Review of Environmental Factors Addendum

IN.P0000434 Potts Hill pressure tunnel shutdown and inspection enabling work

Determination

This Review of Environmental Factors Addendum (REFA(B)) assesses potential environmental impacts of enabling work, which are required before the proposed winter 2027 shutdown and inspection of the pressure tunnel (the proposal change). The REFA was prepared under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), with Sydney Water both the proponent and determining authority.

The Sydney Water Project Manager is accountable for ensuring the proposal change is carried out as described in this REFA(B) and the following associated approvals:

- Pressure Tunnel Inspection Review of Environmental Factors (August 2025) (approved REF)
- Pressure Tunnel Shutdown Ausgrid electrical work (March 2026) (approved REFA(A))
- Pressure Tunnel shutdown and inspection – revised groundwater dewatering volume (June 2026) (approved REFA(C)).

Additional environmental impact assessment may be required if the scope of work or work methods described in this REFA(B) change significantly following determination.

Certification

I certify that I have reviewed and endorsed this REFA(B), and, to the best of my knowledge, it is in accordance with the EP&A Act and the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation). The proposal has been considered against matters listed in section 171 (Appendix A) and the guidelines approved under section 170 of the EP&A Regulation. The information it contains is neither false nor misleading.

Prepared by:	Reviewed and endorsed by:	Endorsed by:
[redacted]	Lisa Montesin Senior Environmental Scientist Sydney Water Date: 01/07/2026	[redacted] Sameed Ejaz Project Manager Sydney Water Date: 01/07/2026
James Salinas Environmental Scientist Sydney Water Date: 01/07/2026		

Decision Statement

The main potential additional construction environmental impacts of the proposal change include impacts to non-Aboriginal heritage, noise amenity, access and the disturbance of contaminated soils and hazardous built materials. No impacts are anticipated from the operation of the proposal change. The proposal will not be

carried out in a declared area of outstanding biodiversity value and is not likely to significantly affect threatened species, populations or ecological communities, or their habitats. Therefore, a Species Impact Statement (SIS) and/or Biodiversity Development Assessment Report (BDAR) is not required.

Given the nature, scale and extent of impacts and implementation of the mitigation measures outlined in this REFA(B), the proposal is unlikely to have a significant impact on the environment. Therefore, we do not require an Environmental Impact Statement (EIS) and the proposal may proceed.

Determined by: [redacted]

Elissa Howie, A/Senior Manager Environment and Heritage, Sydney Water

Date: 07/07/2026

1 Proposal description

Table 1-1 Proposal need, objectives and consideration of alternatives

Aspect	Relevance to proposal change
Approved REF and REFA	• approved REF (August 2025) • approved REFA(A) (March 2026) • approved REFA(C) (June 2026).
Proposal need and objectives	Enabling work is required to support the pressure tunnel shutdown and inspection, outlined in the Approved REF. Sydney Water is required to inspect the pressure tunnel at 30-year intervals to ensure its ongoing structural integrity and operational reliability, with the next inspection scheduled for winter 2027.
Proposal change description and methodology	The proposal change involves work to enable and support the shutdown, dewatering and inspection of the pressure tunnel. The proposal change will be undertaken at 11 shaft sites and the Potts Hill inlet chamber and venturi chamber site. A summary of the scope of work associated with the proposal change is provided in Table 1-2. **Table 1-2: Scope of work - proposal change**

Activity	Potts Hill Inlet Chamber and Venturi Chamber	Shaft 1	Shaft 4	Shaft 5	Shaft 6	Shaft 9	Shaft 10	Shaft 11	Shaft 12	Shaft 14	Shaft 15	Shaft 17
Ancillary facilities (site compounds)		*	✓	*	✓	✓	✓	*	✓	✓	✓	✓
CCTV and/or unmanned drone inspection	✓			✓				✓				✓
Manned inspection	✓											
Use of temporary ventilation fan	✓	✓	✓		✓		✓		✓	✓	✓	✓
Repair / install stopboard	✓											
Tree/vegetation removal		✓				✓			✓	✓	✓	
Tree pruning				✓	✓	✓	✓	✓	✓			
Geotechnical investigations		✓						✓			✓	
Renew and replace stormwater infrastructure		✓										

Aspect	Relevance to proposal change											
Temporary generator		✓		✓								
Concrete slab				✓								
Install temporary groundwater treatment				✓				✓				
Removal of hazardous material (lead paint and dust)		✓	✓		✓	✓	✓		✓	✓	✓	✓
Crane upgrade		✓						✓				✓
Mobile crane use to install pumps				✓								
Install air curtain and barrier		✓			✓							
Repair of shaft access hatch (bolts and gaskets)		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Safety upgrades (swinging stage, davit arms and comms equipment, temporary access platforms		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Traffic management		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Modify power lines/ remove bollards for access					✓							
Electrical upgrades to communications								✓				

* *Ancillary facilities (site compounds) at these locations assessed in the approved REF.*

Additional equipment required for the work includes:

- chainsaw
- elevated work platform
- chipper and truck
- telehandler
- vacuum truck
- utility service wand
- survey tools
- traffic control equipment
- unmanned drone
- 360-degree camera
- tripod/gantry
- davit arm/manual winch
- scaffolding materials
- welding equipment
- bolts and gasket
- HEPA filter vacuum
- excavator
- tipper truck
- forklift
- crane.

Justification for proposal change	Enabling work will prepare the sites and supporting infrastructure for the safe and efficient shutdown and inspection of the pressure tunnel, outlined in the Approved REF.

Aspect	Relevance to proposal change
Location and land ownership	The proposal change will occur on Sydney Water land at the following locations: • Potts Hill Inlet Chamber and Venturi Chamber: 1-20 William Holmes Street, Potts Hill • Shaft 1: 189 Rookwood Road Chullora • Shaft 4: 7 Roberts Road, Chullora • Shaft 5: 30 Therry Street West, Strathfield South • Shaft 6: 69 Coronation Parade, Enfield • Shaft 9: 9 Watson Avenue, Croydon Park • Shaft 10: 3A Clissold Street, Ashfield • Shaft 11: 9 Weston Street, Dulwich Hill • Shaft 12: 30 Chester Street Petersham • Shaft 14: 2-4 Station Street Newtown • Shaft 15: 12-16 Newton Street, Alexandria • Shaft 17: Corner of McEvoy and Bourke Streets, Waterloo. Figure 1-1 provides an overview map of the proposal change and Figure 1-2 to Figure 1-14 provide maps of each location with the key environmental constraints.
Ancillary facilities (compounds)	The proposal change will involve the establishment and use of temporary ancillary facilities (i.e. site compound) at Shaft 4, 6, 9, 10, 12, 14, 15 and 17. The site compounds are required to support enabling work and the pressure tunnel shutdown and inspection, outlined in the Approved REF. The site compounds will be removed following completion of the winter 2027 pressure tunnel shutdown and inspection. The site compounds will be located on Sydney Water land and will include a site office and amenities, laydown area, waste facilities and temporary fencing. Parking for construction personnel will be provided at the inlet chamber and venturi chamber and at Shaft 1, 4, 5, 6, 11, 14, 15 and 17. The location of the site compounds is provided in Appendix D of this REFA (B). Site compounds at Shafts 1, 5 and 11 are assessed in the approved REF and are not addressed in this REFA(B).
Work hours	Work and deliveries will be scheduled during standard daytime hours: • 7 am to 6 pm, Monday to Friday • 8 am to 1 pm, Saturdays. The proposal change is not expected to require work outside these hours. However, Sydney Water's Project Manager can approve work outside of standard daytime hours. The approval process is described in the approved REF.
Proposal timing	The proposal change is expected to commence in the second half of 2026 and will extend until the winter 2027 pressure tunnel shutdown and inspection is completed. Site establishment (including installation of the site compounds, removal and/or trimming of vegetation and minor earthworks) will be completed in about two weeks. Enabling work within the shaft buildings which includes the inspection, upgrade, testing and commissioning of any safety upgrades will be completed prior to the winter 2027 pressure tunnel shutdown and inspection.

