



Integrated Management System

Barangaroo utility augmentation

Planning Approval Consistency Assessment Form

SM ES-FT-414

Sydney Metro Integrated Management System (IMS)

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Prepared for:	TSE contract
Assessment number:	TfNSW10
Status / Version:	Final
Planning approval:	SSI-7400
Date required:	1/12/2017
Date approved:	
iCentral number:	SM-17-00100299

Applicable to:	Sydney Metro
Document Owner:	Principal Manager, Sustainability, Environment & Planning
System Owner:	Executive Director, Safety, Sustainability & Environment
Status:	Final
Version:	2.0
Date of issue:	14 July 2017
Review date:	14 July 2018

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The Planning Approval Consistency Assessment Form should be completed in accordance with the Sydney Metro Planning Approval Consistency Assessment Procedure (SM ES-PW-314) and Sydney Metro Environmental Planning and Approval Manual (SM ES-ST-216)

1.0 Existing Approved Project

Planning approval reference details (Application/Document No. (including modifications)):

Sydney Metro Chatswood to Sydenham SSI-7400 as modified 18 October 2017

Date of determination:

EIS Approval date 09/01/17

Modification 1 Approval date 18 October 2017

Type of planning approval:

Critical State Significant Infrastructure

Description of existing approved project you are assessing for consistency:

The Chatswood to Sydenham component of Sydney Metro City & Southwest comprises a new metro rail line, approximately 16 kilometres long, between Chatswood and Sydenham. New metro stations would be provided at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street and Waterloo, as well as new underground metro platforms provided at Central Station.

Utilities such as water, sewer and telecommunications need to be supplied to each of the major construction sites. Generally, these utilities are located close to the sites (such as the adjacent footpath) and the supply is considered 'business as usual' for supply companies. Utilities need to be adjusted, relocated and / or protected where there is a possibility they would otherwise be impacted by construction. The location of utilities has been determined from Dial Before You Dig plans, utility data, and local authority and council records. Further investigation and consultation with service asset owners would be carried out as the design develops to confirm exact locations, heights and depths of the utilities.

Where an existing utility conflicts with the proposed design, it may be necessary to:

- Provide physical protection for the utility where the utility is not directly affected but may be indirectly affected by vibration or accidental impact. Protection could include constructing a piled wall between the excavation and the utility, plating over the utility to minimise the impact of construction traffic, or marking out or fencing off the location of a utility to avoid it being accidentally damaged
- Modify construction methods to avoid impacting a nearby utility. For example, this could involve using only hand excavation and compaction tools such as hand digging tools, a vibration plate or pedestrian rollers where compacting within a specified distance of utilities

- Wrap and support the utility service to provide mechanical protection
- Divert the utility around the construction site.

Utility works assessed under the EIS for the Barangaroo worksite are limited to

- Low voltage (LV) and High voltage (HV) power
- Stormwater

(see map in Appendix A).

Relevant background information (including EA, REF, Submissions Report, Director General's Report, MCoA):

- Chatswood to Sydenham Environmental Impact Statement and accompanying technical papers (May, 2016)
- Chatswood to Sydenham Submissions and Preferred Infrastructure Report (October, 2016)
- Conditions of Approval (dated 9 January 2017).
- Modified Conditions of Approval (dated 18 October 2017)

All proposed works identified in this assessment would be undertaken in accordance with the mitigation measures identified in the EIS and PIR and the conditions of approval.

2.0 Description of proposed development/activity/works

Describe ancillary activities, duration of work, working hours, machinery, staffing levels, impacts on utilities/authorities, wastes generated or hazardous substances/dangerous goods used.

The Sydney Metro Chatswood to Sydenham Environmental Impact Statement (EIS) detailed the utility supply and relocation routes as they were known at the time. Detailed design carried out since determination of the EIS has resulted in changes to some of the utility works scope, including altered alignments and requirements for additional services relocation. Works are required for the following utilities:

- Low voltage (LV) and High voltage (HV) power
- Stormwater
- Sewer Relocation
- Telecommunications

The following details the proposed site alignments for the above listed utilities, illustrated in Appendix B.

Barangaroo TBM supply route has been rationalised from the initial diagram provided in the EIS. The design now includes a short length of trenching along Sussex Street near Erskine Street and through existing conduits up to the existing Ausgrid pit near Universal Music studios. From the northern pit a 70m length of trenching is required to bring the supply into the new substation kiosk location, overall greatly reducing the impact.

Further HV works are required to relocate the existing HV bank from within the station box footprint in Hickson Road. This scope includes the installation of a large pulling pit in the roadway of Hickson Road at the northern end of the site, trenching for the reticulation of the supply around the end of the station box and the installation of a cable support structure through the station box.

Existing transverse stormwater pipes need to be removed to enable excavation and construction of Barangaroo Station. This will be achieved by temporarily duplicating the stormwater system at the southern end of High Street to make redundant the existing stormwater pipes at the same location. The duplicate system is collected in a new temporary pit near the sag point of High Street, where it will be fed into a vertical pipe which takes the water from High Street to the level of Hickson Road. This vertical pipe will be constructed by underboring.

The vertical pipe will be connected to a temporary steel pipe suspended under the eastern temporary Hickson Road bridge. This steel pipe runs north and emerges into the existing Hickson Road fill immediately north of the station. From there it runs west to Nawi Cove. Where the stormwater trench meets Nawi Cove, the existing sandstone blocks would be temporarily removed and reinstated around the outlet. If there are additional blocks, these will be retained for final reinstatement following decommissioning of the stormwater pipe. This system is temporary and will become redundant upon completion of the station excavation works and reinstatement of Hickson Road. At that stage, the temporary system in High Street will be decommissioned by backfilling and the road reinstated to original condition. The current drainage system in High Street will then be reconnected.

Overall the amount of required trenching works are a reduction from what was assessed in the EIS. New impacts are localised to High Street stormwater relocation.

Sewer relocations are required to make sections of the existing network currently within the station box footprint redundant. Relocation includes a new Microtunneled section on main running along Hickson Rd for the length of the station box. Trenching from this new line is required across Hickson Rd and through Universal Music carpark to tie back into a new pit over the existing Barangaroo headland line.

A short section of trenching is required on Hickson Road, south of Hickson Road steps and adjacent to the Universal Music studio building, to allow the reconnection of telecommunications supply into new pits. The majority of the lengths of telecommunication supply will be pulled through existing conduits, using methodology similar to the HV works described above.



