

Planning Approval Consistency Assessment Form

SM ES-FT-414

Sydney Metro Integrated Management System (IMS)

Assessment Name:	Heritage Wall Temporary Gas Line Relocation (Barangaroo)
Prepared by:	BESIX Watpac
Prepared for:	Sydney Metro
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1. Existing Approved Project

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

SSI15_7400 Sydney Metro City & Southwest – Chatswood to Sydenham
 Mod 1 Victoria Cross Station, Artarmon Substation and minor administrative mod
 Mod 2 Central Walk mod
 Mod 3 Martin Place Station mod
 Mod 4 Sydenham Station and Sydney Metro Trains Facility South mod
 Mod 5 Blues Acoustic Shed
 Mod 6 Administrative Changes
 Mod 7 Administrative Changes
 Mod 8 Blues Point Access Site
 Mod 9 Extension to standard construction hours

Date of determination:	Infrastructure Approval date – 09 January 2017 Modification 1 Approval date – 18 October 2017 Modification 4 Approval date – 13 December 2017 Modification 2 Approval date – 21 December 2017 Modification 3 Approval date – 22 March 2018 Modification 5 Approval date – 02 November 2018 Modification 6 Approval date – 21 February 2019 Modification 7 Approval date – 29 June 2020 Modification 8 Approval date – 25 November 2020 Modification 9 Approval date – 30 June 2022	Type of planning approval:	Critical State Significant Infrastructure
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Relevant background information (including EA, REF, Submissions Report, Director General’s Report, MCoA):

Chatswood to Sydenham Environmental Impact Statement, May 2016
 Chatswood to Sydenham Submissions and Preferred Infrastructure Report, October 2016
 Chatswood to Sydenham Conditions of Approval, 9 January 2017, as modified
 Modifications 1-8 Modification Reports and Submission Reports
 Hickson Road Retaining Wall Jemena Temporary Diversion at Barangaroo, April 2021

Consistency Assessment Heritage Wall Temporary Stormwater Relocation (Barangaroo) June 2022

Consistency Assessment Barangaroo Northern Shaft - TfNSW20 14/03/2018

Consistency Assessment Barangaroo Northern Shaft for Stage 2 works - TfNSW39 10/08/2020

The proposal identified in the assessment would be undertaken in accordance with the mitigation measures identified in the EIS, SPIR, SR and Conditions of Approval.

Description of existing approved project you are assessing for consistency:

The Approved Project involves a new metro rail line, approximately 16 kilometres long, between Chatswood and Sydenham. New metro stations will be provided at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street and Waterloo, as well as a new underground metro platforms provided at Central Station.

This Consistency Assessment relates to the temporary diversion of an existing gas line that is currently fixed to the acoustic shed between the Munn Street and Windmill Street bridges. The acoustic shed is a temporary structure and the gas line needs to be temporarily diverted so that the acoustic shed can be dismantled and Hickson Road can be reinstated.

The Environmental Impact Statement (EIS)/ Submissions and Preferred Infrastructure Report (SPIR) assessed the Hickson Road Wall within the State Heritage Register (SHR) as it is located within SHR listed Millers Point and Dawes Point Village Precinct. Whilst the heritage significance of Hickson Road Wall was noted within the EIS/SPIR, direct impact on the High Street cutting was not identified in the EIS or SPIR. Transport for NSW sought to clarify the potential conflict between the requirements of conditions E10 and E58 by writing to the Department of Planning and Environment under Condition A6 to confirm that in the event that protection mitigation is required that may cause any negative impact to heritage listed items not assessed in the EIS or SPIR the following process would be undertaken:

- Statement of Heritage Impact assessing the defined scope (see Appendix A)
- Undertake an Environmental Assessment including Consultation with the relevant Agencies and the Community (This Consistency Assessment)
- Seek required permit/approvals/exemptions (refer to Section 10 non-Aboriginal heritage, and to Appendix B- consultation with Heritage NSW)

Sydney Metro commissioned GML Heritage to prepare a conservation policy, Hickson Road Wall Policy, and guidance in regard to the Hickson Road Retaining Wall, Barangaroo to:

- Address the management of physical and visual impacts to the wall; and
- Provide guidance on the management of works more generally within the heritage setting

Hickson Road Wall is identified in the CSSI Conditions of Approval under condition E13, whereby the requirement of E13 is to provide a Heritage Archival Recording Report, including photographic recording of Hickson Road Wall for any project elements that would be located in front of the wall.

2. Description of proposed change which is the subject of this assessment

This Consistency Assessment has been prepared for temporary changes proposed at Hickson Road, the eastern boundary of the Barangaroo site.

The proposal is to temporarily divert an existing gas line that is currently fixed to the acoustic shed. The acoustic shed is a temporary structure erected by the project (Tunnel Stations Excavations (TSE) stage works) on Hickson Road between the Munn Street and Windmill Street bridges. The gas line would need to be temporarily diverted so that the acoustic shed can be dismantled and Hickson Road can be reinstated for subsequent traffic switch.

The gas line is a 100mm diameter copper Type B pipe. The proposed diversion requires a vertical pipe to run between the old footpath on Hickson Road and an existing connection in the concrete section at the top of the wall, located at approximately 11m above Hickson Road. The pipe would be an external fitting, attached to the face of the sandstone cutting with dual-anchored brackets at approximately 1m intervals. A horizontal section between the existing gas main located under Hickson Road and vertical pipe fixed to the wall would be trenched (600mm deep trench) and gas pipe laid in the trench (old pavement area previously excavated by TSE). No other cutting or drilling on Munn Street, Windmill Street or other areas is required.

Once the demolition of the acoustic shed and shaft backfilling is complete, Hickson Road would be reinstated, and traffic switched to the eastern side of the road to enable construction of the permanent gas main and other utilities. The temporary gas line and all fixings would be removed from the face of the wall and reinstated using the approved methodology (refer to Appendix A Statement of Heritage Impact, page 12-13). It is expected that the temporary gas diversion would need to be in place for six to nine months.

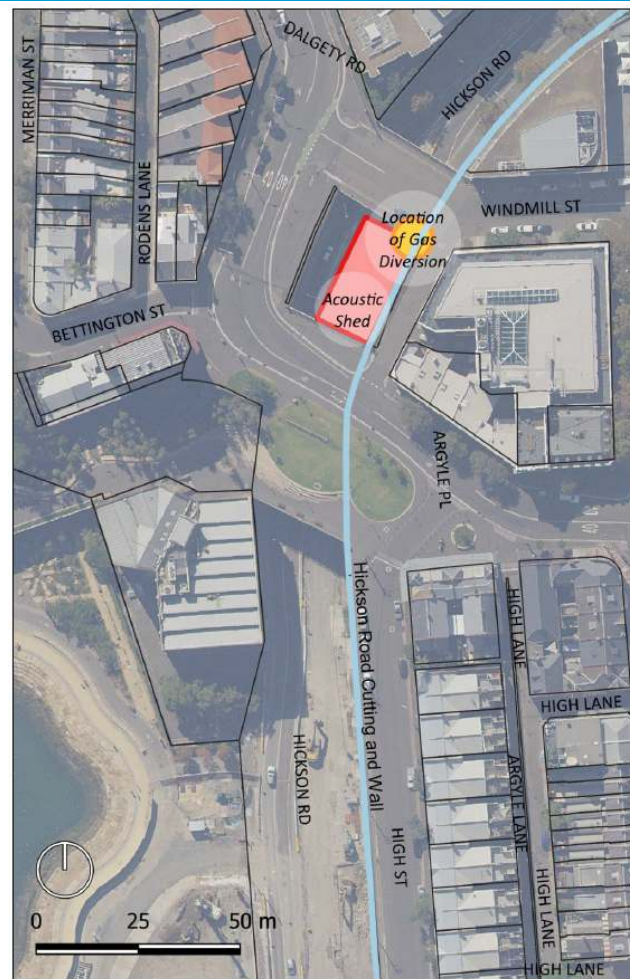


Figure 1 Location of proposed works, acoustic shed, Hickson Road cutting and wall

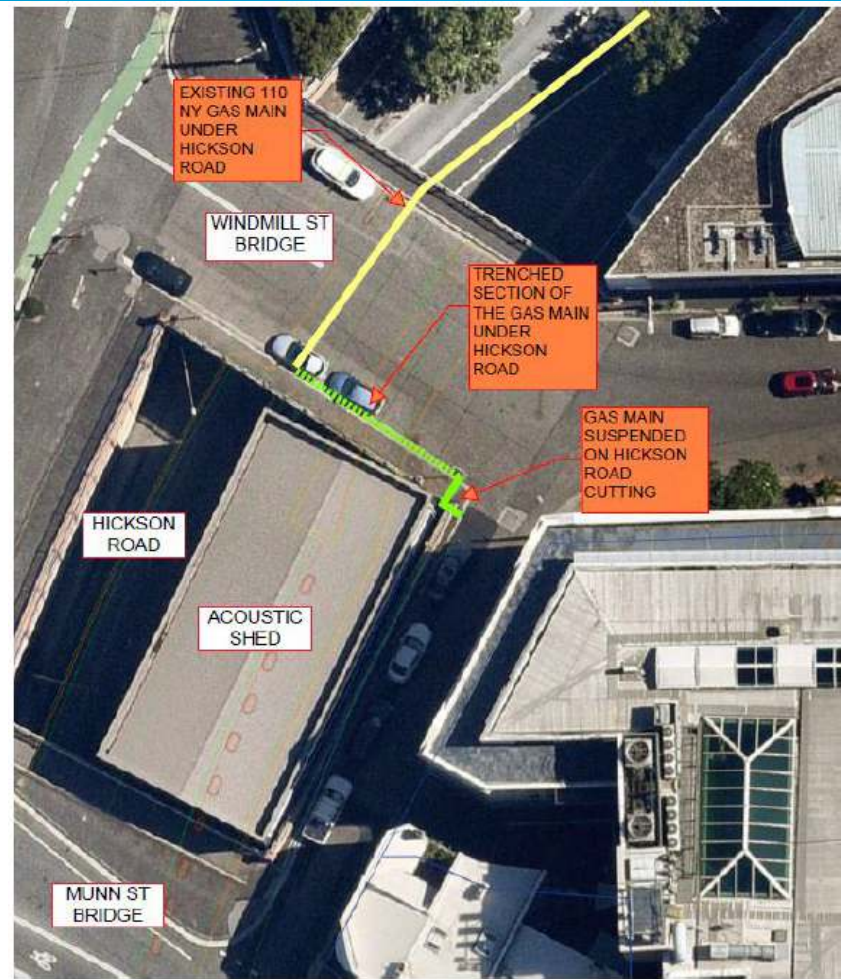


Figure 2 Proposed works detail of gas main alignment top view

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Figure 3 Vertical alignment illustration of lower section



Figure 4 Vertical alignment illustration of upper section

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Figure 5 Proposed location of the gas diversion shown on a Google Street View capture taken in October 2014, before the acoustic shed was constructed. The Windmill Street bridge is at the left.