Figure 1-1 Location of proposal change

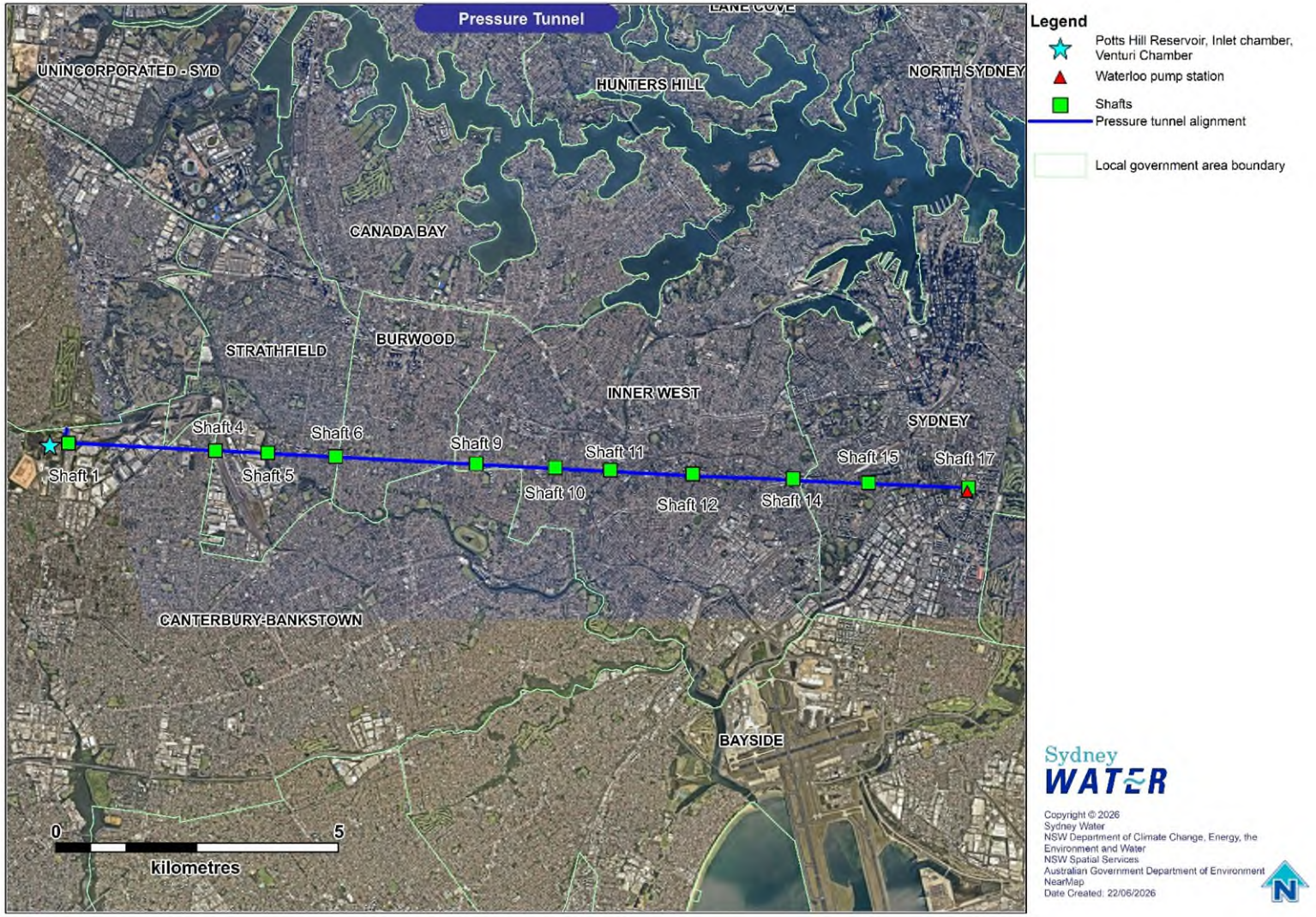


Figure 1-2 Inlet Chamber key environmental constraints

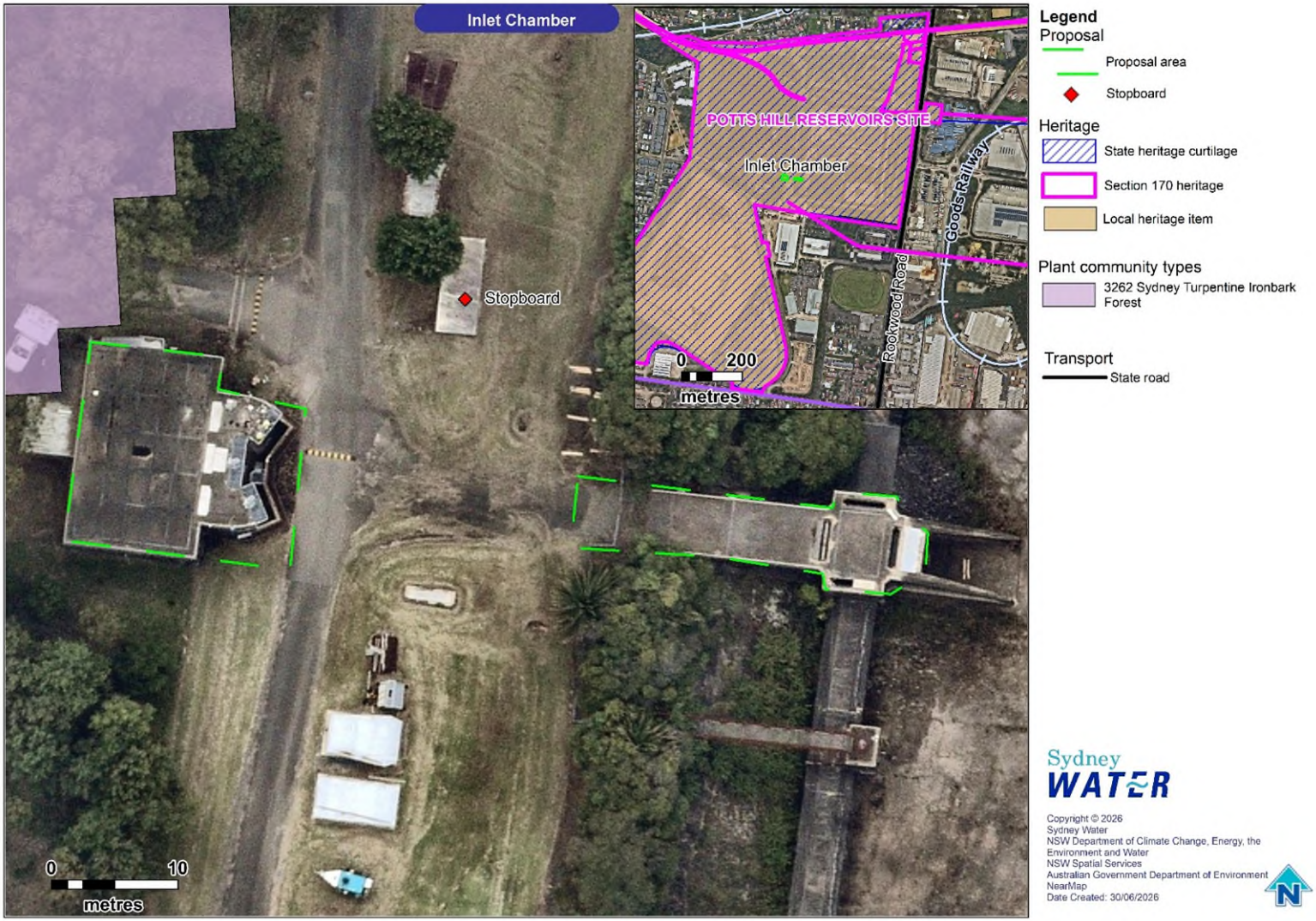


Figure 1-3 Venturi Chamber key environmental constraints

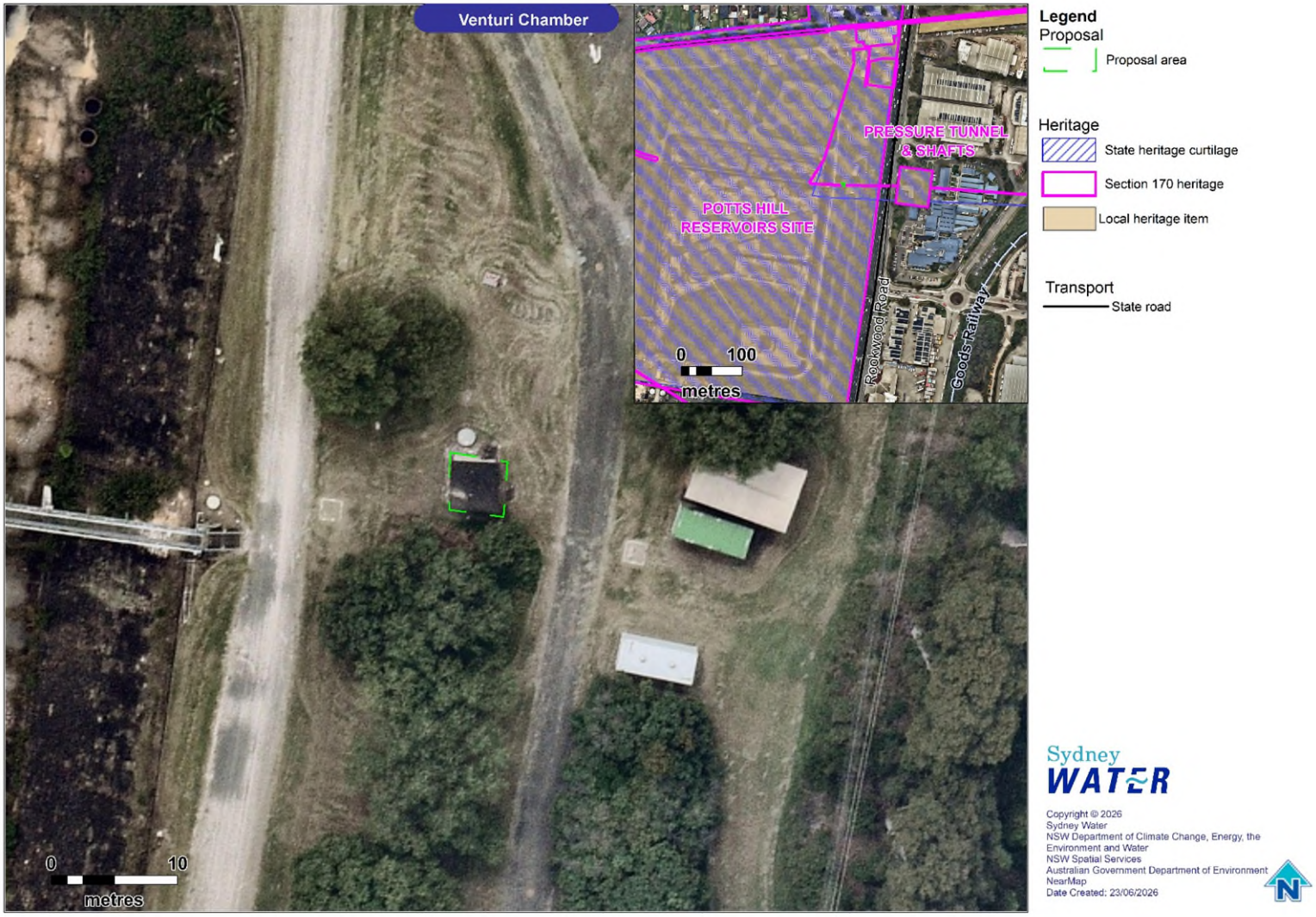


Figure 1-4 Shaft 1 key environmental constraints

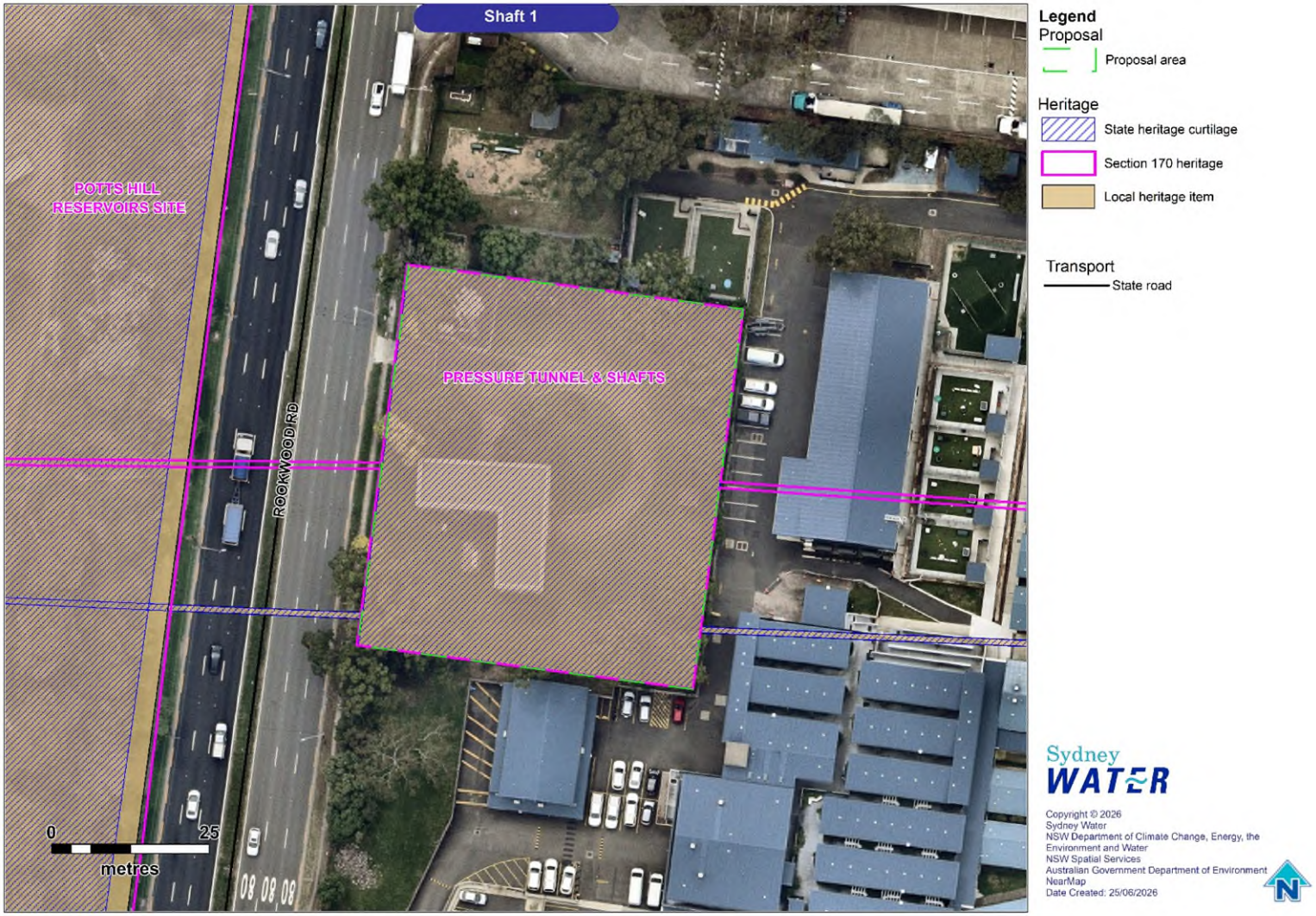


Figure 1-5 Shaft 4 key environmental constraints

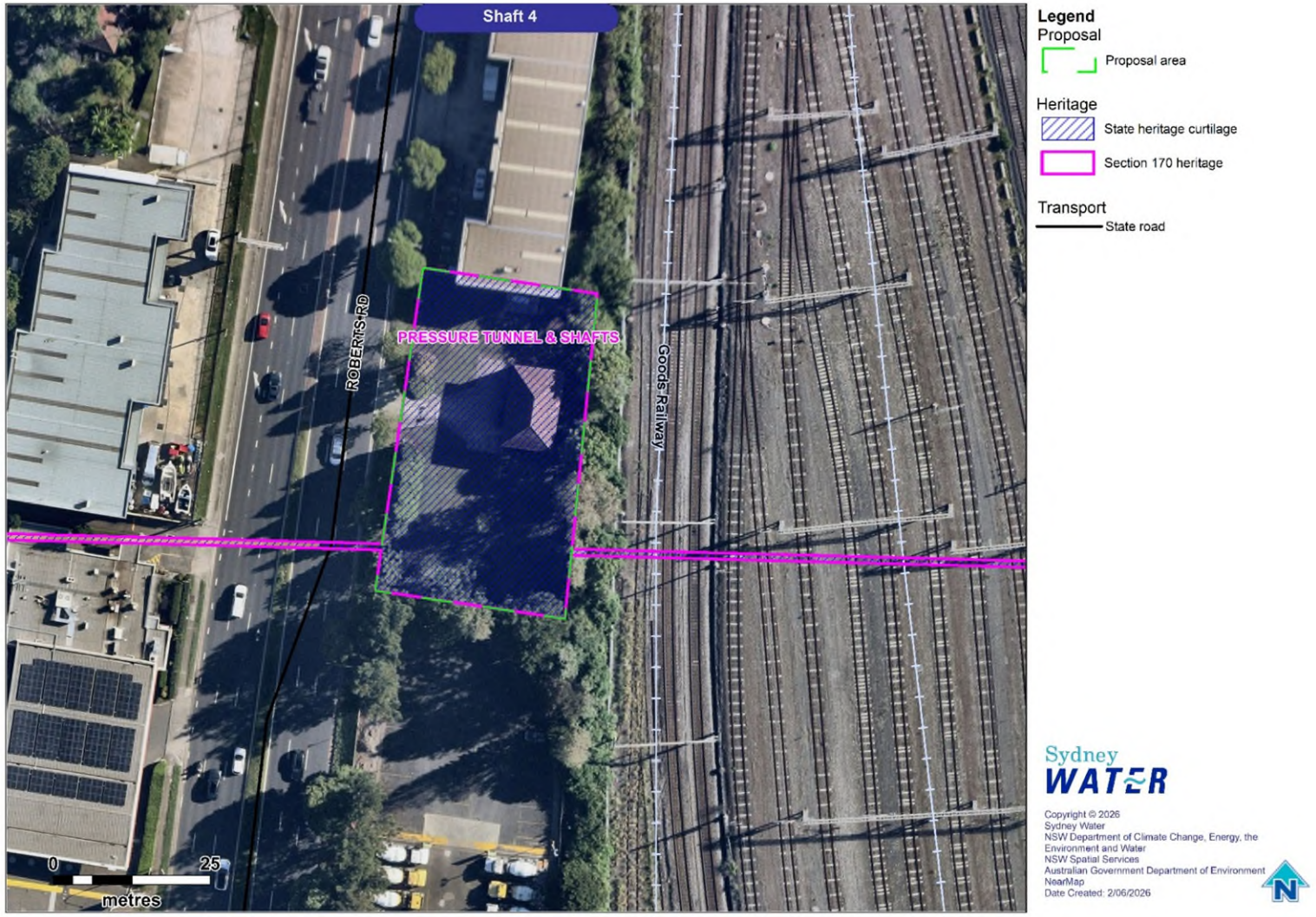


Figure 1-6 Shaft 5 key environmental constraints

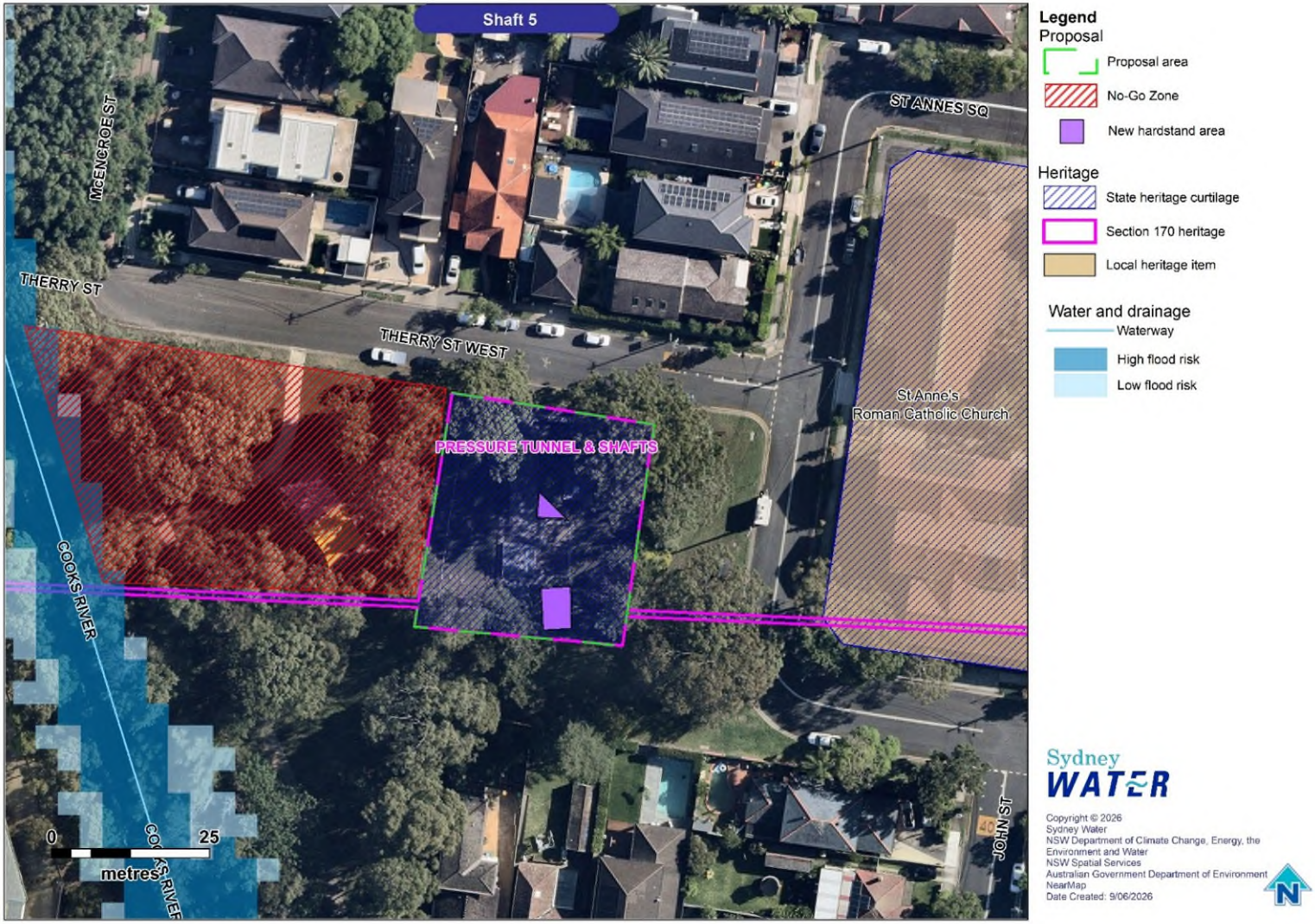


Figure 1-7 Shaft 6 key environmental constraints

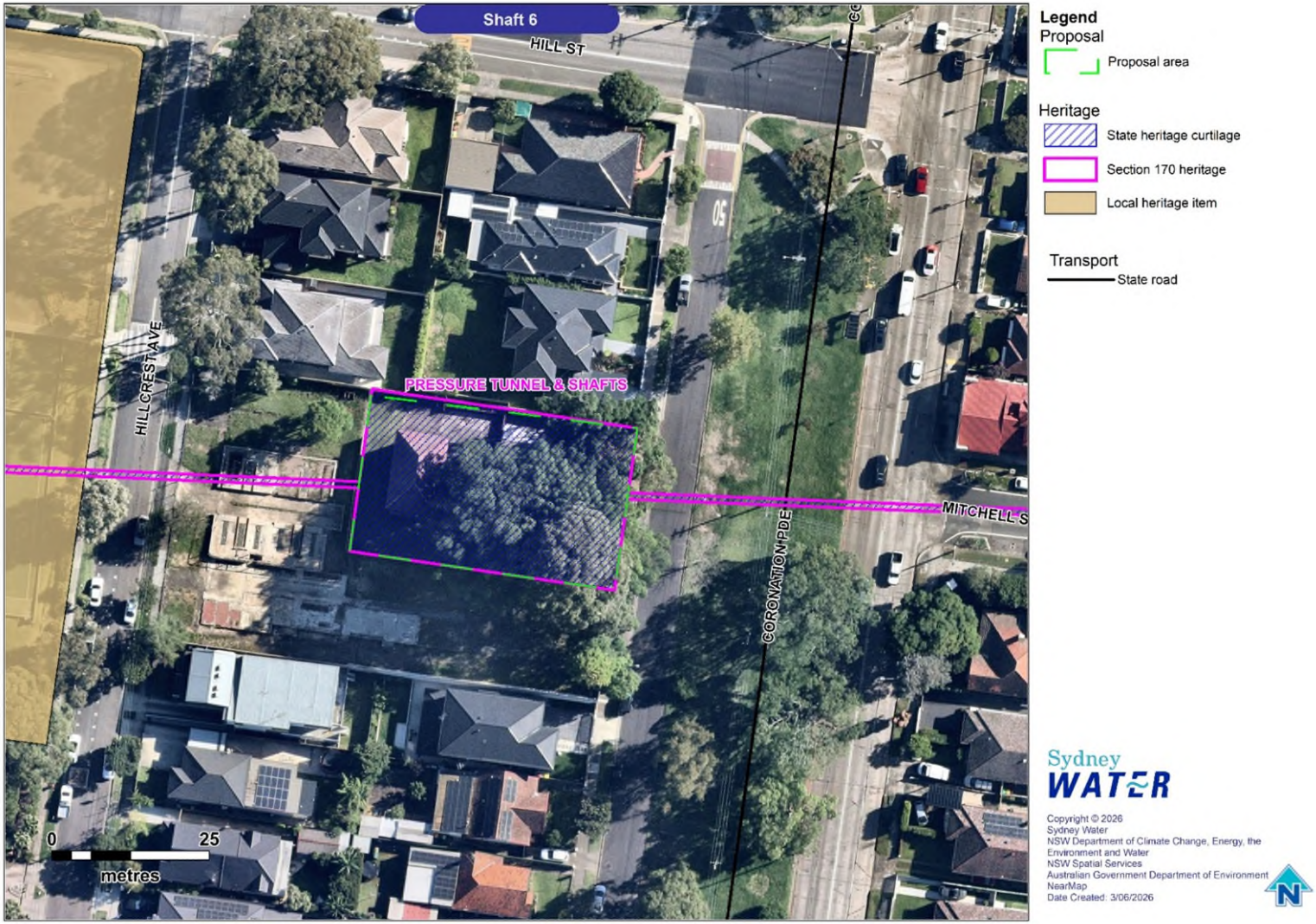


Figure 1-8 Shaft 9 key environmental constraints

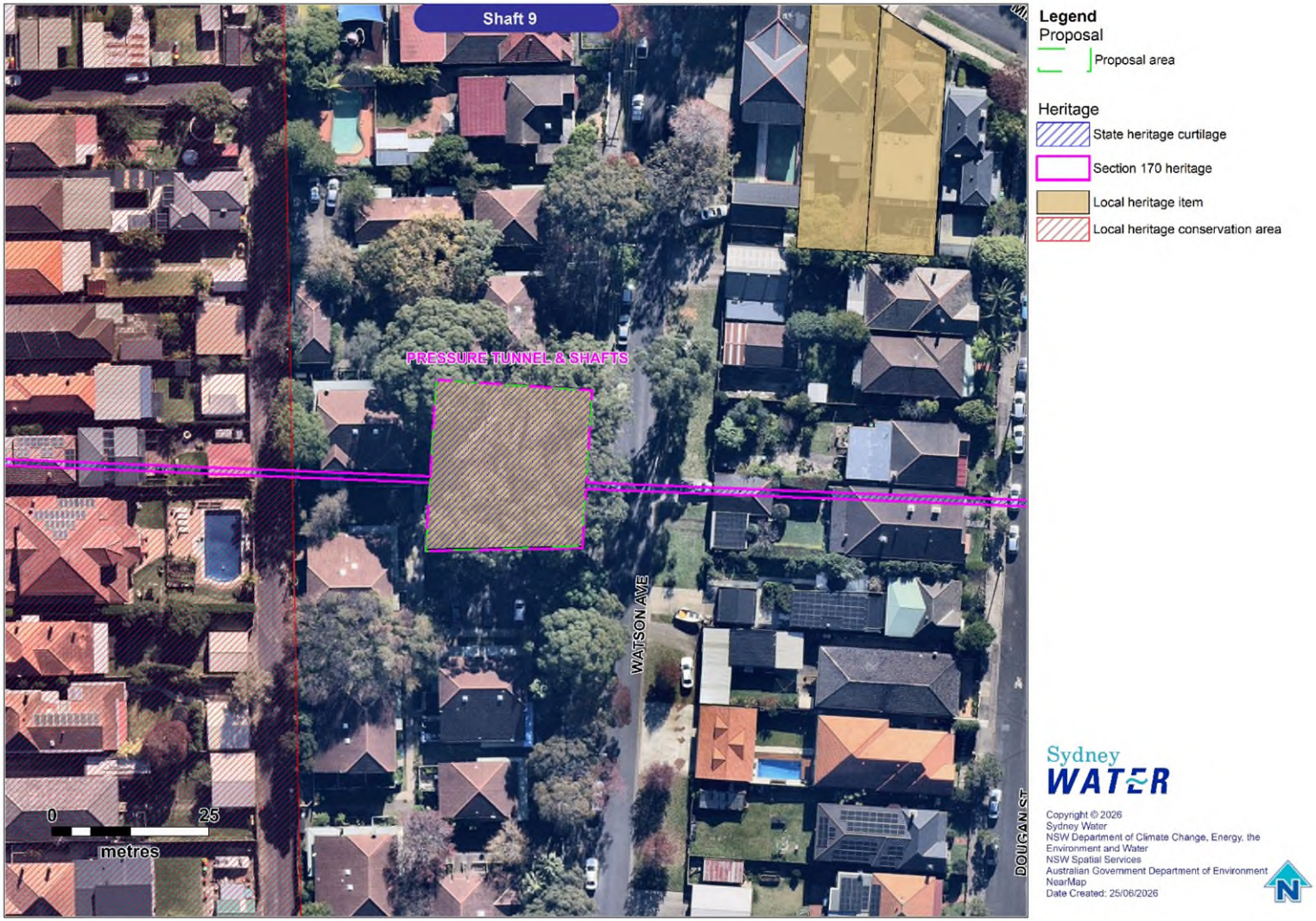


Figure 1-9 Shaft 10 key environmental constraints

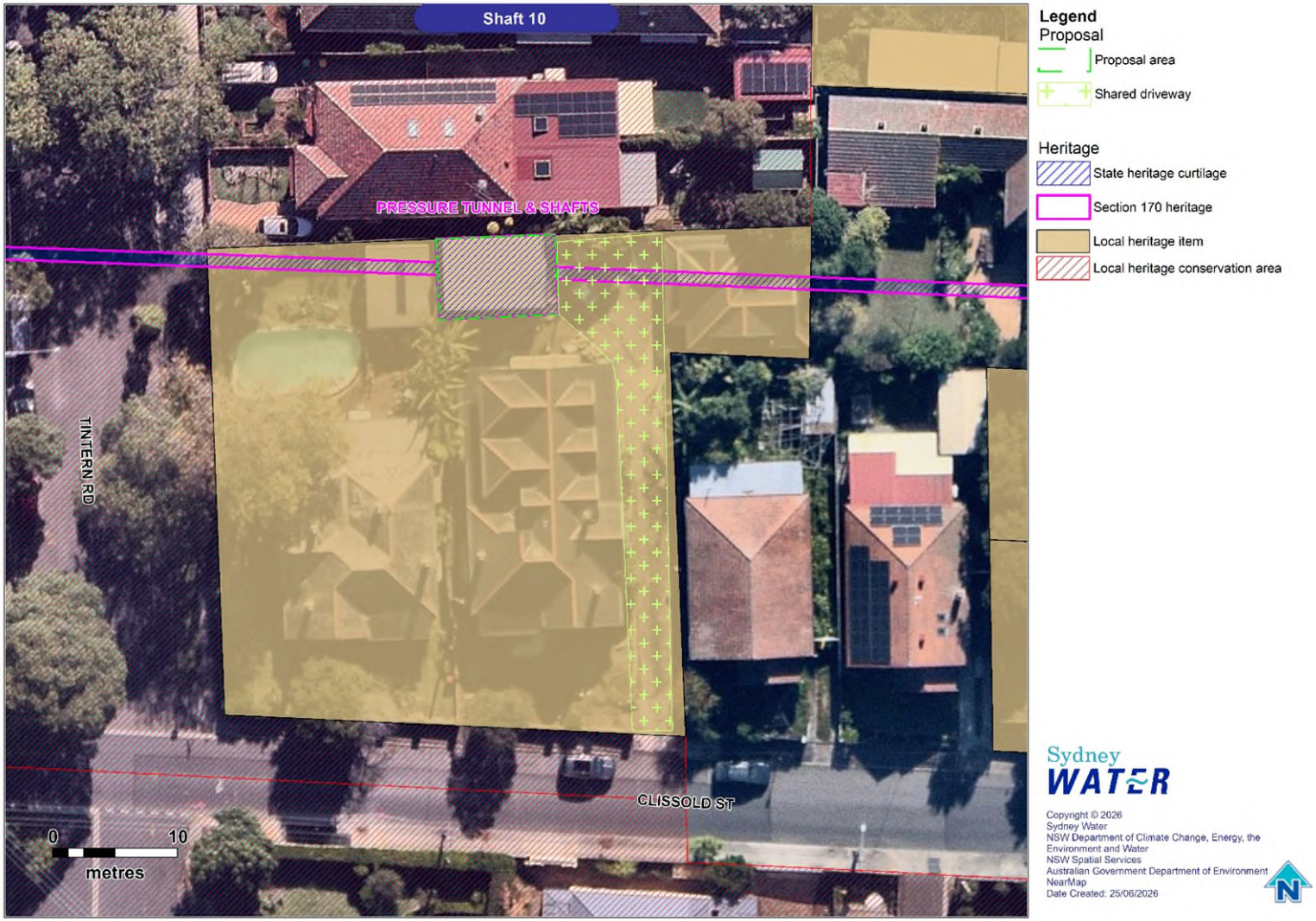


Figure 1-10 Shaft 11 key environmental constraints

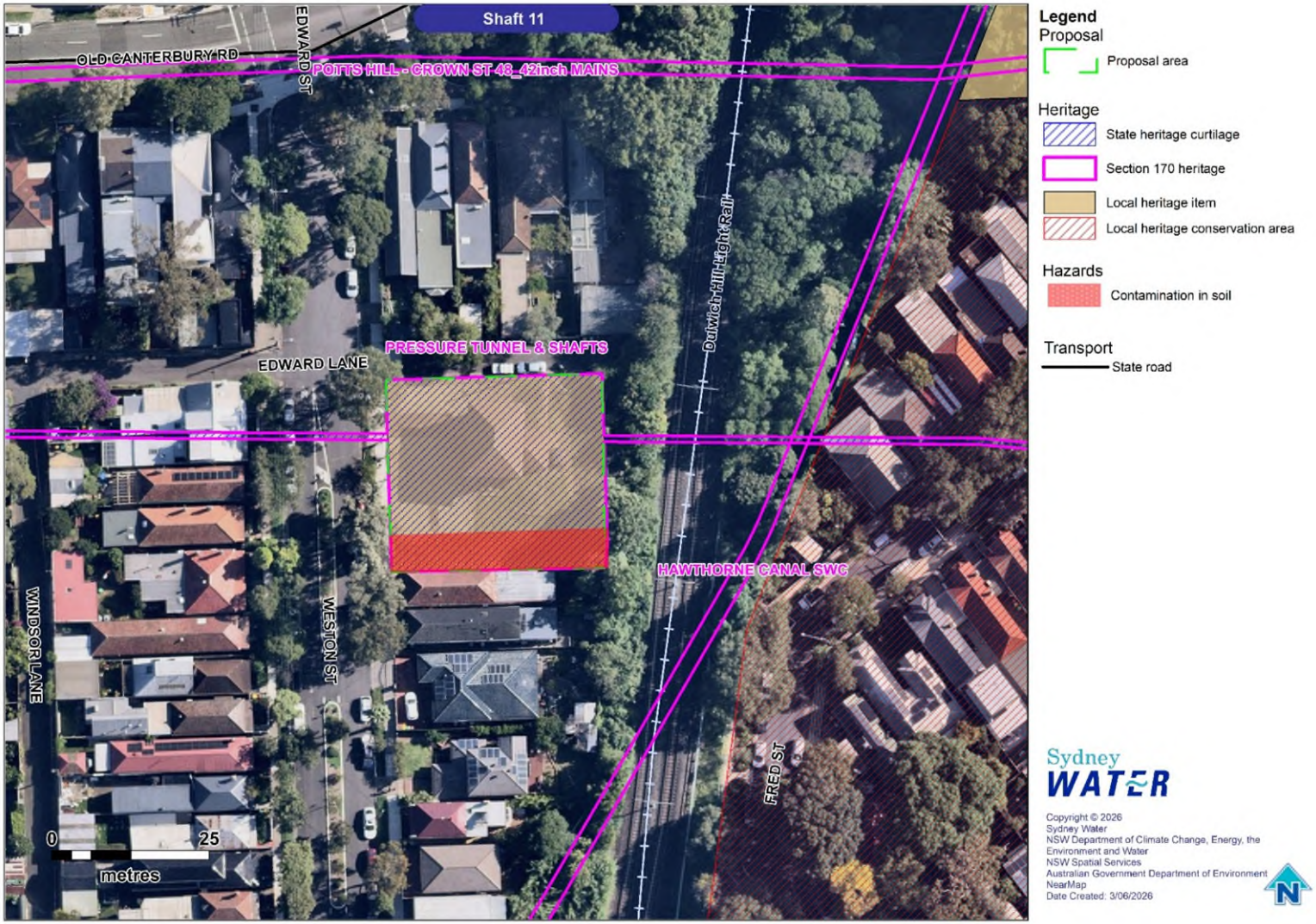


Figure 1-11 Shaft 12 key environmental constraints

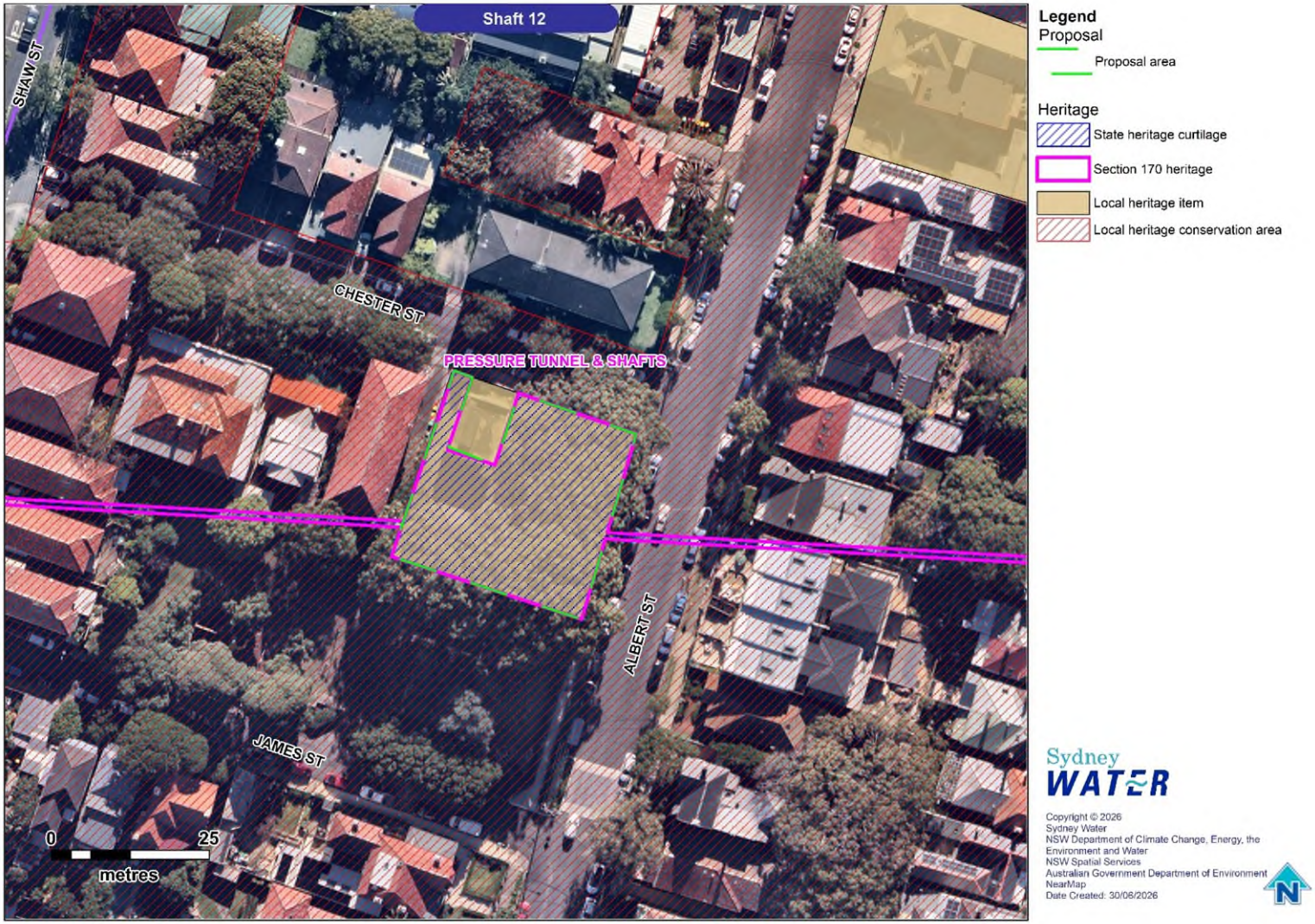


Figure 1-12 Shaft 14 key environmental constraints

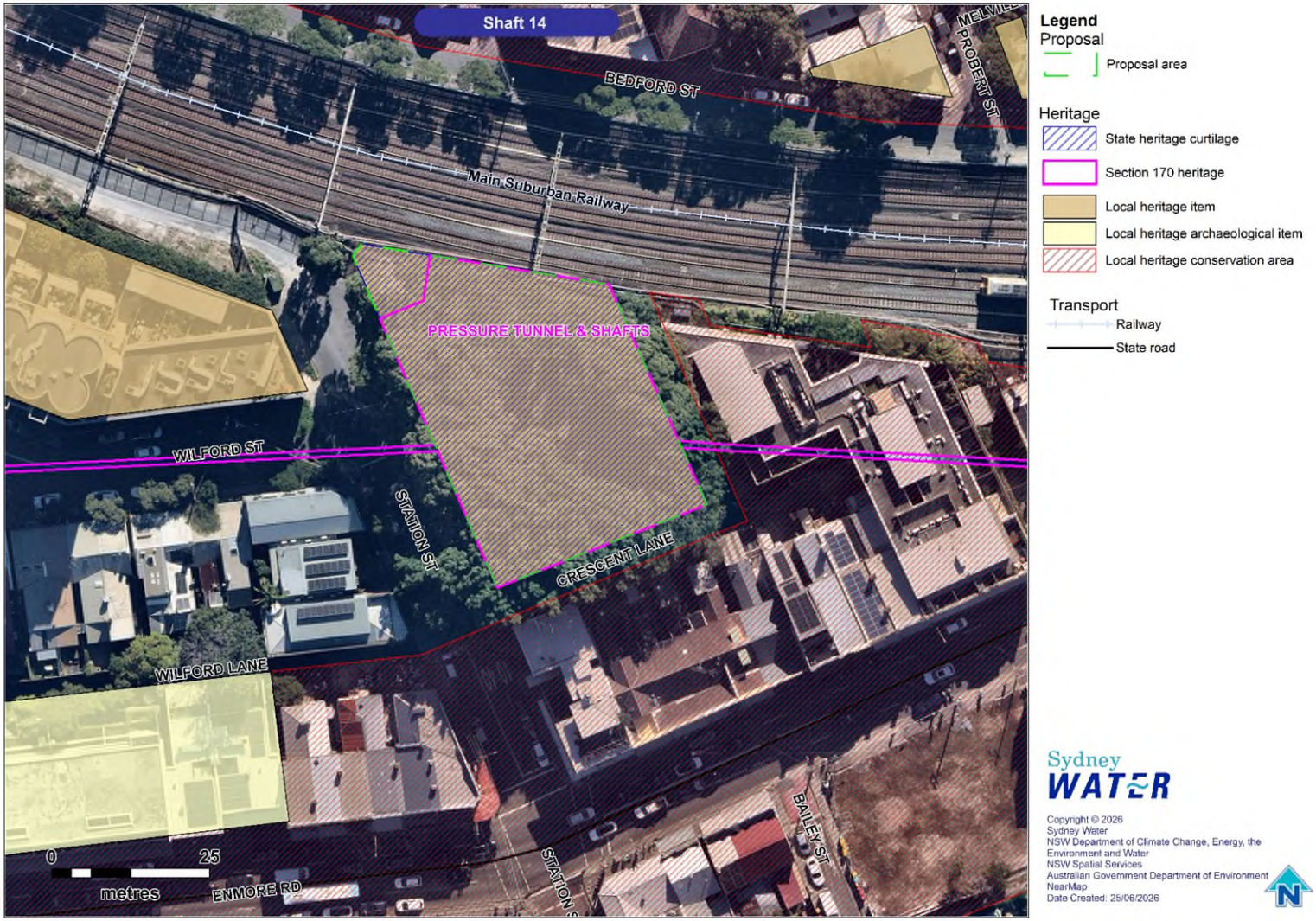


Figure 1-13 Shaft 15 key environmental constraints

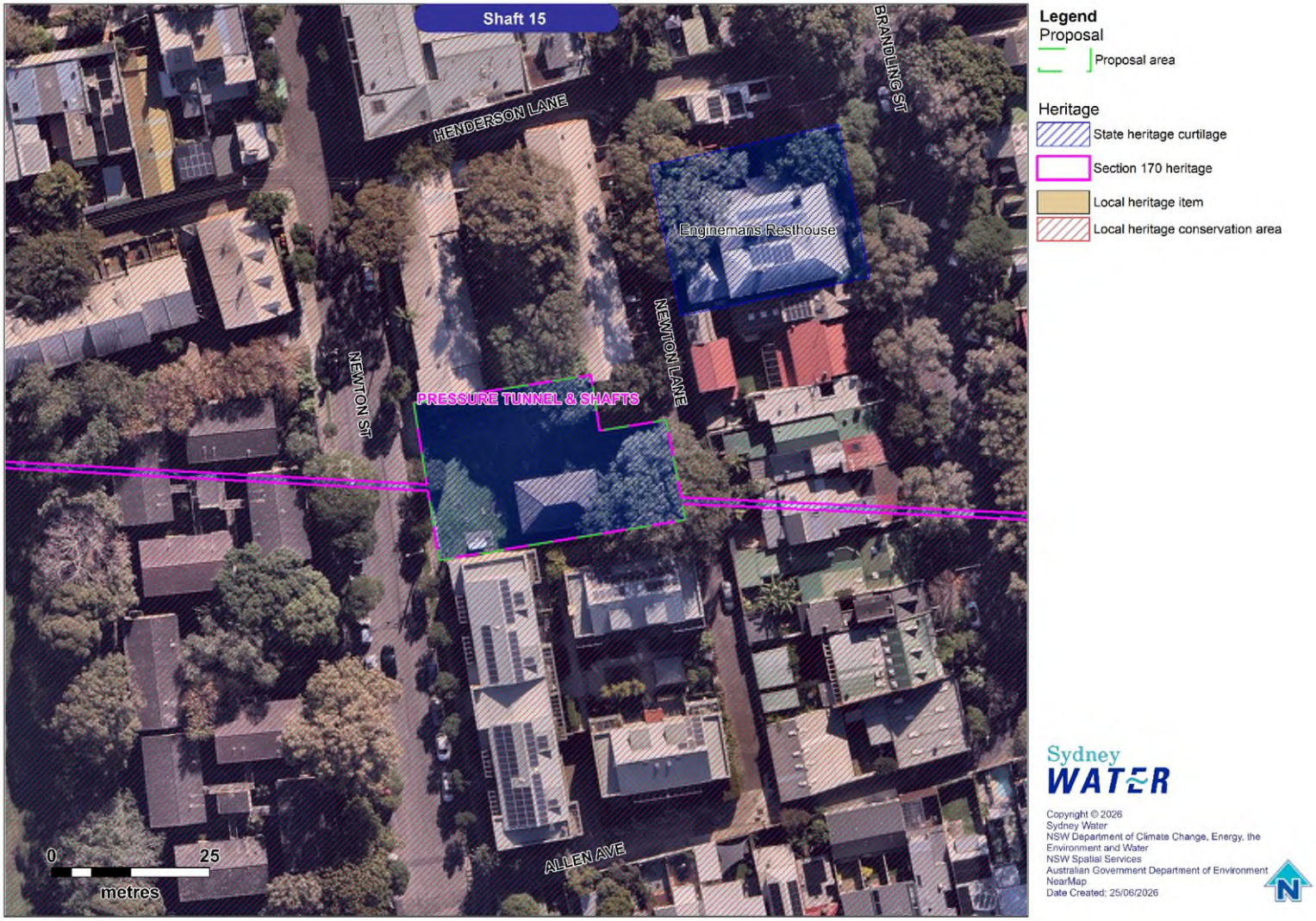
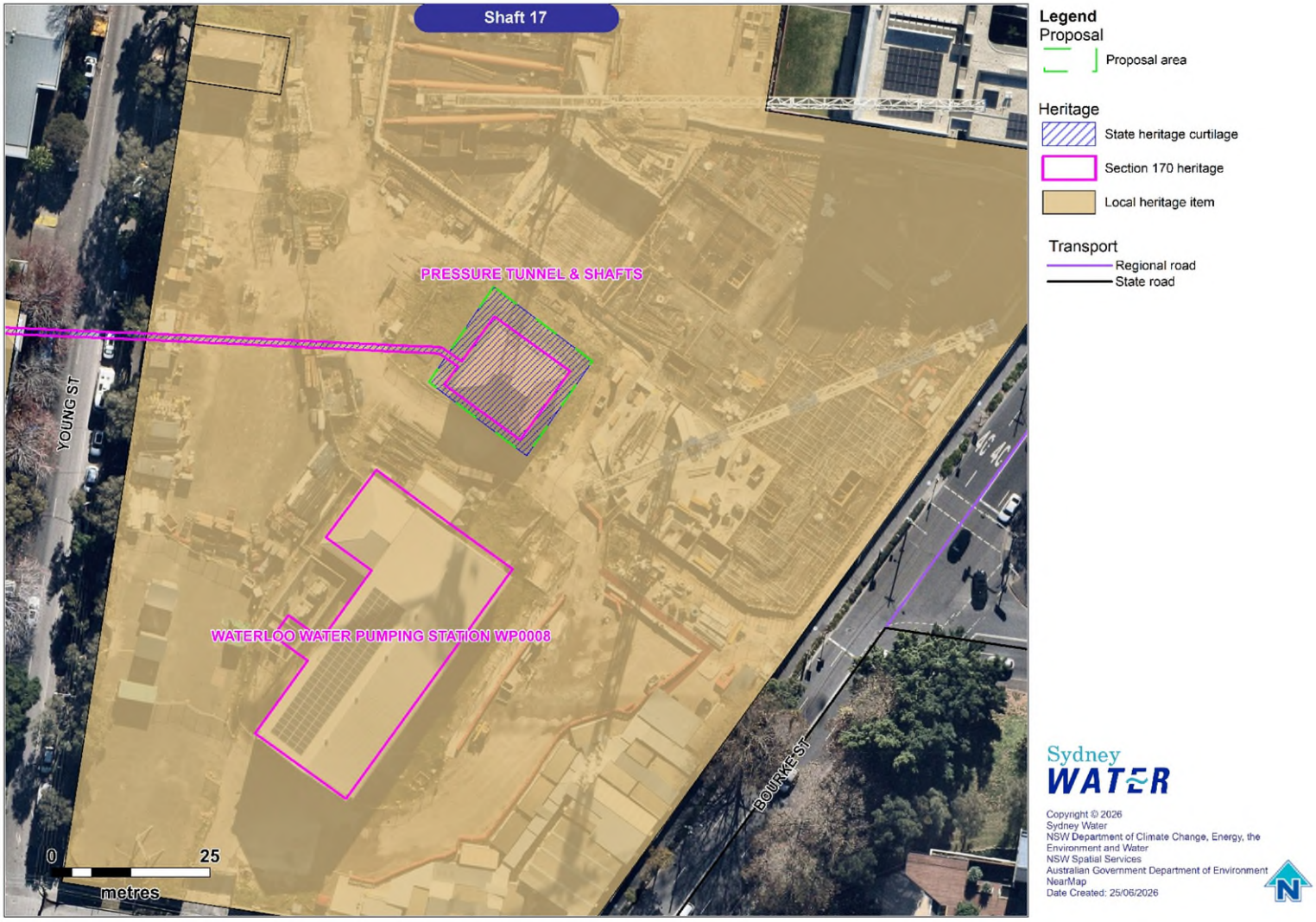


Figure 1-14 Shaft 17 key environmental constraints



2 Consultation

Additional consultation matters above those already assessed in the approved REF are detailed below.

2.1 Community and stakeholder consultation – proposal change

Sydney Water and the Delivery Contractor are undertaking consultation with local councils and residents as part of the approved REF, approved REFA(A) and approved REFA(C). The proposal change requires additional engagement with the following councils prior to the commencement of work:

- Canterbury Bankstown Council
- Strathfield Council
- Inner West Council
- City of Sydney Council.

Sydney Water and the Delivery Contractor will undertake consultation with local councils and potentially affected residents prior to the commencement of work to inform them of:

- proposed scope of work
- timeframes on the duration of work
- potential disruptions and changes in traffic conditions
- potential noise impact associated with the wider program of work for the pressure tunnel shutdown and inspection
- measures and safeguards that are to be implemented to reduce potential impacts on the community and the environment.

2.2 Consultation required under State Environmental Planning Policies and other legislation

Sydney Water must consult with councils and other authorities for work in sensitive locations or where the work may impact other agencies' infrastructure or land. This is specified in *the State Environmental Planning Policy (Transport and Infrastructure) 2021* (TISEPP).

No formal consultation was required under the TISEPP. The Delivery Contractor is required to consult with council, adjacent businesses and residents prior to the commencement of work. Further detail is provided in Appendix C.

3 Legislative requirements

Additional legislative requirements beyond those already addressed in the approved REF, approved REFA(A) and approved REFA(C) are detailed in Table 3-1 and Table 3-2.

Table 3-1 Environmental planning instruments relevant to the proposal change

Environmental Planning Instrument	Relevance to proposal
Canterbury Bankstown Local Environmental Plan (LEP) 2023	The proposal change is located on land zoned: • Potts Hill inlet chamber and venturi chamber: SP2 Infrastructure • Shaft 1: SP2 Infrastructure.