3.0 Timeframe

When will the proposed change take place? For how long?

There will be no change to the project program as a result of this assessment. Works are expected to occur between ~~October~~ ^{December} 2017 and June 2018.

Approved, standard working hours for the Project are as follows:

- 07:00 – 18:00 Monday to Friday
- 08:00 – 13:00 Saturdays
- No works Sundays or Public holidays

Out of hours works are required due to impacts on the road network and will be undertaken in accordance with the Project Planning Approval Conditions and Environmental Protection Licence No. 20971.

4.0 Site description

Provide a description of the site on which the proposed works are to be carried out, including, Lot and Deposited Plan details, where available. Map to be included here or as an appendix. Detail of land owner.

Barangaroo Station is located between Hickson Road and Nawi Cove / Sydney Harbour, within the suburb of Barangaroo and to the north of the Central Barangaroo development.

The electricity works will be carried out within the road and road reserve of Hickson Road.

The stormwater relocation works will be carried out within the road and road reserve of High Street Barangaroo.

The works are within the State Heritage conservation area Dawes Point and Millers Point Conservation Area.

5.0 Site Environmental Characteristics

Describe the environment (i.e., vegetation, nearby waterways, land use, surrounding land use), identify likely presence of protected flora/fauna and sensitive area.

The site is located between Barangaroo Reserve and the Central Barangaroo development, south along Hickson Road to Sussex Street. The site comprises of Sussex St, which becomes Hickson Road. See Appendix B for a map of the works area.

All works to be undertaken will be within the road or road reserve.

The Barangaroo Central development is located to the south of the proposed construction site and currently comprises construction sites. The Cutaway cultural space is located within Barangaroo Reserve, to the north of the proposed works. Hickson Road is located to the east, at the base of a cliff wall of exposed sandstone rock face and masonry. Residential properties are located to the east of Hickson Road, above the cliff wall on High Street. Sydney Harbour and Nawi Cove are located to the west of the proposed site.

Barangaroo Station is within the State Heritage Register (SHR) curtilage of the Millers Point & Dawes Point Village Precinct.

6.0 Justification for the proposed works

Address the need for the proposed works, whether there are alternatives to the proposed works (and why these are not appropriate), and the consequences with not proceeding with the proposed work.

Utilities are required to be adjusted, relocated and / or protected where they would otherwise be impacted by construction for the approved Sydney Metro Chatswood to Sydenham State Significant Infrastructure. The routes for the utility adjustments were not known at the time of writing the EIS and have since been determined through detailed design.

7.0 Environmental Benefit

Identify whether there are environmental benefits associated with the proposed works. If so, provide details:

The environmental benefit of this utility augmentation includes the provision of essential services to the construction worksite and continuation of existing services through relocation and protection works. More specifically, the connection of electricity services reduces emissions from diesel powered generators, which would otherwise be required for construction.



8.0 Control Measures

Will a project and site specific EMP be prepared? Are appropriate control measures already identified in an existing EMP?

A site-specific EMP will not be prepared for this scope, as the proposed works will be managed in accordance with the TSE Works Construction Environmental Management Plan (SMCSWTSE-JCG-TPW-EM-PLN-002010) and the Project Planning Approval Conditions.

9.0 Climate Change Impacts

Is the site likely to be adversely affected by the impacts of climate change? If yes, what adaptation/mitigation measures will be incorporated into the design?

This scope will not directly be impacted by climate change.

10.0 Impact Assessment – Construction

Attach supporting evidence in the Appendices if required. Make reference to the relevant Appendix if used.

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Flora and fauna	There may be an impact to planted street trees as a result of the works assessed in this consistency assessment, namely works in the root zone or trimming required for machine clearance for trenching works associated with the utility trenches. Trees in close proximity to the trench alignments will be retained and protected where possible.	Tree trimming and removal would be undertaken in accordance with the Tree Report to be prepared under Condition E6, and the Construction Flora and Fauna Management Plan (SMCSWTSE-JCG-TPW-EM-PLN-002016) will be implemented.	Y	Y	-
Water	The stormwater relocation will divert flow into the Harbour at Nawi Cove – this connection has not been approved by Sydney Water and is subject to a separate approval.	The stormwater works would not be undertaken until the design and connections have been approved by Sydney Water. Implementation of the Construction Soil Water and Groundwater Management Plan (SMCSWTSE-JCG-TPW-EM-PLN-002014)	Y	Y	-
Air quality	No change from the EIS and Modification Assessment impact	Implementation of the Construction Air Quality Management Plan (SMCSWTSE-JCG-TPW-EM-PLN-002018)	Y	Y	-

(Uncontrolled when printed)

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Noise vibration	The proposed work would have a noise and vibration impact that extends beyond that assessed in the EIS. A noise and vibration assessment has been carried out for these works (see Construction Noise and Vibration Impact Statement (CNVIS): Local Area & Utility Works - Barangaroo). Expected noise levels have been predicted and the highest noise impacts are predicted to occur when rockbreakers and road saws are utilised in proximity to sensitive receivers. Noise mitigation and management measures have been prescribed in the CNVIS.	The potential noise and vibration impacts associated with the proposed work would be managed in accordance with existing the Project Planning Approval and conditions of the TSE Works EPL No. 20971. Noise mitigation and management measures identified in the CNVIS will be implemented.	Y	Y	—
Aboriginal heritage	There are no registered Aboriginal Heritage items in proximity to the works.	In regards to archaeology, the Unexpected Finds Protocol would apply.	Y	Y	—

