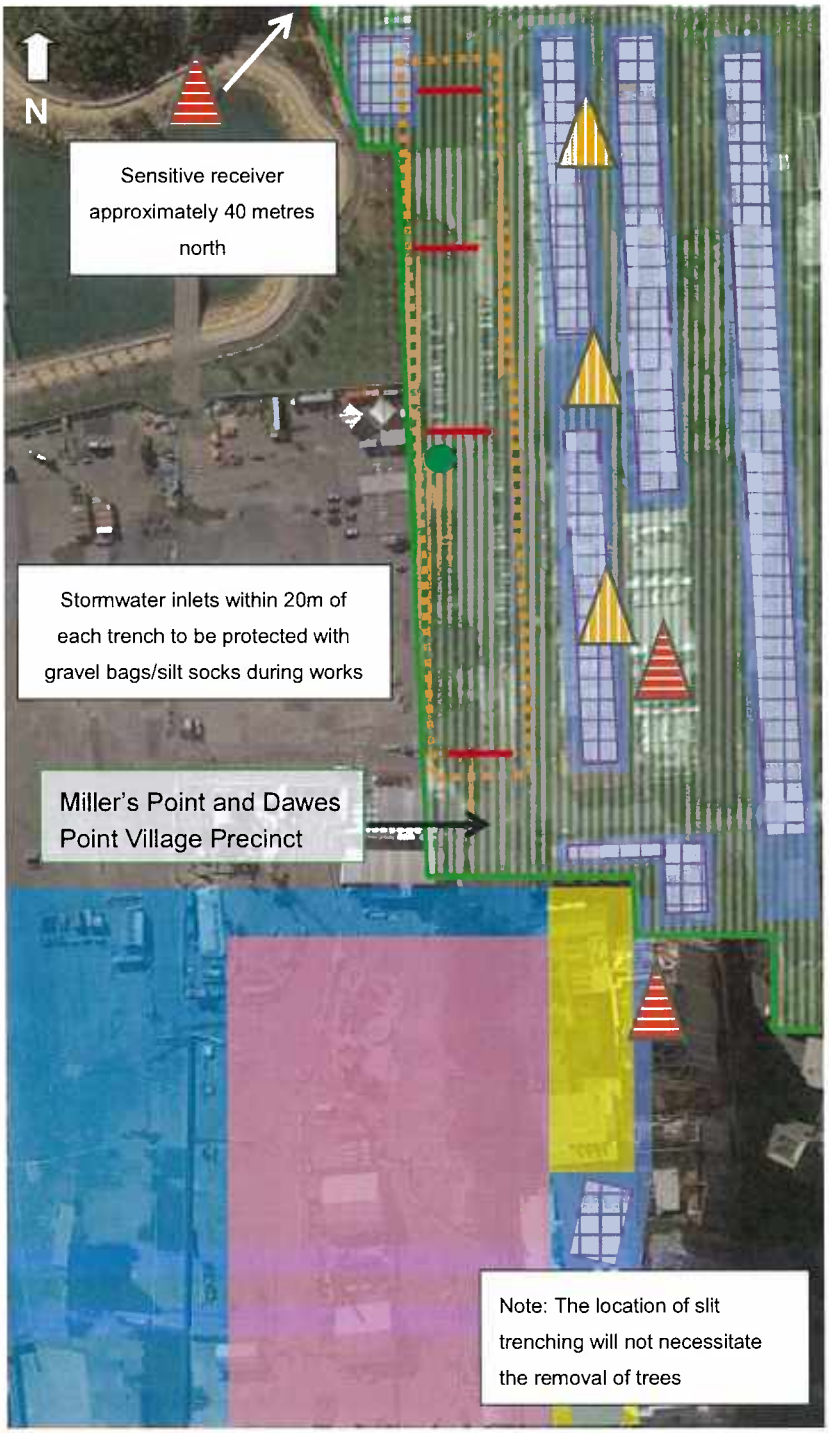
These signatures represent formal endorsement/approval for the proposed Minor Works to commence in accordance with this application and the applicable planning approval requirements (subject to any determination from the applicable planning authority as may be required by the planning approval conditions).

	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	Annabelle Tungol Reyes
Date:	13/2/17	8/3/17	20/02/17
Comments:			*Supporting letter attached as Appendix 4 if necessary.* Works to be conducted is within the State Heritage Register Listing No 01682 - Millers Point and Dawes Point village precinct. Works stated in this application have been assessed as minor works with low impact on heritage items. However, Planning Authority Determination is required as per the definition of construction in CSSI 15_7400. Working within heritage item.
Conditions:			The following conditions to be implemented: 1. No works to commence without Planning Authority Determination. Implementation of Planning Authority conditions upon approval of these works as minor works (not construction) as required. 2. Recommendations stated in the Sydney Metro - Location of Subsurface Utilities Statement of non- Aboriginal (historic) Heritage Impact & Aboriginal Archaeological Assessment - Barangaroo (Appendix 2) 3. Mitigation measures and controls as per Appendix 1. ECM and Risk Assessment. 4. Works to be Slit Trenching and location at Hickson Road as per the ECM. 5. OOHW approvals

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

Appendix 1: Environmental Control Maps

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)
	Sensitive receivers – hotels
	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

Prepared by:	Gareth Thomas	Reviewed & approved by:	

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
Subject to Out of Hours approval. Works proposed to be undertaken between 9pm – 5am.