Strathfield LEP 2012	The proposal change is located on land zoned: • Shaft 4: E4 General industrial • Shaft 5: SP2 Infrastructure • Shaft 6: SP2 Infrastructure.
Inner West LEP 2022	The proposal change is located on land zoned: • Shaft 9: R2 Low density residential • Shaft 10: R2 Low density residential • Shaft 11: SP2 Infrastructure • Shaft 12: SP2 Infrastructure • Shaft 14: SP2 Infrastructure
City of Sydney LEP 2012	The proposal change is located on land zoned: • Shaft 15: R1 General residential • Shaft 17: MU1 Mixed use.
State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP)	Section 2.159(1) of the TISEPP permits development by or on behalf of a public authority for water reticulation systems without consent on any land. The proposal meets the definition of a “water reticulation system”. The proposal change is required to facilitate work which meet the definition of a “water reticulation system”. As Sydney Water is a public authority, the proposal is permissible without consent.
State Environmental Planning Policy (Biodiversity and Conservation) 2021 (BCSEPP)	**Water catchments (Chapter 6)** Chapter 6 of the BCSEPP applies to the proposal as it is within the Sydney Harbour Catchment regulated catchment. The proposal is within this catchment at the following locations: • Potts Hill Reservoir (Inlet Chamber and Venturi Chamber) • Shaft 1

Environmental Planning Instrument	Relevance to proposal
	• Shaft 9 • Shaft 10 • Shaft 11 • Shaft 14. Potential impacts to surface water and groundwater were assessed in the approved REF and the approved REF addendums. The proposal change outlined in this REFA(B) is consistent with these impacts. Section 4 assesses impacts of the proposal change on access, cultural heritage, flora and fauna, and scenic quality. The assessment confirms that potential impacts are minimal and meet the requirements of part 6.2 of the SEPP.

Table 3-2 Consideration of key environmental legislation

Legislation	Relevant to proposal	Permit or approval	Timing and responsibility
Heritage Act 1977	The proposal change involves minor work within the operational shafts of the pressure tunnel from Potts Hill to Waterloo. These areas are listed on Sydney Water's section 170 heritage and conservation register, the State Heritage Register and under the Heritage Schedules of local council LEPs. Potential impacts and mitigation measures have been considered in section 4 of this REFA. Sydney Water's Heritage Advisor has reviewed the proposal and provided an updated s.57 exemption for the work on 3 July 2026 (Appendix G).	s57 exemption	Pre-construction, Sydney Water
Contaminated Land Management Act 1997 (CLM Act)	The proposal change involves installation and use of a site compound at Shaft 11 on land that is known to contain asbestos and polycyclic aromatic hydrocarbon contamination. Mitigation measures for the management of identified contaminated material are provided in Table 4-2.	REF	Pre-construction, Sydney Water

4 Environmental Assessment

The environmental impacts checklist (SWEMS0019.01) was considered for the proposal change. Table 4-1 includes only the potentially changed aspects and Table 4-2 lists additional mitigation measures. All other environmental impacts in the approved REF, approved REFA (A) and approved REFA (C) remain the same and will be incorporated into the Delivery Contractor's CEMP.