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Historic heritage	<p>Portions of the proposed utility works are located within the curtilage of the State Heritage listed Millers Point & Dawes Point Village Precinct.</p> <p>All utility works will occur within the road and road reserve, which have been previously disturbed. All disturbed areas will be restored to their previous condition following completion of works. As such, the works will not have a more than minor impact on the heritage significance of this precinct.</p> <p>The Sydney Metro City & Southwest Chatswood to Sydenham, Historical Archaeological Assessment & Research (ARD) Design, Appendix H of the Preferred Infrastructure Report, identified areas of archaeological significance within the project area. The ARD also requires site specific Archaeological Method Statements to be produced for all areas with potential archaeology.</p> <p>The stormwater utility works are outside of the area assessed in the ARD. Subsequently, a heritage assessment has been undertaken for these works by Casey & Lowe (see Appendix C). This assessment concluded that the proposed location of the stormwater trench is in an area where the presence of significant archaeological remains are unlikely. As such, there will not be any impact on significant archaeological relics and the work will be in accordance with the requirements of Project Planning Approval Condition of E10.</p> <p>An AMS will be prepared for this site and will include this scope of works.</p>	<p>Portions of the proposed works within the State Heritage Millers Point & Dawes Point Village Precinct or any other definition under Heritage in the Instrument of Approval are subject to either:</p> <ul style="list-style-type: none"> • OEH consultation and DP&E agreement that they are low impact works (see construction definition in the Approval Instrument), or • Construction definition – requiring all requirements of pre-construction to be met. <p>An Archaeological Method Statement will be produced for the site and complied with for the duration of these works.</p> <p>The works will be carried out in accordance with the TSE Works Construction Heritage Management Plan (SMCSWTSE-JCG-TPW-EM-PLN-002015).</p>	Y	Y	

(Uncontrolled when printed)

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Community and stakeholder	Potential impact on community from traffic changes and noise. Any impact would be minor and short-term.	Affected community and appropriate mitigation measures are identified in the CNVIS.	Y	Y	—
Traffic	Localised impacts during utility relocation include possible lane closures.	The proposed works would be managed in accordance with existing the Project Planning Approval conditions. Where permits/licences are required, these would be obtained prior to commencement of works, in accordance with the Construction Traffic Management Plan (SMCSWTSE-JCG-TPW-EM-PLN-002013).	Y	Y	—
Waste	Excavation for utilities works would result in a minor increase in spoil generated.	All waste generated will be classified and disposed of in accordance with the Construction Waste and Recycling Management Plan (SMCSWTSE-JCG-TPW-EM-PLN-002022).	Y	Y	—
Social	No change from the EIS and Modification	No change from the EIS and Modification	Y	Y	—
Economic	No change from the EIS and Modification	No change from the EIS and Modification	Y	Y	—
Visual	There will be minor visual impacts associated with construction. These will be temporary, and disturbed areas will be restored to pre-existing conditions.	The proposed works would be carried out in accordance with the Visual Amenity Management Plan (SMCSWTSE-JCG-TPW-EM-PLN-002020).	Y	Y	—

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Urban design	No change from the EIS and Modification	No change from the EIS and Modification	Y	Y	-
Geotechnical	No change from the EIS and Modification Assessment impact As per COA and REMMs	No change from the EIS and Modification	Y	Y	-
Land use	No change from the EIS and Modification Assessment impact As per COA and REMMs	Assessment impact As per COA and REMMs	Y	Y	-
Climate Change	No change from the EIS and Modification Assessment impact As per COA and REMMs	No change from the EIS and Modification	Y	Y	-
Risk	There are no new additional risks associated with these changes.	NA	Y	Y	-
Other	NA	NA	Y	Y	-
Management and mitigation measures	There are no new mitigation measures required	NA	Y	Y	-

11.0 Impact Assessment – Operation

Attach supporting evidence in the Appendix if required. Make reference to the relevant Appendix if used.

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed activity/works, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Flora and fauna	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	—
Water	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	—
Air quality	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	—
Noise vibration	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	—
Aboriginal heritage	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	—
Historic heritage	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	—
Community and stakeholder	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	—
Traffic	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	—
Waste	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	—
Social	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	—
Economic	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	—

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed activity/works, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Visual	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	-
Urban design	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	-
Geotechnical	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	-
Land use	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	-
Climate Change	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	-
Risk	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	-
Other	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	-
Management and mitigation measures	No change to the operational impacts described in the EIS and Modification Assessment impact.	Not applicable		Y	-



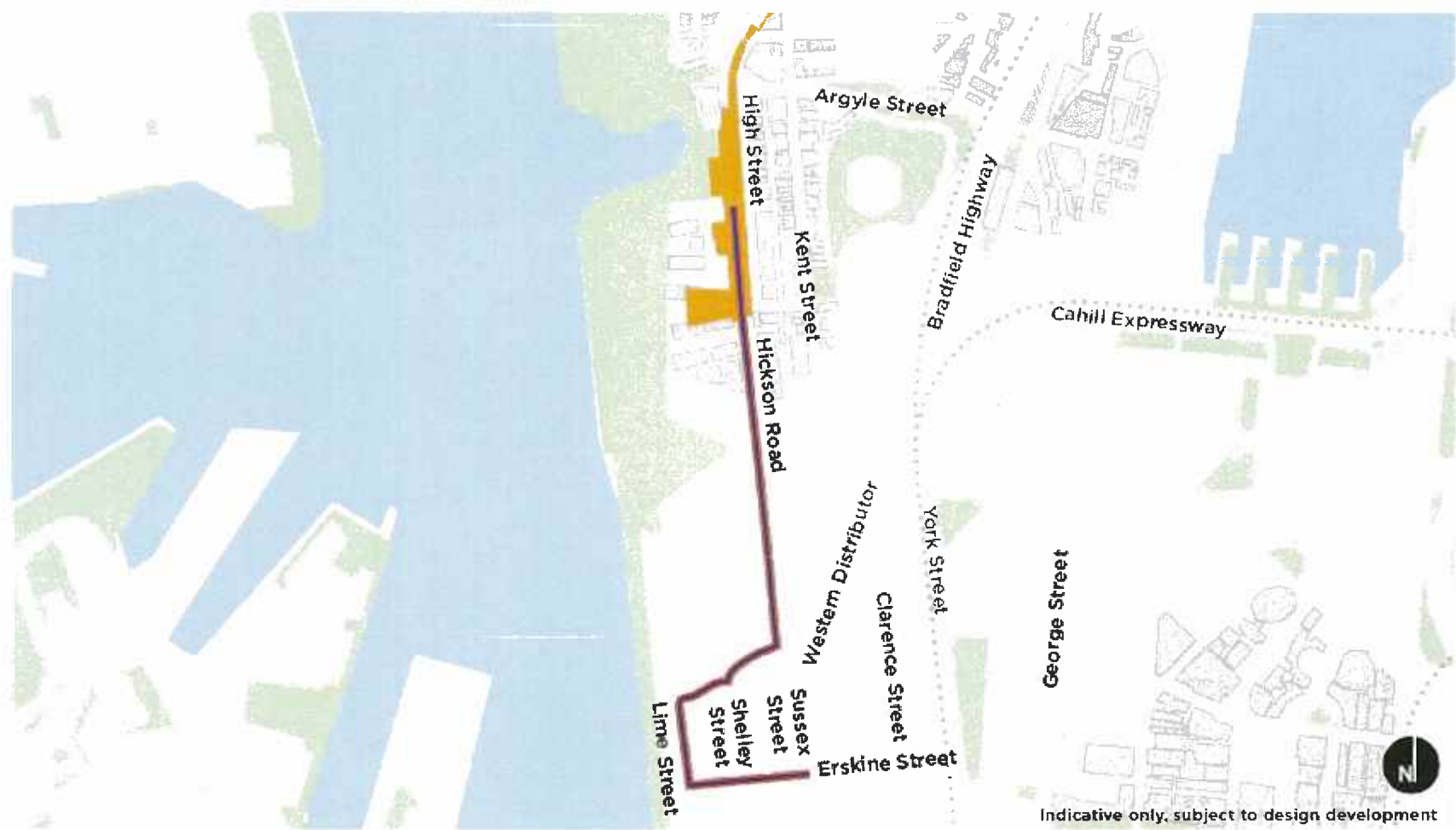
12.0 Consistency with the Approved Project