1 Sydney Metro City & South West – Utility Investigations Environmental Risk Assessment

This environmental risk assessment has been prepared for the Sydney Metro City & South West – Utility Investigations and is compliant with the Sydney Metro Integrated Management System – Risk Management Standard (SM RM-ST-201/3.0). This risk assessment supports the Construction Environmental Management Plan (CEMP) produced by RPS Manidis Roberts Pty Ltd (2016).

1.1 Risk management process

As outlined in the Sydney Metro Integrated Management System – Risk Management Standard (SM RM-ST-201/3.0), risk management requires the following steps:

1. Establish the context
2. Risk assessment
    A. Risk identification
    B. Risk analysis
    C. Risk evaluation
3. Risk treatment
4. Monitoring and review
5. Communication and consultation

Establish the context

The utility investigation methodology in Section 2.2 of the CEMP was reviewed to identify the activities that may pose an environmental risk. The methods included a number of non-invasive survey techniques, however slit trenching was identified at locations in Chatswood, Central Station, Barangaroo and Regent Street. Traffic controls will also be required across a number of those locations.

Risk assessment process

Risks were identified from the activities that are proposed to be undertaken. Each risk was allocated a consequence rating being the level of impact or severity of the risk should it occur. Table 1 outlines the consequence ratings for environmental impacts. The likelihood of risk identifies the frequency of activities that may cause the impact and the probability of the impact occurring during that activity – defined in Table 2. When both the descriptors of risk have been identified for each potential impact the level of risk is determined using the risk matrix shown in Table 3.

Table 1 Environmental consequence table (Source: SM RM-ST-201/3.0 - Sydney Metro, 2016)

Rating	C6	C5	C4	C3	C2	C1
Descriptor/Impact Area	**Insignificant**	**Minor**	**Moderate**	**Major**	**Severe**	**Catastrophic**
Environment	No appreciable changes to environment and/or highly localised event.	Change from normal conditions within environmental regulatory limits and environmental effects are within site boundaries.	Short-term and/or well-contained environmental effects. Minor remedial actions probably required.	Impacts external ecosystem and considerable remediation is required.	Long-term environmental impairment in neighbouring or valued ecosystems. Extensive remediation is required.	Irreversible large-scale environmental impact with loss of valued ecosystems.

Table 2 Likelihood criteria (Source: SM RM-ST-201/3.0 - Sydney Metro, 2016)

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

Table 3 Risk Matrix (Source: SM RM-ST-201/3.0 - Sydney Metro, 2016)

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

Risk treatment

The treatment of risks requires the identification of mitigation measures and environmental controls to reduce the likelihood and/or consequence of the risk. Controls identified in the CEMP have been included in the risk assessment – Table 4 – to demonstrate mitigation measures that assist in reducing risk.

Monitor and Review

The risk assessment will be reviewed as required and specifically if methodologies change or controls are found to be ineffective.

Communication and consultation

Ongoing communication and consultation with utility asset owners, and relevant stakeholders allows issues that arise to be addressed through the environmental risk assessment process.

1.2 Risk Assessment

Table 4 Risk Assessment

Risk	Controls	Likelihood	Consequence	Rating
Air quality				
Asset strike leading to release of odour (gas)	▪ Assets will be located and confirmed prior to trenching. ▪ Excavation using hydro vacuum excavation truck at 2000PSI.	L5	C5	Low
Generation of dust from trenching activities	▪ Watering to suppress dust. ▪ 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.	L4	C5	Low
Biodiversity				
Damage to the structural root zone of a tree	▪ Works within the Structural Root Zone of a tree would be undertaken in accordance with AS 4970-2009 - the root system would be exposed using non-destructive excavation.	L4	C5	Low
Sedimentation				
Sediment released to waterways	▪ Establish erosion and sediment controls in line with the NSW Government's Blue Book (4th Edition, 2004) ▪ 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. ▪ Establish appropriate sediment controls at the entry points to any stormwater drains and channels to minimise sediment entering the stormwater system.	L5	C5	Low

Risk	Controls	Likelihood	Consequence	Rating
	▪ 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. ▪ Measures will be taken to prevent tracking of soils/sediments across roadways and footpaths as a result of work vehicle/machinery movement. ▪ 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. ▪ In the event of rain developing during works execution, site area will be made secure against soil erosion ▪ Disturbed areas will be stabilised as soon as possible and in a progressive manner as works are completed.			
Contamination				
Leaking of leachate or free liquid	▪ 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.	L5	C4	Low
Asset strike - sewage	▪ Assets will be located and confirmed prior to trenching. ▪ Excavation using hydro vacuum excavation truck at 2000PSI . ▪ A functioning 'spill kit' will be kept on site at all times for clean-up of accidental spills.	L5	C4	Low