Table 4-1 Review of environmental aspects

Aspect	Potential additional impacts
Topography, geology and soils	The proposal change is located on soils within the Blacktown, Birrong, Tuggerah soil landscape unit and on areas of disturbed terrain. The proposal change will require excavation and/or ground disturbance to complete the following activities: • intrusive ground investigations at Shaft 1 to determine location and alignment of existing stormwater infrastructure • installation of a new stormwater pipe from Shaft 1, connecting into the stormwater network (a trench about 20m long, 6 m wide and to a depth of 0.8 m will be excavated) • removal of vegetation • installation of concrete slabs and gravel fill at Shaft 5 (about 0.52m^2 of ground disturbance required) to support proposed dewatering activities and site access • intrusive geotechnical investigations at Shafts 1, 11 and 15. Excavation and ground disturbance activities will expose and disturb soils, which if not managed appropriately could result in erosion of exposed soils and sediment laden runoff. Potential impacts to topography, geology and soils can be adequately managed through the implementation of mitigation measures in the approved REF, approved REFA(A) and approved REFA(C) and Table 4-2. The approved REF identifies an area of asbestos and polycyclic aromatic hydrocarbon contamination in the western section of the Shaft 11 and classifies this as a "No-Go Zone". Shaft 11 is located within a constrained urban environment and occupies a relatively small footprint. As a result, the detailed design and construction methodology has identified part of the designated 'no-go-zone' will be required for a site compound area to support construction activities. The installation of the site compound will not involve ground disturbance and/or excavation, and as a result it is unlikely contaminated soils will be disturbed.
Flora and fauna	The proposal change occurs on historically disturbed areas cleared and excavated during construction of the pressure tunnel and associated shafts. Vegetation includes planted native and non-native trees and shrubs and areas of maintained grass. There are no mapped native plant community types (PCTs) or threatened species sightings within the proposal area. Potts Hill Reservoir contains a Biodiversity Stewardship Agreement (BSA) area and mapped PCTs. The BSA area is located

Aspect	Potential additional impacts
	about 170 m north of the proposal change. Areas of PCT 3262 Sydney Turpentine Ironbark Forest are located adjacent to the inlet chamber building (see Figure 1-2). No impacts or vegetation removal is proposed in this area. An arborist report has n completed for the proposal change. The report which identifies trees to be removed, and/or retained is included as Appendix D. The proposal change will require the removal of the following vegetation for site safety and vehicle access requirements: • Shaft 1:one small non-native tree around 3 m in height • Shaft 9: one dead *Eucalyptus microcorys* around 12 m in height • Shaft 12: one small non-native tree around 3 m in height • Shaft 14: one dead *Eucalyptus microcorys* around 13 m in height • Shaft 15: two small non-native shrubs. Figure 4-1 to Figure 4-7 show the location of proposed vegetation removal activities. Trees removed as part of the proposal change will be offset in line with the *Sydney Water Biodiversity Offset Guide* (2024). The proposal change will also require some pruning of overhanging native and non-native vegetation within Shaft 5, 6, 9 and 12 sites to maintain a safe working environment for construction personnel and to accommodate access for construction plant and equipment. The general location of proposed pruning activities are shown on Figure 4-2 to Figure 4-5. Pruning activities will be completed in line with recommendations from the arborist report (see Appendix D). Given the absence of previously recorded threatened flora and fauna species within the proposal area and the limited extent of disturbance to native vegetation, impacts to flora and fauna resulting from the proposal change are not expected to be significant. The mitigation measures to reduce the potential for significant impacts are detailed in the approved REF, approved REFA(A) and approved REFA(C) and Table 4-2.
Heritage This information has been redacted to protect sensitive Aboriginal heritage information.	**Aboriginal heritage** A search of the Aboriginal Heritage Information Management System (AHIMS) was completed in May 2026 [redacted]. Shaft 11 is located in a high-risk landscape for Aboriginal Heritage due to its proximity (i.e. within 200m) to a waterway. This site has been subject to substantial disturbance from previous construction activities and a result the potential to impact previously unidentified Aboriginal heritage items is considered very low. Work may proceed with caution, and any potential impacts are to be managed in accordance with the mitigation measures in the approved REF and approved REFA(A).

Aspect	Potential additional impacts
	Non-Aboriginal heritage The proposal change is within the curtilage of the following heritage items: • Potts Hill Reservoirs 1 and 2 site listed on the State Heritage Register (SHR #01333), Sydney Water Section 170 Heritage and Conversation Register and under the heritage schedules of Canterbury Bankstown LEP • Pressure tunnel and shafts listed on the State Heritage Register (SHR #01630) and Sydney Water Section 170 Heritage and Conservation Register • Shaft 1 is listed under the heritage schedules of Canterbury Bankstown LEP • Shaft 9, 10, 11, 12 and 14 are listed under the heritage schedules of Inner West LEP • Shaft 17 is listed under the heritage schedules of City of Sydney LEP. The proposal change involves work within the heritage curtilage of items listed on the SHR. The inlet chamber and venturi chamber are within the Potts Hill Reservoir site. Works at the site are limited to manned and unmanned inspections, use of ventilation fans in the venturi chamber and repair and installation of the stopboard. No temporary facilities or works are proposed to occur outside of the chamber buildings except for the repair of the stopboard. The stopboard is not listed on the State Heritage Register, Section 170 heritage register nor under the Canterbury Bankstown LEP. The stopboard does not form part of the Reservoir's heritage listing. The proposal is not anticipated to impact the heritage significance of the Potts Hill Reservoir site. This work has been assessed by Sydney Water's Heritage Advisor to be minor in nature and will not result in an adverse impact on the significance of the pressure tunnel and shafts. A s57 exemption has been provided on 3 July 2026 for the proposed change. The s57 exemption is an update to the exemption granted to support the approved REF and approved REFA(A) and supersedes the previous s57 exemptions granted in August 2025 and March 2026. No other impacts are anticipated to Aboriginal or non-Aboriginal heritage. Mitigation measures to further reduce potential impacts to Aboriginal and non-Aboriginal heritage are listed in Table 4-2.
Noise and vibration	**Noise** The proposal change occurs across a range of industrial and residential land zones and uses. Nearby sensitive receivers include residences, commercial properties and industrial premises. The inlet chamber and venturi shaft are within the Potts Hill Reservoir site on Sydney Water land. There are no residential properties within 350m. Shafts 1, 4 and 17 are within commercial and industrial areas, adjacent to arterial road corridors. There are no residential properties within 100 m, and the existing noise environment is likely to be influenced by road traffic.

Aspect	Potential additional impacts
	Shafts 5, 6, 9, 10, 11, 12, 14 and 15 are within low to medium density residential areas and residential properties including single dwellings and apartments are directly adjacent to these sites. Other sensitive receivers in proximity to the proposal change include businesses such as retail, cafes and restaurants. Temporary noise impacts are expected during construction. The proposal change will impact the same sensitive receivers identified in the approved REF. However, the level of impact is likely to change based scope of work assessed in this REFA (B). The likelihood of noise impact from the proposed change was reviewed against risk factors in Table 2 of the *Draft Construction Noise Guideline* (EPA 2020). The review indicated the construction noise impact will be deemed low risk due to the following factors: • all work will be conducted during standard daytime hours • external work at each shaft location will be completed in about two weeks, including all site establishment, vegetation removal/pruning and excavation and/or ground disturbance work • work will not require the continued operation of plant and equipment including temporary generators. Temporary generators are only to be used in the event of power failure. • work will largely be contained within shaft and chamber buildings and no high impact noise generating activities are required. As a result, a quantitative noise impact assessment is not required for the proposal change. Potential noise impacts may arise from the following construction activities: • vehicles used to deliver materials and equipment • the use of chainsaw and chipper/mulcher trucks to trimming and/or removal of vegetation • minor excavation and/or ground disturbance work at Shaft 1, 5, 11 and 15. All construction work and deliveries are anticipated to occur within standard daytime hours. Site establishment work (including the installation of site compounds) at each shaft site will be completed in around 8 days. Demobilisation work following completion of the pressure tunnel shutdown and inspection will occur within a similar timeframe. Noise emissions associated with the ongoing use of the site compound are anticipated to be low and limited to construction personnel accessing the area, deliveries of plant and equipment and waste removal activities. The removal and/or trimming of vegetation has the potential to impact residential receivers adjacent to Shaft 5, 6, 9 10, 11, 12, 14 and 15. This work is expected to occur prior to site establishment work will be completed over a couple of days. Excavation and ground disturbance work has the potential cause temporary noise impacts to adjacent sensitive receivers. These will include St Annes Catholic

Aspect	Potential additional impacts
	Primary School and St Annes Catholic Church adjacent to shaft 5. Any potential impacts will be short-term as work will be completed in around 5 days. Other enabling work will largely be contained within shaft and chamber buildings and is not anticipated to generate noise at levels that may impact adjacent sensitive receivers. This work will be completed prior to the winter 2027 pressure tunnel shutdown and inspection. Noise emissions associated with the proposed change are not expected to exceed the acceptable noise criteria outlined in the *Draft Construction Noise Guideline* (EPA 2020). Any noise impacts to nearby sensitive receivers are anticipated to be minor in nature and short-term. Potential impacts from noise can be adequately managed through the implementation of mitigation measures from the approved REF, approved REFA (A) and approved REFA (A). No operational noise impacts are anticipated. **Vibration** The proposal change does not require the use of vibration intensive equipment. No vibration impacts are anticipated.
Waste and hazardous materials	Hazardous building materials such as asbestos, lead paint and synthetic mineral fibres are known to be present within the inlet chamber and venturi chamber and shaft buildings of the pressure tunnel. Lead contaminated dust may also be present on surfaces inside buildings. A hazardous materials report has been prepared to identify the types of materials present and to identify personal protective equipment required to manage potential exposure. A hazardous materials audit and risk assessment has also been completed for the proposal change to identify the level of risk present and confirm whether any remediation work will be required prior to construction commencing. Any remediation work associated with the proposal change is likely to require the disposal of hazardous waste streams. All waste will be classified and disposed of appropriately in line with the EPA's *Waste Classification Guidelines 2014*. Hazardous waste is required to be disposed of at an appropriate licenced facility. Potential impacts from the disturbance of hazardous waste in shaft buildings can be adequately managed through the implementation of mitigation measures in the approved REF and Table 4-2.
Air and energy	The proposal change will involve excavation and/or ground disturbance work at Shaft 4, 6, 9, 10, 12, 14, 15 and 17. Potential impacts to local air quality will be associated with equipment and vehicle emissions and dust generation during vegetation removal and excavation and ground disturbance work. Impacts from emissions will be temporary and are considered minor with can be adequately managed through the implementation of mitigation measures in the approved REF and Table 4-2.
Traffic and access	Access and egress to the proposal change will be via the existing road network using the following state or local roads:

Aspect	Potential additional impacts
	• Potts Hill inlet chamber and venturi chamber: Rookwood Road (state road) • Shaft 1: Rookwood Road (state road) • Shaft 4: Roberts Road (state road) • Shaft 5: Therry Street West (local road) • Shaft 6: Coronation Parade (state road) • Shaft 9: Watson Avenue (local road) • Shaft 10 Clissold Street (local road) • Shaft 11: Weston Street (local road) • Shaft 12: Chester Street (local road) • Shaft 14: Station Street (local road) • Shaft 15: Newton Street (local road) • Shaft 17: Young Street (local road) Parking for construction personnel is available at the inlet chamber and venturi chamber and at Shaft 1, 4, 5, 6, 11, 14, 15 and 17. Additional overflow parking is available in the council reserve adjacent to Shaft 6. Street parking will be used at Shaft 9, 10 and 12. Shaft 10 is located at the end of a shared driveway used by Sydney Water and a private residence (see Figure 1-9). During the delivery of plant and equipment there is potential for short-term impacts to driveway access. Ongoing consultation with affected landowners will be undertaken. Shaft 11 is accessed via Weston Street in Dulwich Hill which is part of the greenway active transport link from Iron Cove in Haberfield to the Cooks River in Dulwich Hill. The footpath and road adjacent to Shaft 11 is used by pedestrians and cyclists recreationally and is anticipated to have a higher foot traffic volumes when compared to other shaft locations. Pedestrians and cyclists may experience temporary disruptions at the entrance point to Shaft 11during heavy vehicle movements and tree trimming activities. During construction, an increase in traffic surrounding the proposal change will be generated by: • construction site establishment activities • movement of work crews • delivery and removal of materials. Vehicle movements during the construction of the proposal are anticipated to be in the range of 10-20 per day at each shaft location. Vehicle movements within Potts Hill Reservoir are anticipated to be about 5-10 per day during construction. The number of construction vehicles entering and leaving sites associated with the proposal change will depend on the enabling work taking place. The operation of the proposal change is not anticipated to have any impacts to traffic and access. Potential impacts to traffic and access as a result of the proposal change can be adequately managed through the implementation of mitigation measures in Table 4-2 and the approved REF.

Aspect	Potential additional impacts
Social and visual	The proposal change is adjacent to residential properties at Shaft 5, 6, 9, 10, 11, 12, 14 and 15. There are no residential properties within 100m of Shaft 1, 4 and 17 and inlet chamber and venturi chamber. The shaft sites house infrastructure within the shaft buildings and typically do not have any other features beside hard stand and screening vegetation on the fence lines. Construction of the proposal change is likely to result in a temporary visual impact as fencing, equipment and construction work alter the existing visual setting. Temporary site compounds will be required until completion of the pressure tunnel shutdown and inspection assessed under the approved REF. Any sensitive receivers adjacent to shafts 4, 6, 9, 10, 12, 14, 15 and 17 are likely to experience a minor visual impact associated with the installation of temporary site compounds. This is not anticipated to alter the existing land use of these sites as they are already used to support infrastructure and maintenance work. Vegetation removal and tree trimming may result in a minor visual impact and may alter lines of sight from adjacent receivers to the shafts. Social impacts related to noise, air quality and traffic have been addressed in the sections above and the approved REF. Potential impacts will be managed by implementing the mitigation measures listed in the approved REF and Table 4-2.
Cumulative and future trends	The proposal change is enabling work to support the pressure tunnel shutdown and inspection. Sydney Water is required to undertake this activity every 30 years. Potential cumulative impacts from the proposal change will be managed through the implementation of the mitigation measures listed in Table 4-2, the Approved REF, the approved REFA(A) and approved REFA(C).

Table 4-2: Mitigation measures

Additional mitigation measures

General
Implement mitigation measures from the Approved REF and the approved REFA(A) and approved REFA(C).

Should the proposal or methodology change from the EIA, no further environmental assessment is required provided the change:

- remains within the area of assessment for the EIA and has no net additional environmental impacts or
- is outside the area of assessment for the EIA but:
  - reduces impacts to biodiversity, heritage or human amenity or
  - avoids engineering constraints and
  - after consultation with potentially affected landowners and council.

Additional mitigation measures

The delivery contractor must demonstrate in writing how the changes meet these requirements, for the approval by Sydney Water's Project Manager in consultation with the environmental and communications representatives.

The Delivery Contractor is required to consult with the following councils prior to the commencement of work:

- Canterbury Bankstown Council
- Strathfield Council
- Inner West Council
- City of Sydny Council.

Consultation should include scope of work, staging of work, potential environmental impacts, and measures to mitigate impact.

Topography, geology and soils

A construction Contamination Management Plan must be prepared by a suitably qualified person as part of the CEMP and reviewed by Sydney Water's Environmental Representative in consultation with the Contamination and Hazardous Materials team. The plan must identify the type and location of known/potential contamination, land-owner notification and the following management requirements:

- a pre-occupation asbestos ground survey will be undertaken within the "no go zone" at Shaft 11 by a suitably qualified person prior to the installation of the site compound. The survey will confirm whether bonded ACM fragments are present and whether any additional remedial actions are required prior the establishment of the site compound
- no ground disturbance (including car parking) work is permitted within the "no go zone" at Shaft 11.
- a high-density polyethylene or polyethylene impermeable membrane is to be placed on the soft ground in the southern portion of Shaft 11. Trak mats or similar should be used on the ground between temporary facilities.

Flora and fauna

Physically delineate vegetation to be cleared and/or protected on site and install appropriate signage prior to works commencing.

Notify potentially affected residents of any tree removal.

Inspect vegetation for potential fauna prior to clearing or trimming. If fauna is present, or ecological assessment has determined high likelihood of native fauna presence (including hollow bearing trees), engage WIRES or a licenced ecologist to inspect and relocate fauna before works.

Heritage

In the event any significant operating elements of the pressure tunnel or associated shafts are identified to need replacement or removal, the project team must record these photographically and detail location and former function. The project team is to liaise with the Sydney Water heritage team to allow for an assessment for the moveable heritage collection.

Additional mitigation measures

Waste and hazardous material
Any hazardous waste material (i.e. lead paint) is to be segregated and disposed of in accordance with the *Waste Classification Guidelines* (EPA 2014).
Air and energy
Implement measures to prevent offsite dust impacts, for example: • water exposed areas (using non-potable water source where possible such as water from excavation pits) • cover exposed areas with tarpaulins or geotextile fabric • modify or cease work in windy conditions • modify site layout (place stockpiles away from sensitive receivers) • vegetate exposed areas using appropriate seeding.
Traffic and access
Update the Traffic Management Plan in consultation with the relevant traffic authority.
Develop management measures to minimise disruption to access to private properties on the shared driveway at Shaft 10.
Overflow car parking is available in reserve adjacent to Shaft 6 subject to consultation with Council prior to the proposed use of this area.
Manage access to Shaft 11 to ensure pedestrians and cyclists using the greenway active transport link from Iron Cove in Haberfield to the Cooks River in Dulwich Hil are able to move safely past the works, which may include alternative pedestrian, bicycle, pram and wheelchair access.