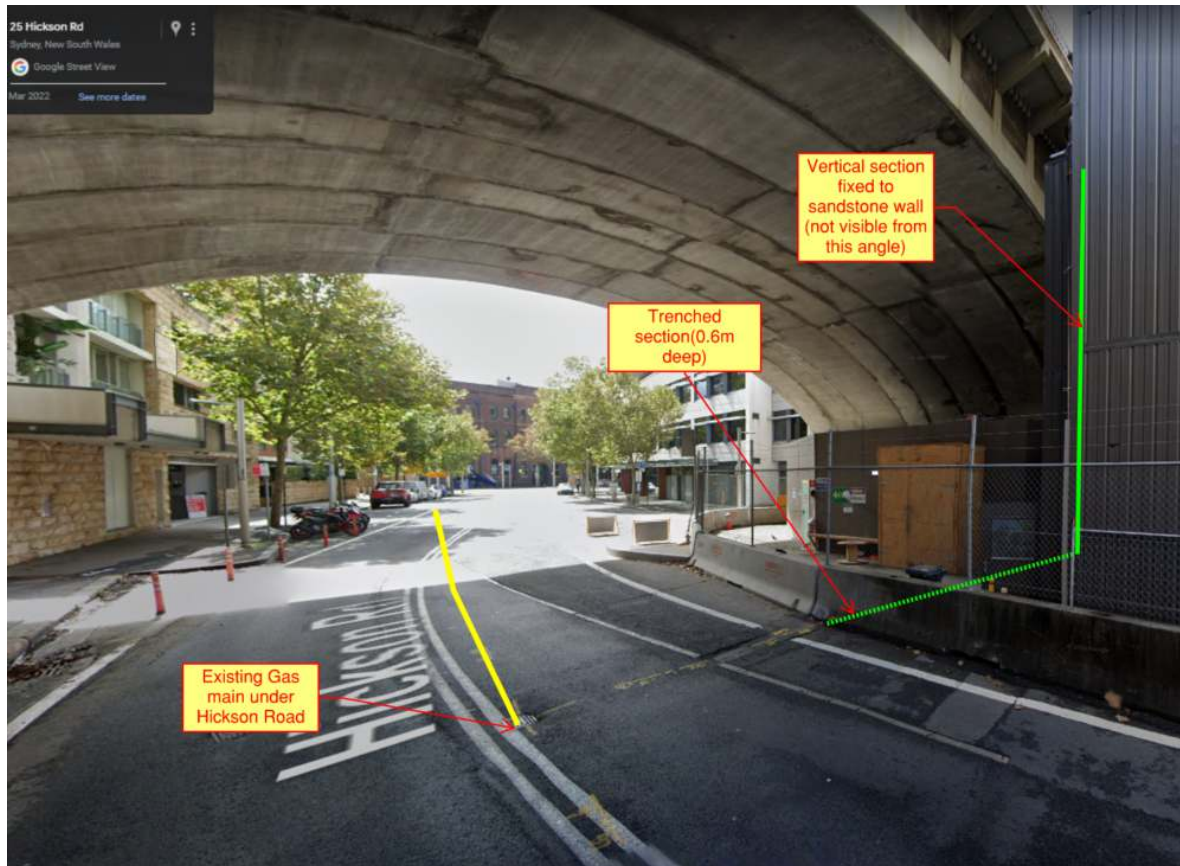


Figure 6 Works diagram at Hickson Road

3. Timeframe

The proposed works would commence by early April 2023 with the work to attach the temporary gas line to the Hickson Road wall anticipated to take 5 days. The temporary gas pipe would remain on the Hickson Road wall for approximately 6-9 months before final connection to the gas main under Hickson Road.

4. Site description

The proposal would be at Hickson Road and the Hickson Road Wall (also known as the High Street Cutting) between the Munn Street and Windmill Street bridges within the Barangaroo Site, adjacent to the Northern Shaft. The Site is located at Millers Point and is associated with the construction of the Sydney Metro Barangaroo Station being undertaken beneath, and located in the State Heritage Register listed Millers Point Heritage Conservation Area and the Millers Point & Dawes Point Village Precinct Heritage Conservation Area.

Barangaroo Station is located between Hickson Road and Nawi Cove / Sydney Harbour to the West, within the suburb of Barangaroo and to the north of the Central Barangaroo Development. Residential properties are located along Windmill Street to the north, and High Street to the East.

5. Site Environmental Characteristics

Hickson Road forms the eastern boundary of the Barangaroo Site. Hickson Road is located at the base of a distinctive cliff two to four storeys high known as the Hickson Road Wall, or High Street Cutting. The cliff is a local visual feature, with its exposed sandstone rock face and masonry, heritage railings and staircase cut into the stone. The cliff also creates a strong spatial 'edge' to the Barangaroo peninsular between Munn Street and the High Street stairs in the south, and a physical barrier to east-west movement. South of the High Street stairs, there are a mixture of contemporary and heritage buildings which align with the line of the wall, addressing the road with a mix of commercial, offices and service entries. In this area, there is a second staircase, providing access to the upper levels of the peninsula along Kent Street.

Hickson Road was constructed in the early twentieth century and holds social significance as it is the only remaining significant feature of the 'Hungry Mile' that forms part of the Millers Point and Dawes Point Village Precinct.

The Hickson Road Wall is located within the SHR listed Millers Point and Dawes Point Village Precinct and the similarly located listed Conservation Area 35 (Sydney LEP). The Palisade fence and High steps including the wall (and listed separately) and the bridges over Hickson Road are also separately listed on the following heritage registers:

- SHR 01682
- Sydney LEP 2012
- SHR 00884
- Sydney LEP 2012 (CA35)
- Sydney LEP 2012 (1882) (Local)
- Sydney LEP 2012 (1869) (Local)

6. Justification for the proposed change

The existing gas line is attached to a temporary acoustic shed that was erected during the tunnelling stage of the project to cover the northern access shaft (TSE works). This shed needs to be dismantled to enable the final road reinstatement/realignment and utility works on Hickson Road to be completed. The temporary gas main pipe needs to be relocated to detach the pipe from the acoustic shed in order to enable subsequent demolition of the shed structure.

It is not possible to disconnect and abandon this temporary pipe as it would cause significant disruption of gas supply, as it is an integral part of the gas network supplying gas to the customers on the High Street. Therefore, it has to be maintained.

It is not currently possible to supply gas via the permanent gas main which would run above the station box and under Hickson Road as it cannot be completed by the time demolition of the acoustic shed is required due to the following reasons:

- Sequence of works - other services such as stormwater, HV, water services, etc., located under the permanent gas main must be completed first before installation of the permanent gas main can commence. The above services will not be completed prior to the required acoustic shed demolition date (refer to Figure 7)
- Existing live services – Live HV cables located next to the permanent gas alignment need to be decommissioned (Part of HV scope of work). This will not be completed prior to the required acoustic shed demolition date
- Access to the works – Northern shaft needs to be backfilled and acoustic shed structure needs to be demolished in order to switch the traffic to the eastern side of the road to enable access for trenching of the permanent gas main located under Hickson Road (refer to Figure 7).

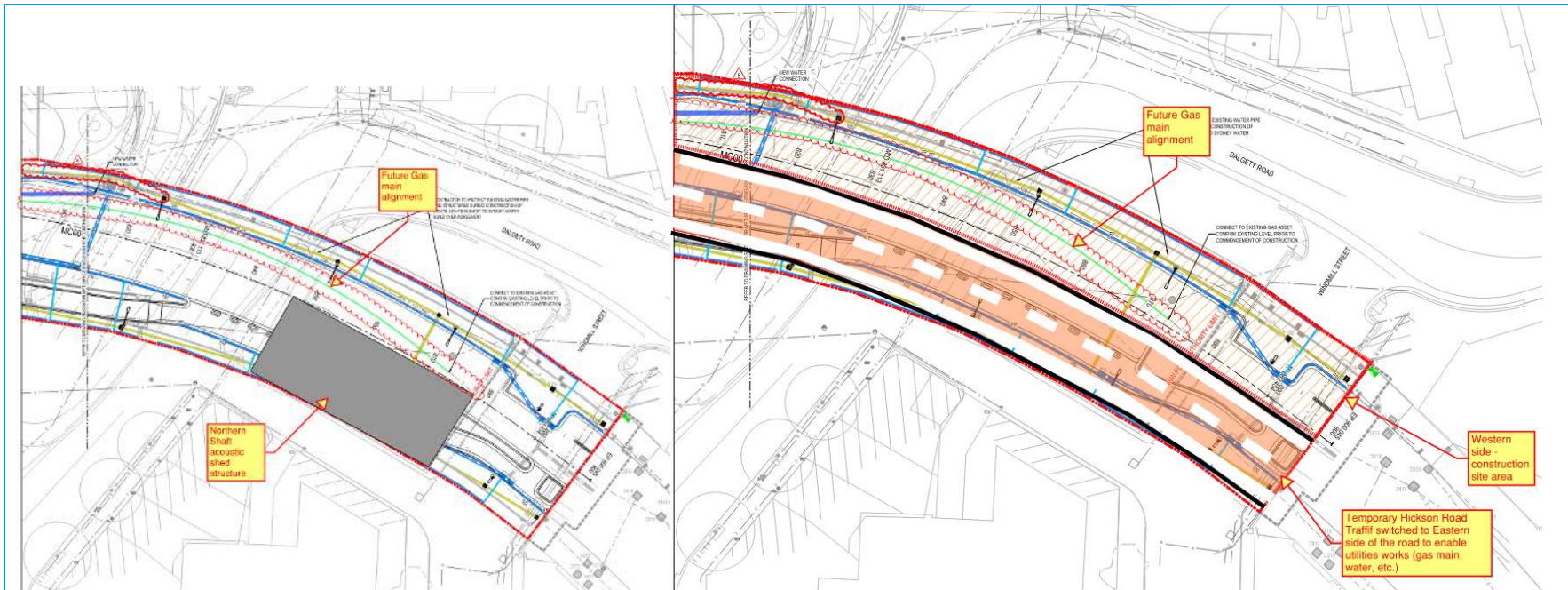


Figure 7 Hickson Road diversions stages

Therefore, the gas line has to be temporarily diverted from the shed to the Hickson Road Wall before the permanent connection can be made once the reinstatement of Hickson Road between Munn Street and Windmill Street is complete.

Alternative Options Considered

- Besix Watpac considered fixing the proposed gas pipe to the existing Windmill Street bridge (Sydney LEP 2012 I869), however this option was discarded as it would cause more damage to the heritage listed bridge structure and its plaster layer. Fixing of the pipe to the sandstone wall on the other hand, ensures minimal drilling requirements, minimal diameter and embedment of the anchors, thus overall minimising impacts.
- Complete disconnection and capping of the existing gas main was considered but this option was not supported by network operator.

7. Environmental Benefit

The temporary relocation of the gas line enables supply of gas to premises to the north of Hickson Road to be maintained when the Acoustic shed is demolished and while the reinstatement of Hickson Road and construction of the permanent gas main proceeds. The removal of the acoustic shed will improve overall visual amenity of the reserve for visitors and surrounding properties, and is required to enable the traffic switch and maintaining of traffic flow on Hickson Road while the permanent gas main is installed in the location of the current road.

8. Control Measures

Will a project and site specific EMP be prepared?	<input type="checkbox"/> Yes	Are appropriate control measures already identified in an existing EMP?	<input checked="" type="checkbox"/> Yes
	<input checked="" type="checkbox"/> No		<input type="checkbox"/> No

9. Conditions of approval

Will the proposal be consistent with the conditions of approval?	<input checked="" type="checkbox"/> Yes
	<input type="checkbox"/> No