Risk	Controls	Likelihood	Consequence	Rating
Chemical or fuel spill	▪ A functioning 'spill kit' will be kept on site at all times for clean-up of accidental spills. ▪ 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.	L5	C4	Low
Encountering a contaminated site	▪ Testing and certification undertaken if required. ▪ Contractor to follow appropriate waste handling and transportation requirements.	L4	C4	Medium
Noise and Vibration				
Excessive noise or vibration	▪ Affected surrounding residents and businesses to be given minimum 7 days' notice. ▪ Maintain and operate all equipment efficiently, according to manufacturer's specifications, to reduce adverse noise impacts. ▪ Turn off plant and equipment when it is not being used. ▪ Complying with existing approvals and standards.	L5	C5	Low
Heritage				
Impact to historic heritage items where approvals have not been sought	▪ Heritage items marked on Environmental Constraints Maps for reference. ▪ If there are unexpected or unidentified historic finds (of unknown origin or significance) during construction, work will cease and the advice of a qualified archaeologist will be sought. ▪ The Transport for NSW unexpected finds procedure is to be followed.	L5	C4	Low
Chance find of an Aboriginal heritage item	▪ The Transport for NSW unexpected finds procedure is to be followed.	L6	C4	Low
Waste				

Risk	Controls	Likelihood	Consequence	Rating
Pollution from waste	▪ Any material requiring off-site disposal would be transported by a suitably licensed contractor and disposed of at an appropriately licensed facility.	L5	C5	Low
Traffic and access				
Impacts to traffic flow and movement during construction	▪ Road occupancy licences for temporary closure of roads would be obtained, where required. ▪ Prior to the commencement of works, a Traffic Control Plan would be prepared in consultation with the relevant roads authority. ▪ Traffic Control Plan and associated hazards and emergency response plans are to be communicated to all personnel.	L3	C5	Medium

1.3 Conclusion

Most risks were found to be rated low as appropriate mitigation measures will be applied. The restricted spatial scale of the utility investigation limits the environmental risk that is likely. Most activities also do not require ground disturbance, and the limited ground disturbance has minimal impact due to its small dimensions, in heavily disturbed urban environments. Two medium risks were identified; encountering contaminated land and impacts to traffic. Both risks are known to be likely to occur – Barangaroo is currently subject to an Environment Protection Licence to remediate contamination and partial or complete road closures will be required for survey works. As such, the risks can be controlled via appropriate management.

Appendix 2: Statement of Heritage Impact

Sydney Metro - Location of Subsurface Utilities

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

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 NSW

Prepared by: Claire Rayner
Reviewed: Ali Byrne
Approved: Ali Byrne
Project No.: PR132497-2
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 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

RPS Figure 1.1 Location of study area

DRAFT

Transport for NSW

No	Date	Revision Details
A	20-12-2016	First draft

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

1:1,400 @ A4

0 9.5 19 28.5 38 47.5 57

Metres

N:\Projects\Comcs_Sydney\PR152497 Sydney Metro\Cultural Heritage\GIS\mxd\Base\Figure 1 1 Location 20161220.mxd, 20/12/2016, 18:19, by claire.rafter

RPS

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

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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