Figure 4-1 Tree removal at Shaft 1

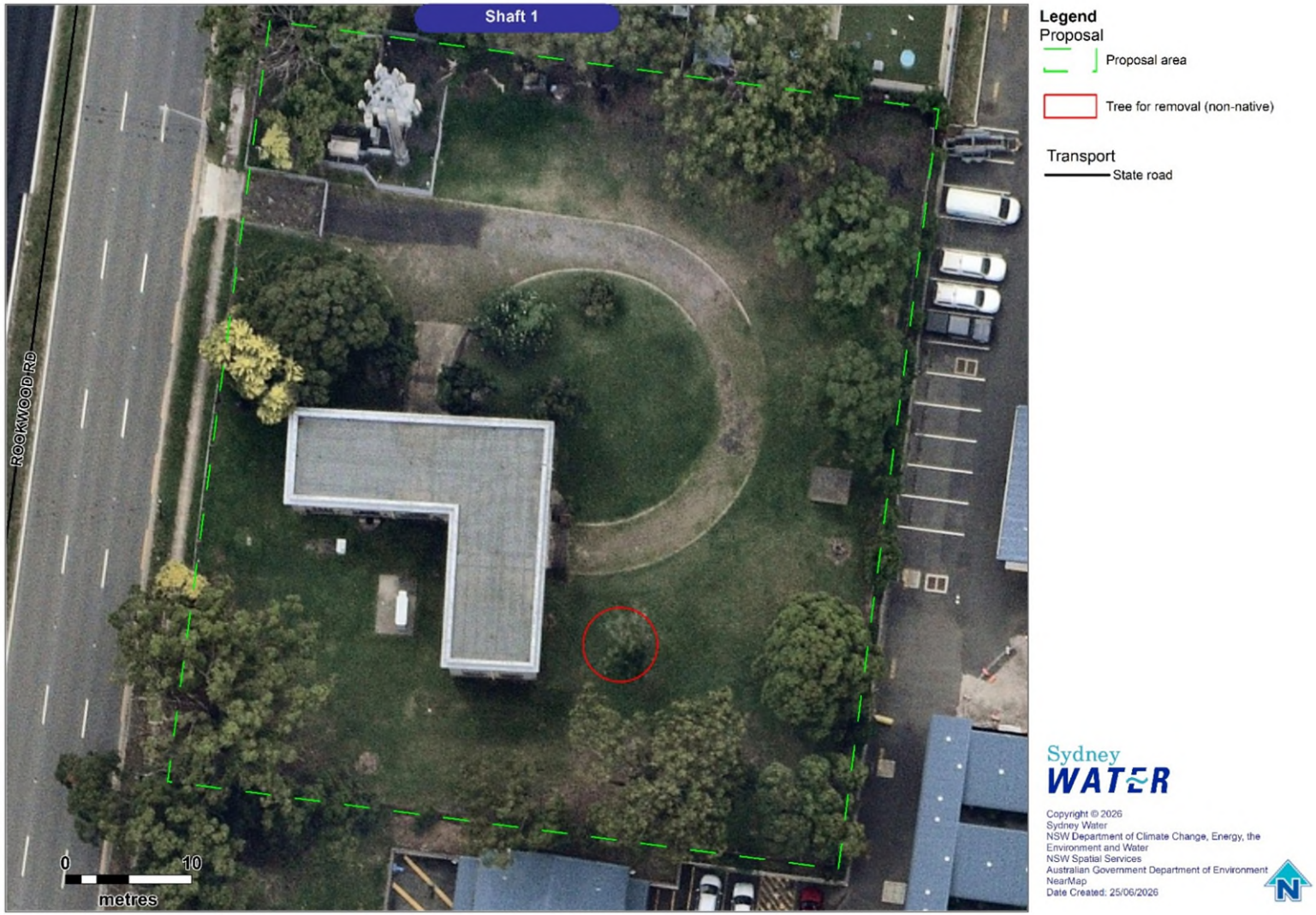


Figure 4-2 Tree trimming at Shaft 5



Figure 4-3 Tree trimming at Shaft 6



Figure 4-4 Tree trimming and tree removal at Shaft 9



Figure 4-5 Tree trimming and tree removal at Shaft 12



Figure 4-6 Tree removal at Shaft 14

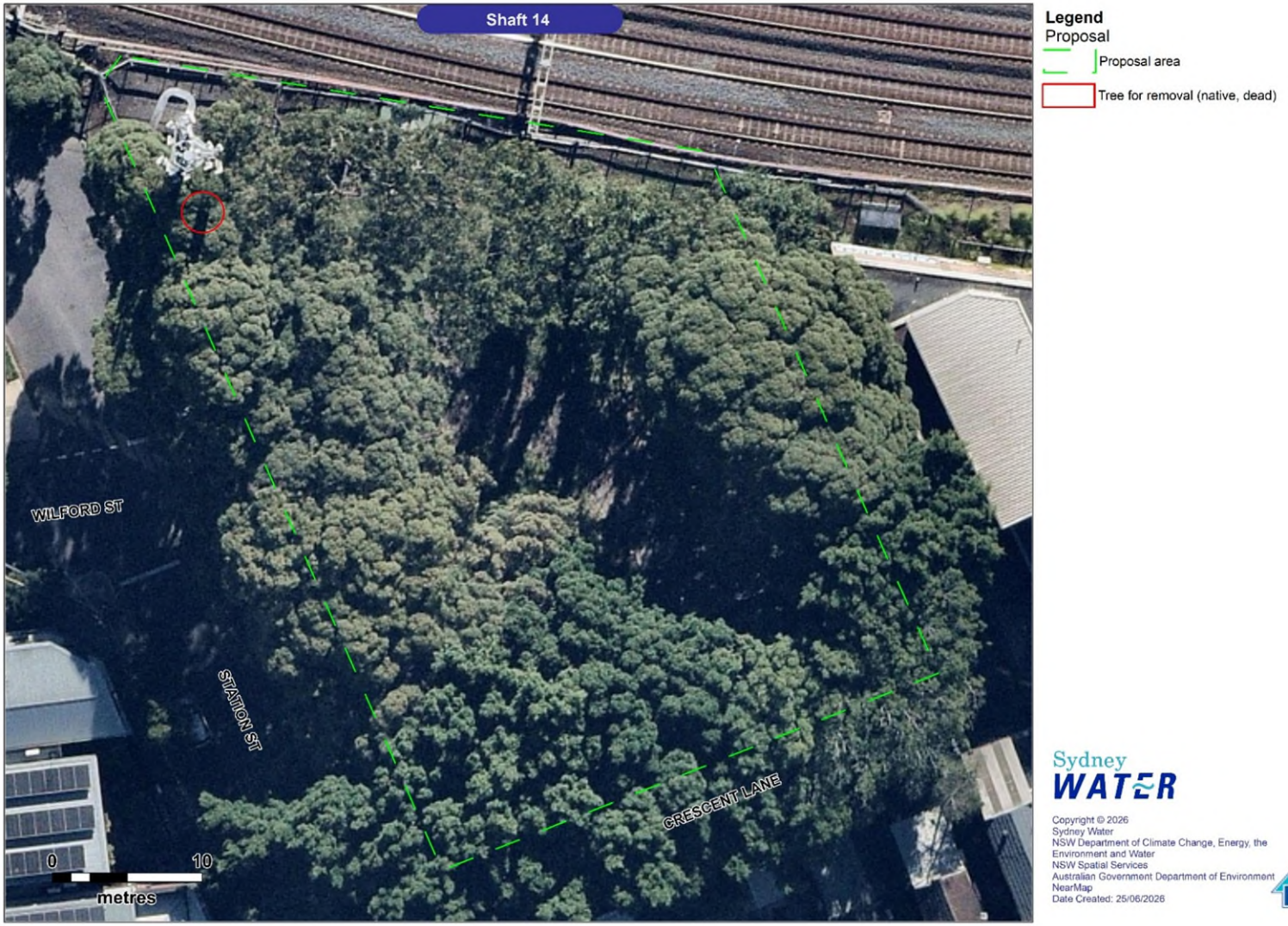
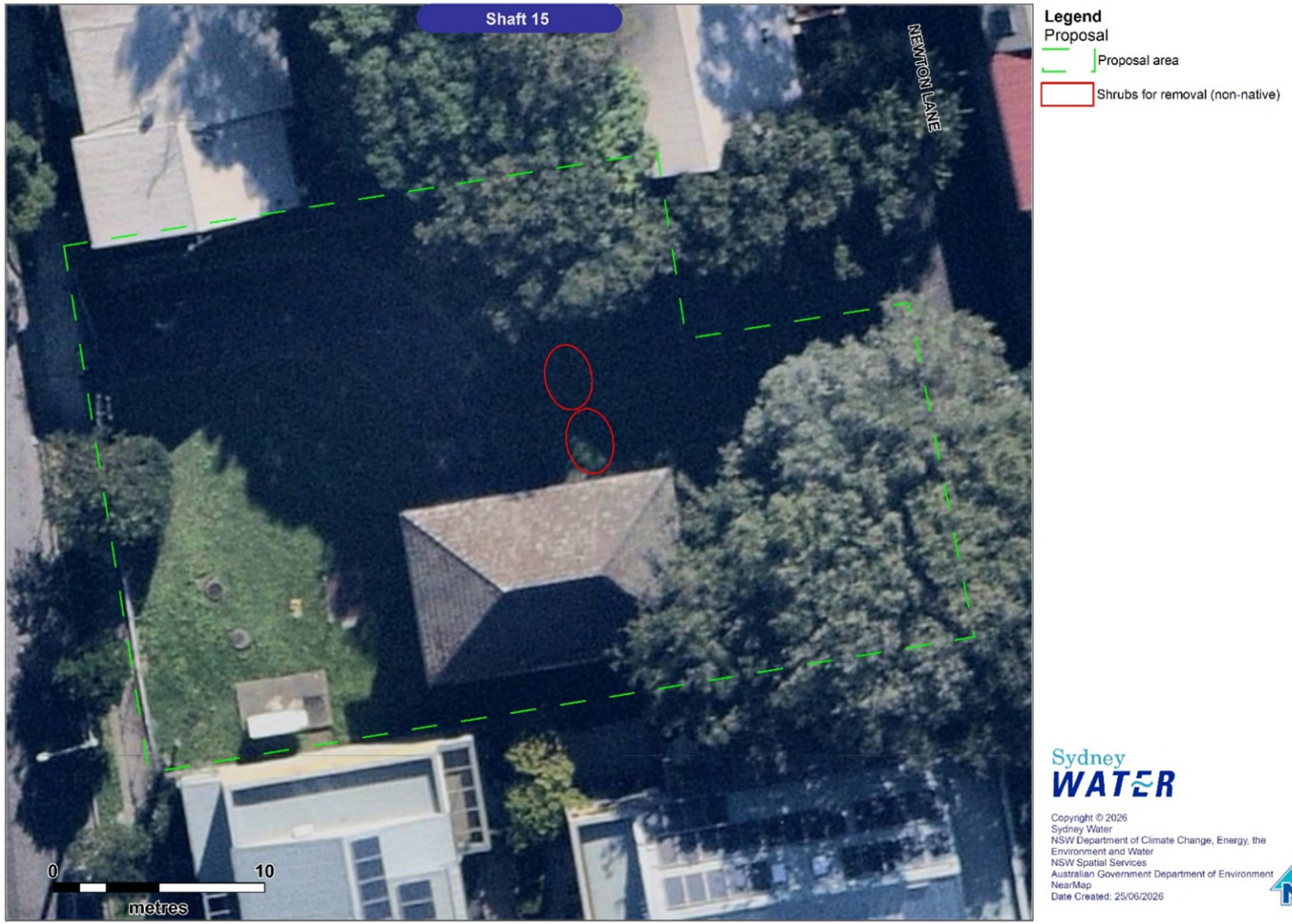


Figure 4-7 Shrub removal at Shaft 15



5 Conclusion

Sydney Water has prepared this REFA(B) to assess the potential environmental impacts of the site enabling work which are required to be carried out before the proposed winter 2027 shutdown and inspection of the pressure tunnel. This proposal change is required to facilitate the pressure tunnel shutdown and inspection, outlined in the Approved REF.

The main potential additional construction environmental impacts of the proposal change include impacts to non-Aboriginal heritage, noise amenity, access and the disturbance of contaminated soils and hazardous built materials. No additional impacts are anticipated from the operation of the proposal change. Given the nature, scale and extent of impacts and implementation of the mitigation measures outlined in this REFA(B) and the approved REF and REFA, the proposal is unlikely to have a significant impact on the environment. Therefore, an environmental impact statement is not required under Division 5.1 of the EP&A Act.

The REF considers how the proposal aligns with the principles of Ecologically Sustainable Development (ESD) (Appendix B). The proposal change will not result in the degradation of the quality of the environment and will not pose a risk to the safety of the environment.

Appendix A – Section 171 Checklist

Requirements in addition to the approved REF, approved REFA(A) and approved REFA(C)are considered in the table below.

Section 171 Checklist	REFA(B) finding
Any environmental impact on a community	There may be short-term impacts on the community from noise, and traffic disruptions during construction. These impacts will be temporary and are required to support Sydney Water's obligation to inspect the pressure tunnel every 30 years.
Any transformation of a locality	The proposal change will not result in the transformation of a locality. All work considered in this REFA(B) is within Sydney Water land.
Any environmental impact on the ecosystems of the locality	The proposal change will have a minor impact to biodiversity due to removal of non-native trees and shrubs and the pruning of native trees. No other impacts to biodiversity or waterways are anticipated as a result of the proposal change, and ecosystem impacts are unlikely.
Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality	The proposal change will not reduce the aesthetic, recreational or scientific quality of the area. The proposal change is on Sydney Water land that is not used recreationally. Mitigation measures are proposed in the approved REF, approved REFA(A) and approved REFA(C) and this REFA(B) will reduce the potential impacts to the environment.
Any effect upon a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or any other special value for present or future generations	The proposal change will not have an adverse impact on the significance of the Potts Hill Reservoir, pressure tunnel and associated shafts. A s.57 heritage exemption has been obtained from Sydney Water's Heritage Advisor and applies to all State Heritage Register Items.
Any impact on the habitat of any protected animals (within the meaning of the *Biodiversity Conservation Act 2016*)	The proposal change will have negligible impact on the habitat of protected animals. Vegetation proposed for removal in this REFA(B) has been assessed by a suitably qualified arborist. No habitat values were identified.
Any endangering of any species of animal or plant or other form of life, whether living on land, in water or in the air	The proposal change will not endanger any species. Potential impacts to flora and fauna can be mitigated through the implementation of mitigation measures in this REFA(B) and the approved REF, approved REFA(A) and approved REFA(C).
Any long-term effects on the environment	The proposal change will not have any long-term impacts on the environment. Long-term benefit will be associated with the provision of reliable and modern water service for the area.

Section 171 Checklist	REFA(B) finding
Any degradation of the quality of the environment	The proposal change will maintain the quality of the environment. No impacts are proposed outside of Sydney Water land. Mitigation measures from this REFA(B) and the approved REF, approved REFA(A) and approved REFA(C) can adequately mitigate potential impacts to the quality of the surrounding environment.
Any risk to the safety of the environment	The proposal change will ensure the safety of the environment through the application of mitigation measures in this REFB and the REFA(B) and the approved REF, approved REFA(A) and approved REFA(C) to manage contamination.
Any reduction in the range of beneficial uses of the environment	The proposal change will not result in the reduction of the range of beneficial uses of the environment.
Any pollution of the environment	Environmental mitigation measures will mitigate the potential for the proposal to pollute the environment. No pollution of the environment is expected. No EPL is required.
Any environmental problems associated with the disposal of waste	Waste disposal will be in accordance with the environmental mitigation measures, and no environmental problems associated with the disposal of waste are expected. Potentially hazardous waste is to be disposed of in accordance with mitigation measures from this REFA(B) and the approved REF, approved REFA(A) and approved REFA(C).
Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply	The proposal change will not affect demand on resources. The proposal change is part of a package of work to inspect and maintain resource delivering infrastructure.
Any cumulative environmental effect with other existing or likely future activities	The proposal change is supporting work for the pressure tunnel dewatering and inspection. Work will implement the mitigation measures from the approved REF, approved REFA(A) and approved REFA(C) and this REFA(B) to reduce the potential for cumulative impacts.
Any impact on coastal processes and coastal hazards, including those under projected climate change conditions	The proposal change is not located in a coastal zone. No impacts are anticipated.
Any applicable local strategic planning statements, regional strategic plans or district strategic plans made under the EP&A Act, Division 3.1	There are no applicable strategic planning statements or plans, as the proposal change forms part of a maintenance program.

Section 171 Checklist	REFA(B) finding
Any other relevant environmental factors.	The proposal change has been assessed against the factors listed above, and there are no other relevant environmental factors to consider.

Appendix B – Consideration of Ecologically Sustainable Development

Additional ESD consideration are covered in the table below.

Principle	Proposed alignment
Precautionary principle – *if there are threats of serious or irreversible environmental damage, lack of scientific uncertainty should not be a reason for postponing measures to prevent environmental degradation. Public and private decisions should be guided by careful evaluation to avoid serious or irreversible damage to the environment where practicable, and an assessment of the risk-weighted consequences of various options.*	The proposal change will not result in serious or irreversible environmental damage. The proposal change is in an urban environment and requires the removal of two non-native trees and shrubs plus the minor pruning and dead branch removal. Tree removal will be offset at a ratio of 1:1 for non-native species in line with Sydney Water's offset guideline. There are no additional mitigation measures that have been designed to reduce scientific uncertainty relating to the proposal change.
Inter-generational equity – *the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.*	The proposal change will help meet the needs of future generations through providing a functional and reliable water service. The proposal is enabling work for the dewatering and inspection of the pressure tunnel. This occurs every 30 years to assess condition of this piece of infrastructure
Conservation of biological diversity and ecological integrity – *conservation of the biological diversity and ecological integrity should be a fundamental consideration in environmental planning and decision-making processes.*	The proposal change will not significantly impact on biological diversity or impact ecological integrity. The proposal change design has avoided vegetation removal beyond two non-native trees and shrubs plus the minor pruning and dead branch removal. The proposal change will offset this tree 1:1 and implement mitigation measures outlined in the approved REF, approved REFA(A) and approved REFA(C) and this REFA(B).
Improved valuation, pricing and incentive mechanisms–- *environmental factors should be included in the valuation of assets and services, such as 'polluter pays', the users of goods and services should pay prices based on the full life cycle costs (including use of natural resources and ultimate disposal of waste) and environmental goals*	The proposal change is part of enabling work for the routine inspection of the pressure tunnel. This piece of infrastructure delivers water from Potts Hill to a pumping station in Waterloo, servicing customers. The proposal change will provide cost efficient use of resources and provide optimum outcomes for the community and environment

Appendix C – Consideration of TISEPP consultation

TISEPP section	Yes	No
Section 2.10, council related infrastructure or services – consultation with council Will the work:		
Potentially have a substantial impact on stormwater management services provided by council?		X
Be likely to generate traffic that will strain the capacity of the road system in the LGA?		X
Connect to, and have a substantial impact on, the capacity of a council owned sewerage system?		X
Connect to, and use a substantial volume of water from a council owned water supply system?		X
Require temporary structures on, or enclose, a public space under council's control that will disrupt pedestrian or vehicular traffic that is not minor or inconsequential?		X
Excavate a road, or a footpath adjacent to a road, for which the council is the roads authority, that is not minor or inconsequential?		X
Section 2.11, local heritage – consultation with council		
Is the work likely to affect the heritage significance of a local heritage item, or of a heritage conservation area (not also a State heritage item) more than a minor or inconsequential amount?		X
Section 2.12, flood liable land – consultation with council		
Will the work be on flood liable land (land that is susceptible to flooding by the probable maximum flood event) and will work alter flood patterns other than to a minor extent?		X
Section 2.13, flood liable land – consultation with State Emergency Services		
Will the work be on flood liable land (land that is susceptible to flooding by the probable maximum flood event) and undertaken under a relevant provision*, but not the carrying out of minor alterations or additions to, or the demolition of, a building, emergency work or routine maintenance? * (e) Div.14 (Public admin buildings), (g) Div.16 (Research/ monitoring stations), (i) Div.20 (Stormwater systems)?		X
Section 2.14, development with impacts on certain land within the coastal zone – council consultation		

Is the work on land mapped as coastal vulnerability area and inconsistent with a certified coastal management program?		X
Section 2.15, consultation with public authorities other than councils		
Will the proposal be on land adjacent to land reserved under the *National Parks and Wildlife Act 1974* or land acquired under Part 11 of that Act*? If so, consult with DPE (NPWS).*		X
Will the proposal be on land in Zone C1 National Parks and Nature Reserves or on a land use zone that is equivalent to that zone? *If so, consult with DPE (NPWS).*		X
Will the proposal include a fixed or floating structure in or over navigable waters? *If so, consult TfNSW.*		X
Will the proposal be on land in a mine subsidence district within the meaning of the *Coal Mine Subsidence Compensation Act 2017*? *If so, consult with Subsidence Advisory NSW.*		X
Will the proposal be on land in a Western City operational area specified in *the Western Parkland City Authority Act 2018,* Schedule 2 and have a capital investment value of $30 million or more? *If so, consult the Western Parkland City Authority*.		X

Appendix D – Arborist Report

Appendix E – Inspection and Condition Assessment Report

Appendix F – Site plans

Appendix G – s57 Heritage Exemption

Section 57(2) Exemption Record of Use

Section 57(2) – Standard & Agency Exemption Assessment

Exemption Date	3 July 2026
Heritage Team Folder Ref	HP0112
Exemption Document Ref	2627_S57_0002 ***This exemption supersedes the previously provided exemption for some of the project works being Exemption 2526_S57_0001 (V3)***
SWIM Location	Folders \ Contribution Folders \ Govern Sydney Water \ Manage Environment \ Heritage \ Approvals

1. Purpose

This document has been prepared as a record of the heritage impact assessment undertaken for proposed works to a heritage item listed on the NSW State Heritage Register (SHR), in accordance with the **Standard Exemptions** issued under Section 57(2) of the ***Heritage Act 1977 (***Government Gazette No 461, 7 November 2025)[1] and the Sydney Water Agency Specific Exemption/s, issued under Section 57(2) of the ***Heritage Act 1977*** (Government Gazette No. 252 issued Friday 9 December 2023): The relevant project details for this Exemption are included in the following table.

Table 1 Project Summary

Project Name	**Pressure Tunnel & Shafts dewatering, inspection, repairs & monitoring equipment installation project IN.P0000434**
Address	Pressure Tunnel & Shafts alignment, various
Estimated Cost of Works	[redacted]
Estimated Timing	**Start Date:** July 2026 **End Date:** December 2027
Sydney Water Representative	**SW Project Manager:** Sameed Ejaz, Project Manager [redacted] **SW Environment Rep:** James Salinas, Environmental Scientist [redacted]

[1] https://gazette.nsw.gov.au/gazette/2025/11/2025-11_461-gazette.pdf

2. Heritage Context

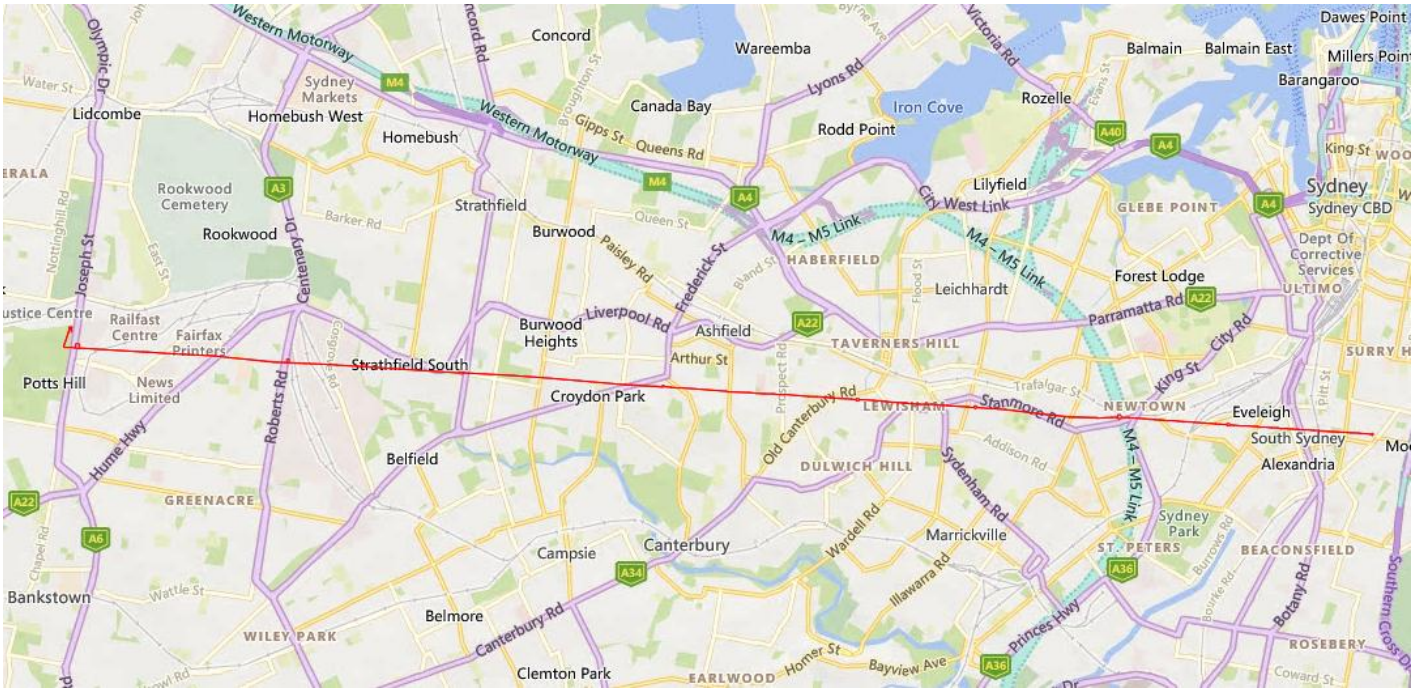
2.1 Listing

The proposed works relate to the heritage item described as ***Pressure Tunnel and Shafts***, which is listed on the NSW Heritage Register as Item #01630, and comprises a 16km-long subterranean water supply pipeline extending from Potts Hill in the west to Waterloo in the east. The current Statement of Significance for the heritage item is included hereunder:

The Pressure Tunnel is of high historical and technical significance as it represents a successful engineering response to the difficulties of increasing the volume of water from the Potts Hill Reservoir to the Pumping Station at Waterloo, a historically critical link in the water supply of Sydney. It is the third largest pressure tunnel in the world, representing a significant achievement in the provision of a dependable water supply by the Government and Water Board during the inter-war period.[2]

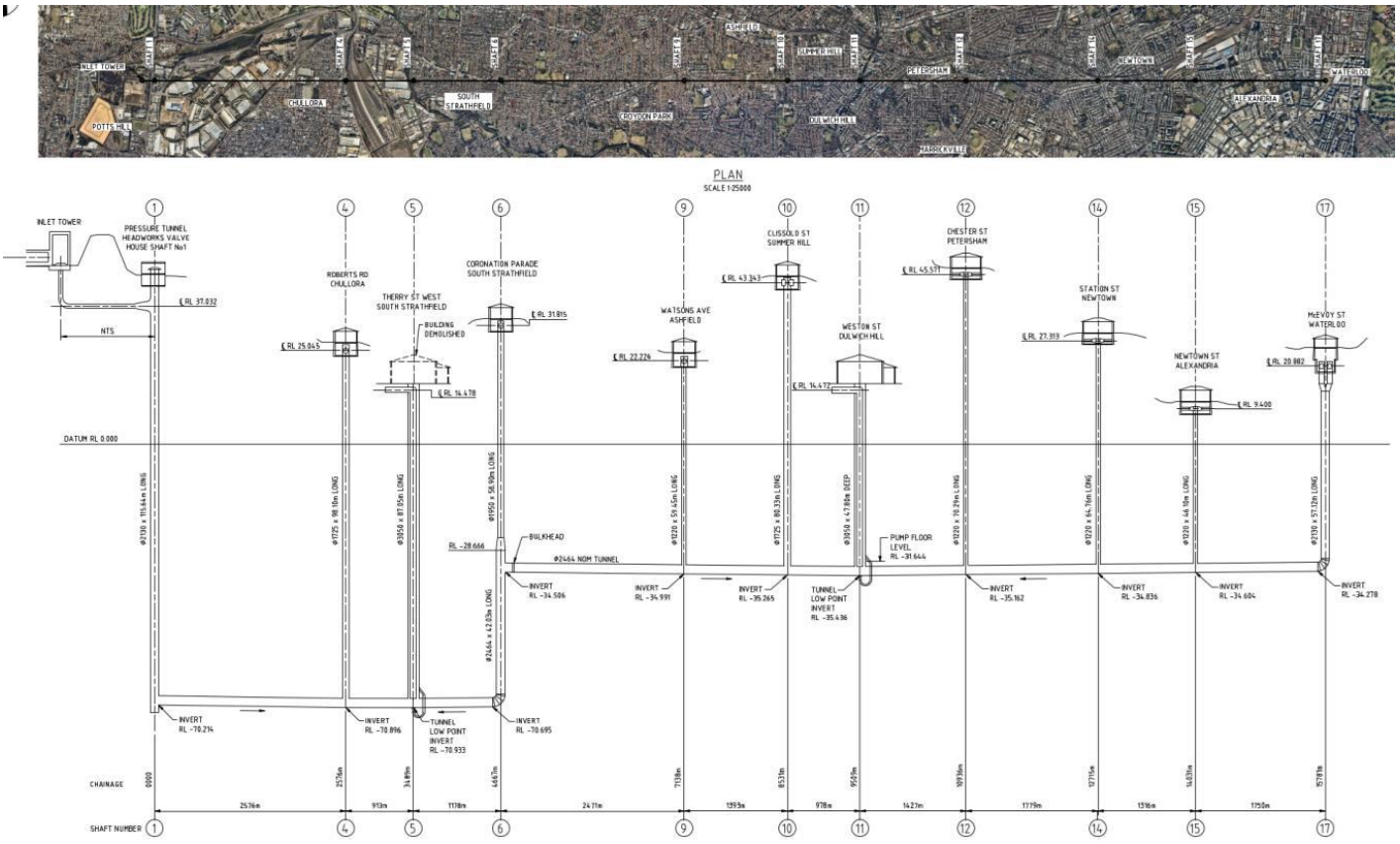
An extract of Sydney Water's GIS Spatial system is included below, showing the location and curtilage of the subject heritage item.