Based on a review and understanding of the existing Approved Project and the proposed modifications, is there a transformation of the Project?	No. The proposed works would not transform the project. The project would continue to provide a new metro rail line between Chatswood and Sydenham.
Is the project as modified consistent with the objectives and functions of the Approved Project as a whole?	Yes. The proposed works would be consistent with the objectives and functions of the approved project.
Is the project as modified consistent with the objectives and functions of elements of the Approved Project?	Yes. The changes identified in this assessment are temporary and are consistent with the objectives and functions of the Approved Project.
Are there any new environmental impacts as a result of the proposed works/modifications?	No new environmental risks are outstanding. All risks would be adequately addressed through the application of the mitigation measures in the above tables.
Is the project as modified consistent with the conditions of approval?	Yes. The proposed works would be consistent with the conditions of approval.
Are the impacts of the proposed activity/works known and understood?	Yes. The impacts of the proposed works are understood.
Are the impacts of the proposed activity/works able to be managed so as not to have an adverse impact?	Yes. The impacts of the proposed works can be managed so as to avoid an adverse impact.

13.0 Other Environmental Approvals

Identify all other approvals required for the project:	Works will be undertaken in accordance with EPL No. 20971 As per section 10 of this assessment - all works within the State Heritage area require DP&E concurrence they are low impact or are to occur after CEMP approval ie Construction commencement.
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Appendix A – Map of utility works assessed in the Sydney Metro City & Southwest Environmental Impact Statement



KEY

- Proposed construction site area
- Power supply route
- Existing suburban rail

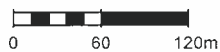
Figure 7-26 Barangaroo Station - power supply route

Appendix B – Map of rationalised utility works – Barangaroo



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Legend



Indicative Site Boundary

Trenching



- Communication Route
- HV/LV Power Supply Route EIS Proposed
- HV/LV Power Supply Route EIS Remaining
- HV/LV Power Supply Route Relocation
- Stormwater Adjustment
- Sewer Relocation

SYDNEY METRO CITY & SOUTHWEST -TSE WORKS
Utility Works- Consistency Assessment

Barangaroo



Sketch 6 of 14





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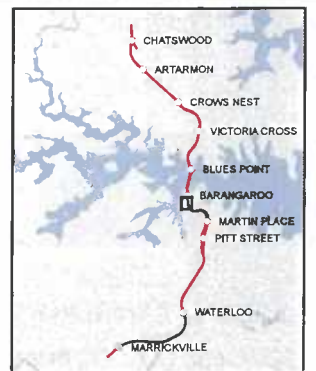
Legend



-  Indicative Site Boundary
-  Trenching

-  Communication Route
-  HV/LV Power Supply Route EIS Remaining
-  HV/LV Power Supply Route Relocation
-  Stormwater Adjustment
-  Sewer Relocation

SYDNEY METRO CITY & SOUTHWEST -TSE WORKS
Utility Works- Consistency Assessment
 Barangaroo



Appendix C – Heritage Memo

MEMO



PROJECT: Barangaroo Station

DATE: 29 September

TO: Dr Caitlin Richards, Environment & Sustainability Manager, JHCPBG JV

FROM: Dr Mary Casey

SUBJECT: Barangaroo Station Services in High Street

The Sydney Metro City & Southwest Chatswood to Sydenham Metro was approved as a State Significant Development (SSD) on 9 January 2017. The Minister's Conditions of Approval (CoA) that are relevant to the protection of heritage is:

E10 The Proponent must not destroy, modify or otherwise physically affect any Heritage item not identified in documents referred to in Condition A1.

The Barangaroo Station site is located along and west of Hickson Road, Barangaroo, within the City of Sydney, Local Government Area. The station platform will be situated beneath Hickson Road, while access points and ancillary areas will be located to the west of Hickson Road. The site currently includes a length of Hickson Road and a construction site to the west which was formerly part of the Patrick Stevedores container shipping wharf. The north of the site terminates at Windmill Street bridge. In the south, it terminates in line with the back of the southern row of terraces along High Street. A portion of the site extends west from Hickson Road, into North Cove Park, then continues south along the foreshore. Much of the site is directly adjacent to High Street in the east. There is a sheer drop, known as the High Street Cutting, between the level of High Street and that of Hickson Road below.

The *Sydney Metro City & Southwest Chatswood to Sydenham, Historical Archaeological Assessment & Research Design*, Appendix H of the PIR (Preferred Infrastructure Report) prepared by Artefact Heritage (Artefact, 2016), for Arcadis / RPS / Jacobs, as well as the *Sydney Metro City & Southwest Chatswood to Sydenham Environmental Impact Statement Technical Paper 4: Non-Aboriginal Heritage Impact Assessment*, prepared by Artefact Heritage (2016), for Jacobs / Arcadis / RPS, have identified areas of archaeological sensitivity within the site. Casey & Lowe is currently preparing the *Archaeological Method Statement* for the Barangaroo Station study area and has confirmed areas of archaeological sensitivity.

