

Review of Environmental Factors

Cronulla SP0362 Upgrade (January, 2026)



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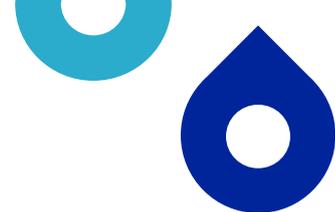


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Sydney Water respectfully acknowledges the Traditional Custodians of the land and waters on which we work, live and learn. We pay respect to Elders past and present.

Sydney Water recognises the physical and cultural connection of local Aboriginal communities to waters and the land.



Determination

This Review of Environmental Factors (REF) assesses potential environmental impacts of Cronulla SP0362 Upgrade project. The REF 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 is carried out as described in this REF. Additional environmental impact assessment may be required if the scope of work or work methods described in this REF change significantly following determination.

Certification

I certify that I have reviewed and endorsed this REF 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 (Note: section 171A is not applicable to the proposal). The information it contains is neither false nor misleading.

Prepared by:	Reviewed and endorsed by:	Endorsed by:
[Redacted]	[Redacted]	[Redacted]
Grace Corrigan REF author Sydney Water Date: 24/11/2025	Ben Groth Environment Representative Sydney Water Date: 25/11/2025	Mick Bertapelle Project Manager Sydney Water Date: 8/12/2025

Decision Statement

The main potential construction environmental impacts of the proposal include impacts to biodiversity and working adjacent to sensitive areas, including the Towra Point Nature Reserve, threatened ecological communities, and within coastal wetlands. During operation, no additional impacts are expected. 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 REF, 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:	Murray Johnson Senior Manager, Environment and Heritage Sydney Water	[Redacted]	Date: 20/01/2026
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1. Introduction

1.1 Context

Sydney Water provides water, wastewater, recycled water and some stormwater services to over five million people. We operate under the *Sydney Water Act 1994* and have three equal objectives to protect public health, protect the environment and be a successful business.

We are a statutory State-owned corporation and are classified as a public authority, and a determining authority for the proposal under Division 5.1 of the EP&A Act. This REF assesses the potential environmental impacts associated with Cronulla SP0362 Upgrade and identifies mitigation measures that avoid or minimise potential impacts.

1.2 Proposal background and need

Table 1-1 summarises the proposal need, objectives and consideration of alternatives.

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

Aspect	Relevance to proposal
Proposal need	<p>The wastewater pumping station (SP0362) was built in 1974 and supports the Cronulla wastewater catchment under Environment Protection Licence (EPL) 1728. This catchment is about 14,600 ha and services suburbs across the Sutherland and Wollongong local government areas. SP0362 transfers over 99% of the wastewater received at the Cronulla Water Resource Recovery Facility (WRRF) catchment. SP0362 is currently operating at maximum capacity, with no available redundancy during peak wet weather flows.</p> <p>SP0362 has 5 pumps – 2 small, 2 medium and one large. Both medium pumps are obsolete and difficult to maintain (one is currently inoperable). Each pump operates at a single maximum flow rate, instead of supporting variable flows. This lack of flow control causes wastewater surcharges at the Cronulla WRRF inlet.</p> <p>An upgrade of SP0362 is needed to:</p> <ul style="list-style-type: none">• provide capacity redundancy to manage wet-weather flows• deliver wastewater flows to the Cronulla WRRF to support existing processes and future upgrades.
Proposal objectives	<p>The proposal objectives are to:</p> <ul style="list-style-type: none">• increase total wastewater flow capacity to service projected population growth• achieve the wet weather performance requirements as part of the most recent risk-based EPL framework• improve reliability and provide redundancy to meet EPL 1728• align with and enable planned treatment growth projects• improve transition of wastewater flows from SP0362 to the Cronulla WRRF• improve reliability and performance of SP0362• reduce downstream process failures.



Aspect	Relevance to proposal
Consideration of alternatives/options	<p>An options assessment was undertaken to determine the preferred pump configuration at SP0362 and the potential need for an additional (third) pressure main. Different sub-options were developed with and without a new pressure main. The main differences in the sub-options were the size, number and operation of new pumps.</p> <p>The preferred option of replacing the 5 current pumps with 3 new large pumps and 3 new smaller pumps was chosen since:</p> <ul style="list-style-type: none"> • no option with 5 pumps met the project objectives • the smaller pumps have simpler lifting arrangements compared to the current pumps • the large pumps can operate during peak dry weather flow. <p>After identifying the preferred pump setup, optioneering was done to decide if a third pressure main between SP0362 and Cronulla WRRF was needed. At this stage, the third pressure main is not required, since:</p> <ul style="list-style-type: none"> • the existing mains are unlikely to fail • the larger pumps proposed for the preferred option do not need a third pressure main to meet the peak wet weather flow (i.e. the 2 existing pressure mains are sufficient) • preliminary risk assessment identified constructability, environmental and community risks such as likely land acquisition, which may delay delivery of these other critical upgrades. <p>The preferred option therefore focuses on the pump replacements and associated upgrades at SP0362.</p>

1.3 Consideration of Ecologically Sustainable Development

Table 1-2 considers how the proposal aligns with the principles of ecologically sustainable development (ESD).

Table 1-2 Consideration of principles of ecologically sustainable development (ESD)

Principle	Proposal alignment
<p>Precautionary principle – <i>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.</i></p>	<p>The proposal will not result in serious or irreversible environmental damage and there is no scientific uncertainty relating to the proposal.</p> <p>Construction would be in cleared areas and on existing structures at the SP0362 site (owned by Sydney Water). The cleared area within Sutherland Shire Council land to the south of SP0362 is proposed to be used as a construction compound. SP0362 and the construction compound would both be accessed via the existing access road from Captain Cook Drive.</p>
<p>Inter-generational equity – <i>the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.</i></p>	<p>The proposal will help to meet the needs of future generations by providing a reliable wastewater service. The proposal will improve reliability and performance of the wastewater network.</p>



Principle	Proposal alignment
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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 will not significantly impact on biological diversity or impact ecological integrity.

The access road to SP0362 overlaps with Towra Point Nature Reserve, which is National Park land and also a Ramsar wetland. No works will be undertaken in the nature reserve, with activities limited to use of the access road only.

The proposal requires removing 7 trees and trimming some overhanging canopy vegetation. The vegetation is part of a disturbed vegetation community, and impacts would be offset. No threatened vegetation would be impacted. Impacts to threatened fauna and flora are unlikely, given the lack of suitable habitat in the study area.

A portion of the study area to the south of SP0362 overlaps with mapped coastal wetlands. The existing cleared area within this mapped coastal wetland is proposed to be used as a construction compound. However, no excavation or vegetation clearing would be undertaken within this area. Therefore, no direct impacts are expected to coastal wetlands.

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 will provide cost efficient use of resources and provide optimum outcomes for the community and environment. The proposal would allow the pumping station to help manage wet-weather flows and EPL obligations. It would also support planned and future upgrades to Cronulla WRRF.

2. Proposal description

2.1 Proposal details

Table 2-1 describes the proposal and Figure 2-1 shows the proposal location. Figures 5-1 to 5-5 show the existing environmental constraints.

Table 2-1 Description of proposal

Aspect	Detailed description
Proposal description	<p>The proposal involves upgrades to SP0362. The upgrades include the following activities:</p> <ul style="list-style-type: none"> • complete external and internal enabling works • construct flood protection/immunity measures • relocate existing Ausgrid services for the new high voltage (HV) variable speed drive (VSD) building • upgrade the existing transformer yard, and install a new HV VSD building and external equipment • remove and replace existing electrical transformers, switchboards, distribution boards and control panel • replace the existing 5 pumps with 6 new pumps and pump starters • install new mechanical and electrical operating systems to support the new equipment.
Location and land ownership	<p>The pumping station upgrades are on Sydney Water land – 399A Captain Cook Drive, Kurnell (Lot 1, DP 567019). This land is fenced off from surrounding vegetation.</p> <p>The existing access road to SP0362 will also be used. Although the access road is on National Parks and Wildlife Service (NPWS) land, Sydney Water holds an access easement over the access road.</p> <p>Sutherland Shire Council land to the south of SP0362 (Lot D, DP 403720) is proposed to be used for material stockpiling, equipment storage and construction amenities.</p> <p>The proposal study area incorporates the above locations.</p>
Site establishment and access tracks	<p>An existing access road will be used. Ancillary facilities will be established in cleared areas within the study area.</p>
Ancillary facilities (compounds)	<p>A construction compound will be required to house site sheds, construction amenities and materials laydown. This will likely be located on the council land described above. Construction parking is expected to be available in cleared areas in the study area. Given the relatively small size of the study area, other nearby offsite locations such as the Cronulla WRRF or Cronulla High School Rugby Sports Field may be used for overflow parking.</p> <p>Cleared areas within Sydney Water land at SP0362 may also be used for ancillary facilities. The location of any additional ancillary facilities will be chosen by the contractor, in consultation with the landowner and approved by Sydney Water's Project Manager as described in the mitigation measures in section 5.</p>
Methodology	<p>Key methodology steps are likely to include:</p>



Aspect	Detailed description
	<ul style="list-style-type: none">• complete any service locating and intrusive investigations not previously done, or requiring verification• establishment of site construction compounds and ancillary facilities, including hardstand area(s) and removal of vegetation• deliver external and internal enabling works e.g. mechanical and electrical equipment required for the new pumps, including:<ul style="list-style-type: none">• extend the existing concrete bund• repair the gate valves in the valve chamber• upgrade the transformer yard• excavate to install new concrete slab• install and run a temporary generator• replace existing transformers• install new maintenance holes and conduits• install a new HV VSD building and external equipment<ul style="list-style-type: none">• construct a new electrical pit between the new HV room and existing switchroom• install localised shoring to support the existing retaining wall• install the concrete foundation (either concrete pour or pre-fabricated)• lift generators into place with a crane• relocate or protect the HV existing feeder cables• install new generator connection box• construct the new HV VSD building• replace the 5 existing pumps with 6 new pumps<ul style="list-style-type: none">• install flood bund on the ground floor of the pumping station• install temporary power supply and temporary wastewater bypass, to operate while the pumps are being replaced• install temporary platforms for access• remove existing pumps, install new pipe supports and install new pumps• demobilise site.

Commissioning

Commissioning involves testing and running the new equipment to ensure it works correctly and is integrated with existing plant operations. The exact commissioning steps depend on the type of the equipment and manufacturer's requirements, but typically include:

- testing all equipment and connections, e.g. cable connections, pipework pressure tests
- repairing any leaks
- check all equipment and safety devices
- developing manuals, procedures, and training.