RPS Figure 3.1 AHIMS Extensive Search Results

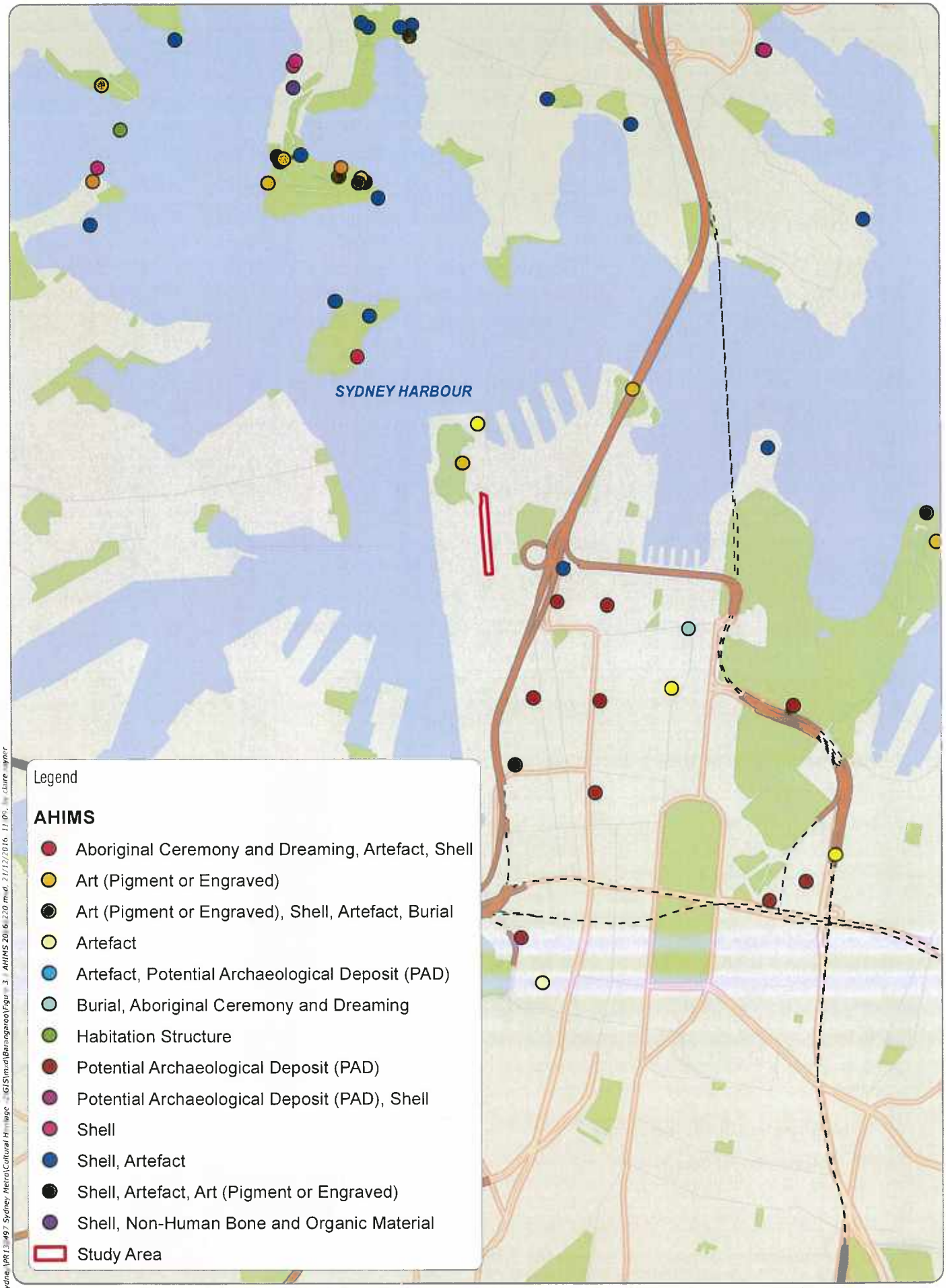

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Figure 3.2 Location of State significant listed conservation areas and sites

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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

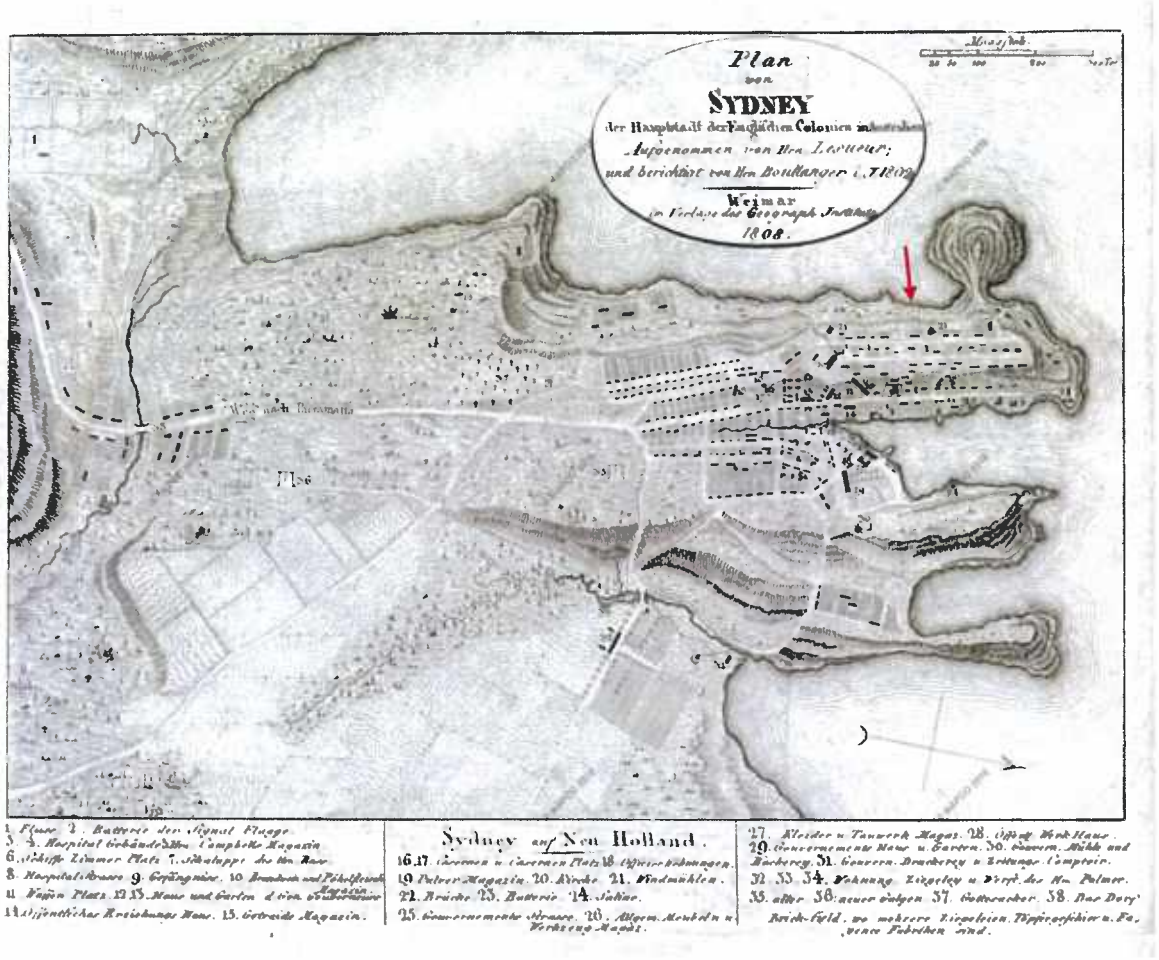


Figure 7.2 1833 Plan of Eastern Darling Harbour, general location of study area outlined in red