Figure 1 Extract of heritage map showing the subject heritage item



[2] https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5053868

Figure 2 Map showing the alignment and location of shafts



2.2 Conservation Management Plan

This assessment has reviewed and considered the current Conservation Management Plan (CMP) for the place, prepared in 2005 by Sydney Water.

3. Project Description

3.1 Scope of Works

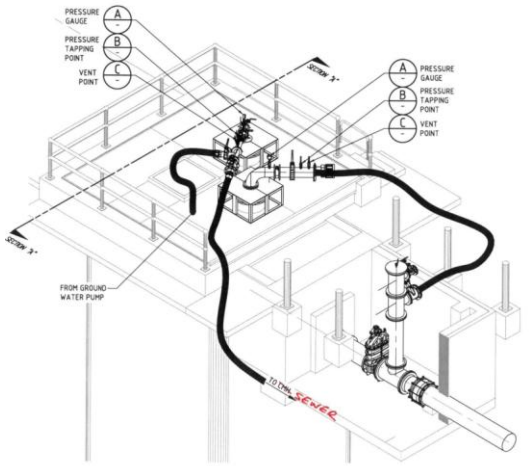
The Pressure Tunnel was built in the early 1900s and is a significant and important asset supplying potable water to around three million people. An inspection of the Pressure Tunnel is required every 30 years. The next inspection is planned for Winter 2026.Inspection of the Pressure Tunnel requires shutdown and dewatering of the tunnel. Dewatering of potable water from within the tunnel as well as groundwater surrounding the tunnel is required. In addition to the dewatering and inspection, the project scope includes repair and maintenance works along the alignment including to most of the above ground shaft buildings, including safety upgrades and repairs. Overall, the project includes the following scope:

Dewatering & Inspection

- shutdown of the Pressure Tunnel
- dewatering of potable water from the Pressure Tunnel via shafts 5 and 11, as well as some minor dewatering from shaft 1 if required
- dewatering of groundwater via shafts 5 and 11

- installation of temporary pipework to connect to the nearest stormwater canal for disposal of dewatered potable water
- installation of temporary pipework to connect to the nearest wastewater maintenance hole for disposal of dewatered groundwater
- installation of monitoring equipment and fans for ventilation
- internal inspection and condition assessment of the Pressure Tunnel including
  - condition assessment
  - minor repairs to tunnel lining
  - installation of monitoring sensors to be welded/glued/fixed to the interior of the tunnel and shafts
  - installation of optic fibre along the tunnel to monitoring sensors
  - detailed survey of the tunnel alignment and grade.
- recharging the Pressure Tunnel.

The typical dewatering pump arrangement at shafts 5 and 11 is shown below. Potable water will be discharged to stormwater following chlorine neutralisation by addition of ascorbic acid. Groundwater will be discharged to the wastewater network.



DEWATERING PIPEWORK - ISOMETRIC
SCALE 1:40



DEWATERING PIPEWORK -IMAGE
SCALE 1:40

Site establishment works

- establishment of temporary compounds at Shafts 1, 5, 4, 6, 9, 10, 11, 12, 14, 15 and 17
- excavation at shaft 5 for electrical conduit
- installation of pole at shaft 5
- new hardstand at shaft 5

Repairs and upgrades

- replacement of bolts and gaskets on PT internal structures
- safety upgrades to elements inside of shaft buildings
- repair of the stopboard at the Potts Hill inlet chamber
- removal and painting over lead paint
- management of invasive plant species for site access

The following table outlines the proposed works at each of the Shaft sites.

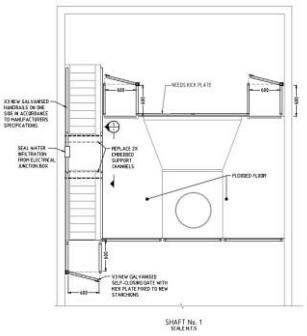
Shaft	Proposed Works
Potts Hill Inlet Chamber and Venturi Chamber	• Repair of the stopboard (to confirm if this is part of the heritage listing) • Install 800 mm fan unit in Venturi Chamber  **Photograph 1:** General view of stopboard 
Shaft 1 189 Rookwood Road, Chullora	• Temporary facilities outside shaft building • Replace bolts and gaskets • Ground investigations to locate stormwater assets and eventually install stormwater drain • Upgrades to internal crane • Temporary access platform /scaffolding internally • Safety upgrades

Shaft	Proposed Works

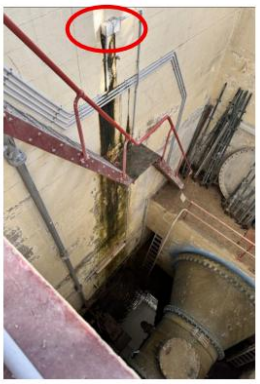


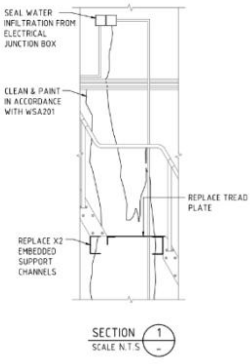
Defect Type	Repair Type	Instances	Recommended Action / Repair Methodology
Safety chain replacement	Swing-back gate, stanchion, and kick-plate installation	3	1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon installation. 2. Drill into designated locations for stanchion installation with masonry bit. 3. Install stanchions with appropriate fixing. 4. Install new galvanised self-closing gate with kick-plate fixed to stanchions.





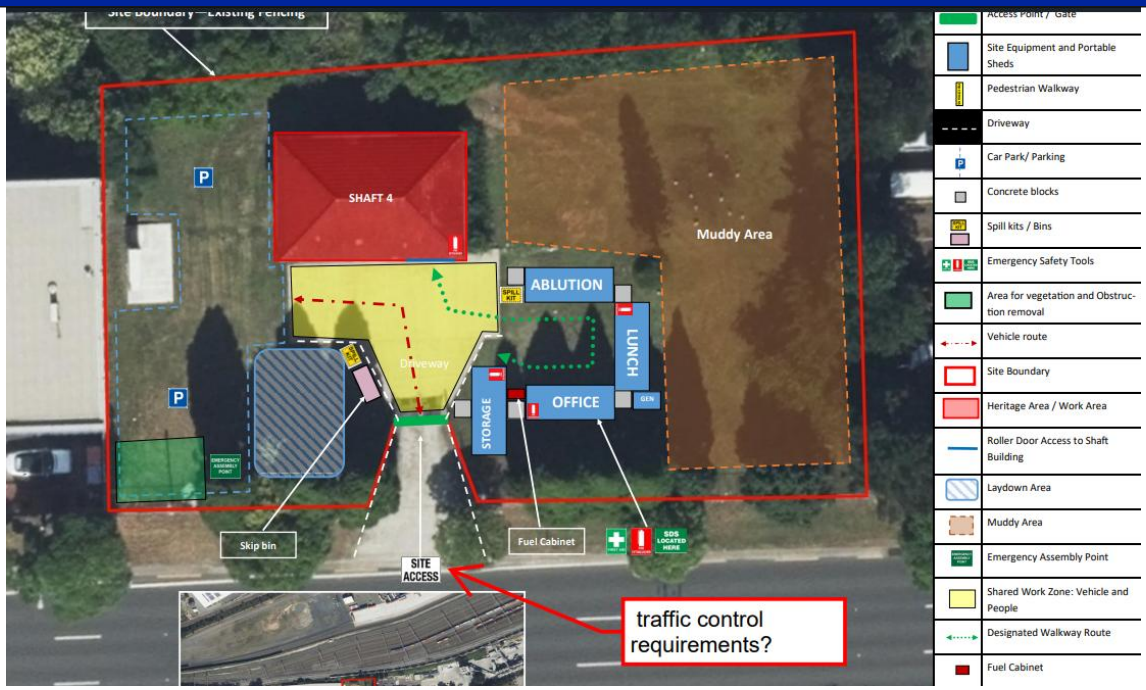
Defect Type	Repair Type	Instances	Recommended Action / Repair Methodology
Water infiltration	Crack injection	1	1. Isolate electrical junction box. 2. Clean off moss and growth to determine extent of crack. 3. Repair water infiltration by routing out crack. 4. Drill into crack. 5. Inject a low viscosity crack sealant such as Sika Injection 306 or equivalent. 6. Apply flexible joint sealant along routed crack such as Sikaflex Tank N or equivalent. 7. Clean and paint damaged wall elements in accordance with WSA201.

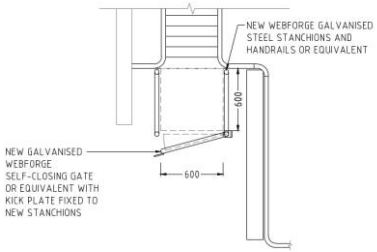




Shaft	Proposed Works
	<table><tr><td>Corroded embedded support channels and treadplate</td><td>Installation of new embedded support channels and treadplate</td><td>2 embedded support channels 1 treadplate</td><td>1. Setup scaffolding secluded from ladder and intermediate platform. 2. Identify extent of corrosion damage. 3. Remove and replace all corroded elements (e.g. embedded Support Channels and treadplates).</td></tr><tr><td colspan="3"></td><td>See WUPT01(A) and (B) Repair Sketches</td></tr></table><table><tr><th>Defect Type</th><th>Repair Type</th><th>Instances</th><th>Recommended Action / Repair Methodology</th></tr><tr><td>Pooling at base of shaft house</td><td>Drainage of water</td><td>1</td><td>1. Investigation of origin of pooling. 2. If infiltration is beyond the electrical junction box, find source(s), drill into crack. 3. Inject a low viscosity crack sealant such as Sika Injection 306 or equivalent. 4. Apply flexible joint sealant along routed crack such as Sikaflex Tank N or equivalent. 5. Identify operational status of shaft house pump and take necessary actions to replace pump. If not possible, utilise a pump truck to remove remaining water and then repair shaft house pump when accessible.</td></tr><tr><td colspan="3"></td><td>N/A</td></tr></table><table><tr><td>Missing kickplate at the platform</td><td>Installation of new kickplate</td><td>1</td><td>1. Install new galvanised steel kickplate at the base of the handrail.</td></tr><tr><td colspan="3"></td><td>See WUPT01(A) Repair Sketch</td></tr></table>
Shaft 4 7 Roberts Road, Chullora	• Temporary facilities outside shaft building • Replace bolts and gaskets • Install 600 mm fan in building • Temporary access platform /scaffolding internally • Safety upgrades

Shaft	Proposed Works



Defect Type	Repair Type	Instances	Recommended Action / Repair Methodology
Safety chain replacement	Swing-back gate, stanchion, and kick-plate installation	1	1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon installation. 2. Drill into designated locations for stanchion installation with masonry bit. 3. Install stanchions with appropriate fixing. 4. Install new galvanised self-closing gate with kick-plate fixed to stanchions.
			 SHAFT No. 4 SCALE N.T.S
Water infiltration	Crack injection	1	1. Contractor to confirm the source of the infiltration is from the wall flange. 2. If the concrete is solid: a. Drill into crack. b. Inject a low viscosity crack sealant such as Sika Injection 306 or equivalent. c. Apply flexible joint sealant along routed crack such as Sikaflex Tank N or equivalent. 3. If the concrete is hollow: a. Break away the concrete until it sound concrete is reached. b. Clean and recoat the corroded pipework in accordance with WSA-201. c. Rebuild the wall using a high build cementitious repair mortar.
			N/A

<table>
<tr><th>Shaft</th><th>Proposed Works</th></tr>
<tr><td></td><td>
<table>
<tr><th>Defect Type</th><th>Repair Type</th><th>Instances</th><th>Recommended Action / Repair Methodology</th></tr>
<tr><td>Treadplate penetration</td><td>Weld compensating plates over treadplate penetrations</td><td>1</td><td>1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon repair work.
2. Seal weld a new 3mm thick compensating plate over the penetrations in the treadplate. New compensating plate is to extend over the penetrations on all sides by 10mm. The length and width of the compensating plate to suit the dimensions of the penetrations.</td></tr>
<tr><td colspan="3"></td><td>N/A</td></tr>
</table>
</td></tr>
<tr><td>Shaft 5
30 Therry Street West, Strathfield South</td><td>

Installation of a conduit and cabling to connect Shaft 5 of the Pressure tunnel to an existing Ausgrid substation and power pole on Therry Street West, South Strathfield. The works include:

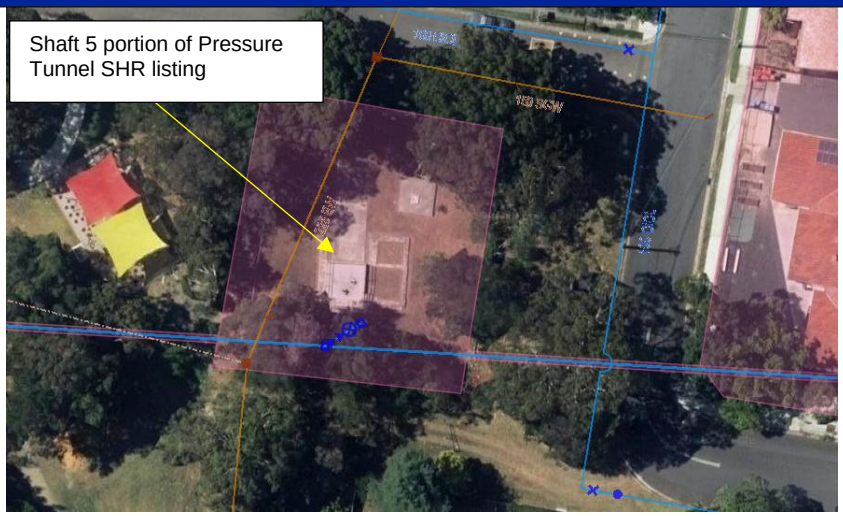
site establishment of laydown area, skip bin and one portable toilet for site staff.
Excavation, road cutting and trenching to install about 45m of conduit across Therry Street West, and along St Annes Square to the Ausgrid substation.
installation of a new network pillar.
installation of a private pillar within the fence line of Shaft 5.
demobilisation and removal of plant and equipment.

Hardstand in the area labelled “generator”
Safety upgrades

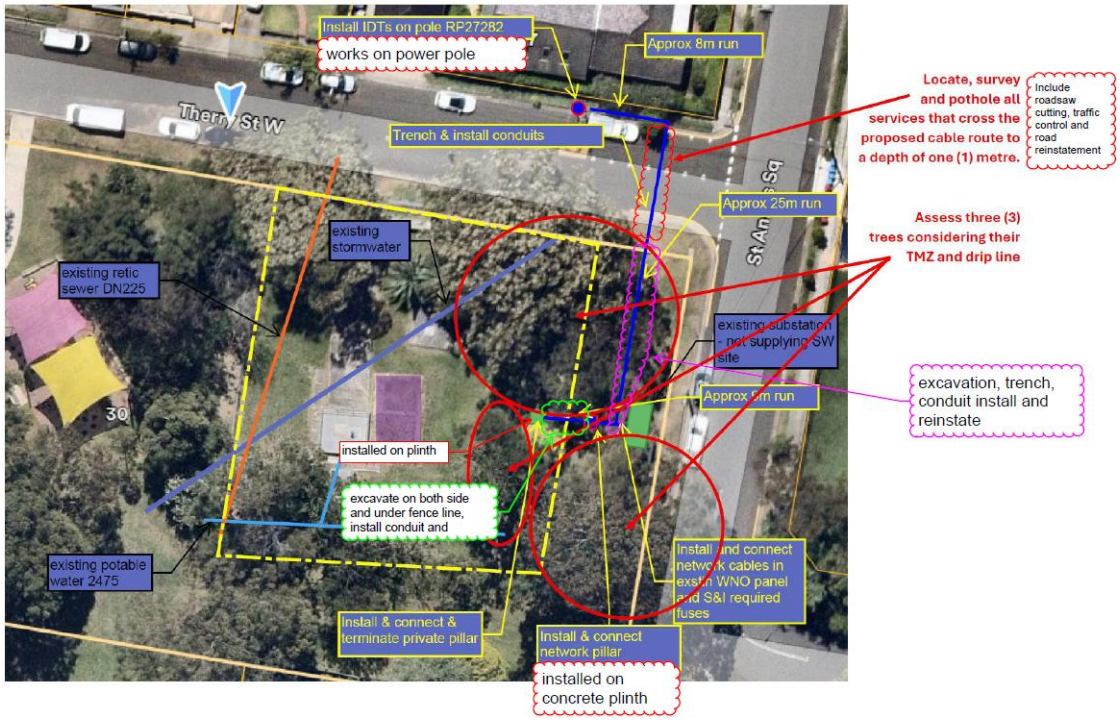


The extent of the works within the SHR for this scope including minor excavation along the eastern curtilage boundary, and installation of a pillar on a plinth (green areas shown on plan below), as well as new hardstand on an area of existing previous hardstand/disturbance, as well as safety upgrades/repairs within the shaft.
</td></tr>
</table>

Shaft	Proposed Works

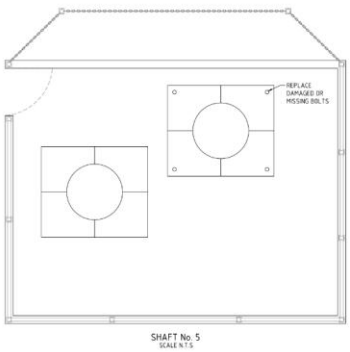


Aerial above showing SW infrastructure (Spatial Hub) and Shaft 5 SHR boundary highlighted pink

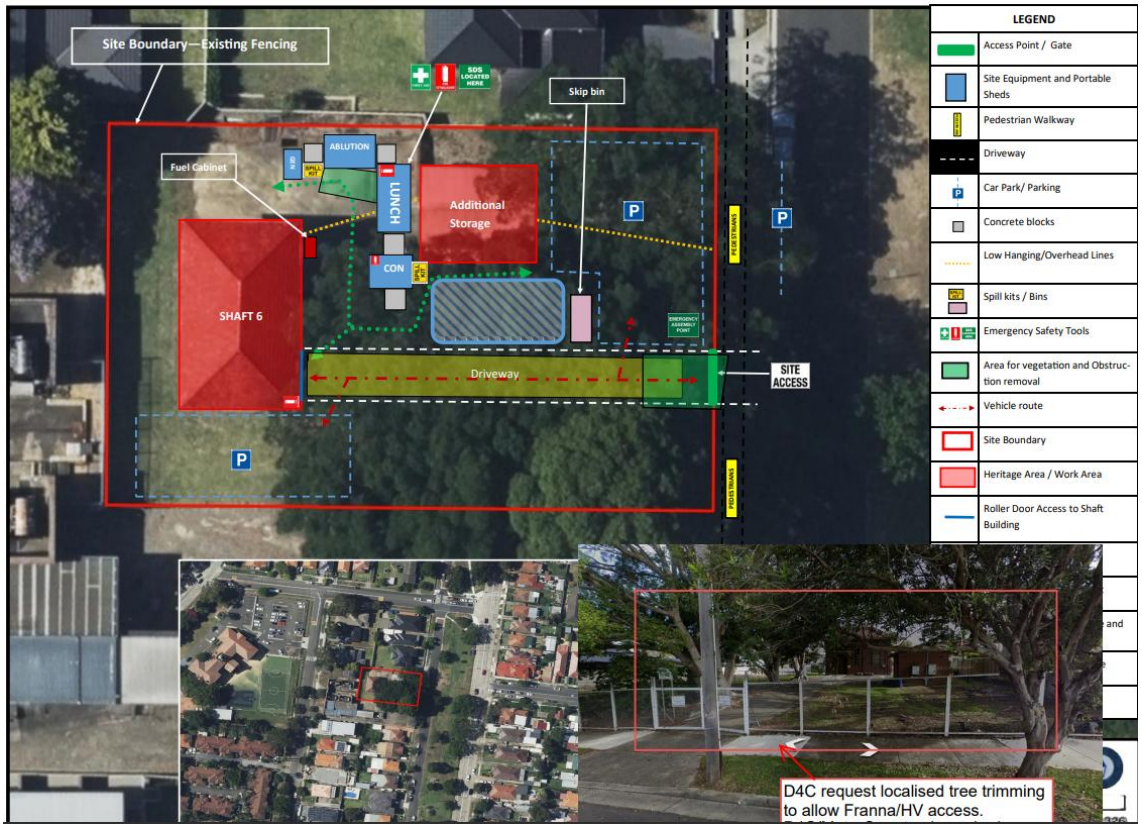


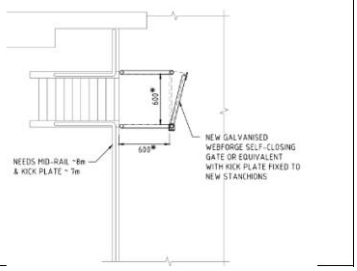
WUPT05 Register			
Defect Type	**Repair Type**	**Instances**	**Recommended Action / Repair Methodology**
Missing and damaged bolts	Replacement of all damaged bolts	Approximately 4	1. Identify all damaged fixings for shaft covers and remove. 2. Replace damaged fixings.