10. Impact Assessment – Construction

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed change, relative to the relevant impact in 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 changes from the approved project	No additional measures required	Y	Y	
Water	No changes from the approved project	No additional measures required	Y	Y	
Soils and contamination	No changes from the approved project	No additional measures required	Y	Y	
Air quality	No changes from the approved project	No additional measures required	Y	Y	
Noise and vibration	Minimal temporary impacts consistent with the approved project – The nature of the noise and vibration impacts is from affixing the gas line to the wall. Bracket installation would be quiet and generates very little vibration (hand drills to be used). The extent of impact is temporary. Noise and Vibration would be managed in accordance with the CNVMP, and CNVIS (Civil works). Trenched section of works would have minimal depth and located within the fill layer. The above excavation would not generate excessive noise or vibration. Works would be completed within standard construction hours.	No additional measures required	Y	Y	
Aboriginal heritage	Technical Paper 5 in the EIS states no recorded Aboriginal sites are located within 100 meters of the station, with the closest sites located 300 meters to the north and east. Unexpected finds protocol would be used for all works.	No additional measures required	Y	Y	
Non-Aboriginal heritage	The Hickson Road cutting and retaining wall is a contributory element of the SHR listed <i>Millers Point & Dawes Point Village Precinct</i> . There will be a minor physical impact to the significant fabric, but a negligible, if any, impact to its heritage significance. There will be a negligible short-term visual impact on the heritage significance of the <i>Millers Point & Dawes Point Village Precinct</i> , in its entirety (AMBS 13 March 2023).	Works and repairs would occur in accordance with the Hickson Road Retaining Wall Barangaroo Conservation Policy and Guidelines (GML Heritage 2021) and the Statement of Heritage Impact: Installation of temporary gas pipe, Hickson Road Retaining Wall and Cutting, Barangaroo (AMBS, March 2023) memo.	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed change, relative to the relevant impact in the Approved Project	Proposed Control Measures in addition to project CoA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
	<p>Where there is a conflict between conditions E10 and E58, DPE requires a Statement of Heritage Impact (SOHI) to be prepared and consultation with Heritage NSW. AMBS prepared a SOHI dated 13 March 2023 which assesses the defined scope. The proposal was presented to the Sydney Metro Heritage Working Group on 15 March 2023. The SOHI was also sent to Heritage NSW for comment on 21 March 2023. Evidence of this consultation is attached in Appendix B.</p> <p>There is no archaeological impact associated with the proposal (AMBS 13 March 2023).</p>	All works will be performed using unexpected finds protocol.			
Community and socio-economic	No changes from the approved project	No additional measures required	Y	Y	
Traffic and transport	No changes from the approved project	No additional measures required	Y	Y	
Waste and resource management	No changes from the approved project	No additional measures required	Y	Y	
Visual	<p>Any impacts to significant views and landscapes from the install of the gas line are temporary and negligible in the context of approved works currently taking place along Hickson Road.</p> <p>All impacts would be temporary and areas restored to pre-existing conditions. Visual impacts would be mitigated by the hoarding surrounding the project which restricts the visibility of the wall.</p>	Works and repairs would occur in accordance with the Hickson Road Retaining Wall Barangaroo Conservation Policy and Guidelines (GML Heritage 2021) and the Statement of Heritage Impact: Installation of temporary gas pipe, Hickson Road Retaining Wall and Cutting, Barangaroo (AMBS, March 2023) memo.	Y	Y	
Land use and property	No changes from the approved project	No additional measures required	Y	Y	
Hazard and risk	No changes from the approved project	No additional measures required	Y	Y	
Other	No other changes	No additional measures required	N/A	Y	

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11. Impact Assessment – Operation

The proposed works are during construction only.

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed change, relative to the relevant impact in 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 changes from the approved project	No additional measures required	N/A	Y	
Water	No changes from the approved project	No additional measures required	N/A	Y	
Soils and contamination	No changes from the approved project	No additional measures required	N/A	Y	
Air quality	No changes from the approved project	No additional measures required	N/A	Y	
Noise and vibration	No changes from the approved project	No additional measures required	N/A	Y	
Aboriginal heritage	No changes from the approved project	No additional measures required	N/A	Y	
Non-Aboriginal heritage	No changes from the approved project	No additional measures required	N/A	Y	
Community and socio-economic	No changes from the approved project	No additional measures required	N/A	Y	
Traffic and transport	No changes from the approved project	No additional measures required	N/A	Y	
Waste and resource management	No changes from the approved project	No additional measures required	N/A	Y	
Visual and urban design	No changes from the approved project	No additional measures required	N/A	Y	
Land use and property	No changes from the approved project	No additional measures required	N/A	Y	
Hazard and risk	No changes from the approved project	No additional measures required	N/A	Y	
Other	No other changes	No additional measures required	N/A	Y	

12. Consistency with the Approved Project

Question	Consider the following:
Is the project as modified consistent with the conditions of approval?	Yes. The proposed works would be consistent with the conditions of approval as they are temporary measures required to achieve the ultimate objective of the project
Is the project (including the proposed changes) consistent with the objectives and functions of elements of the Approved Project?	Yes. The changes identified in this assessment are consistent with the objectives and functions of the elements of the approved project as the changes are temporary measures required to complete the demolition of the acoustic shed and the reinstatement/realignment of Hickson road
Are the environmental impacts of the proposed change consistent with the impacts of the approved project?	Yes. The proposed works represent a negligible change to the to environmental impacts as assessed in the project approval.
Is the change within the envelope of what has been approved?	Yes. The changes identified in this assessment are consistent with the objectives and functions of the Approved Project and the environmental impacts been adequately assessed.
Are there any new environmental impacts as a result of the proposed works/project changes?	<p>All risks would be adequately addressed through the application of the mitigation measures presented above and in the attached Statement of Heritage Impact: Installation of temporary gas pipe, Hickson Road Retaining Wall and Cutting, Barangaroo (AMBS, March 2023) memo. The proposed works would not result in any new environmental impacts beyond those considered in the Approved Project.</p> <p>The proposed changes would have negligible or minor environmental impacts relative to the impact of the Approved Project. All impacts identified for the proposed change would be adequately mitigated through the application of the mitigation measures provided in the EIS, Submissions Report and conditions of approval.</p>
Are the impacts of the proposed activity/works known and understood?	<p>Yes. The impacts of the proposed works are understood and will be accounted for by implementing the control measures within this document, and the attached Statement of Heritage Impact: Installation of temporary gas pipe, Hickson Road Retaining Wall and Cutting, Barangaroo (AMBS, March 2023) memo.</p> <p>Similar works have occurred during the Barangaroo Heritage Wall Temporary Stormwater Relocation.</p>
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 on the environmental/heritage conditions on the Site.
Is the proposed change/s consistent with the approval (having regard to the above assessment)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

13. Other Environmental Approvals

Identify all other approvals required for the proposed works:	N/A
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14. Recommendation

Based on the above impact assessment, and with reference to the Sydney Metro Chatswood to Sydenham Environmental Impact Statement (May 2016), Submissions and Preferred Infrastructure Report (October 2016), the Conditions of Approval, Statement of Heritage Impact (Appendix A) and Hickson Road Wall Policy including the conditions of approval, it is recommended that:

Tick relevant box	
The proposed change has negligible or more than negligible impacts on the environment or community however is consistent with the Approval , including the conditions of approval. The proposed impacts are consistent with those assessed for the Approved Project (i.e., does not trigger a change to the conditions of approval).	✓
The proposed change is not consistent with the Approved Project including the conditions of approval and would be subject to a separate modification application.	
The proposed change is not substantially the same as the Approved Project and is considered a radical transformation. A new planning pathway should be considered.	

Author certification

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 change; and
- Examines the consistency of the proposed change with the Approved Project; is accurate in all material respects and does not omit any material information.

Name:	[REDACTED]	Signature:	[REDACTED]
Title:	Environmental Manager		
Company:	BESIX Watpac	Date:	08/03/2023

Environmental Representative Review

As an approved ER for the Sydney Metro City & Southwest (Chatswood to Sydenham) 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:	[REDACTED]	Signature:	[REDACTED]
Title:	Environmental Representative	Date:	24/3/2023

Assessment Supporting Signature

Application supported and submitted by

Name:	[REDACTED]	Date:	05/04/2023
Title:	Assoc. Director Planning Approvals	Comments:	
Signature:	[REDACTED]		

Assessment Endorsement

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

Yes The proposed change is consistent with the Approved Project and no further assessment is required.

No The proposed change is not consistent with the Approved Project.

A modification or a new activity approval/ consent is required. Advise Senior Project Manager of appropriate alternative planning approvals pathway to be undertaken.

Endorsed by			
Name:	[REDACTED]	Date:	05 April 2023
Title:	Executive Director Environment, Sustainability & Planning	Comments:	
Signature:	[REDACTED]		

Appendix A – Statement of Heritage Impact

MEMO



DATE: 13 March 2023

AMBS Ref: 20870M7

TO: [REDACTED], Senior Project Engineer, Watpac Besix Group

FROM: [REDACTED], Senior Historical Heritage Consultant, AMBS

SUBJECT: Statement of Heritage Impact: Installation of temporary gas pipe, Hickson Road Retaining Wall and Cutting, Barangaroo

The Sydney Metro & City Southwest project was approved by the Minister for Planning on 9 January 2017 as Critical State Significant Infrastructure. AMBS Ecology & Heritage (AMBS) was responsible for managing all heritage aspects of the Sydney Metro City & Southwest Chatswood to Sydenham Metro project TSE works, and production of the overarching Construction Heritage Management Plan for the project.

The construction of the new Barangaroo Station for the project involved substantial excavations for the station box in Hickson Road, adjacent to the Hickson Road Retaining Wall. The Barangaroo Station site is within the *Millers Point & Dawes Point Village Precinct*, which is Item 01682 on the State Heritage Register (SHR). The Precinct has identified historical, associative, aesthetic, and social significance, research potential, rarity and representativeness. The Hickson Road cutting and retaining wall is a contributory element to item 01682 and shares its State significant heritage values.

In 2017 AMBS prepared the *Statement of Heritage Impact (SoHI)* for the protective measures; rock anchoring and protective mesh, used to protect the wall during construction of the station box under Hickson Road. Additionally, a memo prepared by AMBS in April 2018 outlined specific details regarding the method of fixing the rockfall protective mesh as well as recommendations surrounding its future removal. In 2021 AMBS prepared a management document for the removal of the protective mesh (20870M1). In 2022 AMBS prepared a SoHI for the temporary diversion of stormwater lines along the wall (20870M5) and a methodology review for the removal of the rockfall mesh (20870M6).

The Minister's Condition of Approval relevant to the protection of heritage generally is:

E10 The Proponent must not destroy, modify or otherwise physically affect any Heritage item not identified in documents referred to in Condition A1 (which refers to the project EIS and PIR).

The current proposal for a temporary gas line to be attached to the Hickson Road cutting and retaining wall is required as part of the approved project. The temporary gas line will avoid significant disruption of gas supply. The pipe is an integral part of the gas network supplying gas to the customers at Walsh Bay. Condition E58 of the project approval states that:

The CSSI must be designed and constructed with the objective of minimising impacts to, and interference with, third party property and infrastructure, and that such infrastructure and property is protected during construction.

Where there is a conflict between conditions E10 and E58, the NSW Department of Planning and Environment requires a Statement of Heritage Impact to be prepared assessing the defined scope, followed by consultation with Heritage NSW. This SoHI meets that requirement. This SoHI has been prepared in accordance with the guideline documents *Statements of Heritage Impact* (Department of Planning and Environment, 2022) and *Material Threshold Policy* (Department of Planning Industry and Environment, 2022).

This SoHI was written by [REDACTED], AMBS Senior Historical Heritage Consultant, with advice from [REDACTED], AMBS Director Historic Heritage, who also reviewed this report.

Proposal

The proposal is to temporarily divert an existing gas line that is currently fixed to the acoustic shed. The acoustic shed is a temporary structure erected by the project on Hickson Road between the Munn Street and Windmill Street bridges. The gas line will need to be temporarily diverted so that the acoustic shed can be dismantled and Hickson Road can be reinstated.

The gas line is a 100mm diameter copper Type B pipe. The proposed diversion requires a vertical pipe to run between the footpath and an existing connection in the concrete section of the wall, located at approximately 11m above Hickson Road. The pipe would be an external fitting, attached to the face of the sandstone cutting with dual-anchored brackets at approximately 1m intervals.

Once the dismantling of the acoustic shed is complete, and Hickson Road is permanently reinstated, the temporary gas line will be removed from the face of the wall. It is expected that the temporary gas diversion will need to be in place for six months.

Heritage Context and Significance

The High Street retaining wall and cutting is a large-scale modification that was designed to allow the continuation of Sussex Street north along the steep and rocky shoreline to Miller's Point and Dawes Point. It incorporates both a cutting into sandstone bedrock and a retaining wall above. The wall and cutting together create a vertical face bordering the eastern side of Hickson Road for 300m from the Munn Street overbridge in the north, to the High Street Steps in the south. The wall and cutting continue to the north, partially interrupted by the Munn Street and Windmill Street bridges. In this area, a 29m-long section of cut sandstone displaying clear bedding planes and fissures is the dominant form.