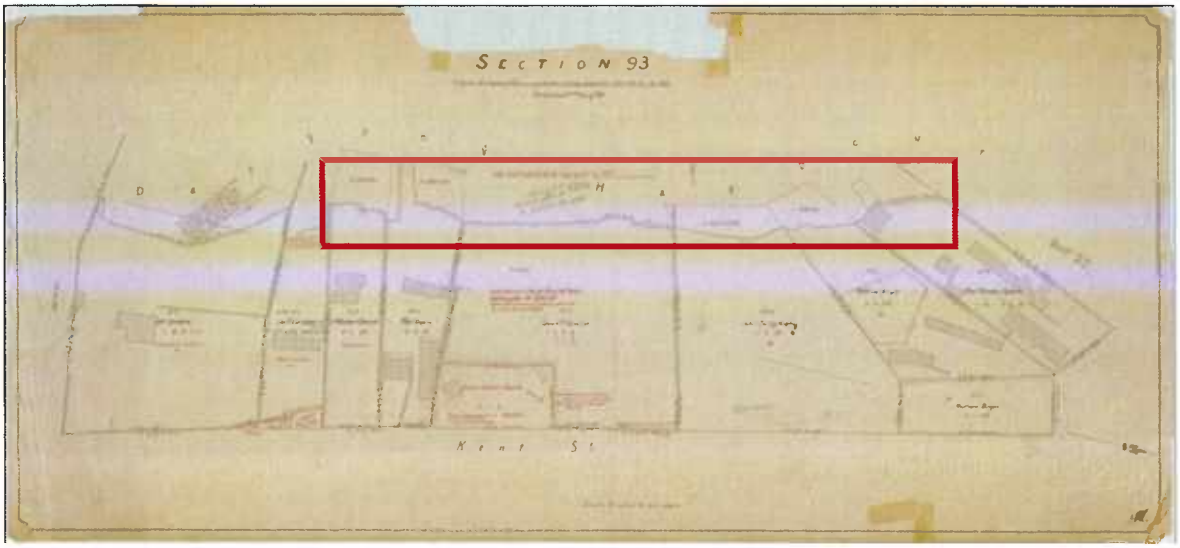


Figure 7.3 1844 Shield's plan of Sydney, general location of study area outlined in red

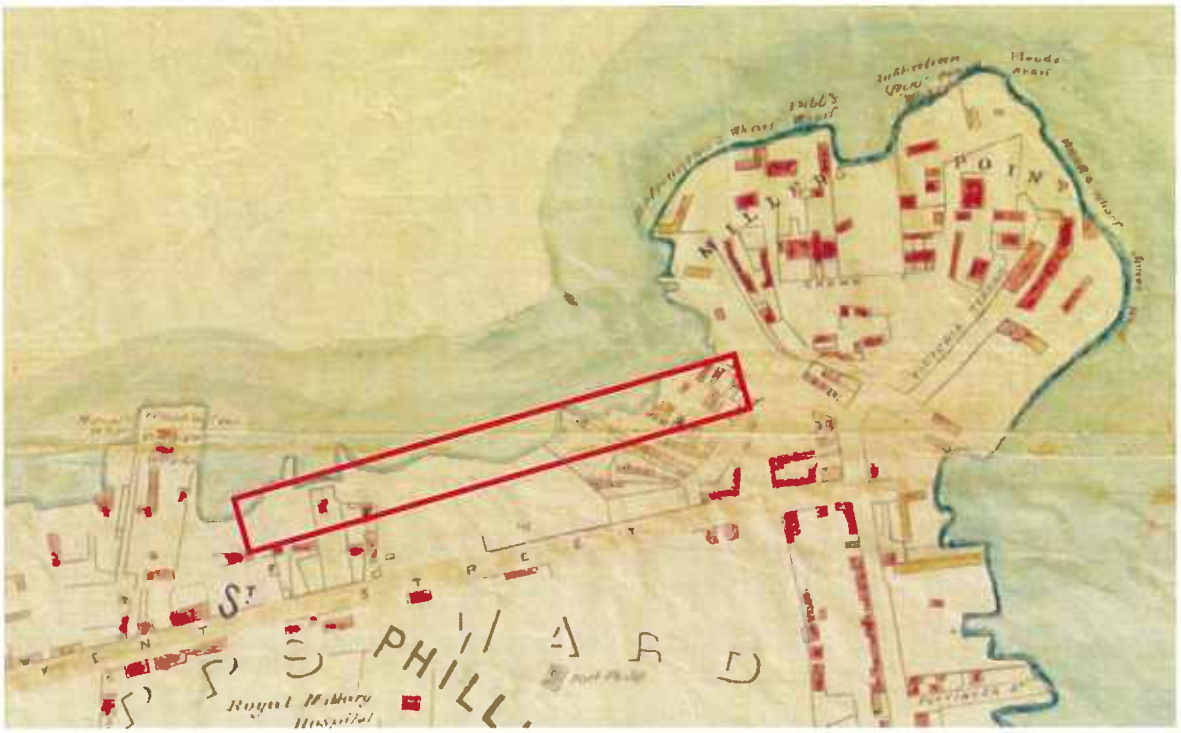


Figure 7.4 1855 Plan of Eastern Darling Harbour, general location of study area outlined in red

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.