Aspect	Detailed description
Restoration	The work site will be restored to the pre-existing condition or as close as practical following construction. Restoration requirements for council land will be confirmed with council.
Materials/ equipment	<p>Plant, equipment, vehicles, and materials required for the construction of the proposal would include but not be limited to the following:</p> <ul style="list-style-type: none">• forklift/loader• concrete/boom pump• concrete vibrator• diesel generator• excavator• mobile crane• gantry crane• temporary pumps, hoses and fittings• delivery trucks• truck and dogs (trailers)• vibratory roller• scaffolding• light vehicles.
Work hours	<p>All construction works will be scheduled to occur during the following standard daytime hours wherever practicable:</p> <ul style="list-style-type: none">• 7am to 6pm, Monday to Friday• 8am to 1pm, Saturdays. <p>However, several construction activities are likely to require work outside of these hours, including:</p> <ul style="list-style-type: none">• delivering oversized material, plant and equipment• installing pipes, pumps, valves and support platforms• operating temporary wastewater bypasses while one or more pumps are offline. <p>The temporary wastewater bypasses would require a diesel generator and up to 5 pumps, and would operate for about 50 night time shifts. This would occur intermittently across the 5 year construction period.</p> <p>Sydney Water's Project Manager can approve work outside of standard daytime hours. Works outside of standard daytime hours have been assessed and the approval process is described in the mitigation measures in section 5.</p>
Proposal timing	Construction is expected to start late 2026/early 2027 and take about 5 years to complete.
Operational requirements	No changes to existing operational functions or maintenance requirements are expected.



Figure 2-1 Site overview



2.2 Field assessment area and changes to the scope of work

The proposal shown in this REF is indicative and based on the latest concept design at the time of REF preparation. The final proposal may change based on detailed design and/or construction planning. The general mitigation measures outline when changes to the proposal trigger supplementary environmental impact assessment.

Changes to the proposal outside the study area can only occur:

- to reduce impacts to biodiversity, heritage or human amenity, or
- to avoid engineering constraints (e.g. geological, topographical), and
- after consultation with any potentially affected landowners and relevant agencies.

An addendum is not required provided the change:

- remains within the study area of the REF and has no net additional environmental impact; or
- is outside the study area of the REF but reduces the overall environmental impact of the proposal (subsection 5.4(a) of the EP&A Act).

If required, further assessment must be prepared in accordance with SWEMS0019.



3. Consultation

3.1 Community and stakeholder consultation

Our approach to community and stakeholder consultation is guided by Sydney Water's community and stakeholder engagement guidelines.

The nature, scale and extent of the proposal's potential impact has been evaluated in this REF. If our work impacts the community in some way, we will engage with affected groups throughout the proposal. For example, letterbox drops to nearby residents.

3.2 Stakeholder consultation – proposal

Sydney Water engaged with Sutherland Shire Council in October 2024 about the proposal scope and potential use of council land as a construction compound. The extent and duration of use of the proposed compound is yet to be finalised. This potential use of council land, including any leasing arrangements will be further discussed as design progresses. This land would only be used with landowner consent.

We will also provide Sutherland Shire Council with reasonable notice when we expect to start work, and any other regular proposal updates. Sutherland Shire Council will be consulted about any relevant matters such as public safety issues, or any partial road closures of council managed roads.

Sydney Water engaged with Ausgrid in November 2024 about the proposal, including the HV relocation. No concerns were raised during this preliminary engagement, but specialist advice may be needed later in design.

3.3 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).

The study area will be accessed using the existing access road between Captain Cook Drive and SP0362. This access road is covered by a Sydney Water easement through Towra Point Nature Reserve (part of the NPWS Estate reserved under the *National Parks and Wildlife Act 1974* (NPW Act)). The study area also borders Towra Point Nature Reserve to the north, east and west.

Sydney Water briefed NPWS representatives about the proposal on 26 September 2024. NPWS did not raise any specific concerns about the proposal, but noted a preference for any vegetation disturbance on NPWS/Sydney Water boundaries to be trimming rather than removal. Where the vegetation was exotic/weed species, NPWS would be willing to consider removal rather than pruning.

Sydney Water also provided NPWS with written notice of the proposal on 17 October 2025 in accordance with section 2.15(2)(a) of the TISEPP. NPWS responded on 11 November 2025, and confirmed they have no further questions or comments. NPWS requested that Sydney Water notify NPWS as soon as practical if



the Towra Point Nature Reserve is impacted by the proposal, and this has been included as a mitigation measure.

Formal consultation is not required under any other TISEPP clauses. Further detail is provided in Appendix B.

4. Legislative requirements

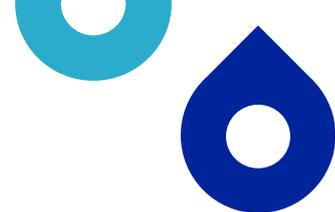
4.1 Environmental legislation

Sydney Water is the proponent and determining authority under the EP&A Act. The proposal does not require development consent and is not classified as State significant infrastructure. We have assessed this proposal under Division 5.1 of the EP&A Act. This REF has concluded that the proposal is unlikely to have a significant impact on the environment.

The following environmental planning instruments (Table 4-1) and legislation (Table 4-2) are relevant to the proposal. Table 4-2 also documents any licences and permits required, and timing and responsibility for obtaining them.

Table 4-1 Environmental planning instruments relevant to the proposal

Environmental Planning Instrument	Relevance to proposal
Sutherland Shire Local Environmental Plan 2015 (Sutherland LEP)	<p>The pumping station is on Sydney Water owned land zoned SP2 – Infrastructure.</p> <p>The access road to SP0362 is on land zoned C1 – National Parks and Nature Reserves. However, Sydney Water is permitted to use the access road between SP0362 and Captain Cook Drive under an existing easement.</p> <p>The proposed construction compound is on council-owned land zoned RE1 – Public Recreation.</p> <p>Figure 5-6 shows the land zoning.</p>
State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP)	<p>Section 2.126(6) of the TISEPP permits development for the purpose of sewage reticulation systems to be carried out without consent on any land in the prescribed circumstances. Development is carried out in the prescribed circumstances if the development is carried out by or on behalf of a public authority. Pumping stations are part of reticulation systems, so this proposal is development without consent.</p> <p>Subsection 2.126(8) of the TISEPP also identifies that development for sewage reticulation systems may be carried out on land reserved under the NPW Act only if the development is authorised by or under that Act.</p> <p>As Sydney Water is a public authority, and the use of the existing access road is authorised under an existing easement, the proposal is permissible without consent.</p>
State Environmental Planning Policy (Biodiversity and Conservation) 2021 (BCSEPP)	<p>Vegetation in non-rural areas (Chapter 2)</p> <p>The proposal is in a local government area and zone listed in subsection 2.3(1), meaning that Chapter 2 of the BCSEPP would normally apply. However, subsection 2.4(1) states <i>‘This Policy does not affect the provisions of any other SEPP....’</i>. Similarly, subsection 2.7(1) of the TISEPP identifies that in the event of any inconsistency between the provisions of Chapter 2 of the TISEPP and any other environmental planning instrument, the TISEPP prevails to the extent of the inconsistency. Accordingly, as the proposal is permissible without consent under the TISEPP, a permit from</p>



Environmental Planning Instrument	Relevance to proposal
	Sutherland Shire Council to clear vegetation under this SEPP is not required.
State Environmental Planning Policy (Resilience and Hazards) 2021 (RHSEPP)	<p>Coastal Management (Chapter 2)</p> <p>Figure 5-3 shows that the works are on land to which Chapter 2 of the RHSEPP applies:</p> <ul style="list-style-type: none"> • Coastal Environment Area (section 2.10) • Coastal Use Area (section 2.11) • Proximity area for coastal wetlands (section 2.8). <p>Although there are coastal wetlands mapped within the study area, these areas would not be impacted during construction. The above sections of the RHSEPP note that development consent cannot be granted without considering a range of factors, including avoiding, minimising or mitigating any adverse impacts. As outlined above, this proposal is development without consent. However, Sydney Water has considered these factors from the RHSEPP in chapter 5 of this REF.</p>

Table 4-2 Consideration of key environmental legislation

Legislation	Relevance to proposal	Permit or approval	Timing and responsibility
<i>Protection of the Environment Operations Act 1997</i> (POEO Act)	<p>The POEO Act includes offences for polluting the environment and establishes a regime of environment protection licences. EPL 1728 applies to the proposal.</p> <p>No temporary or permanent EPL relaxations or variations are required during construction or operation.</p> <p>Part 5.7 of the POEO Act requires immediate reporting of any pollution incidents to the relevant authority where material harm to the environment is caused or threatened.</p> <p>The definition of material harm and the relevant authorities are identified in Part 5.7 of the POEO Act. The contractor is responsible for immediately reporting such incidents in accordance with SWEMS0009 Responding to incidents with an environmental impact.</p>	Existing EPL 1728	During operation, Sydney Water and contractor during construction
<i>National Parks and Wildlife Act 1974</i> (NPW Act)	<p>SP0362 is bordered by National Park (Towra Point Nature Reserve) to the north, west, and east. The access road between SP0362 and Captain Cook Drive is within NPWS land. Use of the access road by Sydney Water is permitted under an existing easement.</p> <p>There are no Aboriginal heritage items within 200 m of SP0362.</p>	N/A	N/A



Legislation	Relevance to proposal	Permit or approval	Timing and responsibility
<p><i>Heritage Act 1977</i> (Heritage Act)</p>	<p>The presence of non-Aboriginal heritage archaeology within the study area is unlikely, as there was no known development on the site before the initial construction of SP0362.</p> <p>There are multiple heritage items of local significance near the study area, two of which overlap with the access road. However, these will not be impacted by the proposal.</p>	<p>N/A</p>	<p>N/A</p>
<p><i>Water Act 1912/ Water Management Act 2000</i></p>	<p>It is unlikely that any groundwater dewatering would be required. Should this change, a Water Supply Work Approval (WSWA) would be organised before doing any dewatering.</p>	<p>WSWA</p>	<p>If required, this will be the responsibility of the contractor.</p>
<p><i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act)</p>	<p>The EPBC Act establishes a framework for managing Commonwealth environmental approvals.</p> <p>Schedule 6 of the Environment Protection and Biodiversity Conservation Regulations 2000 outlines general principles for the management of wetlands of international importance. A mapped Ramsar Wetland (Towra Point Nature Reserve) is adjacent to the west, east and north of the proposal and overlaps with the access track. No works are being undertaken in the Ramsar Wetland. The only activity in the Ramsar Wetland is use of the existing access track. Impacts to the wetland are therefore unlikely. Threatened fauna that may use the wetland are unlikely to be directly impacted as they are unlikely to be present in the study area. Indirect impacts such as sedimentation, dust, spills and leaks, and light pollution are also unlikely with the implementation of mitigation measures.</p> <p>There are several threatened ecological communities (TECs) listed under the EPBC Act near the study area. A flora and fauna assessment report (Appendix C) identified that these TECs would not be impacted.</p> <p>A significant impact to any entities listed under the EPBC Act is unlikely, and a referral under the EPBC Act is not required.</p>	<p>N/A</p>	<p>N/A</p>



5. Environmental assessment

Section 5.2 describes the existing environment and assesses direct and indirect impacts of construction and operation. It also identifies mitigation measures to minimise impacts. These will be incorporated into contract documents and a Construction Environmental Management Plan (or similar) prior to starting work.