The wall is a contributory element of the *Millers Point & Dawes Point Village Precinct* (SHR 01682). The Statement of Significance for the item makes particular reference to the setting and layout of the precinct, and the wall forms a distinctive landscape element in that setting. The Statement of Significance notes that the modifications and changes that have taken place in response to the engineering and building challenges on the peninsula have both capitalised on, and conflicted with its original form, which give it its unique character and are evidence of its development as a maritime cultural landscape:

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

In February 2017, GML Heritage prepared a Heritage Assessment of the High Street wall. The report details the contributory value of the wall to the significance of the *Millers Point & Dawes Point Village Precinct*. The supporting Statement of Significance for the wall is:

The Hickson Road Retaining Wall is a significant, contributory built element within the Millers Point and Dawes Point Village Precinct and the Millers Point Conservation Area, an intact residential and maritime precinct of outstanding state significance. The retaining wall is a dominant and relatively intact component of the extensive alterations to the natural topography of Millers Point designed to facilitate the management of cargo into and out of the new two-level finger wharves. The wall incorporated steps at its northern and southern ends to provide improved access to the wharves for stevedores and wharf workers who resided in Millers Point.

It provides a dramatic street edge to the eastern side of Hickson Road. The wall has landmark quality and displays an interface of fabrics, comprising the excavated rock face, cement render and masonry construction at the northern end of the wall. While there are varying degrees of erosion and deterioration to the stone/render, as well as intrusive fixtures, signage and penetrations, the retaining wall continues to define the edge of Millers Point and makes a positive contribution to the unique landscape character of Hickson Road.

The Hickson Road Retaining Wall holds social significance as it forms part of the 'Hungry Mile', a historic stretch of Sydney's waterfront where men and women would walk from wharf to wharf in search of employment during the Great Depression of the 1930s (2017:22-23)

Historical Context

A detailed history of the High Street wall and the surrounding area has been prepared by AMBS for the project in *High Street Cutting, Millers Point Statement of Heritage Impact* (AMBS Ecology & Heritage, 2017) and by GML in *Hickson Road Retaining Wall Heritage Significance Assessment* (GML Heritage, 2017). Comprehensive histories of the development of the Barangaroo station site and the local area including the High Street wall have also been prepared for the Barangaroo TSE works Archaeological Method Statement (Casey & Lowe, 2017) and the Barangaroo COP works Archaeological Method Statement (AMBS Ecology & Heritage, 2021).

These histories have been used to create and support the assessments and statements of significance which are referred to in this document and should be consulted if further background information is required. The below is a brief summary which contextualises the construction of the wall and its continued relevance to the local environment.

From the early nineteenth century, Millers Point was extensively quarried to supply the construction of housing and public infrastructure, such that the area around Kent and Windmill Streets was known as The Quarries. The quarry was worked by convicts who gradually formed the small local streets and modified the natural topography to form the escarpment which ran along Kent Street. The main access to the quarries and the few houses in the area was a rough path along the Darling Harbour foreshore to the northern extremity of the Point and the three windmills.

As the shoreline around the town became increasingly developed, waterfront space was at a premium, and new wharves and shipbuilding enterprises were forced to utilise the more difficult to access and less desirable parts of the harbour. As industry and trade intensified at the northern end of the eastern shore of Darling Harbour, pressures on the limited available access between - and to - the waterfront lots increased.

A new direct access was proposed from 1897 to connect the Maritime Services Board at West Circular Quay to the west side of the peninsular along Darling Harbour through Walsh Bay and Pyrmont to terminate at Harris Street. It was not until the establishment of the Sydney Harbour Trust that the proposal could be realised, and in 1909, work began on constructing Hickson Road. Between Munn Street and the present day location of the building at 30 Hickson Road, the process entailed cutting back the cliff face and constructing the retaining wall supporting High Street. The reinforced concrete bridges over Munn, Windmill and Argyle Streets were completed between 1910 and 1914.

The section along Hickson Road that is defined by the High Street wall is today representative of the depression-era district known as the 'Hungry Mile.' The name was given to the mile of wharves between Darling Harbour and Millers Point by the maritime workers who walked in the hope of casual low-paid work each day from the early twentieth century into the 1940s.

Analysis of the Proposed Works

Description of the works

The works will temporarily divert an existing gas line. The gas line is a 100mm diameter copper Type B pipe. The proposed diversion requires a vertical pipe to run between the footpath and an existing connection in the concrete section of the Hickson Road wall, located approximately 11m above Hickson Road. The pipe would be an external fitting, attached to the face of the sandstone cutting with dual-anchored brackets at approximately 1m intervals.

Reason for the new works

The existing gas line is attached to a temporary structure (an acoustic shed that was erected during the tunnelling stage of the project). The acoustic shed needs to be dismantled. The gas line has to be temporarily diverted from the structure to the wall before it can be permanently relocated once the reinstatement of Hickson Road between Munn Street and Windmill Street is complete. It is expected that the temporary gas diversion will need to be in place for six months.

Options Assessment

The options for relocating the gas main from the acoustic shed to a safe location are limited by the locations of the points that must be reconnected, and the logistics of removing the acoustic shed, which must be done before the gas main can be reinstated beneath Hickson Road. The options are summarised in Table 1.

Table 1: Options comparison

Option 1: Do nothing	It is not possible to disconnect and abandon this temporary pipe as it would cause significant disruption of gas supply. The pipe is an integral part of the gas network supplying gas to the customers at Walsh Bay.
Option 2: Reinstate the permanent gas main	The gas main cannot be reinstated until the acoustic shed has been demolished and stormwater, HV and water are reinstated below the gas line. The northern shaft needs to be backfilled and the acoustic shed needs to be demolished in order to switch the traffic to the western side of the road to enable access for trenching of the permanent gas main located under Hickson Road.
Option 3 (nominated option): Attach the temporary diversion to the face of the Hickson Road wall	This option would minimally impact significant fabric of the Hickson Road wall and create a temporary visual impact.
Option 4: Attach the temporary gas line to the Windmill Street bridge	The two points which the current diversion connects are an existing penetration at the top of the Hickson Road wall, and a subsurface line beneath Hickson Road. These two points limit the possible locations for the diversion. Utilising the bridge would incur impacts to the sandstone cutting beneath the bridge, and would also affect the fabric of the bridge itself. The area covered by the diversion would be greater than Option 3, and would directly impact two significant contributory elements of the <i>Millers Point and Dawes Point Village Precinct</i> .
Option 5: Locate the diversion behind the face of the Hickson Road wall	This option would conceal the diversion and avoid temporary visual impact but would require narrow trenching into the face of the wall and would create greater direct impact to significant fabric.



Figure 1: Location of the proposed works, acoustic shed and Hickson Road cutting and wall.

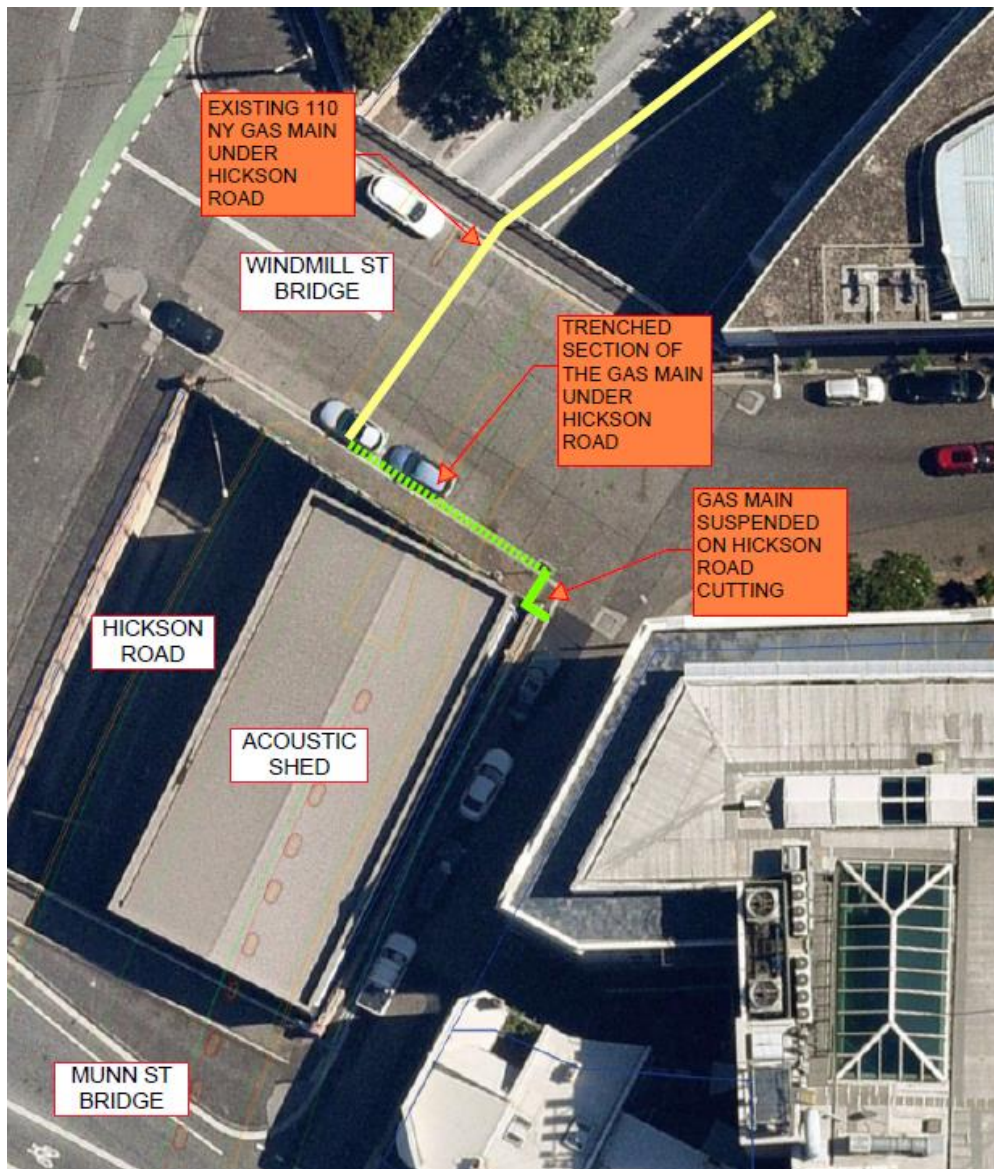


Figure 2: Detail of proposed works.

Area to be affected

The diversion will be attached to the face of the wall and cutting, partially beneath and immediately adjacent to the Windmill Street bridge, on the southern side.

The form of the wall in this location is largely cut sandstone bedrock, which rises up to 11m above the surface of Hickson Road between the two bridges. A concrete retaining wall up to 5m high has been constructed above the sandstone to support Windmill Street above.

The cut sandstone is characterised by deeply weathered bedding planes and vertical fissures. At the midpoint between the two bridges, the intersection of these perpendicular fractures has caused large pieces of sandstone to come away from the rock, either during the cutting process or in the subsequent years. The fracturing of stone at the centre of this section, as well as the strong horizontal lines created by the weathering bedding planes, creates the defining character of this section of the wall. The proposed gas diversion is located at the northern periphery of this section, where the bedding planes are interrupted by the arch and span of the Windmill Street bridge.

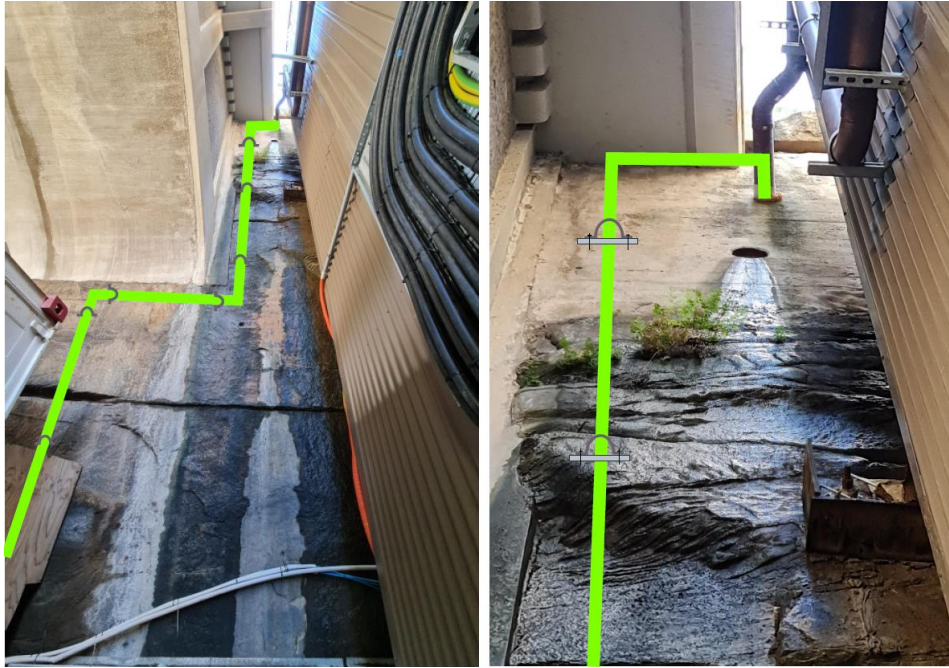


Figure 3: Illustration of the diversion.