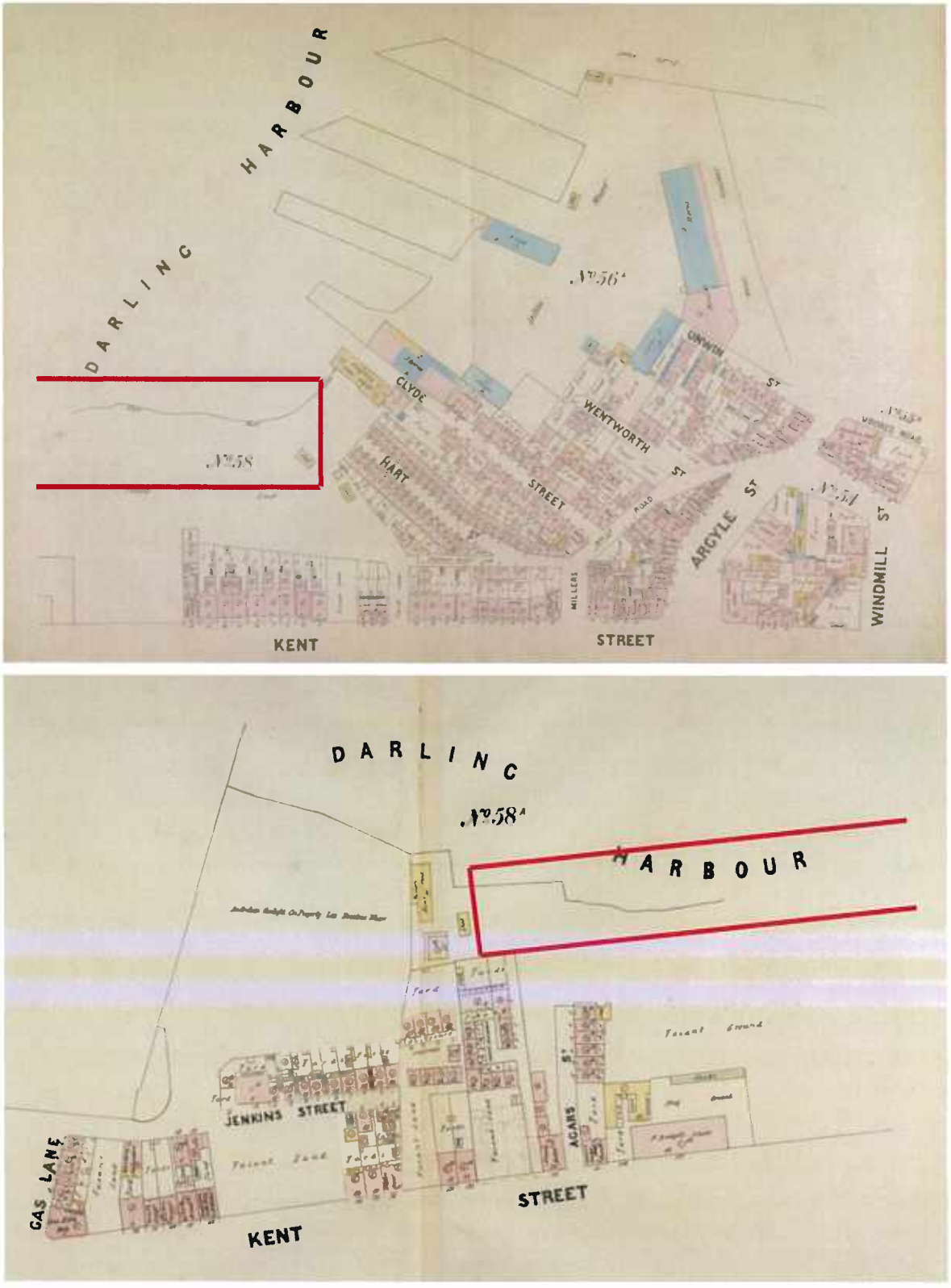


Figure 7.6 1901 Plan G of Darling Harbour Resumptions. General location of study area outlined in red