5.1 Existing environment

SP0362 is in the suburb of Kurnell and is accessed from Captain Cook Drive. Nearby land uses include environmental conservation, National Park (Towra Point Nature Reserve) and public recreation. SP0362 is about 500 m from Woollooware Bay. The nearest residential receivers are low-density residential properties within the suburb of Greenhills Beach, about 200 m east of SP0362.

5.2 Environmental aspects, impacts and mitigation measures

5.2.1 Topography, geology and soils

5.2.1.1 Existing environment

SP0362 is on relatively flat but low-lying land, about 1.5 - 1.8 m above Australian Height Datum. The pumping station is mostly hardstand, with surrounding areas containing mown grass, cleared unsealed areas, and scattered vegetation around the lot boundary.

SP0362 is within the Mangrove Creek soil landscape (Source: eSPADE), which generally comprises tidal areas (mudflats/saltmarshes and mangroves). This soil type has limitations related to tidal flooding and waterlogging, wind erosion hazards, high permeability, and localised permanently high watertables. Sutherland Shire Council mapping identifies the acid sulfate soil risk as class 3, which means acid sulfate soils are likely at more than one metre below ground. High probability acid sulfate soils are mapped about 300 m north-west of the study area.

Desktop review, site inspection and review of historical imagery identified the following contamination risks in the study area:

- The study area was undeveloped vegetated land from the 1940s, with filling, redevelopment and construction of SP0362 in the 1980s and 1990s.
- There is a moderate risk of salinity in the proposal area.
- Tributaries of Botany Bay are located about 500 m northwest of the proposal area. These tributaries are associated with the Botany Bay PFAS site investigation, where there has been historical use of PFAS-containing firefighting foams.

5.2.1.2 Potential impacts

The main potential impact to topography, geology and soils during construction is erosion and sedimentation of exposed soil from ground disturbance. Construction activities causing ground disturbance include excavation, stockpiling and vegetation removal.



The depth of excavation for tasks such as constructing the new HV VSD building and relocating and installing cables is expected to be relatively shallow, and is unlikely to be more than 1.5 m deep. Excavation will expose soil and increase the risk of soil mobilising offsite during rain or windy conditions. Excavated material would be stockpiled in suitable locations in the study area. Given the relatively small study area, limited space for stockpiling would be available, with stockpiles likely to be small and temporary. The risk of runoff would be higher closer to waterways. Stockpiles will be as far away as practicable from the unnamed waterbody south of the study area, with downstream controls installed.

Acid sulfate soils, contaminated soils and saline soils may all be found during construction. Mitigation measures can be applied to manage these potential impacts.

Building new structures for the proposal would permanently increase the area of SP0362 covered by hardstand. New structures would be built at ground level on relatively flat areas. It is expected that this change will have only minor impacts to topography and drainage patterns.

5.2.1.3 Mitigation measures

With the implementation of the mitigation measures below, impacts to topography, geology and soils can be adequately managed, and residual impacts are expected to be low.

Table 5-1 Environmental mitigation measures — topography, geology and soils

Mitigation measures

Prevent sediment moving offsite in accordance with Managing Urban Stormwater, Soils and Construction, Volume 1 and 2A (Landcom 2004 and DECC 2008), including, but not limited to:

- divert surface runoff away from disturbed soil and stockpiles
- install sediment and erosion controls before construction starts
- reuse topsoil where possible and stockpile separately
- inspect controls at least weekly and immediately after rainfall
- rectify damaged controls immediately
- remove controls once surfaces have been stabilised, including removing trapped sediment in drainage lines.

Minimise ground disturbance and stabilise disturbed areas progressively.

Any topsoil shall be stockpiled and protected from erosion until able to be reused.

Contractor to ensure imported material is Virgin Excavated Natural Materials (VENM) or meets a relevant NSW EPA Resource Recovery Order and Resource Recovery Exemption or is a commercially supplied material that is not waste.

If using materials that are subject to an NSW EPA Resource Recovery Order/Exemption the Contractor must ensure the conditions in that Order/Exemption are strictly adhered to.

Stop work in the immediate vicinity of suspected contamination. Indicators of contamination include discoloured soil, anthropogenic material within fill, asbestos, chemical or petrol odours and leachate. Contain disturbed material on an impermeable surface and cordon areas off. Notify the Sydney Water Project Manager and the Environmental Representative (who will contact the Contamination and Hazardous Materials team) to agree on proposed management approach.



Mitigation measures

Stop work during heavy rainfall or in waterlogged conditions when there is a risk of sediment loss off site.

Sweep up any sediment/soil transferred off site at least daily, and before rainfall.

Soil testing is to be undertaken to confirm the presence and depth of acid sulfate soils within the proposal area. Where acid sulfate soils will be disturbed by construction activities, an Acid Sulfate Soil Management Plan is to be prepared and implemented in accordance with the Acid Sulfate Soils Assessment Guidelines (Acid Sulfate Soils Management Advisory Committee, 1998).

5.2.2 Water and drainage

5.2.2.1 Existing environment

Figure 5-1 shows the areas of low, medium and high potential groundwater-dependent ecosystems (GDE) mapped immediately to the south and west of the study area. The nearest publicly available groundwater depths are 4.5 m and 4.6 m, from 3 boreholes in Cronulla Golf Course about 350 m to 500 m south-east of the study area. Groundwater in the study area is expected to be found at shallower depths, less than one metre.

There is an unnamed waterbody south of the study area, near the existing council depot proposed as a compound. There is an unnamed creek about 50 m north-east of SP0362 which flows in a north-east/south-west direction between Captain Cook Drive and Woolooware Bay. An external stormwater channel runs parallel to this unnamed waterway. The proposal is about 100 m south of the Woolooware Wader Lagoon, mapped as Key Fish Habitat. Towra Point Aquatic Reserve covers about 1,400 ha and promotes conservation of fish and marine vegetation. At its closest point it is about 100 m north of the proposal study area. Woolooware Bay is about 500 m north-west of the study area and contains active aquaculture leases. No stormwater pits or surface drains have been identified in the study area.

The proposal is located on low-medium flood-prone land (Sutherland Shire Council, 2024). This reflects the site topography, with SP0362 on flat and low-lying land.

The study area is within the proximity area for coastal wetlands, as well as coastal use area and coastal environment area. Coastal wetland is mapped within the study area (part of the council depot proposed to be used as a compound for the proposal). It is also mapped to the east, west and south of the study area.



Figure 5-1 Water and drainage features

5.2.2.2 Potential impacts

The preferred construction methodology will aim to avoid intercepting groundwater. At this shallow depth, groundwater could be a geotechnical risk and limit the size and depth of the footings. Dewatering could be required for constructing the HV switchroom and installing the electrical conduits. Alternative methodologies such as using screw piles (if required) or raising assets (HV switchroom, conduits and pits) would be considered. If groundwater dewatering is unavoidable, appropriate approvals will be obtained by the contractor before any dewatering is undertaken.

Nearby GDEs may be impacted during construction, from drawdown of the water table if groundwater is extracted.

There would be no changes to natural flows in and around Woolbooware Bay.

Construction activities will involve excavation and temporary stockpiling, with potential for runoff offsite to nearby waterways. Stockpiles within the study area will be delineated, with downstream controls installed and excavated areas backfilled with engineered fill or material reused from site. Limited stockpiling opportunities and backfilling excavations will reduce the risk of offsite runoff. The study area may flood during or after heavy rain events. Construction activities are unlikely to exacerbate flooding, as excavation would be limited and the height of structures would not change. Given the site layout, and since there is only



one access road to and from the pumping station, access may be restricted and materials may travel offsite during heavy rain.

The compound would be installed outside of coastal wetlands. Coastal wetlands may be indirectly impacted if there is any erosion, as this could increase turbidity and reduce water quality. Section 5.2.3, Table 5-4 and Table 5-5 further consider of potential impacts to coastal wetlands, proximity area to coastal wetlands, coastal use area and the coastal environment area.

Fuel and chemical storage may be required for the fuel for the temporary generators. Wastewater bypasses would be required while the new pumps are being installed. Any temporary bypasses would be set up near the pumping station on Sydney Water land and would comply with the existing EPL (e.g. no discharge offsite).

The proposal supports compliance with the existing EPL. Aside from the new HV VSD building, most of the upgrades are inside the existing pumping station. No operational impacts to surface water, drainage, flooding or groundwater are expected.

5.2.2.3 Mitigation measures

With the implementation of the mitigation measures below, impacts to water and drainage can be adequately managed, and residual impacts are expected to be low.

Table 5-2 Environmental mitigation measures — water and drainage

Mitigation measures
Bund potential contaminants and store on robust waterproof membrane, away from drainage lines.
Keep functioning spill kit on site for clean-up of accidental chemical/fuel spills. Keep the spill kits stocked and located for easy access.
Locate portable site amenities, chemical storage and stockpiles of erodible materials away from watercourses, drainage lines and flood prone areas.
A Water Supply Works Approval is to be obtained where dewatering of groundwater is required. The delivery contractor is responsible for: <ul style="list-style-type: none">• providing expert hydrogeological technical information to obtain the approvals• preparing a Dewatering Management Plan• complying with the conditions of the approvals (such as protecting water quality; minimising aquifer extraction volumes, monitoring extraction with flow meters and recording volumes).
Dewater excavations in accordance with the Program Delivery Guidance Standard 9.1 Excavation Dewatering (ENV-GS-001).
Conduct any equipment wash down within a designated washout area.
Ensure equipment is leak free. Repair oil/fuel leaks immediately or remove from site and replace with a leak-free item.
Protect Groundwater Dependent Ecosystems by minimising extraction of groundwater and removal of native vegetation. Further assessment on impacts to Groundwater Dependent Ecosystems is required, if groundwater dewatering is needed.



Mitigation measures

When wastewater bypass is required:

- pressure test hoses before, and monitor during bypass
- monitor wastewater flows to ensure critical flows are not reached
- stop bypass if leaks occur
- bund access chambers
- contain wastewater spills and pump back to wastewater system or disposal tanker.

All chemicals to be stored correctly in adequate bunding. All chemicals and rubbish to be contained in the site.

Prepare a site-specific flood management procedure, including:

- identifying the need for weather monitoring
- identifying the amount of forecast rain that would trigger the need for additional controls
- identifying additional controls that would be required, such as extra erosion and sediment controls, additional pre- and post-rain inspections, site evacuation plans and covering excavations
- keeping stockpiles to a minimum in the event of a large flood event
- locating stockpiles as far away from waterways as possible and covered if stored overnight.

5.2.3 Flora and fauna

5.2.3.1 Existing environment

A specialist flora and fauna assessment was prepared for the proposal (Appendix C).