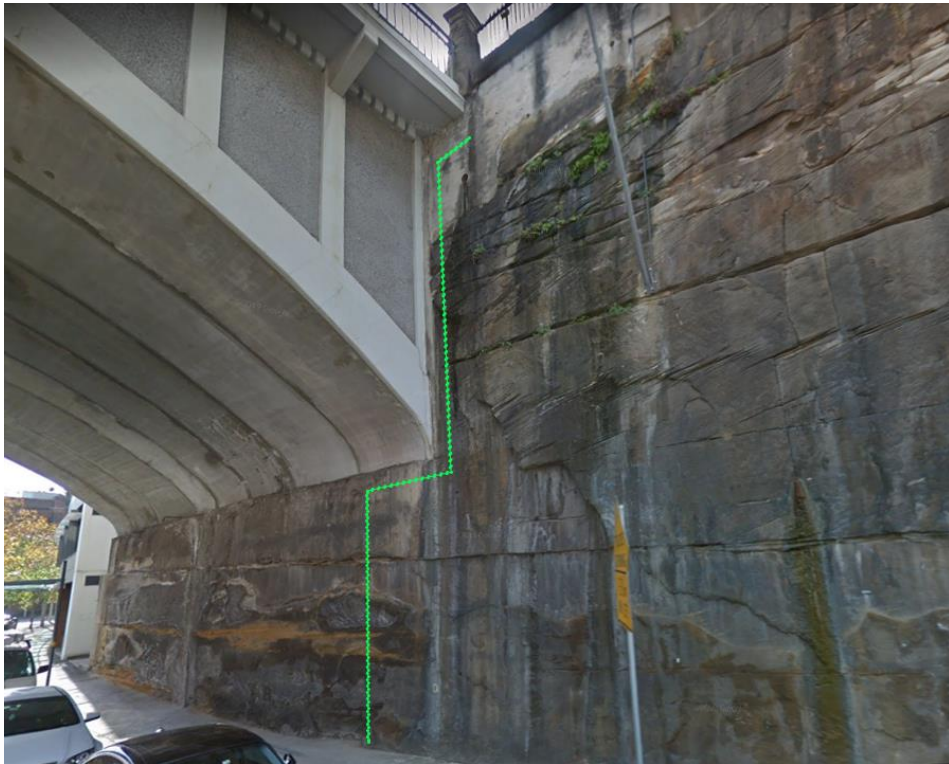


Figure 4: Proposed location of the gas diversion shown on a Google Street View capture taken in October 2014, before the acoustic shed was constructed. The Windmill Street bridge is at the left.

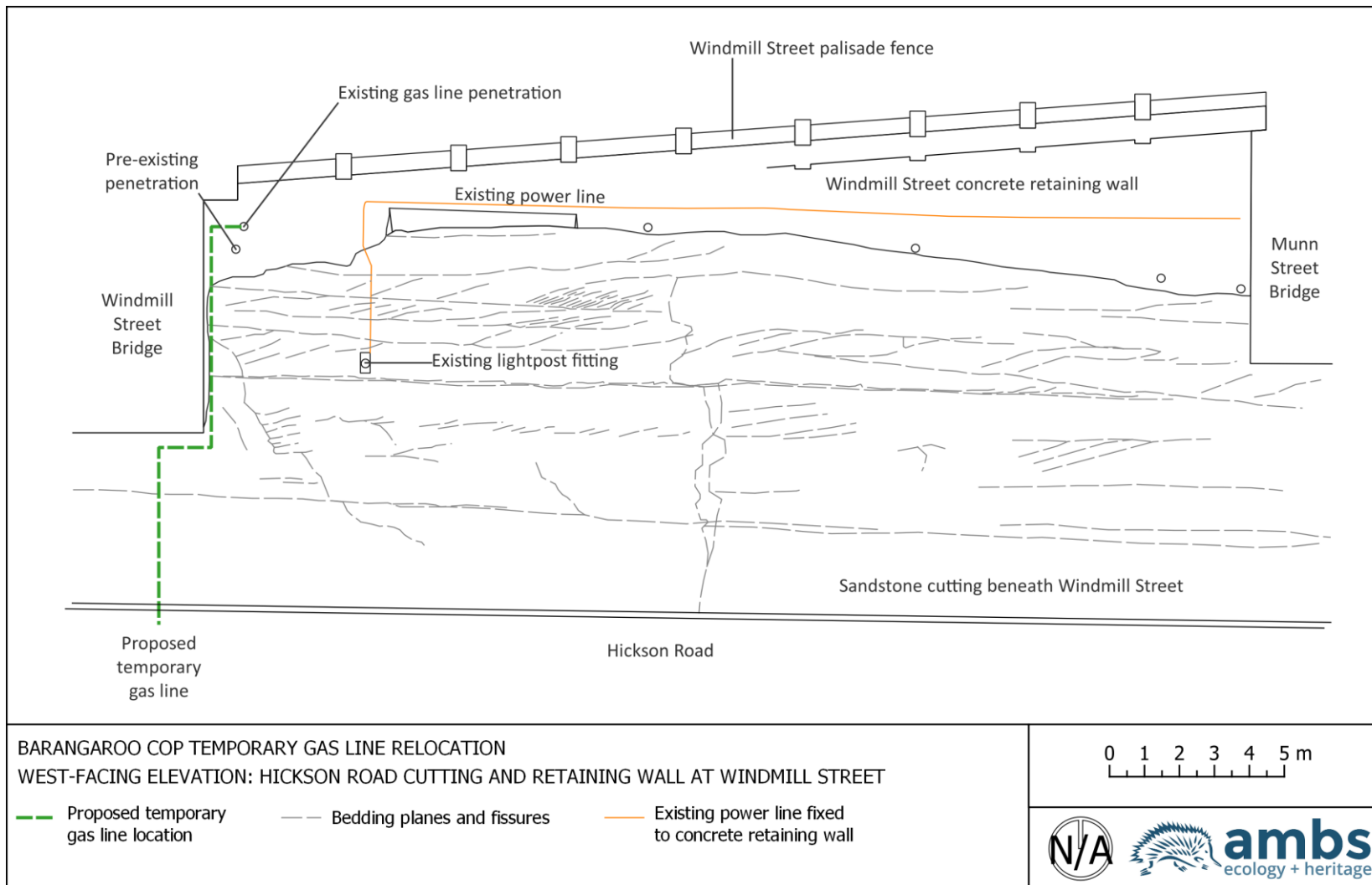


Figure 5: Elevation drawing of the wall between the Munn and Windmill Street bridges showing the fractures which characterise this part of the wall.

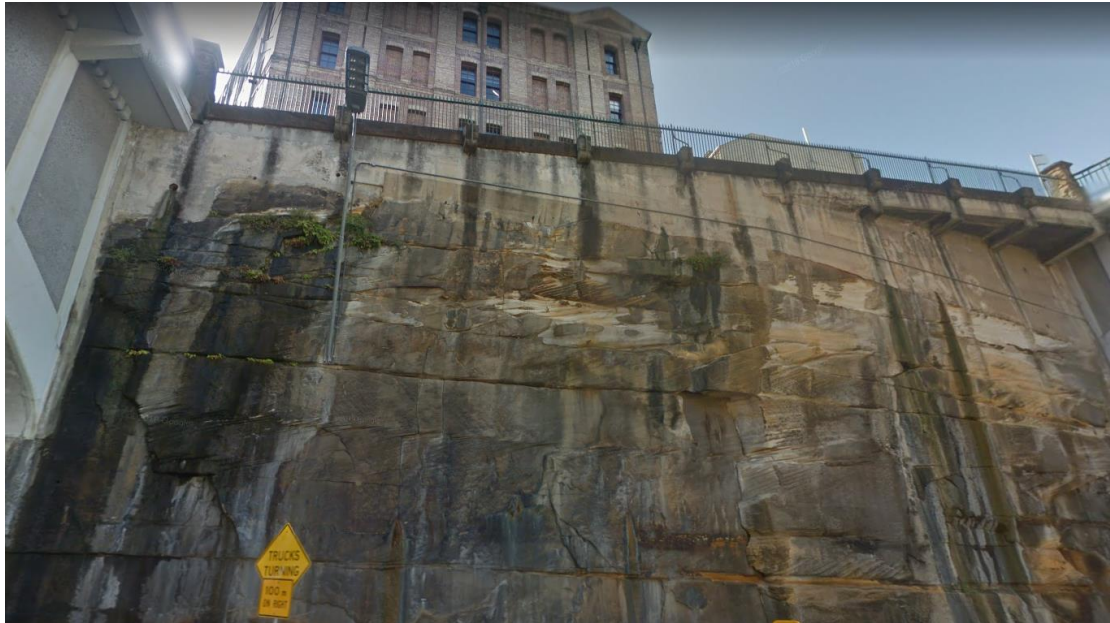


Figure 6: Google Street View capture of the affected section of the cutting taken October 2014, prior to the construction of the acoustic shed. The Windmill Street bridge is at the left.

Attaching the gas pipe to the Hickson Road wall and cutting

The pipe will be attached to the wall using 13 cantilevered two-piece channel clips (Figures 7-10). Each channel is 500mm long and will be secured to the wall with two 16mm anchors with 140mm embedment, using RE 500 epoxy. The RE 500 chemical anchor is appropriate for use in concrete and sandstone, in wet and dry conditions.

Locations for anchors will be selected that avoid natural or cut features in the sandstone surface. Anchors will be placed in flat sections of rock, uninterrupted by bedding planes or vertical fractures.

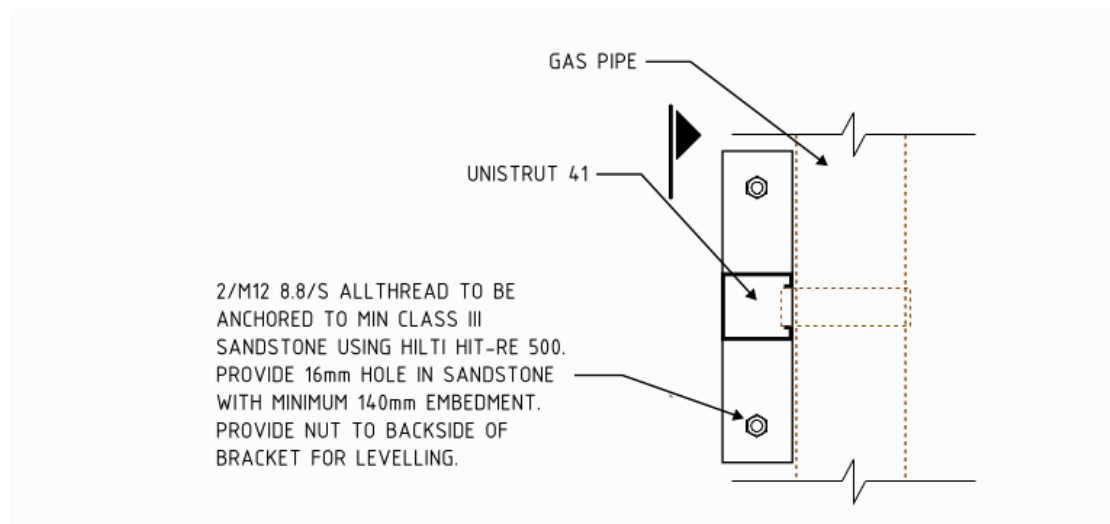


Figure 7: Type 1 bracket, vertical section, front view.