As part of the preliminary utilities establishment works, a stormwater trench is to be excavated to the east of the Barangaroo Station site along High Street, Millers Point (Figure 1). This will be located between Lance Lane and No. 37 High Street, and is separated from the Barangaroo Station site by the High Street Cutting between High Street and Hickson Road below. The stormwater line will be approximately 120m long, 1m wide and 2m deep. The trench has the potential to impact archaeological remains which may be present within its footprint.

NEARBY ARCHAEOLOGY

In 2011-2012, Casey & Lowe undertook a program of archaeological monitoring as part of stormwater upgrades in the southern part of High Street.¹ During these works, the remains of a building dating to the 1850s or later were uncovered. These had been buried with fill following the post-plague resumptions of the area in 1900. The remains were located along the southern portion of High Street, where it runs on an east-west axis. The original topography of the land in this part of the street is likely to have been very different to that of the proposed stormwater line. The presence of intact archaeological remains in that part of High Street therefore do not accurately represent the potential for archaeological remains along the rest of High Street.

CURRENT PROPOSAL

Casey & Lowe have undertaken historic research into the proposed location of the stormwater trench and have concluded that the presence of significant archaeological remains in this location are highly unlikely. Historic plans and photographs of the area indicate that there was little or no development there prior to the construction of Hickson Road and High Street at the beginning of the 20th century. In the early 19th century it was vacant land and by the mid-19th century was part of a quarry, before once again reverting to vacant land (Figure 2, Figure 3, Figure 4 & Figure 5). A small shed at the very north of the proposed stormwater line is the only structure shown on plan during this time (Figure 4). The construction of Hickson Road and High Street in c.1908-1914, involved levelling off and quarrying the rocky foreshore of this area to create the steep c.10m high retaining wall between the two streets. This activity would have almost certainly removed all earlier archaeological remains within the proposed footprint of the stormwater trench, including the c.1880 shed.

The occurrence of archaeological remains dating to the early 20th century in this area is possible, however these are unlikely to meet the threshold of local significance as the location of the proposed stormwater has been within the road since the redevelopment of the area in the early 20th century (Figure 6). Furthermore, approximately 50m of the southern portion of the study area is likely to have been impacted by remediation works to the retaining wall undertaken in 1995.² Archaeological material within this area is therefore likely to consist of the early 20th century road and road base, as well as associated levelling fills, notably fills for the construction of the High Street wall as well as 20th century services. These types of services would not be considered significant and therefore would not be relics under the *Heritage Act, 1977*.

The appropriate heritage option is to implement the Unexpected Heritage Finds. This will ensure that should relics which meet the threshold for local significance be exposed during trenching along High Street these will be managed appropriately. If potential relics are found they would be inspected, assessed and managed according to their significance. Local relics would be recorded according to the Barangaroo Station Archaeological Method Statement. If State significant relics were found they would be managed according to an Archaeological Relics Management Plan.

There will not be any impact on significant archaeological relics and as such the work will be in accordance with the requirements of Condition E10.

¹ Casey & Lowe, 2012, *Archaeological Monitoring & Recording, Stormwater Upgrades, High Street, Millers Point*, report to McLachlan Lister Pty Ltd on behalf of Department of Finance and Services, September 2012.

² See AMBS Ecology & Heritage, 2017, *High Street Cutting, Millers Point Statement of Heritage Impact*, for John Holland CPB Ghella Joint Venture, July 2017.

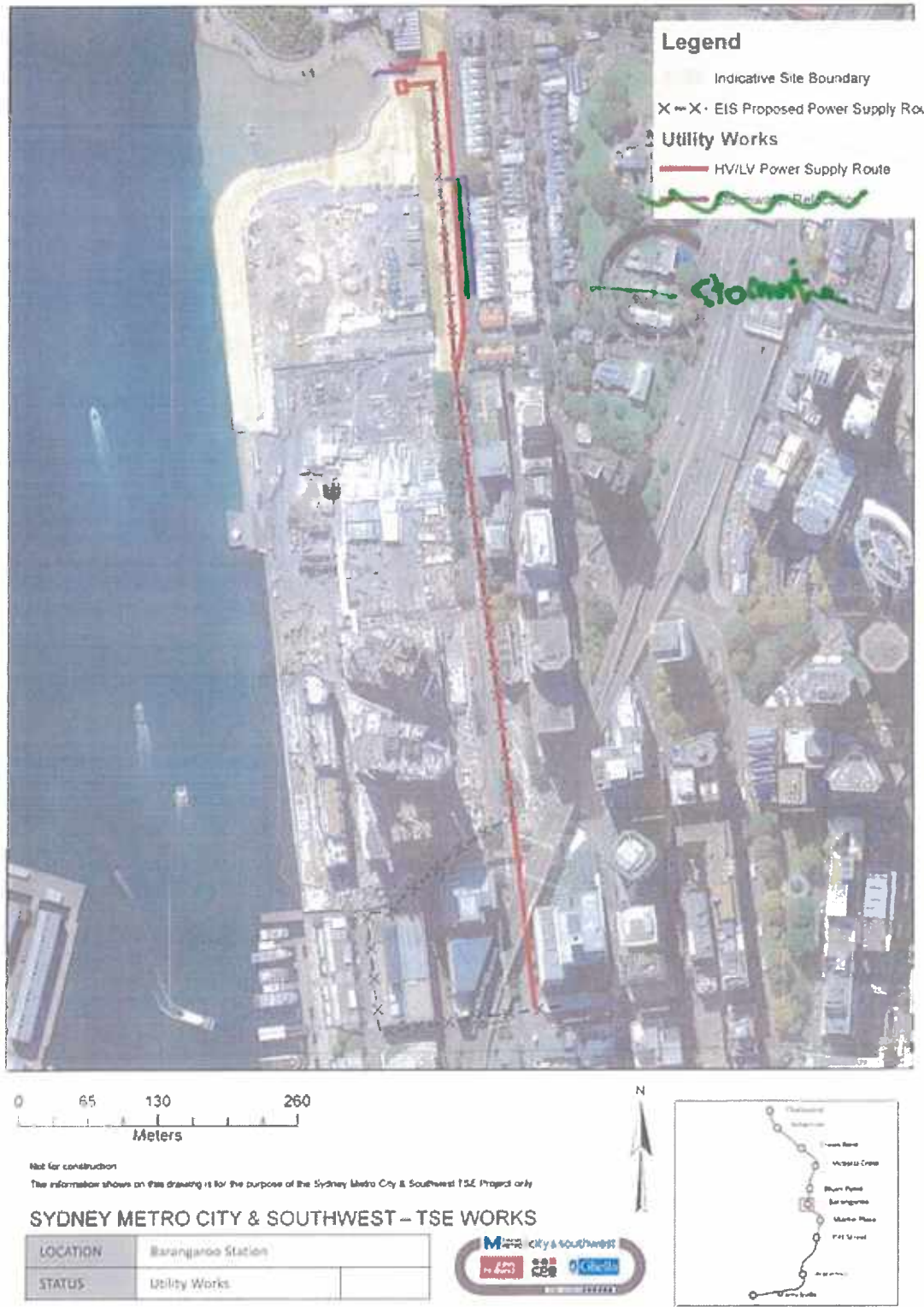


Figure 1: The Barangaroo Station site with the proposed stormwater trench highlighted in green.