Shaft	Proposed Works
Shaft 6 69 Coronation Parade, Strathfield	• Temporary facilities outside shaft building • Remove bollards for site access • Fix powerlines (yellow dotted line) • Install 800 mm fan in building • Replace of bolts and gaskets • Temporary access platform internally • Safety upgrades • Tree trimming



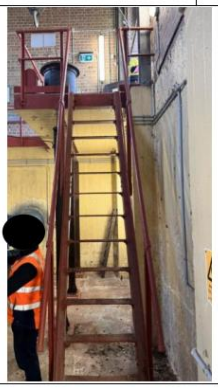
Defect Type	Repair Type	Instances	Recommended Action / Repair Methodology
Safety chain replacement	Swing-back gate, stanchion, and kick-plate installation	1	1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon installation. 2. Drill into designated locations for stanchion installation with masonry bit. 3. Install stanchions with appropriate fixing. 4. Install new galvanised self-closing gate with kick-plate fixed to stanchions.
			

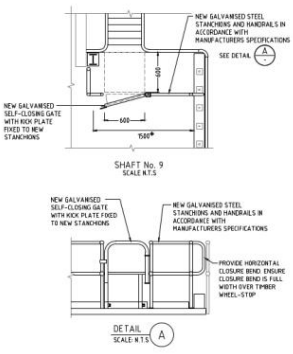
Shaft	Proposed Works
	<table><tr><td>Treadplate penetration</td><td>Weld compensating plates over treadplate penetrations</td><td>2</td><td>1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon repair work. 2. Seal weld a new 3mm thick compensating plate over the penetrations in the treadplate. New compensating plate is to extend over the penetrations on all sides by 10mm. The length and width of the compensating plate to suit the dimensions of the penetrations.</td></tr><tr><td colspan="3"></td><td>N/A</td></tr></table> <table><tr><th>Defect Type</th><th>Repair Type</th><th>Instances</th><th>Recommended Action / Repair Methodology</th></tr><tr><td>Sump grate replacement</td><td>Existing sump grate removal and installation of new sump grate like for like equivalent</td><td>1</td><td>1. Remove existing sump grate. 2. Install new 950 x 950mm sump grating.</td></tr><tr><td colspan="3"></td><td>N/A</td></tr></table> <table><tr><td>Missing mid rail and kickplate at the platform</td><td>Installation of new mid rail and kickplate</td><td>1 mid-rail 1 kickplate</td><td>1. Install new galvanised steel mid-rail and kickplate where missing along the handrail.</td></tr><tr><td colspan="3"></td><td>N/A</td></tr></table>
Shaft 9 6 Watson Avenue, Ashfield	• Temporary facilities outside shaft building • Replace bolts and gaskets • Install 600 mm fan inside building • Temporary access platform internally • Safety upgrades

Shaft	Proposed Works
Shaft 10 3A Clissold Street Ashfield	• Temporary facilities outside shaft building • Replace bolts and gaskets • Install 600 mm fan inside building • Temporary access platform internally • Safety upgrades



Defect Type	Repair Type	Instances	Recommended Action / Repair Methodology
Safety chain replacement	Swing-back gate, stanchion, and kick-plate installation	1	1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon installation. 2. Drill into designated locations for stanchion installation with masonry bit. 3. Install stanchions with appropriate fixing. 4. Install new galvanised self-closing gate with kick-plate fixed to stanchions.



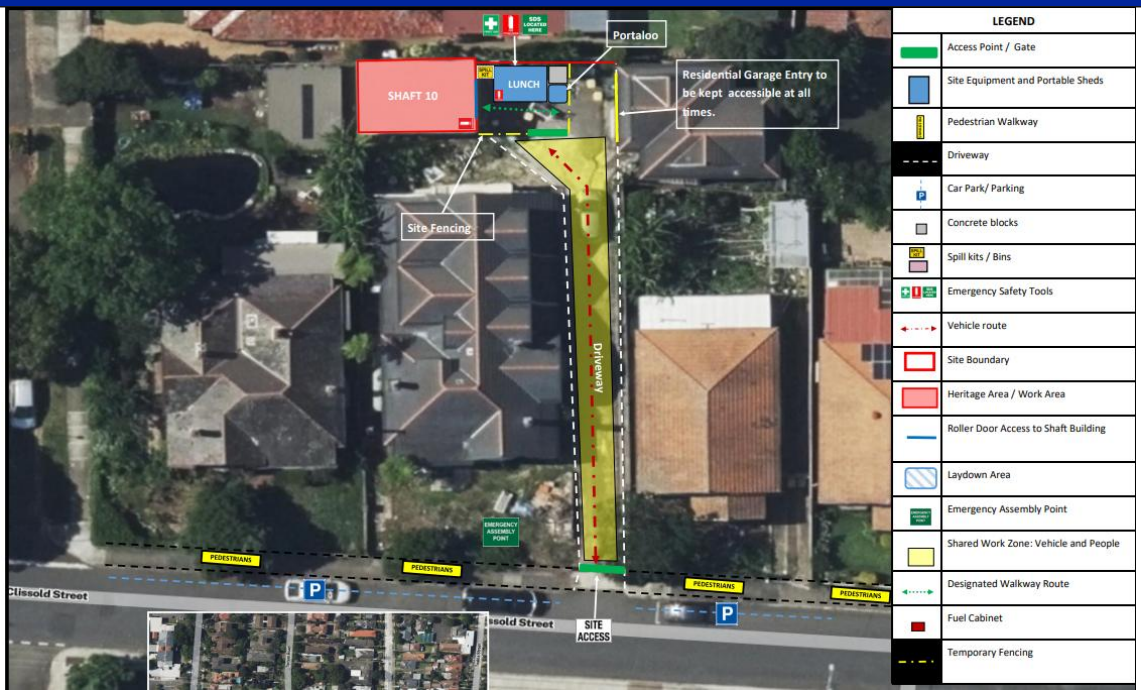


Defect Type	Repair Type	Instances	Recommended Action / Repair Methodology
Treadplate penetration	Weld compensating plates over treadplate penetrations	1	1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon repair work. 2. Seal weld a new 3mm thick compensating plate over both penetrations in the treadplate. New compensating plate is to extend over the penetrations on all sides by 10mm. The length and width of the compensating plate to suit the dimensions of the penetrations.



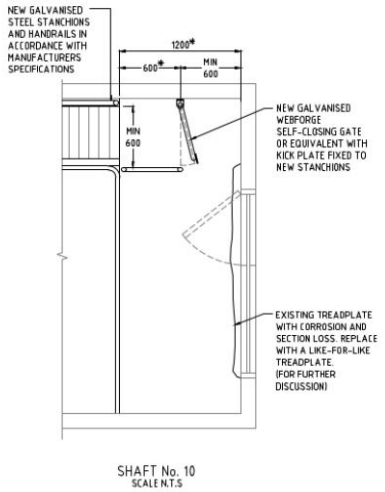
N/A

Shaft	Proposed Works



Defect Type	Repair Type	Instances	Recommended Action / Repair Methodology
Safety chain replacement	Swing-back gate, stanchion, and kick-plate installation	1	1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon installation. 2. Drill into designated locations for stanchion installation with masonry bit. 3. Install stanchions with appropriate fixing. 4. Install new galvanised self-closing gate with kick-plate fixed to stanchions.





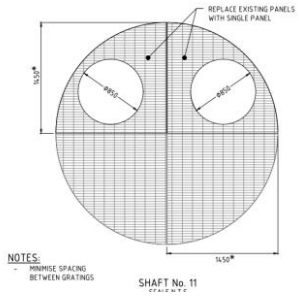
Missing handrail	Installation of handrail	2	1. Drill anchor points into wall with masonry bit. 2. Install new handrails.
Refer to photo in WUPT10(A)			Refer to drawing in WUPT10(A)

<table>
<tr><th>Shaft</th><th>Proposed Works</th></tr>
<tr><td></td><td>
<table>
<tr><td>Treadplate penetration</td><td>Weld compensating plates over treadplate penetrations</td><td>2</td><td>1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon repair work.
2. Seal weld a new 3mm thick compensating plate over the penetrations in the treadplate. New compensating plate is to extend over the penetrations on all sides by 10mm. The length and width of the compensating plate to suit the dimensions of the penetrations.</td></tr>
<tr><td colspan="3"></td><td>N/A</td></tr>
<tr><td>Treadplate corrosion</td><td>Replace treadplate</td><td>1</td><td>1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon repair work.
2. Remove current corroded treadplate.
3. Replace with like for like treadplate.</td></tr>
<tr><td colspan="3"></td><td>Refer to drawing in WUPT10(A)</td></tr>
</table>
</td></tr>
<tr><td>Shaft 11,
9 Weston Street, Dulwich Hill</td><td>

Temporary facilities outside shaft building
Replace bolts and gaskets
Safety upgrades



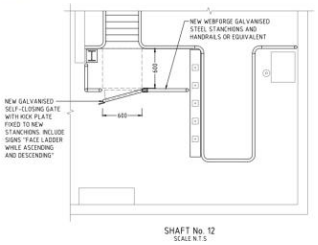
</td></tr>
</table>

<table>
<tr><th>Shaft</th><th>Proposed Works</th></tr>
<tr><td></td><td>
<table>
<tr><th>Defect Type</th><th>Repair Type</th><th>Instances</th><th>Recommended Action / Repair Methodology</th></tr>
<tr><td>Grating Replacement to minimise spacing and include edge bar.</td><td>Consolidate current 6-part cover to a 4-part cover by combining segments 1 and 2 surrounding each flange.</td><td>1</td><td>1. Remove and replace the four grating panels surrounding the flanges as detailed in the photos with two larger grating panels.
2. New grating opening shall be sized to pass over blank flanges without removal of flanges.
3. Install two new single steel grating panel as detailed below. The grating is to include:
a. Edge bar on all internal and external edges.
b. Grating to be sized to be minimised between the segments to reduce gaps between adjacent gratings.
c. Minimum of 4 x fixing clips per panel</td></tr>
<tr><td colspan="2">
</td><td colspan="2">
</td></tr>
</table>
</td></tr>
<tr><td>Shaft 12
35 Chester Street,
Petersham</td><td>

Temporary facilities outside shaft building
Replace bolts and gaskets
Install 400 mm fan inside building
Temporary access platform internally within shaft
Safety upgrades
Tree trimming



</td></tr>
</table>

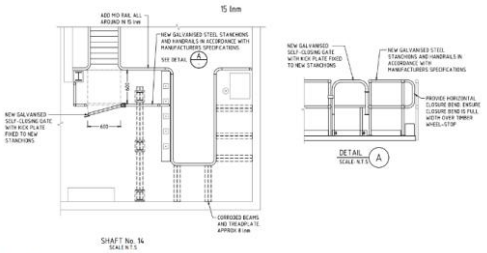
<table>
<tr><th>Shaft</th><th>Proposed Works</th></tr>
<tr><td></td><td>
<table>
<tr><th>Defect Type</th><th>Repair Type</th><th>Instances</th><th>Recommended Action / Repair Methodology</th></tr>
<tr><td>Safety chain replacement</td><td>Swing-back gate, stanchion, and kick-plate installation</td><td>1</td><td>1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon installation.
2. Drill into designated locations for stanchion installation with masonry bit.
3. Install stanchions with appropriate fixing.
4. Install new galvanised self-closing gate with kick-plate fixed to stanchions.</td></tr>
<tr><td colspan="3"></td><td>
</td></tr>
<tr><td>Treadplate penetration</td><td>Weld compensating plates over treadplate penetrations</td><td>6</td><td>1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon repair work.
2. Seal weld a new 3mm thick compensating plate over the penetrations in the treadplate. New compensating plate is to extend over the penetrations on all sides by 10mm. The length and width of the compensating plate to suit the dimensions of the penetrations.</td></tr>
<tr><td colspan="3"></td><td>N/A</td></tr>
</table>
<table>
<tr><th>Defect Type</th><th>Repair Type</th><th>Instances</th><th>Recommended Action / Repair Methodology</th></tr>
<tr><td>Pooling at base of shaft house</td><td>Drainage of water</td><td>1</td><td>1. Isolate electrical junction box.
2. Clean off moss and growth to determine extent of crack.
3. Repair water infiltration by routing out crack.
4. Drill into crack at electrical junction box.
5. Inject a low viscosity crack sealant such as Sika Injection 306 or equivalent.
6. Apply flexible joint sealant along routed crack such as Sikaflex Tank N or equivalent.
7. Identify operational status of shaft house pump and take necessary actions to replace pump. If not possible, utilise a pump truck to remove remaining water and then repair shaft house pump when accessible.</td></tr>
<tr><td colspan="3"></td><td>N/A</td></tr>
</table>
</td></tr>
<tr><td>Shaft 14
Corner of Station Street and Wilford Street, Newtown</td><td>

Temporary facilities outside shaft building
Replace bolts and gaskets
Install 400 mm fan inside building
Temporary access platform internally
Safety upgrades
Tree trimming

</td></tr>
</table>

Shaft	Proposed Works



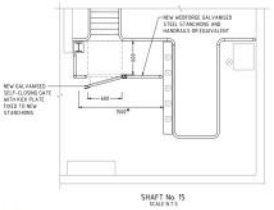
Defect Type	Repair Type	Instances	Recommended Action / Repair Methodology
Safety chain replacement	Swing-back gate, stanchion, and kick-plate installation	1	1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon installation. 2. Drill into designated locations for stanchion installation with masonry bit. 3. Install stanchions with appropriate fixing. 4. Install new galvanised self-closing gate with kick-plate fixed to stanchions.
			
Treadplate penetration	Weld compensating plates over treadplate penetrations	2	1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon repair work. 2. Seal weld a new 3mm thick compensating plate over the penetrations in the treadplate. New compensating plate is to extend over the penetrations on all sides by 10mm. The length and width of the compensating plate to suit the dimensions of the penetrations.
			N/A

Defect Type	Repair Type	Instances	Recommended Action / Repair Methodology
Missing mid-rail along the platform	Installation of new mid-rail	1	1. Install new galvanized steel mid-rail along the handrail.
			Refer to drawing in WUPT14(A)

<table>
<tr><th>Shaft</th><th>Proposed Works</th></tr>
<tr><td></td><td>
<table>
<tr><th>Defect Type</th><th>Repair Type</th><th>Instances</th><th>Recommended Action / Repair Methodology</th></tr>
<tr><td>Treadplate and supporting beams corrosion</td><td>Sawcut corroded sections and weld in new compensating plates</td><td>4</td><td>1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon repair work.
2. Remove and clean corrosion from treadplate and supporting beams. Investigate extent of section loss.
3. If required, weld new 3mm thick compensating plates to the existing treadplate and supporting beam
4. Repaint in accordance with WSA-201.</td></tr>
<tr><td colspan="3"></td><td>N/A</td></tr>
<tr><td>Infiltration at pipe penetration</td><td>Crack injection repairs at pipe penetrations</td><td>2</td><td>1. Contractor to confirm the source of the infiltration is from the wall flange.
2. If the concrete is solid:
a. drill into crack.
b. Inject a low viscosity crack sealant such as Sika Injection 306 or equivalent.
c. Apply flexible joint sealant along routed crack such as Sikaflex Tank N or equivalent.
3. If the concrete is hollow:
a. break away the concrete until it sound concrete is reached.
b. Clean and recoat the corroded pipework in accordance with WSA-201.
c. Rebuild the wall using a high build cementitious repair mortar.</td></tr>
<tr><td colspan="3"></td><td>N/A</td></tr>
</table>
</td></tr>
<tr><td>Shaft 15
14 Newton Street,
Erskineville</td><td>• Temporary facilities outside shaft building
• Replace bolts and gaskets
• Install 600 mm fan inside building
• Temporary access platform (see final slide)
• Safety upgrades</td></tr>
</table>

Shaft	Proposed Works



Defect Type	Repair Type	Instances	Recommended Action / Repair Methodology
Safety chain replacement	Swing-back gate, stanchion, and kick-plate installation	1	1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon installation. 2. Drill into designated locations for stanchion installation with masonry bit. 3. Install stanchions with appropriate fixing. 4. Install new galvanised self-closing gate with kick-plate fixed to stanchions.
			
Repairing of treadplate penetration	Weld compensating plate over treadplate penetration	1	1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon repair work. 2. Seal weld a new compensating plate over the penetration in the treadplate. New compensating plate is to extend over the penetration on all sides by 10mm. The length and width of the compensating plate to suit the dimensions of the penetrations. 3. Repaint in accordance with WSA-201.
			N/A

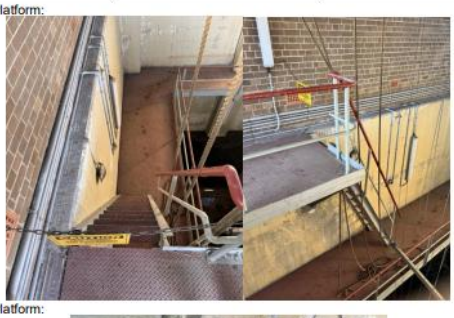
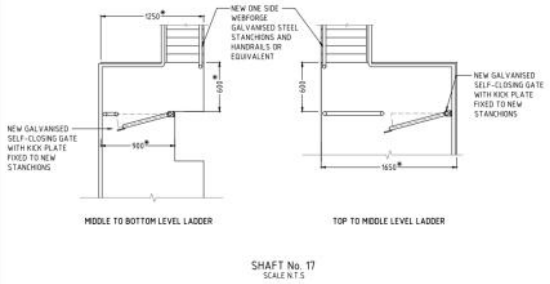
<table>
<tr><th>Shaft</th><th>Proposed Works</th></tr>
<tr><td></td><td>
<table>
<tr><th>Defect Type</th><th>Repair Type</th><th>Instances</th><th>Recommended Action / Repair Methodology</th></tr>
<tr><td>Damaged stair tread</td><td>Replace stair tread</td><td>1</td><td>1. Remove the existing stair tread.
2. Replace it with a like for like stair tread.</td></tr>
<tr><td colspan="3"></td><td>N/A</td></tr>
<tr><td>Spalled concrete column</td><td>Rebuild deteriorated column</td><td>1</td><td>3. Saw cut and rebuild spalled concrete on the column using a high-strength cementitious repair mortar in accordance with WSA-201.</td></tr>
<tr><td colspan="3"></td><td>N/A</td></tr>
</table>
</td></tr>
<tr><td>Shaft 17
Corner of McEvoy Street and Bourke Street, Waterloo</td><td>

Temporary facilities outside shaft building
Replace bolts and gaskets
Upgrades to crane in shaft building
Install 800 mm fan inside building
Temporary access platform (see final slide)
Safety upgrades



</td></tr>
</table>

Shaft	Proposed Works

Defect Type	Repair Type	Instances	Recommended Action / Repair Methodology
Safety chain replacement	Swing-back gate, stanchion, and kick-plate installation	2	1. Determine if platform coating is lead paint and take necessary steps to isolate hazard when disrupting surface upon installation. 2. Drill into designated locations for stanchion installation with masonry bit. 3. Install stanchions with appropriate fixing. 4. Install new galvanised self-closing gate with kick-plate fixed to stanchions.
Upper Platform:  Lower Platform: 			 SHAFT No. 17 SCALE N.T.S
Missing handrail	Installation of handrail	2	1. Drill anchor points into wall with masonry bit. 2. Install new handrails.
Refer to photos in WUPT17(A)			

An example of the temporary access platform / scaffolding within the shaft buildings is include below for reference:

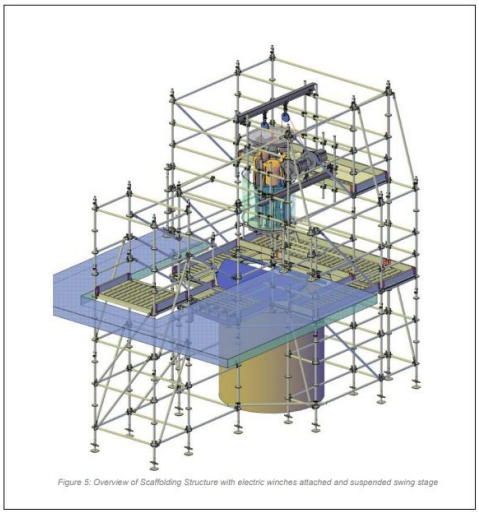


Figure 5: Overview of Scaffolding Structure with electric winches attached and suspended swing stage

3.2 Site Inspection

Were any inspections undertaken? Yes: ☐ No: ☒

If yes, complete below (add additional rows if required):

Table 2 Site Inspections

Date of Inspection	Attendees (name & organisation)	Purpose of inspection	Inspection Findings

4. Approval Framework & Assessment

The proposal is located within the curtilage of a heritage item listed on the NSW SHR, and therefore approval under the ***Heritage Act 1977*** is required. If the proposal meets particular exemption criteria, the works may be considered as exempt from requiring heritage approval under the ***Heritage Act 1977***.

4.1 Standard Exemptions

The proposal has been assessed against the specified activities and relevant standards of the following Standard Exemption/s, issued under Section 57(2) of the ***Heritage Act 1977*** (Government Gazette No. 461, 7 November 2025):

- **Activity 1: Maintenance and Cleaning**
- **Activity 3: Repair and Replacement of Significant Fabric**
- **Activity 4: Alterations to Non-Significant Fabric**
- **Activity 7: Non-Significant Telecommunications Facilities and Water, Wastewater and Stormwater Infrastructure**
- **Activity 9: Excavation**
- **Activity 10: Painting**
- **Activity 14: Vegetation, Invasive Species Management and Bush Regeneration**

A complete list of the Section 57(2) Standard Exemptions is located here:
https://gazette.nsw.gov.au/gazette/2025/11/2025-11_461-gazette.pdf

4.2 Sydney Water Agency Exemptions

Sydney Water has been granted Agency Specific Exemptions under Section 57(2) of the Heritage Act. These Agency Specific Exemptions are tailored to address to agency-specific operational needs and works/ activities. They may be applied to "***activities/works being carried out by or engaged in by SWC in relation to State Heritage Register (SHR)/Interim Heritage Order (IHO) items***".[3]

The proposal being assessed herein is categorised as follows:

- Activities/works being carried out by Sydney Water (incl. its servants/agents/contractors): ☒
- Activities/works being engaged in by Sydney Water: ☐

The proposal has been also assessed against the specified activities and relevant standards of the following Sydney Water Agency Specific Exemption/s, issued under Section 57(2) of the ***Heritage Act 1977*** (Government Gazette No. 252 issued Friday 9 December 2023):

- **Sydney Water Agency Exemption 2: Temporary Activities/Works (a) Temporary scaffolding**

A complete list of the Sydney Water Agency Specific s.57 Exemptions is located here
https://gazette.nsw.gov.au/gazette/2023/6/2023-252.pdf.

[3] https://gazette.nsw.gov.au/gazette/2023/6/2023-252.pdf p. 10

4.3 Assessment Tables

The following tables provides a detailed assessment of the works against the Exemption criteria.