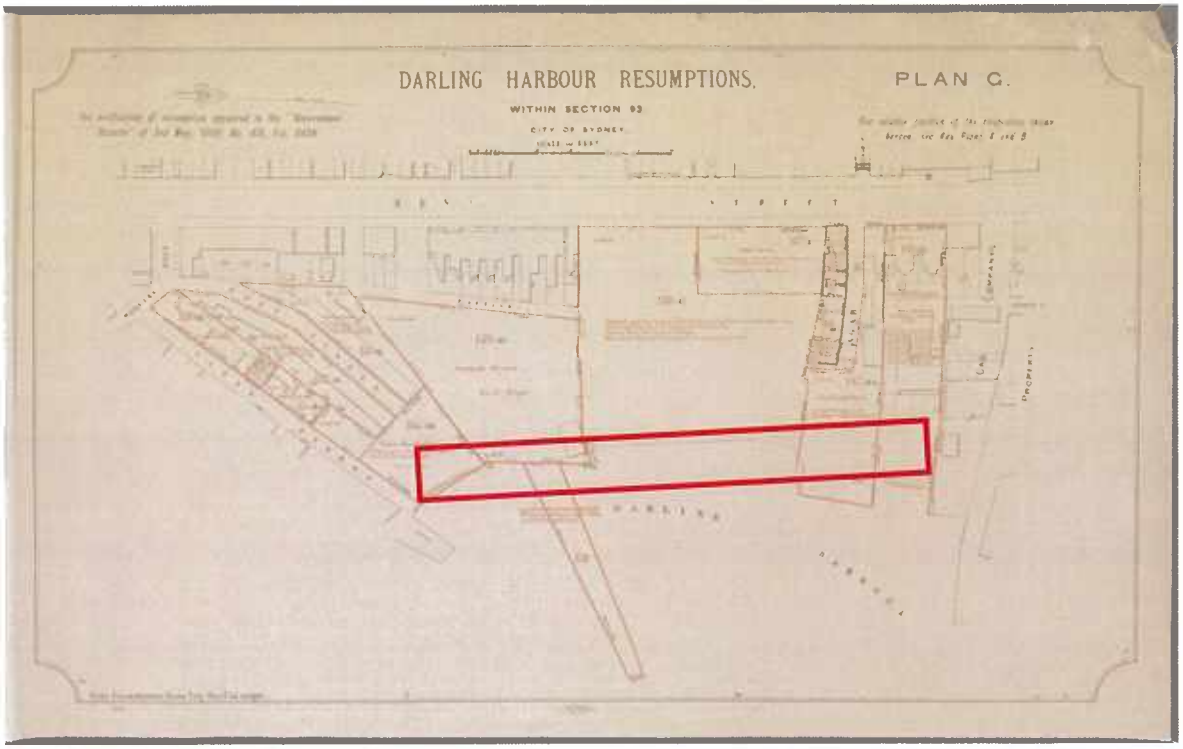
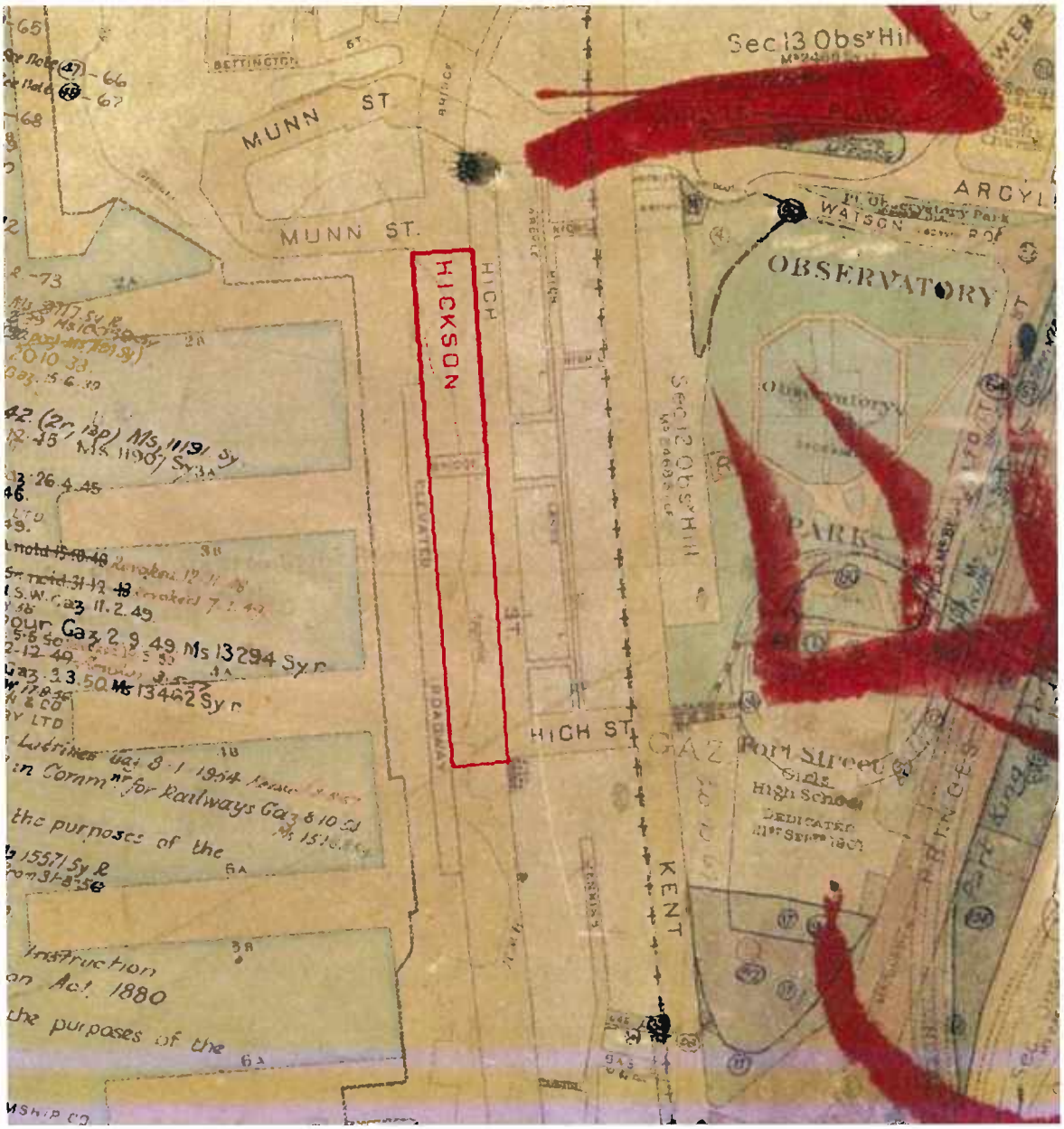


Figure 7.7 1930 Parish of St Philip map, study area is outlined in red, the dotted line indicates the approximate high tide mark. This map shows the finger wharves to the west of the study are that were constructed during the Sydney Harbour Trust Works.