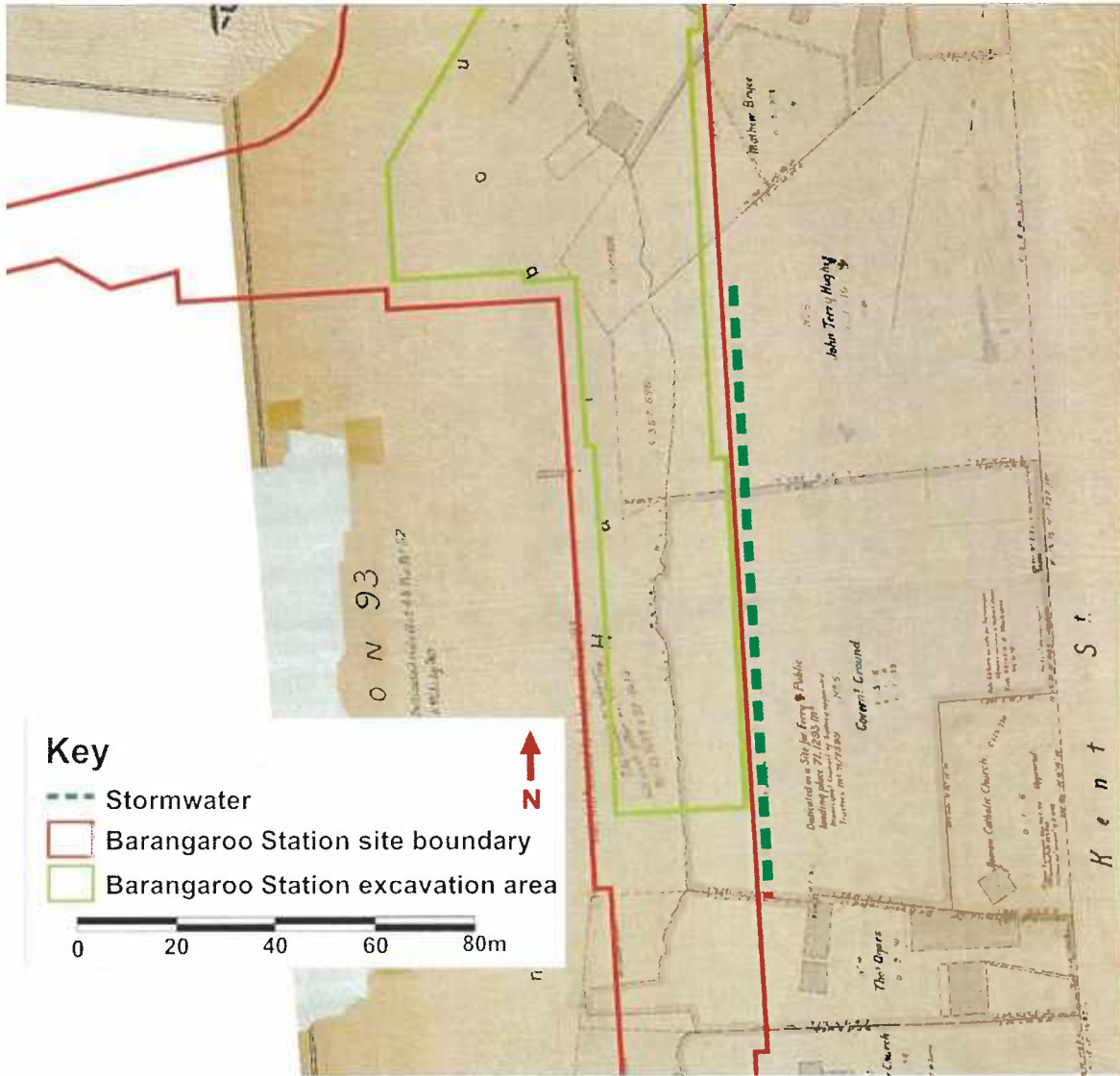


Figure 2: Plan showing the proposed stormwater line (dashed green) going through vacant land owned by John Terry Hughes and the Government. Detail of Section 93, c.1834. City of Sydney Survey Plans, Historical Atlas of Sydney, City of Sydney Archives.