Table 3 Assessment of works against Standard Exemption – Activity 1: Maintenance and Cleaning

Specified Activity / Relevant Standard	Discussion
Description of activity: ***a) The maintenance of an item to retain its condition or operation.***	Complies. The Pressure Tunnel was built in the early 1900s and is a significant and important asset supplying potable water to around three million people. Given its age and importance of its ongoing function, an inspection of the Pressure Tunnel is required every 30 years. The proposed dewatering activities are required to enable this regular inspection and to maintain the integrity and functionality of the heritage item.
b) Application of protection coatings such as limewash, polish, oils and waxes to an item.	Not applicable to this scope.
c) Cleaning to remove surface deposits, organic growths or graffiti from an item.	Not applicable to this scope.
Relevant standards: ***d) The specified activities must be carried out in accordance with the General Conditions.***	Complies. The works will be carried out in accordance with the General Conditions.
e) The specified activities must not alter, damage, or remove Significant Fabric.	Complies. No significant fabric will be damaged or removed during the activities. Following dewatering of the tunnel and visual inspection, it may become apparent that some minor patch repairs are needed to ensure the ongoing integrity of the asset. Any such repairs will be undertaken applying a like for like methodology for concrete render to the interior of the tunnel lining. This work will not damage or remove any significant fabric, and if required, is critical to ensure the ongoing functionality of the asset.
f) New materials or finishes may only be introduced to non-Significant Fabric where this does not impact the significance of the item, uses a colour Sympathetic to the item, does not detract from the item and does not reduce the ability to appreciate the item.	Complies. While the tunnel fabric itself is significant, the principal significance of the item lies in its technical and historical values. Minor patch repairs may need to be undertaken to the interior lining of the tunnel, however this cannot be confirmed until dewatering activities are completed. Repair works, if required, will involve the minor introduction of new patch render to the interior tunnel lining to replace or repair any fabric which has spalled or deteriorated. This works if require would have no adverse impact on the significance of the item, and would instead enhance its significance by ensuring its ongoing functionality.
g) Protective coatings may only be applied to surfaces which have previously had these coatings. Existing finishes such as oils and waxes for timber must continue to be used rather than modern alternative protective coatings.	Not applicable to this scope.
h) Surface patina important to the item's heritage significance must be preserved during maintenance and cleaning.	Not applicable to this scope.

Specified Activity / Relevant Standard	Discussion
i) Cleaning of Significant Fabric with water must only use low-pressure water and neutral detergents appropriate to the surface being cleaned. Water pressure must not exceed 500 kPa (72 psi) or other pressure suitable to the fabric or surface in accordance with written advice prepared by a suitably qualified and experienced heritage professional.	Not applicable to this scope.

Table 4 Assessment of works against Standard Exemption – Activity 3: Repair and replacement of significant fabric

Specified Activity / Relevant Standard	Discussion
Description of activity: ***a) Minor Repair (such as refixing and patching) of damaged or deteriorated Significant Fabric of an item that is beyond further maintenance.***	Complies. Minor patching and refixing works will occur as required within the Shaft buildings along the Pressure Tunnel alignment to address operational and safety failures. Patching and refixing works will be undertaken in a like for like methodology, or as required to enable the continued functionality of the asset.
b) Replacement of missing, damaged or deteriorated Significant Fabric of an item that is beyond repair.	Complies. Where significant fabric elements are damaged or deteriorated beyond repair (eg, rusted through handrails and platforms for access), these will be repaired or replaced with equivalent elements to address failures. These elements are required to provide a level of safety and access which complies with regulations. In some instances, like for like replacement which mirrors original configuration of these elements may not be possible. This will not have an adverse heritage impact, as these Shafts are operating industrial spaces which need to continue functioning and above all need to provide for the safe ingress and egress of workers. The heritage value of the item lies in its continued operational function and its ability to demonstrate innovation in water supply technology – this includes representation of contemporary developments which allow for this use and significance to continue.
c) Works directly associated with minor repair and replacement of Significant Fabric of an item	Complies. As above.
Relevant standards: ***d) The specified activities must be carried out in accordance with the General Conditions.***	Complies. The works will be carried out in accordance with the General Conditions.
e) Repairs must be based on the principle of doing as little as possible and only as much as is necessary to retain and protect the item. Therefore, replacement must only occur as a last resort where a part of an item has decayed beyond further maintenance.	Complies. Items which need repair or replacement will only be actioned on an as needs basis to ensure continued operation of the asset and safety of its users/workers.

Specified Activity / Relevant Standard	Discussion
f) Any new fabric must be Sympathetic to the appearance, composition, detailing, size, position and finish of existing fabric.	Complies. As above, where significant fabric elements are damaged or deteriorated beyond repair (eg, rusted through handrails and platforms for access), these will be repaired or replaced with equivalent elements to address failures. These elements are required to provide a level of safety and access which complies with regulations. In some instances, like for like replacement which mirrors original configuration of these elements may not be possible. This will not have an adverse heritage impact, as these Shafts are operating industrial spaces which need to continue functioning and above all need to provide for the safe ingress and egress of workers. The heritage value of the item lies in its continued operational function and its ability to demonstrate innovation in water supply technology – this includes representation of contemporary developments which allow for this use and significance to continue.
g) Repair must maximise protection and retention of Significant Fabric and conserve existing detailing.	Complies. Repair and replacement works are not anticipated to detract from or obscure the original detailing or features of the built form of the Shaft buildings. All repair and replacement works will be undertaken internally to functional elements of the asset, and therefore will not detract from its significance.
h) Any new materials used for repair must not exacerbate the decay of surrounding Significant Fabric due to chemical incompatibility, obscure existing Significant Fabric or limit access to existing Significant Fabric for future maintenance.	Complies. The repair works will be undertaken in a like for like methodology, or as required to enable the continued functionality of the asset. The intention of the work is to limit the decay and deterioration of the asset's fabric, to ensure its continued operation and function.
i) The specified activities are to be consistent with an assessment and the advice of a qualified and experienced heritage professional.	Complies. The works are being undertaken with guidance from the Sydney Water heritage team experts.

Table 5 Assessment of works against Standard Exemption – Activity 4: Alterations to Non-Significant Fabric

Specified Activity / Relevant Standard	Discussion
Description of activity: ***a) The introduction of new fabric and/or the removal of non-Significant Fabric to an item including exteriors but not including demolition or construction of whole buildings or structures.***	Complies. The scope of works includes the temporary installation of pipework to facilitate the dewatering of potable water and ground water to enable the inspections. The works will also include the erection of small, temporary compounds at various shaft locations along the length of the heritage item, at ground surface level. Some of these works will be included within the curtilage of the SHR item, whilst some of this infrastructure will be located outside of the SHR. The works also include the installation of monitoring sensors to be welded/glued/fixed to the interior of the tunnel and shafts, and the installation of optic fibre along the tunnel to monitoring sensors. Additional electrical conduits will be installed to connect Shaft 5 to the local Ausgrid power source. A small area of hardstand is proposed at Shaft 5, on the location of a former hardstand structure – this is consistent with the use of the site and won't have any adverse heritage impacts on the item. The works will not impact the significance of the item as the majority of new fabric being introduced is of a temporary nature above ground, which will be entirely dismantled at the end of inspection works. The pipework, pumps and compounds will be removed from site and the site made good to previous condition. No permanent impacts will occur as a result. The introduction of monitoring equipment internally to the shafts and tunnel will facilitate the ongoing remote monitoring of the tunnel operations, which will only have a positive heritage impact on the item as this is critical to enable ongoing appropriate reactive and proactive repair and maintenance works. The monitoring equipment will be fixed to the internal lining of the tunnel, where it will not be visible and therefore will not have any adverse visual impacts. The equipment will be entirely reversible and will not result in permanent damage to significant elements of the item. Most importantly, it will not impede the functionality of the asset which is the principal component of its significance.
Relevant standards: ***b) The specified activities must be carried out in accordance with the General Conditions.***	The works will be carried out in accordance with the General Conditions.
c) The specified activities must not involve alteration to, damage to, or the removal of, Significant Fabric other than the reuse of existing fixing points.	Complies. As discussed, the proposed minor works will not adversely impact the significant fabric of the item. All new fabric being introduced is either of a temporary nature for the duration of inspection works, or is entirely reversible.
d) Significant finishes, surfaces (including flooring) and fixtures must not be impacted.	Not applicable to this scope.

Specified Activity / Relevant Standard	Discussion
e) Any new fabric must be Sympathetic to but can be distinguished from the appearance, composition, detailing, size, position and finish of existing fabric.	Complies. The monitoring equipment will be readily identifiable as new fabric and will be distinguished from original tunnel fabric.
f) Non-Significant fabric must be identified as non-Significant Fabric in the listing on the SHR, in an IHO, in a Heritage Management Document or identified as non-Significant Fabric in written advice prepared by a suitably qualified and experienced heritage professional before it can be removed.	Complies. New fabric being introduced is not significant. The installation will not adversely impact the tunnel fabric and is reversible. No tunnel fabric is being removed. The new electrical conduits being installed will continue to support the operation of the Shaft 5 portion of the item and its operation.
g) Installation of new fabric must be in accordance with the policies of a Heritage Management Document or with written advice prepared by a suitably qualified and experienced heritage professional before installation.	Complies. The new monitoring equipment is being installed in accordance with advice provided by Sydney Water's heritage team and the recommendations and assessment outlined in this Exemption.
h) Any new penetrations, fixings and/or fastenings must: ***i. be limited in number*** ***ii. use existing penetrations and/or mortar joints where possible*** ***iii. not damage surrounding Significant Fabric*** ***iv. be made through non-Significant Fabric or mortar joints only.***	Complies. Fixings internally to the tunnel lining for new equipment are acceptable to help facilitate the ongoing monitoring and maintenance of the asset, which conserves its significance.
i) Any new fabric must not exacerbate the decay of existing fabric or risk the destruction of existing significant fabric due to chemical incompatibility, vibration, percussion or explosive flammability.	Complies. New fabric being introduced will not have any adverse impacts on the functionality or significance of the asset.

Table 6 Assessment of works against Standard Exemption – Activity 7: Non-Significant Telecommunications Facilities and Water, Wastewater and Stormwater Infrastructure

Specified Activity / Relevant Standard	Discussion
Description of activity: ***a) Upgrade existing non-Significant Telecommunications Facilities or water, wastewater and stormwater infrastructure.***	Not applicable to this scope.
b) Removal of non-Significant Telecommunications Facilities or water, wastewater and stormwater infrastructure.	Not applicable to this scope.
c) Installation of non-Significant Telecommunications Facilities (excluding towers and dishes) or water, wastewater and stormwater infrastructure.	Complies. Installation of electrical conduits to support the existing water infrastructure operations of Shaft 5. This involves minor trenching excavation on the very eastern boundary of the Shaft 5 curtilage extent, and installation of an electrical pillar. This installation is required for the water infrastructure to operate.
Relevant standards: ***d) The specified activities must be carried out in accordance with the General Conditions.***	Complies. The works will be undertaken in accordance with the general conditions.

Specified Activity / Relevant Standard	Discussion
e) The specified activities must not involve alteration to, removal of or damage to Significant Fabric, other than reuse of existing fixing points.	Complies. No significant fabric will be affected by the conduit and pillar installation.
f) Any excavation must comply with the relevant standards for the Activity 9: Excavation.	Complies. See assessment against Activity 9 in the table below.
g) Any new hardware must not be attached to the primary or Significant façade(s) and must be discreetly located to reduce adverse visual impact.	Not applicable to this scope – no significant facades.
h) Any new fabric must not obscure Significant Fabric or limit access to Significant Fabric for future maintenance.	Complies. The new conduits won't limit access to any areas of significance associated with the Pressure Tunnel SHR item.
i) Existing service routes and/or conduits may be deleted if the installation can be streamlined into one existing service route, cavity or void.	Not applicable to this scope.
j) The specified activities must not result in: ***i. an increase in height of any existing infrastructure*** ***ii. more than a 20% increase in the size of any existing infrastructure.***	Not applicable to this scope. No existing infrastructure is being increased in height.
k) New elements must be able to be later removed without damage to the Significant Fabric of the item.	Complies. All works are reversible.

Table 7 Assessment of works against Standard Exemption – Activity 9: Excavation

Specified Activity / Relevant Standard	Discussion
Description of activity: ***a) Excavation or disturbance of land that is:*** ***i. for the purpose of locating and/or exposing underground utility services infrastructure which occurs within an existing service trench*** ***ii. to carry out inspections or emergency maintenance or repair on underground utility services*** ***iii. to maintain, repair, or replace underground utility services to buildings*** ***iv. to maintain or repair the foundations of an existing building*** ***v. to expose survey marks*** ***vi. associated with feral animal/insect eradication*** ***vii. for other activities exempt by this Order.***	Complies. In accordance with part a) vii) the proposed excavation works to install conduits to support water infrastructure are exempt under Activity 7.
b) Removing contaminated soils.	Not applicable to this scope.
c) Excavation for the purposes of geotechnical testing, contamination testing, survey and exploration including: ***i. bore holes up to 100mm in width*** ***ii. hydraulic and soil testing up to 100mm in width.***	Not applicable to this scope.

Specified Activity / Relevant Standard	Discussion
Relevant standards: ***d) The specified activities must be carried out in accordance with the General Conditions.***	Complies. The works will be undertaken in accordance with the general conditions.
e) The specified activities must not involve ground disturbance or excavation which may expose, move, damage or destroy known or Relics, Ruins and/or Aboriginal Objects.	Complies. There are no known relics located within the boundary of the Shaft 5 portion of the Pressure Tunnel SHR item. Excavation works will be minor in scale and located along the eastern periphery of the Shaft 5 SHR curtilage extent. The site is highly disturbed through the previous activities to construct the shaft, and therefore the likelihood of any Relics or Aboriginal Objects is low.
f) The specified activities must not involve alteration to, damage to, or the removal of, Significant Fabric.	Complies. No significance fabric will be affected by the minor excavation works.
g) Excavation must not compromise the structural integrity of any Significant item or Significant part of an item.	Complies. The excavation will not affect or compromise any structures.
h) The specified activities must be made good e.g. filled in and restored to original ground level.	Complies. The minor trenching will be made good to existing ground surface condition.

Table 8 Assessment of works against Standard Exemption – Activity 10: Painting

Specified Activity / Relevant Standard	Discussion
Description of activity: ***a) Paint removal, surface preparation and repainting of the already painted fabric of an item.***	Complies. Where required to maintain the asset, already painted surfaces will be prepared and repainted.
b) Painting non-Significant Fabric.	Not applicable to this scope.
c) Paint scrapes to inform decisions about repainting or to find evidence of original or earlier colour schemes.	Not applicable to this scope.
Relevant standards: ***d) The specified activities must be carried out in accordance with the General Conditions.***	Complies. The works will be undertaken in accordance with the general conditions.
e) The specified activities must not involve the disturbance or removal of earlier paint layers other than those which have failed by chalking, flaking, peeling or blistering.	Complies. Only failed paint layers will be removed / prepared.
f) When applying new painted finishes to existing painted Significant Fabric, activities must involve application of an isolating layer, to protect Significant earlier layers and provide a stable basis for repainting.	Complies. New paint will be applied on top of existing layers where possible to retain previous paint layers.

Specified Activity / Relevant Standard	Discussion
g) Painting Significant Fabric must use: ***i. the same colour scheme as an earlier or existing scheme, where that earlier colour scheme is Sympathetic to the heritage significance of the item*** ***ii. a colour scheme developed as part of a Heritage Management Document, where that scheme has been developed by a suitably qualified and experienced specialist.***	Complies. The paint colour will match existing as close as possible. Note that these are industrial assets and paint is required for functional use only.
h) For removal of earlier failed paint layers, the paint removal method/s used must be verified by a suitably qualified and experienced professional to not affect Significant Fabric. Paint removal must be immediately followed by recoating using the same colour scheme to protect the exposed surface unless otherwise advised by a suitably qualified and experienced professional to aid in treatment for salts and/or rising damp issues.	Complies. Earlier failed paint layers will be removed by qualified professionals in a manner which addresses safety and operational requirements of the asset.
i) New paint must be appropriate to the substrate.	Complies. New paint will be selected based on its appropriateness for the surface and asset.
j) Painting must not endanger the survival of earlier paint layers.	Complies. Repainting existing painted surfaces will not endanger earlier paint layers.
k) Painting of non-Significant Fabric must: ***i. use a colour Sympathetic to the item*** ***ii. not detract from the item*** ***iii. not reduce the ability to appreciate the item.***	Complies. The paint colour will match existing as close as possible. Note that these are industrial assets and paint is required for functional use only.
l) Paint scrapes must be inconspicuous and made by a professional experienced in the technique.	Not applicable to this scope.

Table 9 Assessment of works against Standard Exemption – Activity 14: Vegetation, invasive species management and bush regeneration

Specified Activity / Relevant Standard	Discussion
Description of activity: ***a) Management of invasive plants and animal species including:*** ***i. control and removal of invasive plant species including watering, mowing, manual clearing of paths and drains, top-dressing and fertilizing*** ***ii. installation of monitoring devices relevant to test for pest plant and animal activity*** ***iii. all activities in internal/interior spaces associated with pest control (such as white ants/termites) including replacement of affected timber.***	Not applicable to this scope.
b) Chemical spraying and baiting chemical spraying accordance with the Pesticides Act 1999.	Not applicable to this scope.
c) New planting of species Sympathetic to the item.	Not applicable to this scope.

Specified Activity / Relevant Standard	Discussion
d) Pruning to control size, improve shape, condition, flowering or fruiting.	Complies. The works may require the trimming of vegetation at • Shaft 6, 69 Coronation Parade, Strathfield, • Shaft 12, 35 Chester Street, Petersham and • Shaft 14, Corner of Station Street and Wilford Street, Newtown; and the removal of two shrubs at Shaft 15, 14 Newton Street, Erskineville, to allow for machinery access.
e) Removal of non-Significant diseased, dying, dead and/or dangerous vegetation.	Not applicable to this scope.
f) Tree surgery.	Not applicable to this scope.
g) Bush regeneration activities including: ***i. temporary silt fencing*** ***ii. planting of native species that are part of the ecological community that currently exists (or previously existed) at the site*** ***iii. rubbish removal.***	Not applicable to this scope.
Relevant standards: ***h) The specified activities must be carried out in accordance with the General Conditions.***	Complies. The works will be undertaken in accordance with the general conditions.
i) The specified activities must not involve alternation to, damage to or removal of Significant Fabric or Significant Vegetation, except in accordance with Activity 3.	Complies. None of the trees or shrubs proposed for trimming (trees) or removal (shrubs) are identified as being of high heritage significance. The existing CMP mistakenly identifies recent landscaping as being of high significance, without evidence to support this assessment. For example, Shaft 15 is identified as having 'high' landscape significance, however our review of historical aerials confirms that there is no evidence of intentional plantings on the site associated with the construction of the Pressure Tunnel and Shafts. No plantings on site appear until the 1970s. Accordingly, the existing landscaping, whilst providing an aesthetic balance to the industrial nature of the site, is not considered to make a meaningful contribution to the significance of the item and is not considered to warrant retention on heritage grounds.
j) Stumps and tree boles should be left in place in areas that may contain Relics, Ruins and/or Aboriginal Objects.	Not applicable to this scope.
k) Pruning of Significant Vegetation must not exceed 30% of the tree canopy within a period of two years.	Not applicable to this scope.
l) Tree surgery may only be performed by a qualified arborist, horticulturist or tree surgeon and must be necessary for the health of those plants.	Not applicable to this scope.

Specified Activity / Relevant Standard	Discussion
m) Selective herbicide should be used when poisoning weeds. Herbicide should be applied using: ***i. spot application around Significant Elements of the heritage item (e.g. ornamental or symbolic plants, remnant native Vegetation, structures, exposed Relics and moveable items) to avoid adverse impacts to these*** ***ii. spraying in non-Significant areas of the heritage item.***	Not applicable to this scope.

Table 10 Assessment of works against Sydney Water Agency Exemption 2: Temporary Activities/Works (a) Temporary scaffolding

Specified Activity / Relevant Standard	Discussion
Specified activities/works: ***(a) Temporary scaffolding can be erected to provide safe access and to undertake maintenance or repair works.***	Complies. The works involve the erection of scaffolding and access platforms to enable the necessary repair work within the Shaft buildings.
Relevant standards: ***(b) The scaffolding must not be located where it could:*** ***i. damage (including through use of the structure) significant fabric or*** ***ii. endanger significant fabric, including landscape or archaeological features***	Complies. The scaffolding will be located where required to enable safe entry and access to areas requiring repair and maintenance. An example of an internal scaffolding design is included in this exemption. The scaffolding may require fixing into the inside surfaces of the Shaft Building walls. These fixings will not detrimentally affect heritage significance as the scaffolding is needed to enable the repair works, to ensure ongoing safe operation of the asset, which is fundamental to retaining its significance.
c) Temporary scaffolding may be installed for no longer than 12 months, after which it must be removed or approved under the Act.	Complies. The scaffolding will be erected at each Shaft site for the duration of the repair works for each Shaft. It is not anticipated to extend beyond 12 months per site.

5. Conclusion & Recommendations

This assessment confirms that the proposed works located within the SHR curtilage of the **Pressure Tunnel & Shafts** heritage item will not have an adverse impact on the significance of the heritage item.

It has been assessed that the works will comply with the relevant standards and specified activities of the applicable Standard Exemption/s. Therefore, the works are permissible without approval under Section 57 (2) of the ***Heritage Act 1977***.

The following project specific heritage recommendations must be adopted in undertaking the proposal:

- Temporary site compounds do not permit ground disturbance works including excavation of existing ground surfaces or laying of hardstand, except where hardstand is laid directly on a geofabric layer to protect the ground surface, and where removal of hardstand does not result in excavation.
- If any significant operating elements are identified to need replacement or removal throughout the works, the project team must record these photographically, including detail of location and former

function, and liaise with the Sydney Water heritage team to enable assessment for the moveable heritage collection.

The works must be undertaken in accordance with the Specified Activities and Relevant Standards of the applicable Standard Exemption/s, and in accordance with any recommendations included in this assessment. This record meets the requirements for record keeping under Note 5 of the General Conditions of the Standard Exemptions Gazettal.

This Exemption considers the proposal from a heritage perspective only and does not provide an assessment of or qualify as a record of any other environmental consideration that may be required, including statutory planning approval.

This Exemption assessment has been prepared by the following Sydney Water Heritage Advisor:



Ashleigh Crisp
Natural Asset & Heritage Team Manager

3 July 2026

Note: This Record of Use form is based on the suggested template form by Heritage NSW, and has been expanded to ensure appropriate records of assessment are retained for works undertaken. This form may be requested as part of an audit or compliance investigation.