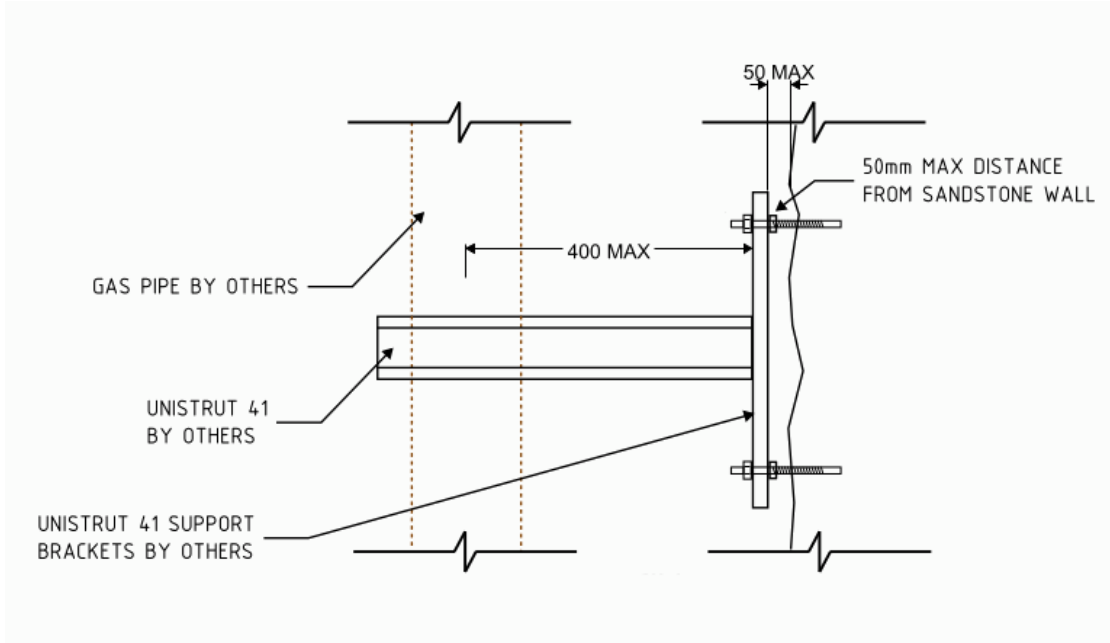


Figure 8: Type 1 bracket, vertical section, side view.

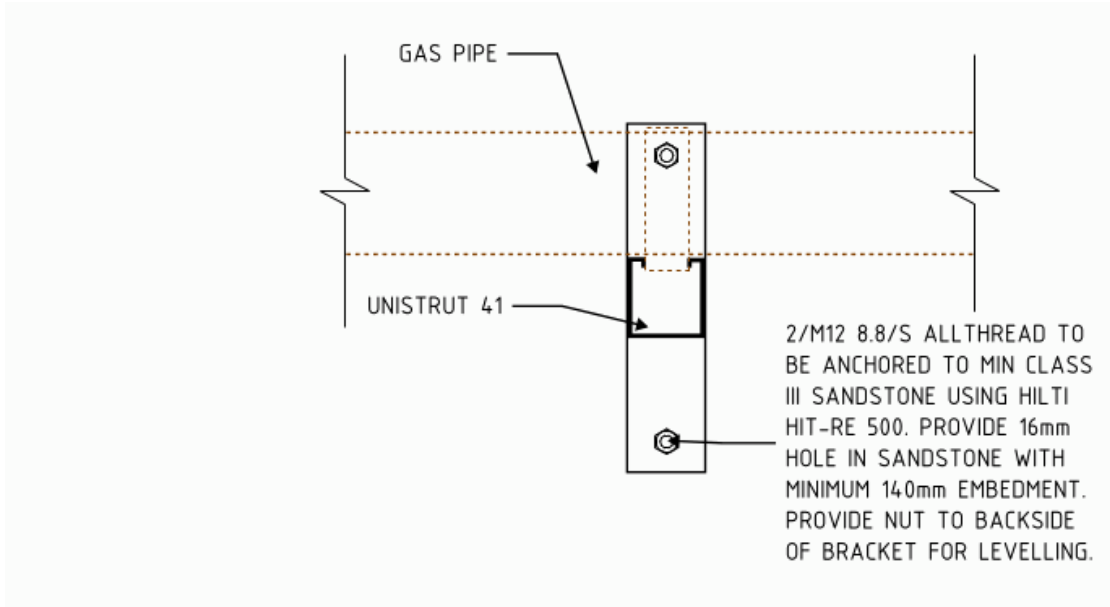


Figure 9: Type 2 bracket, horizontal section, front view.

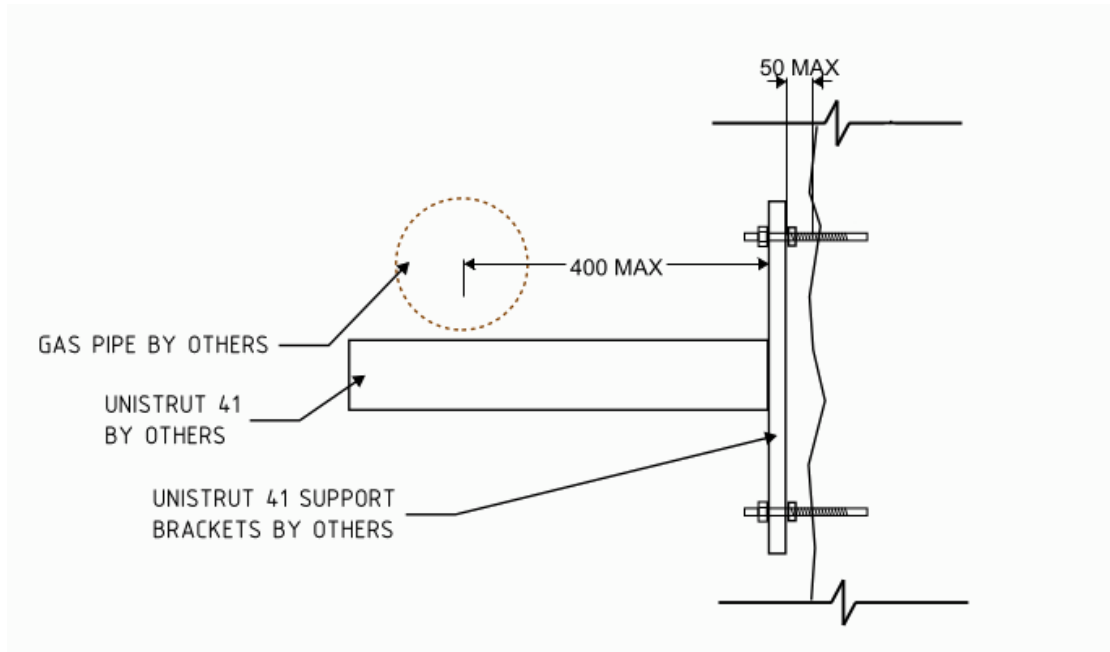


Figure 10: Type 2 bracket, horizontal section, side view.

Removing the temporary gas diversion

A stonemason will be engaged to conduct the bolt removal and undertake repairs to the wall. The chemically anchored bolt will be partially removed from the wall by coring around the anchor and removing a small amount of stone or concrete to allow each bolt and anchor to be cut back behind the face of the wall. The core will be sunk into the wall to an approximate depth of 100mm behind the existing wall line, and then the fabric around the anchor will be chiselled back to a depth of approximately 60mm.

The additional fabric removal will be required so that the bolt does not remain exposed to the elements once the bracket has been removed. Continued exposure will cause the bolt to corrode over time and expand and cause hairline fracturing in the surrounding fabric, and possible exfoliation of the sandstone.

The hole will then be cleaned out using compressed air to remove all debris from the hole. Renderoc HB40 will be used to fill the hole to a depth up to 40mm. On completion of the curing of the HB40, the area of the hole will be patched with a mortar repair.

For areas of cement render, the hole will be patched with a render matching the existing colour and texture of the render on the wall. The outside perimeter of the patch will be dovetailed to assist in keying in the new render patch and the wall will be primed to allow maximum adhesion.

Mortar repairs to the sandstone are to be executed using NHL-based custom repair mortar equal to Lithomex Natural Hydraulic Lime repair mortar or Westox Plastalite Hydraulic Limestone Repair Mortar. The stonemason will blend the sands on site as required to achieve a good colour match for the parent stone using inorganic pigments where necessary to achieve a good colour match to the sandstone. No cements will be used on any part of the sandstone wall.

The repairs will be misted down with clean water during the day to prevent shrinkage with the sun, wind, and other elements on the wall and cutting.

Assessment of Heritage Impact

The proposed diversion of the gas line has the potential to affect the State heritage significance of the *Millers Point & Dawes Point Village Precinct*. The High Street Retaining Wall has been identified as having historic, aesthetic and social significance, and should also be considered to have technical significance. The proposed temporary diversion represents a change to the High Street cutting and retaining wall, the impact of which is assessed below.

In 2021 GML Heritage prepared a conservation policy and guidelines document for the Hickson Road Retaining Wall (GML Heritage, 2021). The aims of the report were to address the management of physical and visual impacts to the wall and provide guidance on the management of works more generally within the heritage setting (2021, p. 1).

The document identifies key features of the wall that have a High significance value and are affected by the proposed methodology:

- The sandstone cliff face, incorporating the line dividing the sandstone from the rendered wall, the natural bedding planes of the rock, and the vertical fissures within the sandstone.
- The rendered concrete wall, consisting of concrete poured in situ, in discrete layers, the original render finish, areas of missing render exposing the concrete below, and areas of repaired render.

Conservation policies relating to the sandstone cliff face that are relevant to the current works (GML Heritage, 2021, pp. 14-15) include the following responsibilities, addressed in the table below:

Responsibility	Compliance
<p>Minimise new fixings into the wall. If fixings are used physical fixings are preferred over chemical anchors which could be difficult to remove and repair in the future without undue damage.</p> <p>Do not use fixing methods that will adversely impact the structure and fabric of the wall.</p>	<p>The fixings will be minimised by using the most direct route possible for the gas line. Chemical anchors will be used in order to minimise stress on the weaker points in the fractured sandstone. Expansion type anchors impart stress directly into the base material and require a greater distance from fracture edges. Chemical anchors can be placed closer to edges with less risk and the load is applied to the length of the embedment rather than being concentrated at limited points. Repairs will be by a heritage stonemason.</p>
<p>Fixing to the wall for new services, such as lighting, security or other structures, should be managed to minimise impacts on significance, particularly in association with the temporary works for the new Barangaroo Metro Station.</p>	<p>The proposed diversion is located at the northern periphery of this section of the wall, where the Windmill Street bridge already interrupts the continuity of the cutting. The location of anchors will avoid bedding planes, tool marks and other fractures.</p>
<p>When choosing fixing locations, use existing/earlier fixing points wherever</p>	<p>Fixings will be minimised. There are no existing fixings that can be utilised in this location.</p>

Responsibility	Compliance
possible in preference to creating new ones.	
<p>When fixing to significant fabric, choose a location that will be easy to repair and disguise should the fixing be removed at a later date.</p> <p>Do not fix in locations that will place significant fabric at risk of fracture, damage or failure.</p>	<p>Locations for anchors will be selected that avoid natural or cut features in the sandstone surface. Anchors will be placed in flat sections of rock, uninterrupted by bedding planes or vertical fractures.</p>
<p>All fixing methods must be tested first in a discrete, out-of-the-way location to ensure methods will be appropriate and can be removed if required with minimal negative impact.</p> <p>Fixing method and materials used must be chemically and mechanically compatible with both the substrate and the element to be fixed. There must be no risk of accelerated corrosion, staining, damage or other adverse effect.</p>	<p>This method of fixing has been tested and used elsewhere on the wall on a larger scale to attach the rock mesh along the wall to the south.</p>
<p>Exposed services (where essential to the work) must not detract from the quality of the place.</p>	<p>The proposed diversion is located at the northern periphery of this section of the wall, where the Windmill Street bridge already interrupts the continuity of the cutting. The location of anchors will avoid bedding planes, tool marks and other fractures. The visual interruption of the vertical gas line will be temporary, and while in place will be located to avoid clashing with the most prominent features of the cutting, and will not further interrupt the lines of the bedding planes with the exception of those located beneath the Windmill Street bridge.</p>
<p>Fixing methods must be reversible, allowing later removal of the element, repair or refixing without risk of damage to the surrounding or significant material.</p> <p>Retain the evidence of the natural and built features within the rock, including the sandstone bedding planes, vertical fissures and evidence of former structures attached to the vertical surface.</p>	<p>Anchors and bolts will avoid fissures and joints between bedding planes. Anchors and bolts will not be placed in the vicinity of evidence of former structures.</p> <p>The repairs will imitate the qualities of the surrounding rock as best as possible to retain the natural appearance of the sandstone areas of the wall. The stonemasons will blend the sands on site as required to achieve a good colour match for the parent stone using inorganic pigments where necessary to achieve a good colour match to the sandstone. Repairs to the sandstone will be limited to a small area around each 16mm anchor.</p>