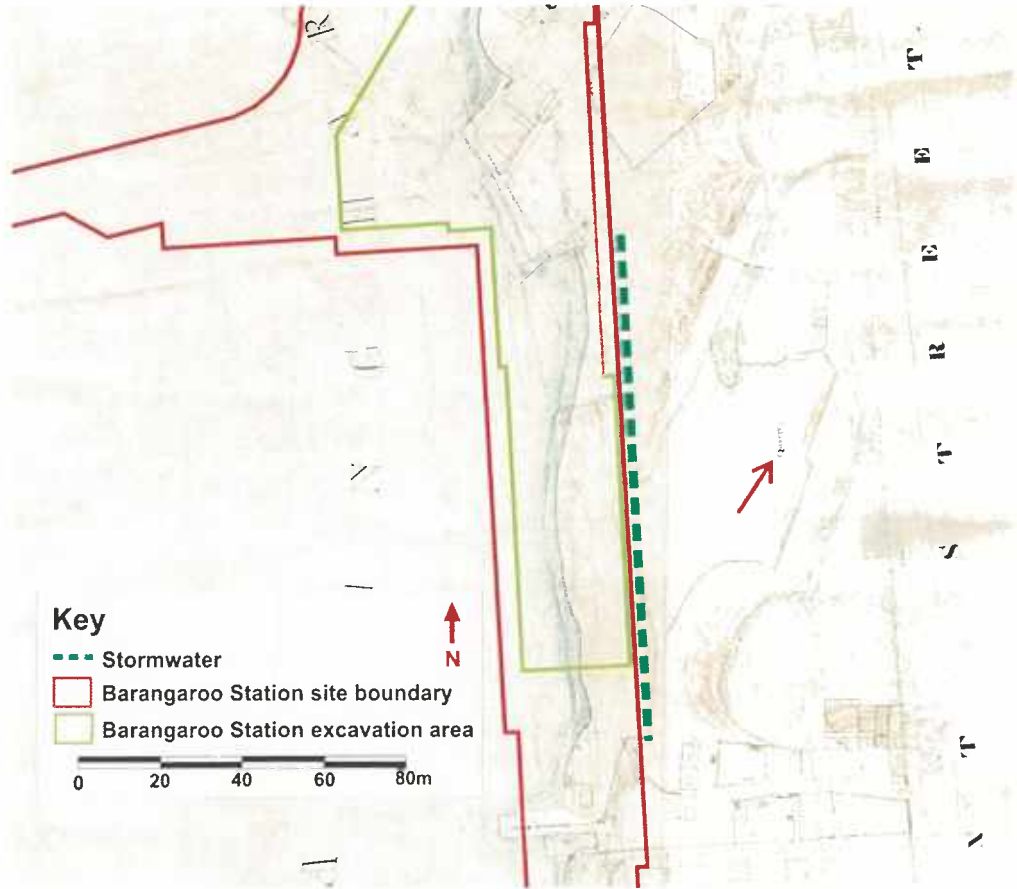


Figure 3: Plan showing the proposed stormwater line (dashed green) going through land marked as "Quarry" (arrowed). City of Sydney Survey Plans, Historical Atlas of Sydney, City of Sydney Archives.

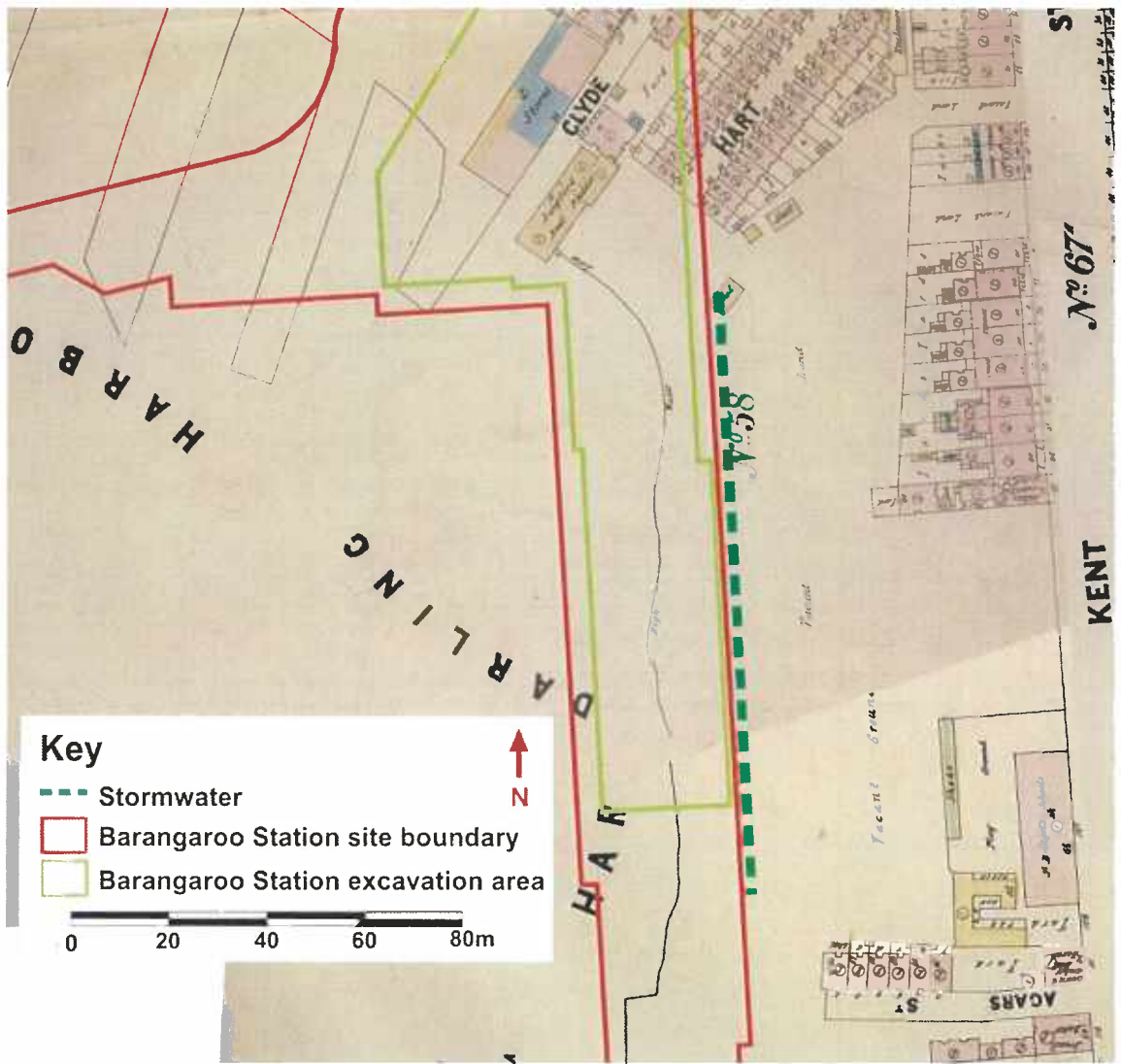


Figure 4: Plan showing the proposed stormwater line (dashed green) going through vacant land. The shed at the very north end of the trench is likely to have been removed during construction of High Street. Dove 1880, Historical Atlas of Sydney, City of Sydney Archives.