A desktop review and field surveys identified one Plant Community Type (PCT) in the study area – PCT 4028 Estuarine Swamp Oak Twig-rush Forest. 0.11 ha of PCT 4028 has been observed throughout the study area, mostly along the edges. PCT 4028 is present in degraded condition, and does not meet the criteria as a threatened ecological community under the BC Act or EPBC Act. The only other vegetation present in the study area is 0.04 ha of maintained lawn in the east and west of the study area, mostly exotic grasses and herbaceous species.

Desktop review identified that 157 threatened entities and/or matters of national environmental significance were recorded within, or may occur, within a 10 km radius of the study area. The study area is surrounded by vegetation which provides high quality habitat especially for wetland birds, microbats, fruit bats, arboreal mammals and reptiles. The study area does not contain any suitable foraging or roosting habitat for shorebirds. Field surveys did not identify any threatened flora or fauna, hollow-bearing trees, stick nests, or cavities suitable for habitat. Potential habitat features observed on Sydney Water land include:

- one broad-leaved paperbark (*Melaleuca quinquinervia*), which would provide nectar for arboreal mammals, birds and fruit bats
- hardstand and brick structures, which may provide habitat for reptiles.

Eight Weeds of National Significance (WoNS) were recorded in and near the study area including:

- Bitou Bush (*Chrysanthemoides monilifera*)
- Bridal Creeper (*Asparagus asparagoides*)

- Bridal Veil Creeper (*Asparagus declinatus*)
- Climbing Asparagus Fern (*Asparagus plumosus*)
- Fireweed (*Senecio madagascariensis*)
- Ground asparagus (*Asparagus aethiopicus*)
- Lantana (*Lantana camara*)
- Madeira vine (*Anredera cordifolia*).

African Olive (*Olea europaea* subsp. *cuspidata*) was also found within the study area as a seedling. This species is listed as a priority weed within the Greater Sydney Regional Strategic Weed Management Plan (Local Land Services, 2021). As the study area is maintained, there were no infestations of exotic flora species. However, the surrounding vegetation had visible signs of weed infestations.

Figure 5-2 and Figure 5-3 show other biodiversity features identified from desktop mapping. The study area overlaps with mapped coastal wetland, and is within land listed under the RHSEPP as proximity area for coastal wetlands, coastal use area, and coastal environment area. The proposal is bordered by National Park land and Ramsar wetland (Towra Point Nature Reserve) to the north, east and west, including the access track. DIWA wetland (a non-regulatory listing) is also mapped to the west of the pumping station. Mangrove and saltmarsh are also mapped within 100 m of the proposal.

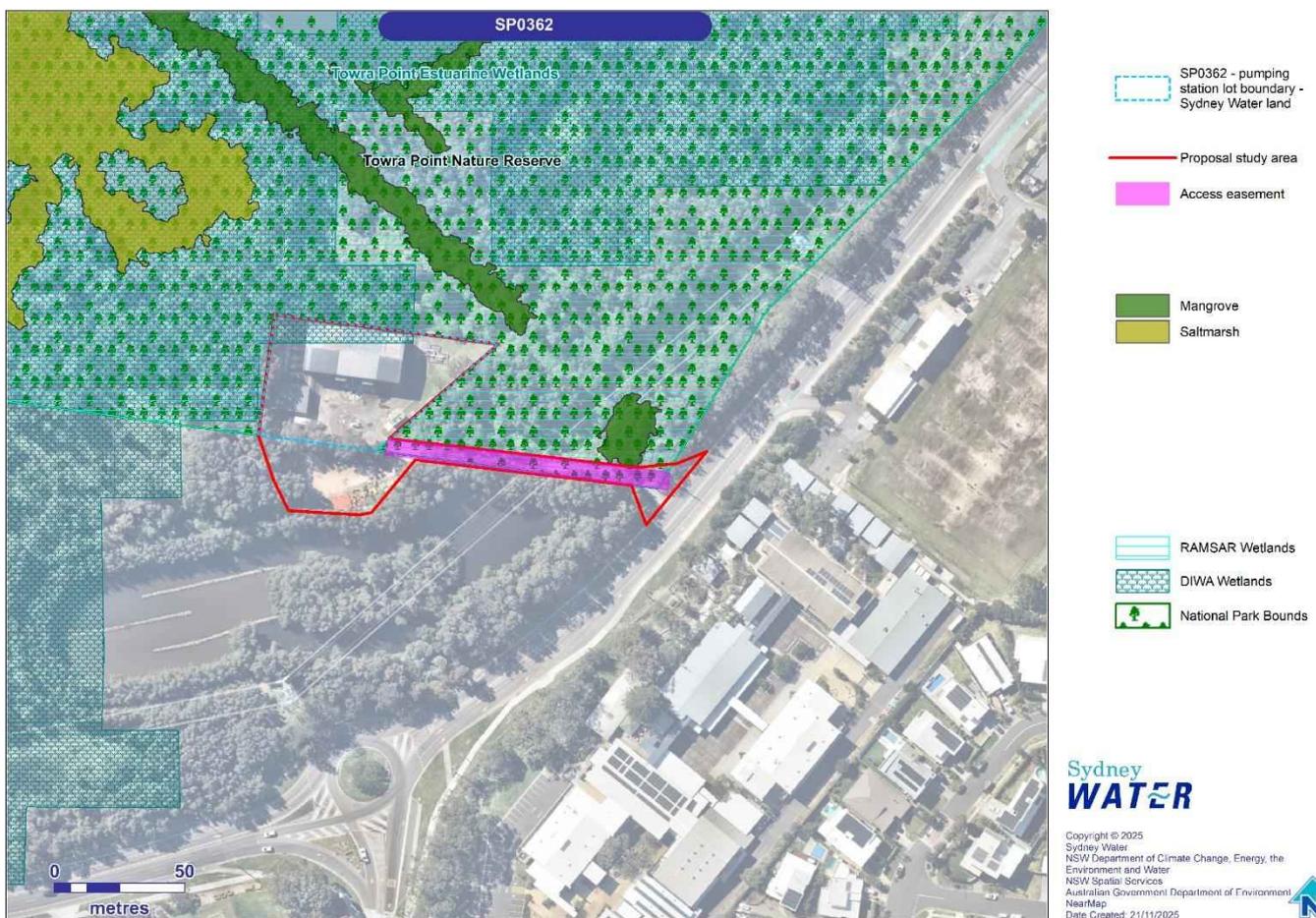


Figure 5-2 Desktop mapping – biodiversity features

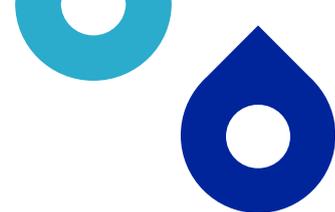


Figure 5-3 Proposal study area listed under RHSEPP

5.2.3.2 Potential impacts

Direct impacts

Figure 5-4 shows that the proposal will involve:

- removing 7 canopy trees within PCT 4028 – 6 Swamp Oak (*Casuarina glauca*) and one Broad-leaved paperbark (*Melaleuca quinquinervia*) – about 0.06 ha. This broad-leaved paperbark has potential habitat features, as described in section 5.2.3.1.
- trimming of 0.04 ha canopy vegetation within PCT 4028 on Sydney Water land (i.e. impact area in figure below)
- disturbing about 0.04 ha of maintained lawn.

Vegetation would be trimmed or removed only in Sydney Water land. No trimming or removal of vegetation in mapped coastal wetlands is required. No threatened flora or fauna were considered to have a moderate or higher likelihood of occurring in the study area, and there is a low likelihood of any threatened flora or fauna species being impacted due to the lack of suitable habitat in the study area.



Table 5-3 summarises the recommendations from the Sydney Water Biodiversity Offset Guide, to be implemented once construction is complete.

Table 5-3 Biodiversity offsets required

Impact	Impact category	Offset type	Multiplier	Total offset	Strategy
Removing native vegetation	Minor	Native vegetation offset	2	14 trees associated with PCT 4028	Bushland restoration on nearby Sydney Water land or another location as agreed by the landowner



Figure 5-4 Ground-truthed vegetation and likely impacts

Indirect impacts

Indirect impacts during construction include:

- disturbance from noise, dust and vibration from using construction equipment would indirectly impact local flora and fauna



- soil travelling offsite from erosion and sedimentation, particularly during rainfall
- potential for weed infestations being introduced by machinery, and further spread of existing nearby weeds.

Impacts to land mapped under the RHSEPP

The study area overlaps with coastal wetland – in sections of council land proposed to be used as a construction compound. The footprint of the construction compound would be limited to existing cleared areas subject to existing disturbance with some overhanging vegetation. No impacts to coastal wetlands are expected. Use of this area as a temporary construction compound would be consistent with section 2.126A of TISEPP because:

- No vegetation trimming or removal in mapped coastal wetlands are required.
- No earthworks are required in mapped coastal wetlands.
- The proposal includes mitigation measures to minimise adverse impacts to coastal wetlands.
- Implementing the mitigation measures in Table 5-6 are expected to adequately minimise adverse impacts on coastal wetlands.
- Significant impacts to coastal wetlands are unlikely (Table 5-4).

The study area is also in a proximity area for coastal wetlands. Section 2.8(1) of the RHSEPP states that the “consent authority should be satisfied that the proposed development will not significantly impact on: a) the biophysical, hydrological or ecological integrity of the adjacent coastal wetland or littoral rainforest, or b) the quality and quantity of surface and ground water flows to and from the adjacent coastal wetland or littoral rainforest.”

Although development consent is not required, Table 5-4 outlines how Sydney Water has considered the above requirements to ensure the proposal will not significantly impact coastal wetlands.

Table 5-4 Consideration of impacts to coastal wetlands and proximity areas

Clause	Consistency with the clause
(a) the biophysical, hydrological or ecological integrity of the adjacent coastal wetland or littoral rainforest, or	<p>There will be construction, including excavation and vegetation removal, in areas mapped as proximity area for coastal wetlands.</p> <p>The council owned portion of the study area contains mapped coastal wetlands. This comprises both vegetated areas, and cleared areas with some overhanging vegetation. The footprint of the construction compound would be limited to existing disturbed areas, and no excavation or vegetation removal would be undertaken in mapped coastal wetlands.</p> <p>The proposal will result in impacts that may modify the biophysical characteristics of the areas. The ecological integrity of the proximity area may be impacted where native vegetation is being removed. Vegetation outside of the SP0362 lot boundary (this includes the mapped coastal wetlands) would not be impacted. Work or storage under tree driplines would be avoided, including the vegetation in mapped coastal wetlands. This would reduce the risk of impacting the ecological integrity of the surrounding vegetation. Hydrological impacts to coastal wetlands and proximity areas are unlikely, as water flow, water levels and water quality are unlikely to be affected as a result of the proposal.</p>



Clause	Consistency with the clause
	Mitigation measures have been developed to minimise the risk of impacts to mapped coastal wetlands and proximity areas during construction. Measures have also been identified to restore disturbed areas progressively following works to minimise impacts to the biophysical, hydrological and ecological integrity of the coastal wetlands and proximity areas.