Responsibility	Compliance
<p>Maintain the original line defining the top of the natural sandstone cliff edge and the concrete wall.</p> <p>Avoid 'creep' of the render zone over the original sandstone surface. Original sandstone should be retained in preference to new render repairs over the sandstone surfaces as a remedy for irregular stone or 'faults'. New areas of render should only be undertaken after careful consideration of other options for surface stabilisation, and approved by a heritage consultant.</p>	<p>All patching will match the surrounding fabric. No cements will be used on any part of the sandstone wall.</p>
<p>Do not render or paint or apply coatings (including sealants) over the sandstone surface.</p>	<p>Mortar repairs to the sandstone will be executed using non-reactive products. Repairs will be limited to a small area of around the 16mm anchors/bolts only. No coatings or sealants will be painted over the sandstone.</p>

Conservation policies relating to the cement-rendered concrete wall that are relevant to the current works (GML Heritage, 2021, p. 15) include the following responsibilities addressed in the table below:

Responsibility	Compliance
<p>Retain the original cement render finish where possible.</p>	<p>Anchor points will be minimised to 4 locations on the concrete section of the wall. The repair methodology is to remove only what is necessary to patch the anchor/bolt locations.</p>
<p>Do not paint or apply coatings (including sealants) over rendered surface unless this follows specialist materials conservation advice.</p>	<p>No coatings or sealants will be applied over the rendered surface.</p>
<p>New render repairs are to involve only necessary patching which match in mix/composition, colour, grain, and texture (note: the render has visible shell aggregate in the mix). Patch the wall with a matching render in colour and texture. All new render is to respect/recreate the scored ashlar pattern which imitates large blockwork units. A specification should be prepared for all future render repairs. This would involve, in the first instance, render sample analysis (to determine materials composition/mix), sourcing of matching materials and application methodology.</p>	<p>The area of the repair after the anchors are removed will be patched with a cement render matching the existing colour and texture of the render on the wall. Shell aggregate will be added to the mix to match the existing render where appropriate. The outside perimeter of the patch will be dove-tailed to assist in keying in the new render patch and the wall will be primed to allow maximum adhesion.</p> <p>A record of the mix used will be documented for future repairs.</p>

The guidelines for works to heritage fabric (p. 19) include the following general principles:

- Conserve and re-use all sound original/early fabric where possible.
- Ensure that whenever early fabric is dismantled for repair, the work is done in such a way as to retain as much of the original fabric as possible.
- Ensure significant early fabric is protected from ongoing deterioration by undertaking appropriate repairs using specified and/or otherwise approved methods and materials.
- Ensure that whenever fabric is removed it is done carefully, so as to retain maximum original fabric.
- Ensure that all new work to replace damaged and/or missing components and/or fabric matches the significant early materials and detail identified on site. Prior to commencement, a selected section/component of original work will be nominated by the heritage consultant, in consultation with the contractor, as a suitable sample for matching.
- Conserve the cement-rendered concrete retaining wall – this may involve removing drummy render sections and redoing past patching that has poor render matching.

The proposed methodology for repairing the wall after the temporary gas line is removed complies with the recommendations set out in the 2021 Conservation Policy and Guidelines.

The following aspects of the proposal respect the heritage significance of the item or conservation area for the following reasons:

The proposed diversion is located at the northern periphery of this section of the wall, where the Windmill Street bridge already interrupts the continuity of the cutting. The location of anchors will avoid bedding planes, tool marks and other fractures. The visual interruption of the vertical gas line will be temporary, and while in place will be located to avoid clashing with the most prominent features of the cutting, and will not further interrupt the lines of the bedding planes with the exception of those located beneath the Windmill Street bridge. The proposed diversion respects the significance of the item by avoiding and minimising visual and physical impacts wherever possible.

The following aspects of the proposal could detrimentally impact on heritage significance. The reasons are explained as well as the measures to be taken to minimise impacts:

The temporary attachment of the gas line to the face of the wall will have an adverse effect on the aesthetic values of the wall. The assessment of significance for the wall recognises that:

The wall is aesthetically significant and exhibits landmark quality with its dominant, fortress-like scale and gradual dipping in response to the V-shaped original topography of what became High Street. It also displays an interesting interface of fabrics, comprising the excavated rock face, cement render and masonry construction at the northern end of the wall.

The 16mm diameter penetrations in the concrete and the cutting will have an overall minor impact on the significant fabric of the item. Penetrations into the significant fabric will be limited to the smallest area possible, at a peripheral location in this section of the wall. The impact locations will be made good in a manner in keeping with the heritage significance of the wall.

The dominant aesthetic in this section of the wall - which is embodied in the natural and human-made fractures in the 11m-high rock face - operates on a different visual scale to that of the penetrations. As such, the proposed anchor impacts will not affect the landmark qualities of the wall or reduce its readability and significance in the landscape.

In addition, all visual impacts should be considered in the context of the current Hickson Road environment. Approved construction works, including the demolition of the temporary acoustic shed over Hickson Road immediately in front of the wall, will be taking place for the duration of the temporary gas diversion. Views to and from the item during this time will be obscured and limited by the lack of public access, and the movement, use and installation of plant and construction infrastructure that will be required to undertake the works. In this context, the new works are unlikely to significantly alter the existing approved visual impact. As such there will be a minor temporary impact on the aesthetic significance of the High Street wall as an integral element of the *Millers Point & Dawes Point Village Precinct*.

The only sympathetic solution which would avoid any impacts to significant fabric is to cut the line off and cap the pipe for six to nine months while the acoustic shed is being dismantled and the other, deeper services are reinstated beneath Hickson Road. As this would significantly disrupt gas supply to properties in Walsh Bay, this option is not considered to be a reasonable solution.

The Heritage NSW guideline document *Statements of Heritage Impact* (Department of Planning and Environment, 2022) recommends that the following should be considered when assessing the installation of new services:

How has the impact of the new services on the heritage significance of the item been minimised?

The gas diversion will take the most direct route between the two existing connection points and will utilise 16mm anchors in 13 locations to secure the line. All anchor points will avoid bedding planes and vertical fractures which create the dominant character of the wall in this location. The line will be located at the periphery of this section of the wall, where the continuity of the cutting face is already interrupted by the arch of the Windmill Street bridge.

Are any of the existing services of heritage significance? In what way? Are they affected by the new work?

None of the existing services connected with, or in the vicinity of the diversion are of heritage significance.

Has the advice of a conservation consultant (e.g. architect) been sought? Has the consultant's advice been implemented?

The repair methodology which will be used to patch the anchor locations after the temporary line has been removed has been prepared by (and will be undertaken by) a heritage stonemason. All repairs including mortar mix will be approved by a heritage specialist/architect in accordance with the *Hickson Road Retaining Wall Barangaroo: Conservation Policy and Guidelines* (GML Heritage, 2021).

Are any known or potential archaeological deposits (underground and under floor) affected by the proposed new services?

No potential archaeological deposits will be affected by the works.

Statement of Heritage Impact

The High Street cutting and retaining wall is a contributory element of the state heritage significant *Millers Point & Dawes Point Village Precinct*. The cutting and retaining wall is a prominent landmark defining the separation of wharfage from the residential areas of Millers Point. The cutting and retaining wall has particular social significance as part of the 'Hungry Mile', the name given to the mile of wharves between Darling Harbour and Millers Point by the maritime workers who walked in the hope of casual low-paid work each day from the nineteenth century into the 1940s. As such, protection of the heritage significance of the High Street cutting and retaining wall as an element of the *Millers Point & Dawes Point Village Precinct* has been an important consideration in the design of the temporary gas diversion.

The temporary pipe would be in place only during the demolition of the acoustic shed and the works to reinstate Hickson Road. These works will severely limit access and views to and from the item, minimising the visual impact that the installation of the pipe will create.

There will be non-reversible impacts to significant fabric that will be minor in nature considering the relative scale of the rock face and wall. All impacts will be mitigated by make good works that will replicate the removed material. The impacts will be limited to a narrow section of the wall adjacent to the Windmill Street bridge, which itself interrupts the continuity of the wall and cutting.

There will be a minor physical impact to the significant fabric, but a negligible, if any, impact to the heritage significance of the High Street Wall. There will have a negligible short-term visual impact on the heritage significance of the *Millers Point & Dawes Point Village Precinct*, in its entirety.

Mitigation

Article 3 of the Burra Charter recommends a conservative approach based on a respect for the existing fabric, use, associations and meanings. It requires a cautious approach to conservation by changing as much as necessary but as little as possible. The repair material used to patch the anchor locations will be as near to the surrounding fabric in composition as possible to minimise an adverse effect on the aesthetic significance of the item.

The following recommendations are aimed at ensuring that heritage values are protected:

Recommendation 1

A photographic recording of the affected areas should be made prior to and on completion of works to ensure that there is a record of the changes to the face of the wall. The recording should be in accordance with the Heritage Council guideline publication Photographic Recording of Heritage Items Using Film or Digital Capture (revised 2006).

The significance of the High Street cutting and retaining wall as a contributory item of the state heritage *Millers Point & Dawes Point Village Precinct* should be understood by all on-site staff and construction team to ensure that no inadvertent damage is done to the wall.

Two archival recordings were undertaken by Alexander Mayes, of the High Street Wall in November 2017 and the Hickson Road Bridges in April 2018 which fulfill the requirements of this recommendation.

Recommendation 2

Prior to works commencing, all on-site staff should be briefed on the heritage requirements of the High Street Cutting and retaining wall, its heritage significance and the value of its fabric.

There is potential for damage to the wall during the process of installing the temporary gas line, and during the dismantling of the acoustic shed. Care should be taken during all works in the vicinity of the wall and cutting.

Recommendation 3

A heritage specialist/architect should specify the mortar mix used in any repairs.

Recommendation 4

This document shall be completed in consultation with the Heritage Council of NSW (or its delegate) and submitted to and approved by the Planning Secretary.

Conclusion

The temporary pipes will be largely obscured by approved construction works along Hickson Road which will negate any visual impact.

All replacement services are temporary. There will be no permanent or long-term surface-mounted services. Existing service routes will be reinstated following the temporary works. Repairs to the penetrations will match the existing render in accordance with the *Hickson Road Retaining Wall Barangaroo Conservation Policy and Guidelines* (GML 2021).

The proposed works are minor in nature and will have a negligible, if any, impact on the significance of the *Millers Point and Dawes Point Village Precinct* (SHR 01682).

References

AMBS Ecology & Heritage (2017) *High Street Cutting, Millers Point Statement of Heritage Impact*. Consultancy report to John Holland CPB Ghella Joint Venture.

AMBS Ecology & Heritage (2018) *High Street Wall Rockfall Protective Mesh, Memo*. Prepared for John Holland CPB Ghella Joint Venture.

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Casey & Lowe (2017) *Barangaroo Station Hickson Road, Barangaroo Sydney Metro Project Archaeological Method Statement*, Report to AMBS on behalf of John Holland CPB Ghella JV.

Department of Planning and Environment (2022) *Statements of Heritage Impact*.

Department of Planning Industry and Environment (2022) *Material Threshold Policy*.