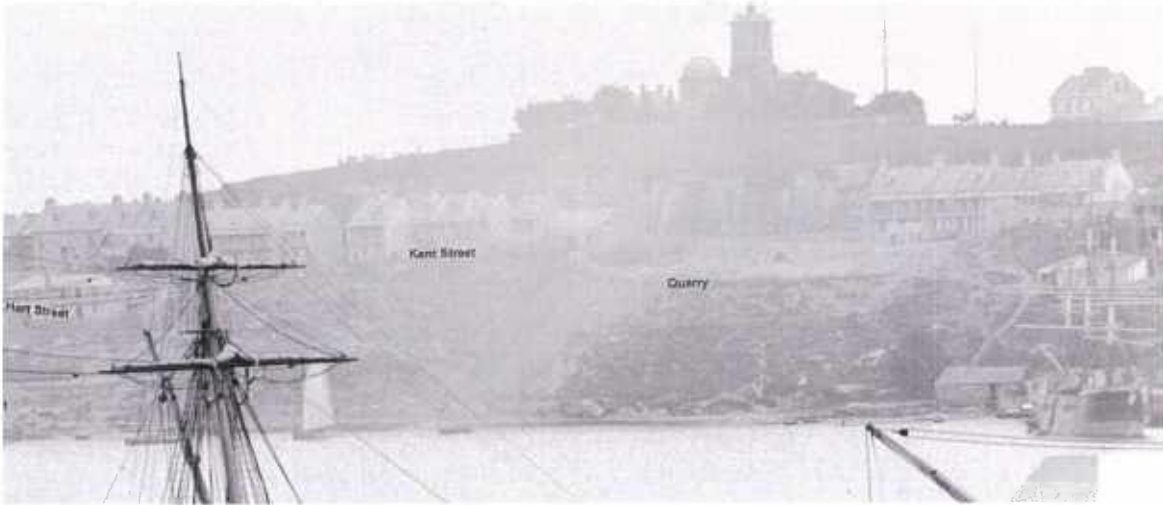


Figure 5: Detail of a panorama taken from Pymont showing the rough terrain and quarry in the study area. The proposed stormwater trench runs below the line of Kent Street. American & Australasian Photographic Company, 1870-1875. C&L annotations.

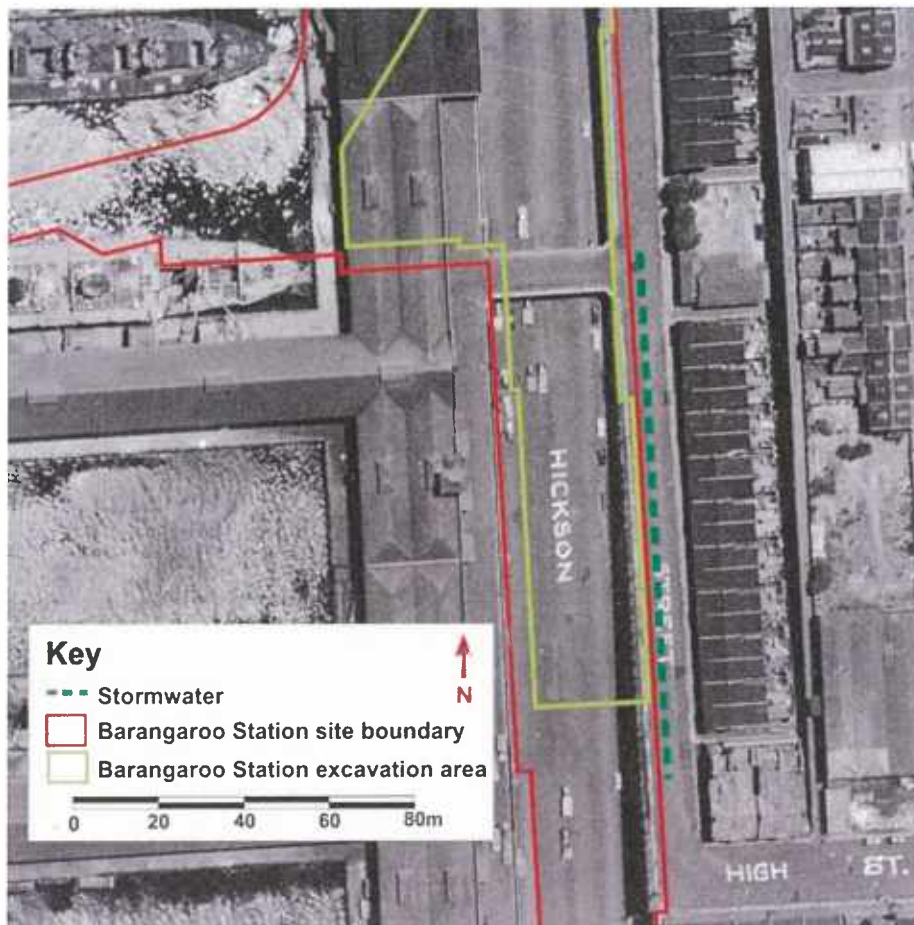



Figure 6: Aerial photograph showing the proposed stormwater running through High Street. 1949 Aerial Photographic Survey, Historical Atlas of Sydney, City of Sydney Archives.

Author certification

To be completed by person preparing checklist.


I certify that to the best of my knowledge this Consistency Checklist:

- Examines and takes into account the fullest extent possible all matters affecting or likely to affect the environment as a result of activities associated with the Proposed Revision; and
- Examines the consistency of the Proposed Revision with the Approved Project; is accurate in all material respects and does not omit any material information.

Name:	Nicole Williams	Signature:	
Title:	Environmental Planning Manager		
Company:	TfNSW	Date:	11/12/2017


Environmental Representative Review

As an approved ER for the Sydney Metro City & Southwest project, I have reviewed the information provided in this assessment. I am satisfied that mitigation measures are adequate to minimise the impact of the proposed work.

Name:	Michael Woolley	Signature:	
Title:	Environmental Rep	Date:	11/12/17

This section is for Sydney Metro only.

Application supported and submitted by

Name:	Craig Tucker	Date:	11/12/2017.
Title:	Enviro. Planning Manager	Comments:	
Signature:			

Based on the above assessment, are the impacts and scope of the proposed activity/modification consistent with the existing Approved Project?

- Yes The proposed activity/works are consistent and no further assessment is required.
- No The proposed works/activity is not consistent with the Approved Project. A modification or a new activity approval/ consent is required. Advise Project Manager of appropriate alternative planning approvals pathway to be undertaken.



Endorsed by			
Name:	Fil Cerone	Date:	11/12/17
Title:	Principal City & Southwest, Sustainability, Environment & Planning	Comments:	All stormwater relocation works to be approved by Sydney Water beforehand.
Signature:	