(b) the quality and quantity of surface and ground water flows to and from the adjacent coastal wetland or littoral rainforest	<p>The proposal, including use of the compound, may impact surface and groundwater flows in coastal wetlands and proximity areas for coastal wetlands. Although the land is relatively flat, there is potential for runoff from exposed soil to enter coastal wetlands. If groundwater is encountered, it also may travel offsite if managed incorrectly. The compound footprint, if fully used, would overlap with coastal wetland. With no excavation required for the compound, surface and groundwater flows would not change as a result of using the compound.</p> <p>Mitigation measures will be implemented and maintained to assist in controlling risks to surface and groundwater flows to coastal wetlands – those in and adjacent to the study area. Mitigation measures include actions to manage groundwater flows, and remediate disturbed land progressively following works. With implementation of these mitigation measures, it is unlikely that there will be a significant impact to these water flows.</p>
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Sections 2.10 and 2.11 of the RHSEPP also identify requirements that must be met to allow development consent in coastal use areas and coastal environment areas. Although development consent is not required, Table 5-5 outlines how Sydney Water has considered the relevant requirements. There would be no adverse impacts to either area. Where adverse impacts have not been avoided, impacts have been minimised or mitigated.

Table 5-5 Consideration of impacts to coastal use area and coastal environment area

Clause	Consistency with the clause
<p>2.10(1) Development consent must not be granted to development on land that is within the coastal environment area unless the consent authority has considered whether the proposed development is likely to cause an adverse impact on the following—</p> <p>(a) the integrity and resilience of the biophysical, hydrological (surface and groundwater) and ecological environment</p>	<p>There will be construction, including excavation and vegetation removal, in areas mapped as coastal environment area.</p> <p>The proposal will result in impacts likely to modify the biophysical characteristics of the areas. The ecological integrity of the area may be impacted where native vegetation is being removed.</p> <p>Measures have been identified to restore disturbed areas progressively following works to minimise impacts to the biophysical, hydrological and ecological integrity of the coastal environment area.</p>
(b) coastal environmental values and natural coastal processes	No coastal processes would be impacted.
(c) the water quality of the marine estate (within the meaning of the Marine Estate Management Act 2014), in particular, the cumulative impacts of the proposed development on any of the sensitive coastal lakes identified in Schedule 1	The marine estate would not be impacted.
(d) marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands and rock platforms	Some degraded native vegetation would be impacted and some potential fauna habitat would be disturbed. Marine vegetation, undeveloped headlands and rock platforms would not be impacted.



Clause	Consistency with the clause
(e) existing public open space and safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability	The study area is not public open space, and would not limit any access to or from any public open space. Although the council-owned land is zoned RE1 – Public Recreation, it is not currently used for this purpose.
(f) Aboriginal cultural heritage, practices and places	Section 5.2.4 outlines how Aboriginal heritage is unlikely to be impacted by the proposal.
(g) the use of the surf zone	The surf zone would not be used.
<p>2.11(1) Development consent must not be granted to development on land that is within the coastal use area unless the consent authority—</p> <p>(a) has considered whether the proposed development is likely to cause an adverse impact on the following</p> <p>(i) existing, safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability</p>	The study area is not public open space, and would not limit any access to or from any public open space.
(ii) overshadowing, wind funnelling and the loss of views from public places to foreshores	The pumping station is not visible from public places or foreshores, so views are not expected to be impacted. It is not expected that any overshadowing or wind funnelling would occur.
(iii) the visual amenity and scenic qualities of the coast, including coastal headlands	The pumping station is not visible from the coast or coastal headlands, so the visual amenity and scenic quality of the coast would not be impacted.
(iv) Aboriginal cultural heritage, practices and places	Section 5.2.4 outlines how Aboriginal heritage is unlikely to be impacted by the proposal.
(v) cultural and built environment heritage	Section 5.2.4 outlines how cultural and built heritage is unlikely to be impacted by the proposal.
(c) has taken into account the surrounding coastal and built environment, and the bulk, scale and size of the proposed development	The bulk, scale and size of development is relatively small. It involves upgrades to an existing pumping station on previously disturbed land.

The Ramsar Wetland would not be directly impacted, as no works are occurring in the wetland. The only activity would be use of an existing access track. Indirect impacts such as dust, sedimentation, leaks and spills, and light pollution are considered minor with the implementation of mitigation measures. No ecological features that contribute to the Ramsar listing would be directly impacted.

No operational impacts to these areas are expected.

5.2.3.3 Mitigation measures

With the implementation of the mitigation measures below, impacts to flora and fauna can be adequately managed, and residual impacts are expected to be minor.

Table 5-6 Environmental mitigation measures — flora and fauna

Mitigation measures
<p>Provided it is essential for delivering the project, Sydney Water's Project Manager can approve the following vegetation removal and tree trimming, without additional environmental assessment (but only after consultation with the Environmental and Community Representatives and affected landowners). Sydney Water considers vegetation removal in these circumstances has minimal environmental impact.</p> <ul style="list-style-type: none">Any minor:<ul style="list-style-type: none">vegetation trimming orremoval of exotic vegetation orremoval of planted native vegetationwhere the vegetation is not a threatened species (including a characteristic species of a threatened community or population), heritage listed, part of a Coastal Wetland, in declared critical habitat or in a declared area of outstanding biodiversity value. <p>Written explanation of the application of this clause (including justification of the need for trimming or removal and any proposed revegetation) should be provided when seeking Project Manager approval. Any impacts to native vegetation and trees must be offset in accordance with the Biodiversity Offset Guideline (SWEMS0019.13).</p>
<p>Offset residual impacts to native vegetation and trees in accordance with the Biodiversity Offset Guideline (SWEMS0019.13).</p>
<p>If vegetation is highly sensitive, trimming or clearance cannot proceed without written authorisation from the Sydney Water Project Manager (in consultation with Environmental Representative).</p>
<p>Map and report native vegetation clearing greater than 0.01 ha in extent (and any associated rehabilitation) to the Sydney Water Environmental Representative. Track vegetation clearing as per SWEMS0015.26 Contractor Native Vegetation Clearing and Rehabilitation template.</p>
<p>Physically delineate vegetation to be cleared and/or protected on site and install appropriate signage before works start: e.g. temporary barrier fencing to prevent entry into adjacent vegetation (where fencing does not already exist) and appropriate 'no-go zone' signage.</p>
<p>Protect trees in accordance with the requirements of Australian Standard 4970-2009 for the Protection of Trees on Development Sites. Do not damage tree roots unless absolutely necessary and engage a qualified arborist where roots >50 mm are impacted within the Tree Protection Zone.</p>
<p>Inspect vegetation for potential fauna before clearing or trimming. Fauna relocation sites should be identified before removing vegetation. A fauna ecologist should be present during clearing.</p>
<p>If native fauna is encountered on site, stop work and allow the fauna to move away unharassed. Engage WIRES or a licenced ecologist if assistance is required to move fauna.</p>
<p>If any threatened species (flora or fauna) is discovered during the works, stop work immediately and notify the Sydney Water Project Manager. Work will only recommence once the impact on the species has been assessed and appropriate control measures implemented.</p>
<p>If any damage occurs to vegetation outside of the study area, notify the Sydney Water Project Manager and Environmental Representative so that appropriate remediation strategies can be developed.</p>



Mitigation measures

Minimise additional outdoor lighting during night time, to minimise light pollution and impacts to migratory shorebirds. Outdoor lighting at night time should point towards the pumping station or other buildings, and away from vegetation.

Manage biosecurity in accordance with:

- *Biosecurity Act 2015* (see NSW Weedwise), including reporting new weed infestations or invasive pests
- contemporary bush regeneration practices, including disposal of sealed bagged weeds to a licenced waste disposal facility.

Record Pesticides and Herbicides use in accordance with [SWEMS0017](#).

For works in council owned bushland or National Parks, the contractor will consult with Councils/NPWS to identify known plant pathogens or pests and management requirements. Prepare a Hygiene Management Plan if there is a risk of infestation and spread.

All equipment to be cleaned of weed and soil propagules before entering the study area and on leaving the study area.

Limit chemical use to minimise risk of runoff and indirect impacts to nearby sensitive areas.

Bag all plant parts and excavated topsoil that may be infested with weed propagules and dispose at a licensed waste disposal facility.

If replanting near Sydney Water pipelines refer to '*Which trees can damage wastewater pipes?*' link from [Sydney Water website](#) to help identify suitable species.

In TOBAN period: A Total Fire Ban Exemption is required for all non-essential work in TOBAN periods.

Staff and contractors should use the [Sydney Water Total Fire Ban Exemption Framework](#) to determine exemption permissibility and approval pathway.

If for any reason Sydney Water becomes aware of the neighbouring Towra Point Nature Reserve being in any way affected by the works, notify the NPWS Ranger [REDACTED] as soon as practically possible.

Any vegetation disturbance on NPWS/Sydney Water boundaries to be trimming rather than removal. Where the subject vegetation was exotic/weed species, removal may be appropriate.

The land mapped as coastal wetlands can be used as a construction laydown/compound for the proposal when it:

- does not involve the clearing of native vegetation, and
- includes adequate measures to minimise adverse impacts on coastal wetlands, and
- is not likely to significantly impact the biophysical, hydrological or ecological integrity of coastal wetlands, and
- is not likely to significantly impact the quantity and quality of surface and ground water flows to and from coastal wetlands, and
- does not involve earthworks (i.e. excavation); and
- is outside tree driplines.

Should additional construction compound or laydown areas be required, an assessment must be done to demonstrate that the above criteria have been met. The assessment to be approved by Sydney Water's Project Manager in consultation with the environmental representative. Any facilities that do not meet these principles will require additional environmental impact assessment.

5.2.4 Heritage

5.2.4.1 Existing environment and potential impacts

Aboriginal heritage

The study area is in a high-risk landscape for Aboriginal Heritage (< 200 m from waters). There are no Aboriginal Heritage Information Management System (AHIMS) items within 200 m of the study area (search ID 1057469, done on 22 October 2025). A due diligence assessment completed by Sydney Water indicated a low likelihood of intact/in situ Aboriginal objects or sites in the study area, since:

- there has been historical disturbance in the study area (e.g. constructing SP0362 and the access road)
- it is considered unlikely that this land would have been used by Aboriginal people due to the adverse wet conditions when there are favourable sand dunes east of the proposal.

It is therefore unlikely that any known or previously unknown Aboriginal heritage items would be found during construction.

Non-Aboriginal heritage

Table 5-7 and Figure 5-5 show the heritage listings within 200 m of the study area.