GML Heritage (2017) *Sydney Metro City & Southwest Technical Services: Hickson Road Retaining Wall Heritage Significance Assessment Technical Report* Report prepared for AECOM Australia and Parsons Brinckerhoff Australia on behalf of Transport for NSW Sydney Metro City & Southwest.

GML Heritage (2021) *Hickson Road Retaining Wall Barangaroo: Conservation Policy and Guidelines*, Report prepared for Sydney Metro April 2021.

Appendix B - Consultation

Sydney Metro Heritage Working Group



SAFETY & WELLBEING



COLLABORATION



INTEGRITY



INNOVATION



EXCELLENCE



ACHIEVEMENT

Date/Time:	Wednesday 15 March 2023 10:00am - 11:00pm	
Location:	Teams Meeting	
Chair:	[REDACTED]	
Invitees:		
[REDACTED]	CS	Sydney Metro
[REDACTED]	CR	Sydney Metro
[REDACTED]	BH	Sydney Metro
[REDACTED]	FC	Sydney Metro
[REDACTED]	DV	Sydney Metro
[REDACTED]	GW	Sydney Metro
[REDACTED]	NP	Sydney Metro
[REDACTED]	CD	Sydney Metro
[REDACTED]	VM	TfNSW
[REDACTED]	MR	Sydney Metro
[REDACTED]	AF	Sydney Metro
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[REDACTED]	LM	Planning NSW
[REDACTED]	KN	Planning NSW
[REDACTED]	SK	Planning NSW
[REDACTED]	SC	Planning NSW
[REDACTED]	TS	Heritage NSW
[REDACTED]	RJ	Heritage NSW
Apologies:		
Guests:		
[REDACTED]	JD	Sydney Metro
[REDACTED]	DK	BESIX Watpac
[REDACTED]	AR	BESIX Watpac
[REDACTED]	MH	AMBS Consulting
[REDACTED]	JL	AMBS Consulting

iCentral Reference: [enter iCentral number]



(Uncontrolled when printed)

Item	Time	Agenda item	Responsible
1.	10:00	Acknowledgement of Country	■
2.	10:05	Introductions	■
3.	10:10	Presentation on the SOHI: Installation of temporary gas pipe, Hickson Road Retaining Wall and Cutting, Barangaroo	■
4.	10:40	Discussion	■
5.	11:00	Meeting close	■

Sydney Metro Heritage Working Group



SAFETY & WELLBEING



COLLABORATION



INTEGRITY



INNOVATION



EXCELLENCE



ACHIEVEMENT

Date/Time:	Wednesday 15 March 2023 10:00am - 11:00pm	
Location:	Teams Meeting	
Chair:	Georgia Wright	
Invitees:		
[REDACTED]	CS	Sydney Metro
[REDACTED]	CR	Sydney Metro
[REDACTED]	BH	Sydney Metro
[REDACTED]	FC	Sydney Metro
[REDACTED]	DV	Sydney Metro
[REDACTED]	GW	Sydney Metro
[REDACTED]	NP	Sydney Metro
[REDACTED]	CD	Sydney Metro
[REDACTED]	VM	TfNSW
[REDACTED]	MR	Sydney Metro
[REDACTED]	AF	Sydney Metro
[REDACTED]	GS	TfNSW
[REDACTED]	MG	TfNSW
[REDACTED]	GB	Planning NSW
[REDACTED]	LM	Planning NSW
[REDACTED]	KN	Planning NSW
[REDACTED]	SK	Planning NSW
[REDACTED]	SC	Planning NSW
[REDACTED]	TS	Heritage NSW
[REDACTED]	RJ	Heritage NSW
[REDACTED]	RB	Heritage NSW
[REDACTED]	ME	Heritage NSW

Apologies:		
[REDACTED]	CR	Sydney Metro
[REDACTED]	BH	Sydney Metro
[REDACTED]	FC	Sydney Metro
[REDACTED]	DV	Sydney Metro

Guests:		
██████████	JD	Sydney Metro
██████████	AR	BESIX Watpac
██████████	MH	AMBS Consulting
██████████	JL	AMBS Consulting

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Agenda Item	Minutes
1.	Acknowledgement of Country
2.	<p>Introductions</p> <ul style="list-style-type: none"> Round of introductions – all members GW: Introduced the agenda item for the meeting and noted that the minutes from Heritage Working Group will be used as evidence of consultation with Heritage NSW, in addition to sending the report on the matter to Heritage NSW for comment.
3.	<p>Presentation on the SOHI: Installation of temporary gas pipe, Hickson Road Retaining Wall and Cutting, Barangaroo</p> <p><i>Presented by ██████████, AMBS Consulting</i></p> <ul style="list-style-type: none"> ████ provided an overview of the need for the temporary gas diversion ████: indicated the location of the gas diversion (north of the study area) & the unique characteristics of the Hickson rd as it cuts into bedrock. The proposal is to divert the gas line; The assessment is to provide a SOHI for the diversion, understanding the heritage significance of the Hickson rd retaining wall and cutting and the millers point & Dawes point village precinct (SHR 01682) ████: demonstrated the dramatic role that the wall cutting presents, and that although there are several penetrations it is still very contributory for the character of the Hickson rd ████: presented 5 options for diversion/actions. Leave as is, reinstate the permanent gas main, attach the temporary diversion to the face of the Hickson road wall (proposed); attach the temporary gas line to the Windmill St bridge; or locate the diversion behind the face of the Hickson rd wall. ████: presented how the gas pipe will be attached using 13 cantilevered two-piece channel clips ████ indicated that for removing the gas pipe, stonemason will be engaged to conduct the bolt removal and undertake repairs to the wall. No cements will be used, mortar repairs will be preferred instead. ████: presented the guidelines on the policies that explain the responsibility and compliance for the diversion. Key ones are related to the mortar, fixing methodology – existing fixing is not possible, but the selected option aims to minimise new fixings. Other important key points are location that avoids visual impacts – if any; fixing methods aren't reversible but there is a very robust methodology for fixing the 16mm punctures on the wall. ████: concluded with a statement that the proposed works will be minor in nature given the scale of this item

Agenda Item	Minutes
4.	<p style="text-align: center;">Discussion</p> <ul style="list-style-type: none"> Discussions about bolt selection ME enquired about the actual dimensions of core holes (16mm). MH indicated that it would be preferable to have an engineer answering questions regarding bolt selection, diameter and fixings. Further information to be provided on submission of the report to Heritage NSW for comment. TS raised an observation that he supports option 3, but would also like to indicate that the colour pallette for the make good works should match the sandstone in colour and texture JL indicated that some of the colour difference on the wall appears to be associated with aging and/or pollution Overall, the proposed is supported considering the details of dimensions and spacing are clarified.
5.	<ul style="list-style-type: none"> █ closed the meeting at 10:45 as no more questions were raised.

Action	Agenda Item	Responsible	Action
1	4	Sydney Metro	Provide engineer's comments regarding bolt selection, diameter and fixings

From: [REDACTED]
To: [REDACTED]
Subject: FW: SOHI for Hickson Road gas diversion to send to Heritage NSW
Date: Friday, 31 March 2023 12:15:07 PM
Attachments: [image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)
[image010.png](#)

From: [REDACTED]
Sent: Friday, 31 March 2023 12:13 PM
To: [REDACTED]
[REDACTED]
Cc: [REDACTED]
[REDACTED]
Subject: RE: SOHI for Hickson Road gas diversion to send to Heritage NSW

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi [REDACTED]

Thank you for your request to review the SOHI for diversion of a gas main at Hickson Road Retaining Wall as part of the approved Sydney Metro – Chatswood to Sydenham project (SSI-7400). As noted in your email, where there is a conflict in approval conditions, the NSW Department of Planning and Environment requires a Statement of Heritage Impact to be prepared assessing the defined scope and consultation with Heritage NSW.

The following has been considered in preparing this response:

- Memo, *Statement of Heritage Impact: Installation of temporary gas pipe, Hickson Road Retaining Wall and Cutting, Barangaroo*, prepared by AMBS, dated 13 March 2023.
- Email, *SOHI for Hickson Road gas diversion to send to Heritage NSW*, from Cath Snelgrove, dated 21 March 2023.

It is understood the works are for the diversion of a gas main, which requires attachment to the Hickson Road retaining wall and comprises a vertical 100mm pipe attached with dual-anchored brackets at 1m intervals. The wall is a contributory element of the Millers Point & Dawes Point Village Precinct (SHR 01682). The works are minor in nature and impacts, are for a temporary duration of 6 months and are required to maintain the gas supply. Once works in the area are completed, the diversion pipe will be removed using appropriate methods as described in the SOHI.

This response is to advise that the SOHI and additional information has adequately assessed the heritage impacts and provides rationale for the proposed methodology, consistent with minimising heritage impacts and impacts to significant fabric. The works are suitable to proceed in accordance with the SOHI.

Should you have any queries on this response, please contact [REDACTED] on [REDACTED] or via email [REDACTED].

Regards

Rochelle

[REDACTED]
Senior Manager – Major Projects
Heritage NSW
Department of Planning and Environment

[REDACTED]
[REDACTED]
dpie.nsw.gov.au

Level 14
4 Parramatta Square
Parramatta NSW 2150

Working days Monday to Friday, 09:00am - 05:00pm



I acknowledge the traditional custodians of the land and pay respects to Elders past and present. I also acknowledge all the Aboriginal and Torres Strait Islander staff working with NSW Government at this time.

Please consider the environment before printing this email.

From: [REDACTED]
Sent: Friday, 31 March 2023 11:59 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: SOHI for Hickson Road gas diversion to send to Heritage NSW

Dear [REDACTED]
Did you have any comments on this?
Let me know if you need more time.

Regards

[REDACTED]

From: [REDACTED]
Sent: Tuesday, 21 March 2023 3:43 PM
To: [REDACTED]
Cc: OEH HD Heritage Mailbox <heritagemailbox@environment.nsw.gov.au>; Georgia [REDACTED]
Subject: FW: SOHI for Hickson Road gas diversion to send to Heritage NSW

Dear [REDACTED]

As discussed at the March Sydney Metro Heritage Working Group, there is a proposal for a temporary gas main to be attached to the Hickson Road Retaining Wall as part of the approved Sydney Metro – Chatswood to Sydenham project (SSI-7400). The temporary gas main is required to avoid significant disruption of gas supply. Condition E58 of the approval states that:

The CSSI must be designed and constructed with the objective of minimising impacts to, and interference with, third party property and infrastructure, and that such infrastructure and property is protected during construction.

Where there is a conflict between conditions E10 and E58, the NSW Department of Planning and Environment requires a Statement of Heritage Impact to be prepared assessing the defined scope and consultation with Heritage NSW. The attached SOHI is provided to fulfil the requirement to consult with Heritage NSW. Please provide any comments by **Friday 31 March 2023**. Please advise by Friday 24th March if you do not intend to provide comment.

Heritage NSW raised the questions during Heritage Working Group in relation to the diameter of the bolts and the justification for using chemical anchors over physical ones. [REDACTED] AMBS provided a preliminary response; however, please see additional information from the contractor's project engineer below for your consideration.

One was regarding the diameter of the bolts vs the diameter of the core holes that will be needed for the bolts. IE if it is a 16mm bolt what is the diameter of the core hole needed (assuming it needs to be wider to allow for the epoxy etc)? we will use M12 bolts (16mm hole), which will be cored using 20mm dia

The other was regarding justification for using chemical anchors (the epoxy) over physical ones (an expansion bolt). The discussion in the meeting was regarding the chemical anchors having been used previously and that they distribute the load more evenly across the wall rather the anchor bolts potentially increasing the stress on the existing faults and fractures. Correct. Chemical anchors induce least amount of pressure and damage on the structure and ensure that the anchors cannot be pulled off accidentally, causing damaged edges.

Please do not hesitate to contact me or [REDACTED] should you wish to discuss this matter further.

Kind regards

[REDACTED]
Senior Heritage Advisor
Sydney Metro

M 0408 240 224

Level 43, 680 George Street, Sydney NSW 2000

PO Box K659, Haymarket NSW 1240

sydnymetro.info



I acknowledge the Aboriginal people of the Country on

which I work, their traditions, culture and a shared history and identity. I also pay my respect to Elders past and present and recognise the continued connection to Country.

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