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:

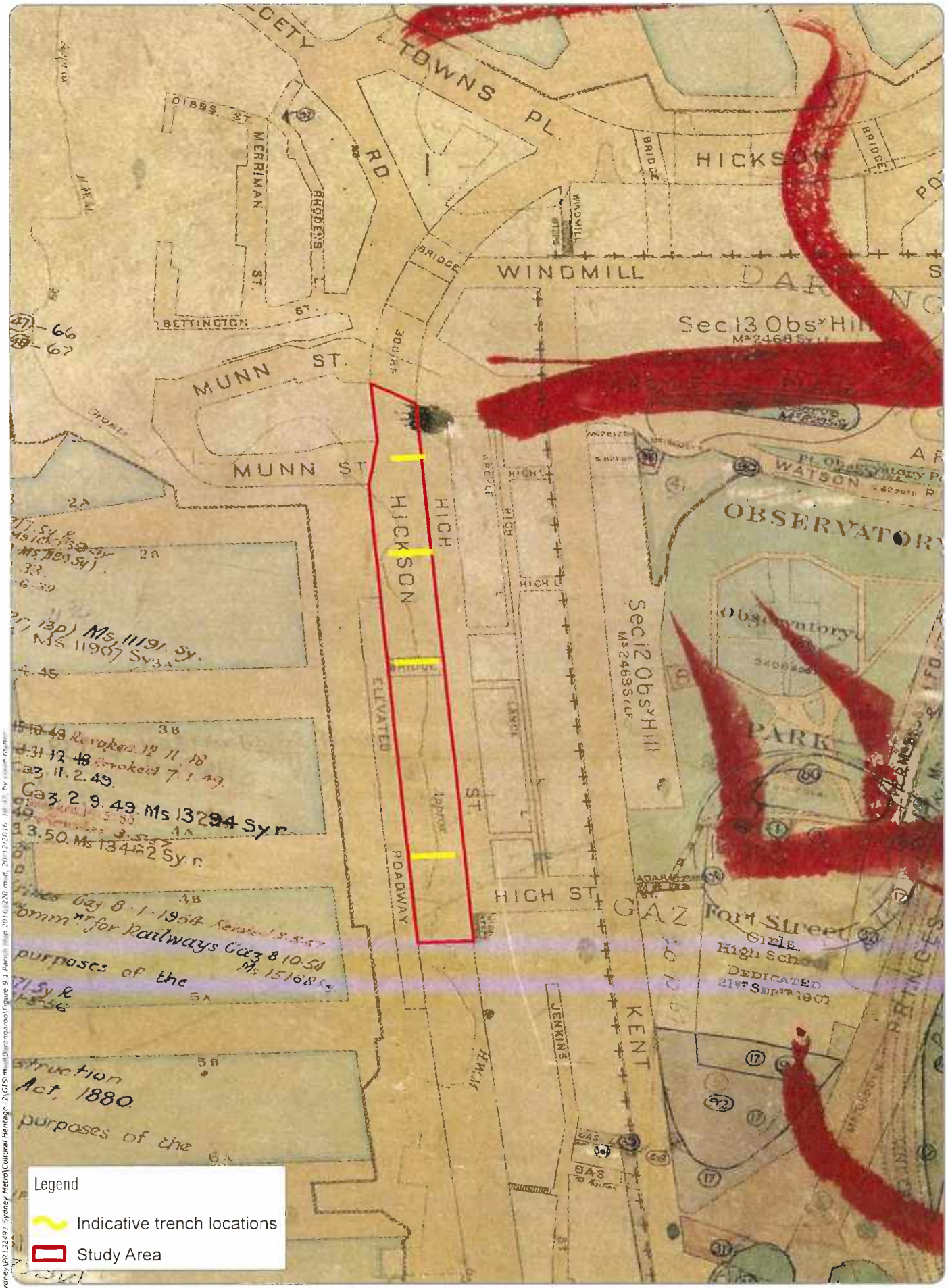
> *Excavation or disturbance of land of the kind specified below does not require approval under subsection 57(1) of the [Heritage] Act:*
>
> *(a) The excavation or disturbance of land is for the purpose of exposing underground utility services infrastructure which occurs within an existing service trench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

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



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Transport for NSW

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

CHECKED BY/DATE	AB/21-12-2016	CO-ORDS	MGA
APPROVED BY/DATE	AB/21-12-2016	DATUM	N/A
GIS REF	Figure 9 1 Parish Map 20161220		
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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

RPS Figure 8.2 Indicative trench location and state significant items

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Transport for NSW

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

CHECKED BY/DATE	AB/21-12-2016	CO-ORDS	MGA
APPROVED BY/DATE	AB/21-12-2016	DATUM	N/A
GIS REF	Figure 8 2 listed items and trenches 20161220		
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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

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