Table 5-7 Non-Aboriginal heritage within 200 m of the study area

Name	Register and ID	Distance to study area	Significance
Kamay Botany Bay National Park and Towra Point Reserve	NSW State Heritage Register (SHR) ID 01918	Adjacent to north, east and west (access road overlaps)	State (historical, aesthetic, social, research, rarity, representative, intact)
Towra Point Nature Reserve and Quibray Bay	Sutherland Shire LEP – ID 2509 (general) and A2528 (archaeological)	Adjacent to north, east and west (access road overlaps)	State
Kamay Botany Bay botanical collection sites	National Heritage Register	Adjacent to north, east and west (access road overlaps)	Historic; listed place
Four wheel drive track	Sutherland Shire LEP – A2523 (archaeological)	Along Captain Cook Drive – about 100 m east of SP0362	Local

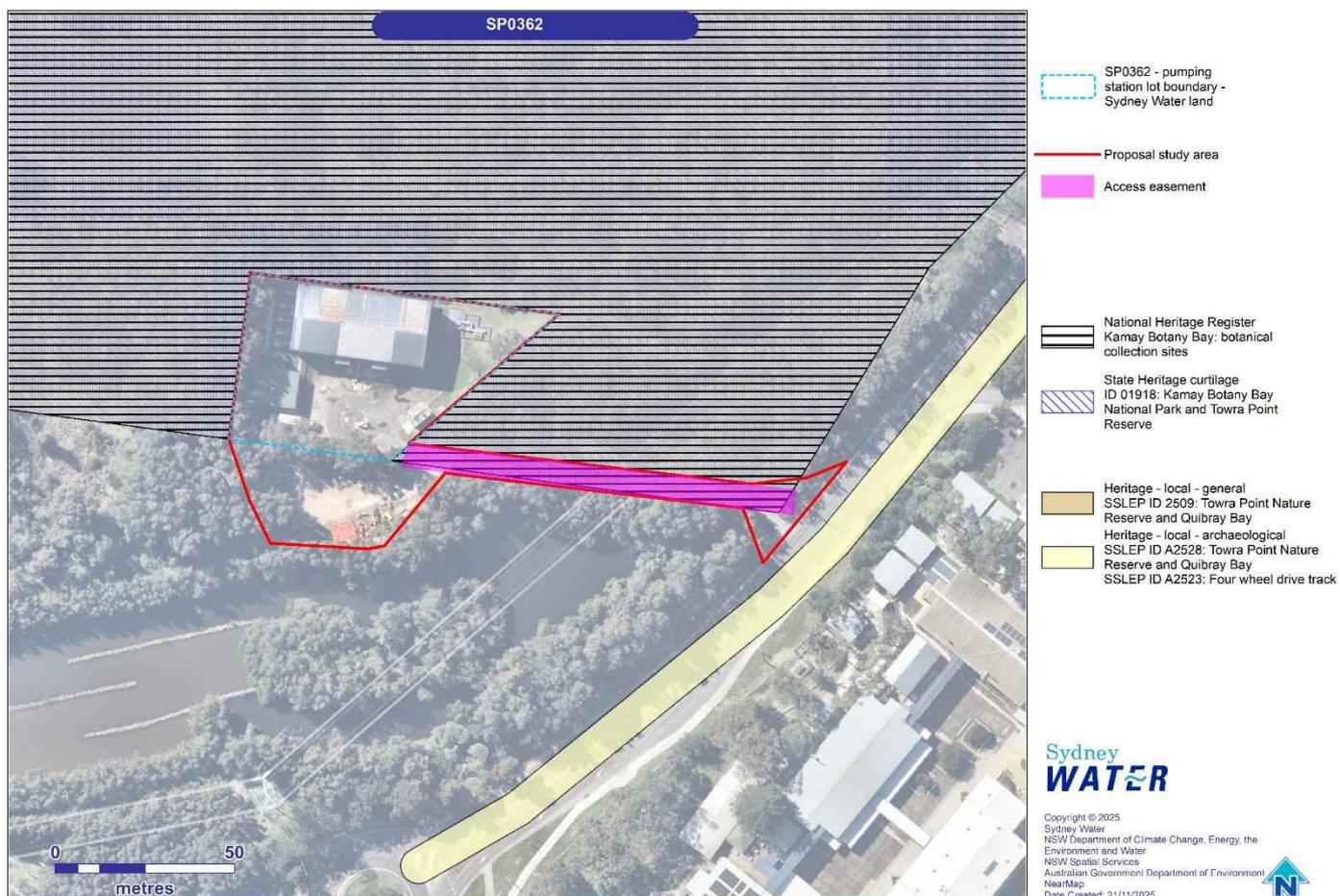


Figure 5-5 Heritage listings near the proposal

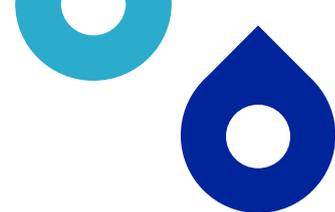
Four heritage listings overlap with the access road. Construction for the proposal will be limited to Sydney Water land at SP0362. Other land in the study area would be used for compounds, access or other ancillary uses. The access road would be used for access only, with no work required on the access road nor any trimming either side of the track. As the access road will be used for its existing purpose and no physical works are required, no heritage approvals are needed. Implementing the mitigation measures below will prevent any impacts outside of the access road. Impacts to non-Aboriginal heritage items during construction are therefore not expected. No operational impacts are expected.

5.2.4.2 Mitigation measures

With the implementation of the mitigation measures below, impacts to Aboriginal and non-Aboriginal heritage can be adequately managed, and residual impacts are expected to be minor.

Table 5-8 Environmental mitigation measures — heritage

Mitigation measures
Repeat the basic AHIMS search if it is older than 12 months. Conduct additional assessment if new sites are registered and could be impacted by the works.



Mitigation measures

Construction works are to be limited to the study area identified in this REF. Use existing cleared or hardstand areas where practical.

Stop work if access requires vegetation impacts in unassessed areas.

If any Aboriginal object or non-Aboriginal relic is found, cease all excavation or disturbance in the area and notify Sydney Water Project Manager in accordance with [SWEMS0009](#).

If the proposal scope changes and physical works are required along the access road (e.g. trimming overhanging vegetation, road repairs), contact Sydney Water’s heritage team for advice.

5.2.5 Noise and vibration

5.2.5.1 Existing environment

Background noise in and around the study area would be largely influenced by road traffic noise from Captain Cook Drive and local streets, and potentially from flight noise. The TfNSW Construction and Maintenance Noise Estimator has been used to classify the noise area category as R2, since:

- traffic would be largely limited to residents, visitors and businesses
- the study area is surrounded by National Park land, with distant residential receivers.

The R2 noise area category defines the rating background level (RBL) for residential receivers for different times of day:

- 45 dB(A) for standard working hours
- 40 dB(A) for evening
- 35 dB(A) at night.

Table 5-9 lists nearby sensitive receivers to the proposal. SP0362 is on relatively low-lying and flat terrain and is not visible from the road corridor. The nearest residential properties are behind other buildings, and therefore do not have line of sight. In addition, most of the works are inside the pumping station, so would not be visible to any receivers that would otherwise see the work (e.g. council personnel using the council depot).

Table 5-9 Nearby sensitive receivers

Receiver	Address	Opening hours	Proximity to SP0362
Residential properties	Peregrine Drive, Greenhills Beach	N/A	About 220 m east of SP0362
Cronulla Golf Course	19-27 Hume Road, Cronulla	Monday 9am to 7:30pm, Friday and Saturday 9am to 11:30pm, Sunday and Tuesday to Thursday 9am to 10pm	About 200 m south of SP0362



Receiver	Address	Opening hours	Proximity to SP0362
Cronulla High School and Rugby League Field	Captain Cook Drive, Cronulla	School hours Monday to Friday, 8:45am to 3:10pm	About 100 m east of SP0362
Woolooware Wader Lagoon	Woolooware Lagoon Track, Kurnell	Open 24 hours (limited public access by land)	About 100 m north of SP0362
Towra Point Nature Reserve	Accessed by boat via Bonna Point Boat Ramp, off Princes Charles Parade, Kurnell	Open 24 hours (limited public access by land)	Adjacent to the north, east, and west of SP0362

5.2.5.2 Potential impacts – construction noise

The likelihood of noise impact was assessed using Table 2 of the *Draft Construction Noise Guideline* (EPA 2020). The review indicated that the likelihood of noise impact is low-medium risk. The TfNSW Construction and Maintenance Noise Estimator was used to support a quantitative noise assessment.

As the work is contained to the pumping station and immediate surrounds, the sensitive receivers most likely to be noise impacted are expected to be limited to those listed in Table 5-9.

Over the 60 months of work, construction noise levels would generally be less than the worst-case impacts assessed with the noise estimator:

- noisiest equipment during day work: excavator with hammer (13.5 tonne). To be used for breaking the existing concrete slab – this task would take about 5 days
- noisiest scenario during evening and night work: large vacuum truck cleaning out the inlet chamber and running the bypass system (diesel generator and up to 5 pumps). This bypass system would run for about 50 shifts (occurring intermittently over the construction period).

There are no sensitive receivers within the predicted distances for worst-case noise impacts during day works: 40 m for residential properties, 70 m for schools, 40 m for recreational areas and 25 m for industry, offices and retail. Therefore, no sensitive receivers are expected to be impacted by noise during the day.

Some residential properties may be noise impacted during night work. The scenario described above is predicted to generate noise 7dB(A) above background at the closest residential properties. Noise impacts are predicted to be noticeable (5-10dB(A) above background) at residential properties up to 270 m from the proposal. Figure 5-6 shows these predicted impacts.

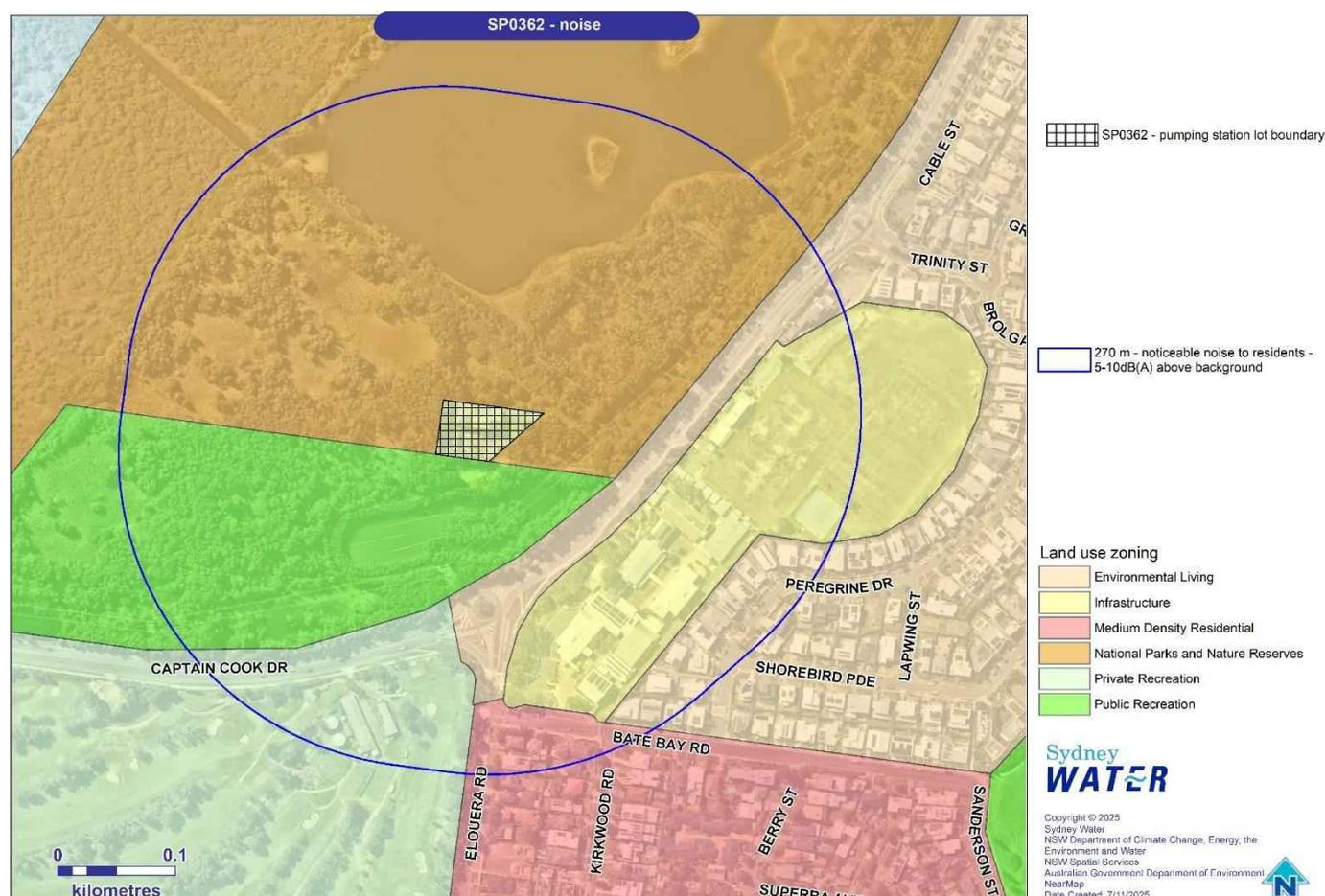
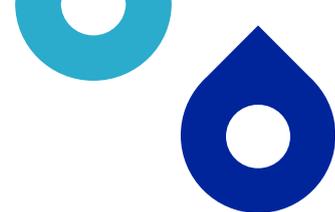


Figure 5-6 Predicted worst-case noise impacts from night works

5.2.5.3 Potential impacts – construction vibration

Vibratory equipment proposed during construction includes excavator with hammer and vibratory roller.

An excavator with hammer would be used to break out the existing concrete slab for the new HV building. A vibratory roller would be used for compacting hardstand at the new HV VSD building and generator connection box. Minimum working distances to these structures are:

- 22 m for 18 to 34 tonne excavator with hammer – size constraints mean that a smaller excavator would likely be used
- 25 m for a larger than 18 tonne vibratory roller – size constraints mean that a smaller roller would likely be used.

Structures within SP0362 would be within these working distances. No residential receivers or structures outside the pumping station are expected to be impacted by vibration.

The operational use of the site is consistent with the current use. During operation, there will be no changes to background noise. Noise generated during operation will not exceed the noise criteria in the Noise Policy for Industry (EPA 2017). The proposal will not generate additional vibration during operation.

5.2.5.4 Mitigation measures

With the implementation of the mitigation measures below, impacts to noise and vibration can be adequately managed, and residual impacts are expected to be low.

Table 5-10 Environmental mitigation measures — noise and vibration

Mitigation measures

Works must comply with the Draft Construction Noise Guideline (EPA 2020), including scheduling work and deliveries during standard daytime working hours of 7am to 6pm Monday to Friday and 8am to 1pm Saturday. No work to be scheduled on Sunday nights or public holidays. Any proposed work outside of these hours must be justified.

The proposal will also be carried out in accordance with:

- Sydney Water's Noise Management Procedure SWEMS0056
- Noise Policy for Industry (EPA, 2017).

All reasonable and feasible noise mitigation measures should be justified, documented and implemented on-site to mitigate noise impacts.

Incorporate **standard daytime hours noise management safeguards** into the CEMP, including but not limited to:

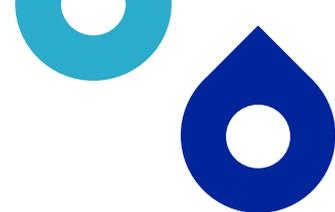
- identify and consult with the potentially affected residents prior to commencement of works. This should:
 - describe the nature of works, the expected noise impacts, approved hours of work, duration, complaints handling and contact details
 - determine need for, and appropriate timing of respite periods (e.g. times identified by the community that are less sensitive to noise such as mid-morning or mid-afternoon for works near residences)
- implement a noise complaints handling procedure
- do not warm-up plant or machinery near residential dwellings before the nominated working hours
- select appropriate plant for each task, to minimise the noise impact (e.g. all stationary and mobile plant will be fitted with residential type silencers)
- do not use engine brakes when entering or leaving the work site(s) or within work areas
- regularly inspect and maintain equipment in good working order
- arrange work sites where possible to minimise noise (e.g. generators away from sensitive receivers, site set up to minimise use of vehicle reversing alarms, site amenities and/ or entrances away from noise sensitive receivers)
- use site sheds as noise barriers
- schedule noisy activities around times of surrounding high background noise (local road traffic or when other noise sources are active).

If works **outside standard daytime hours are needed (beyond those identified in this REF)**, the contractor would:

- justify the need for out of hours work (OOHW) and why it is not possible to carry out the works during standard daytime hours
- consider potential noise impacts and implement relevant standard daytime, out of hours and night-time safeguards and other reasonable and feasible management measures
- follow Sydney Water's Noise Management Code of Behaviour (SWEMS0056.01) and document all reasonable and feasible management measures to be implemented
- identify additional community notification requirements and outcomes of targeted community consultation
- seek approval from the Sydney Water Project Manager in consultation with the environment and communications representatives.

Notify properties in advance of night work within 270 m of the pumping station.

Monitor compliance with the recommended vibration levels in DIN 4150-3 1999: Structural Vibration – Part 3; Effects of vibration on structures.



Mitigation measures

Consider less vibration intensive methodologies where practicable and use only the necessary sized and powered equipment.

5.2.6 Air and energy

5.2.6.1 Existing environment

The main existing sources of air pollutants within the study area include emissions from motor vehicles due to Captain Cook Drive. The existing environment may also be impacted by the Cronulla WRRF about 1 km north or the concrete recycling centre (Concrete Recyclers Kurnell) about 1.7 km north.

Sensitive receivers potentially impacted by changes to air quality include nearby residents as well as a school, golf course, and public green space.

5.2.6.2 Potential impacts

The proposal will potentially result in dust and air pollution from:

- dust generated during excavation, stockpiling and exposed soils
- dust generated by construction vehicles travelling on disturbed/ unsealed access routes (although the existing access road is paved, the entry/exit and some areas in the pumping station and proposed compound are unpaved)
- emissions from machinery, equipment and vehicles used during construction.

The proposal is not expected to generate any additional odour during construction or operation. Wastewater would continue to travel through the pumping station and/or the temporary bypass setup, and would not be exposed to air.

Given the distance to nearby sensitive receivers, dust and air emissions from construction are not expected to impact sensitive receivers. The construction activities and restoration of disturbed areas would be undertaken progressively. Potential air quality impacts would be localised and short-term. No impacts are anticipated during operation.

5.2.6.3 Mitigation measures

With the implementation of the mitigation measures below, impacts to air and energy can be adequately managed, and residual impacts are expected to be minor.

Table 5-11 Environmental mitigation measures — air and energy

Mitigation measures
Use alternatives to fossil fuels where practical and cost-effective.
Maintain equipment in good working order, comply with the clean air regulations of the <i>Protection of the Environment Operations Act 1997</i> , have appropriate exhaust pollution controls, and meet Australian Standards for exhaust emissions.
Switch off vehicles/machinery when not in use.



Mitigation measures

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.

Cover all transported waste.

5.2.7 Waste and hazardous materials

5.2.7.1 Existing environment

Table 5-12 lists the hazardous materials at SP0362 including the locations within the site.

Table 5-12 Hazardous materials at SP0362

Location	Risk level	Hazardous materials	Location within building
HV building	Medium	Lead paint	Internal – ground floor – walls and ceiling External – ground floor – paint on doors, doorframes, fascia and handrails
HV building	Low	Asbestos containing materials (ACM)	Internal – ground floor – floor penetrations External – ground floor – fibre cement sheeting on perimeter
Main building	No risk level	Polychlorinated biphenyls	Internal – light fittings
Main building	Medium	Lead paint	Internal – paint in meal room, paint on pipework and pumps
Main building	Medium	ACM	Internal – storage cabinets for spare fuses
Main building	Low	Lead paint	Internal – on pipework and pumps, ceiling, gantry crane, walls, frames and doors
Main building	Low	Lead contaminated dust	Internal – floor – base of pit, electrical area, near meal room
Main building	Low	ACM	Internal – fibre cement sheeting, vinyl floor tiles External – fibre cement sheeting

Hazardous building materials are also suspected to be present throughout external areas of the existing transformer yard, main building and HV building.



5.2.7.2 Potential impacts

Hazardous materials will likely be disturbed during construction in the HV building and pumping station. Previously unknown hazardous materials may be found at the HV building, transformer yard and pumping station. Known hazardous materials are expected to be disturbed during construction. For example, the floor of SP0362 would need to be cleaned of lead-contaminated dust before works under the floor can start. Existing pipework and pumps contain lead paint. ACM may be reused if it can be placed below hardstand or below sufficient cover to restrict exposure.

Other waste streams likely to be generated during construction include:

- general waste from food and other materials
- liquid waste from the ablutions block and other amenities
- surplus construction and process waste such as concrete, gravel, sands, fencing, and off-cut materials
- green waste from vegetation removal
- excavated material (e.g. spoil) which is unsuitable and/or not required for reuse
- redundant and decommissioned plant items e.g. old pumps and valves
- potential acid sulfate soils or unexpected contaminated materials
- hazardous waste e.g. rags, screenings, grit (captured in bins and collected for offsite disposal).

Short-term stockpiling will be required during construction in SP0362 or in the compound.

Opportunities to reduce, recycle and reuse on this proposal would be sought with the Delivery Contractor and documented in the Waste Management Plan or CEMP. No impacts are anticipated during operation.

5.2.7.3 Mitigation measures

With the implementation of the mitigation measures below, impacts to waste and hazardous materials can be adequately managed, and residual impacts are expected to be minor.

Table 5-13 Environmental mitigation measures — waste and hazardous materials

Mitigation measures
Manage waste in accordance with relevant legislation and maintain records to show compliance e.g. waste register, transport and disposal records. Record and submit SWEMS0015.27 Contractor Waste Report .
Provide adequate bins for general waste, hazardous waste and recyclable materials.
Minimise stockpile size and ensure delineation between different stockpiled materials.
Minimise the generation of waste and sort waste streams to maximise reuse/recycling in accordance with the legislative requirements.
Manage waste and excess spoil in accordance with the NSW EPA Resource Recovery Orders and Exemptions (if applicable) and / or Waste Classification Guidelines. Where materials are not suitable or cannot be reused onsite or offsite, recycle where appropriate. Recycle soils at a licensed soil recycling facility or dispose at an appropriately licenced landfill facility.



Mitigation measures

Prevent pollutants from escaping including by covering skip bins.

Dispose excess vegetation (non-weed) that cannot be used for site stabilisation at an appropriate green waste disposal facility.

If fibro or other asbestos containing material is identified, restrict access and follow Sydney Water's Asbestos Management – Minor Works procedure, Document Number 746607 and SafeWork NSW requirements. Contact Sydney Water Project Manager (who will consult with Property Portfolio Environmental team propertyenvironmental@sydneywater.com.au).

Manage lead paint in accordance with the WHS Regulation (2017) Part 7.2 and the Australian Standard Lead Paint Management Guidelines. Consult with Property Portfolio Environmental team where works involve removal of lead-based paint. Develop a Lead Management Plan if required.

Review existing hazardous building materials (HBM) report and implement relevant mitigation measures. Conduct hazardous materials survey before starting work, where works could impact hazardous materials not surveyed in previous HBM assessments.

5.2.8 Traffic and access

5.2.8.1 Existing environment

SP0362 is accessed via Captain Cook Drive. Captain Cook Drive is a divided road, one lane in each direction, with speed limits of 70 km/h and 80 km/h. Captain Cook Drive is the only road in and out of the suburb of Kurnell. Traffic surveys conducted in 2018 for the Kamay Ferry Wharves project found that peak vehicle volumes on Captain Cook Drive were up to 4,187 vehicles on a weekday and up to 5,937 vehicles on a weekend (Kamay Ferry Wharves Project – Appendix K – Landside Traffic and Transport Assessment 2021). There are formal and informal footpaths along both sides of Captain Cook Drive. There are bicycle lanes in both directions and space for informal parking in both directions along the road shoulder.

Bus route 987 travels along Captain Cook Drive between 5:45am and 9pm Monday to Friday, 7am to 8:30pm Saturdays, and 7:45am to 7:15pm Sundays. The nearest bus stop is on Captain Cook Drive southbound, about 60 m south of the entry/exit to the access road.

The access road also provides access to the council depot south of SP0362, proposed to be partly used as a compound/laydown area.

5.2.8.2 Potential impacts

No lane or road closures are required on Captain Cook Drive and the project would not obstruct any property access.

Although construction vehicles could park along the unsealed road shoulders of Captain Cook Drive, the high speed of the nearby traffic could be a potential safety risk for workers getting in and out of vehicles. Parking at SP0362 and the proposed compound is limited, as it is a small site and will also need to support site amenities, materials storage, while maintaining access for existing operations. Off-site parking locations would likely be required, such as parking lots at Cronulla WRRF or Cronulla High School Rugby Sports Field.



Up to 20 construction staff are expected to be onsite at any one time during different stages of construction. As most construction would be during standard construction hours, vehicle movements are expected to peak around the start (7am) and end (6pm) of each shift. These potential spikes in additional vehicles compared to current traffic volumes may cause slight delays for buses, cars and other vehicles using the road at these times.

Traffic volumes would increase from construction vehicle movements as well as from larger equipment such as cranes or trucks. It is likely that traffic movements in and out of the study area will be left in and left out, with the Trinity Street roundabout likely used to exit Kurnell.

Impacts to traffic and access during construction can be managed with the mitigation measures shown below. There will be no operational impacts due to this proposal.

5.2.8.3 Mitigation measures

With the implementation of the mitigation measures below, impacts to traffic and access can be adequately managed, and residual impacts are expected to be low.

Table 5-14 Environmental mitigation measures — traffic and access

Mitigation measures
Erect signs to inform road users of the proposed works and any temporary lane or road closures.
Ensure work vehicles do not obstruct vehicular or pedestrian traffic, or private driveway, public facility or business access unless necessary and only if appropriate notification has been provided.
Vehicle and machinery movements to be limited to designated access roads and previously disturbed areas.
Consider and identify additional staff parking locations, and opportunities for carpooling or using public transport. Engage with landowners where offsite parking is required.
Maintain access to the council depot for council staff.

5.2.9 Social and visual

5.2.9.1 Existing environment

SP0362 is about 100 m off a main road in an area surrounded by native vegetation and a council depot, and about 200 m from residential receivers. It is unlikely that any of the study area, outside of the entrance/exit of the access road and associated signage and fencing are currently visible to any sensitive receivers.

5.2.9.2 Potential impacts

Social impacts related to noise and vibration (section 5.2.4 of the REF), air and energy (section 5.2.6 of this REF), and traffic and access (section 5.2.8 of this REF) have been considered elsewhere in this REF.

New permanent above-ground structures (e.g. HV VSD building) would be built for the proposal. These new structures are consistent with the character of the site and existing structures within the site. The new structures would change the visual character of the environment, but only for the construction workers and operational staff at SP0362. The new structures are not adjacent to sensitive receivers and are shielded



from the road corridor by vegetation. Therefore, no new structures from the proposal are expected to be visible during operation.

There may be short-term visual impacts at the access road from the additional construction vehicles entering and exiting the site. With most work during standard construction hours, construction vehicle movements would peak around the start (7am) and end (6pm) of each shift. Given current traffic volumes on Captain Cook Drive, the visual impacts from about 20 extra vehicle movements is not considered significant. No impacts are anticipated during operation.

5.2.9.3 Mitigation measures

With the implementation of the mitigation measures below, social and visual impacts can be adequately managed, and residual impacts are expected to be low.

Table 5-15 Environmental mitigation measures — social and visual

Mitigation measures
Undertake works in accordance with Sydney Water Communications policies and requirements including: <ul style="list-style-type: none"> Notify impacted residents and businesses. Erect signs to inform the public on nature of work. Treat community enquiries appropriately.
Restore work sites to pre-existing condition or better.
Minimise visual impacts (e.g. retain existing vegetation where possible).
Maintain work areas in a clean and tidy condition.
Liaise with council on use of the depot as a construction compound

5.2.10 Cumulative and future trends

The major projects website was reviewed in October 2025. Table 5-16 shows the projects on the Major Projects Planning Portal in Kurnell that are currently in planning.

Table 5-16 Nearby projects

Project name	Distance to proposal	Status
Breen Resource Recovery Facility	2.2 km north-east	Approved 13 November 2024, modification for timeframes and staging under assessment
Kamay Energy Storage	4.8 km north-east	Prepare EIS
Kamay Ferry Wharves	6.7 km north-east	Approved July 2022, construction completed and wharves are operational
Kurnell Energy and Industry Precinct	4.8 km north-east	Prepare EIS



Project name	Distance to proposal	Status
Modification 7 – Infrastructure consolidation and remediation for Kurnell Refinery	4.8 km north-east	Response to submissions

Should any of these projects be in construction at the same time as this proposal, there may be minor cumulative amenity impacts related to traffic, noise, and odour. However, this is unlikely given the distance between the proposal and these projects.

Although SP0362 is not a continuously manned site during operational hours, operational staff at SP0362 and the Cronulla WRRF would need to be engaged before and during construction and commissioning of this proposal. This is needed to confirm the work schedule and how different tasks can be scheduled to minimise the impact on day-to-day operations – e.g. temporary bypasses and flows into the WRRF, parking availability.

Future trends such as climate change were considered. Factors such as bushfires, coastal hazards, flooding, extreme heat and extreme storm events that could impact the proposal were considered. Across NSW and Australia, predicted changes include:

- sea levels are projected to rise between 0.21 m to 1.06 m by 2100
- the likelihood of extreme weather events such as heavy rainfall is increasing
- when combined with sea level rise, increases in heavy rainfall are likely to cause more frequent and severe flooding.

Flooding has the highest current and future potential to impact the proposal based on the existing constraints. Storms and floods cause damage to property and infrastructure such as roads and services. Extreme heat, bushfires and storm events may reduce the functionality of existing assets (e.g. loss of power) and cause them to be damaged more frequently. Although outside the scope of work assessed for this proposal, the functionality of SP0362 may be impacted by future sea level rise. The dry well, transformer yard and valve chamber could be impacted by these changed flood levels. The pumps in the pumping station are proposed to be a mix of submersible and conventional motors, and flood mitigation (a 350 mm concrete wall) would be installed to prevent inundation of the dry well.

The proposal has considered these future trends and is unlikely to further exacerbate future trends as the proposal involves work on existing assets, and in existing disturbed areas.

5.2.10.1 Mitigation measures

With the implementation of the mitigation measures below, impacts from cumulative and future trends can be adequately managed, and residual impacts are expected to be minor.

Table 5-17 Environmental mitigation measures — cumulative and future trends

Mitigation measures
Engage site operational staff before and during construction to confirm the work schedule and how different tasks can be scheduled to minimise the impact on day-to-day plant operations.



5.2.11 General environmental management

Table 5-18 Environmental mitigation measures — general environmental management

Mitigation measures

Sydney Water's Project Manager (after consultation with the environmental and community representatives and affected landowners) can approve temporary ancillary construction facilities (such as compounds and access tracks), without additional environmental assessment or approval if the facilities:

- limit proximity to sensitive receivers
- do not disrupt property access
- have no impact to known items of non-Aboriginal and Aboriginal heritage
- are outside high risk areas for Aboriginal heritage
- use existing cleared areas and existing access tracks
- have no impacts to remnant native vegetation or key habitat features
- have no disturbance to waterways
- do not require additional safeguards beyond those included in the EIA
- do not disturb contaminated land or acid sulfate soils
- will be rehabilitated at the end of construction.

The contractor must demonstrate in writing how the proposed ancillary facilities meet these principles. Any facilities that do not meet these principles will require additional environmental impact assessment.

The agreed location of these facilities must be shown on the CEMP site plan and appropriate environmental controls installed.

Should the proposal change from the REF, no further environmental assessment is required provided the change:

- remains within the study area for the REF and has no net additional environmental impact or
- is outside the study area for the REF but:
 - reduces impacts to biodiversity, heritage or human amenity or
 - avoids engineering (for example, geological, topographical) constraints and
 - after consultation with any potentially affected landowners and relevant agencies.

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

Prepare a Construction Environmental Management Plan (CEMP) addressing the requirements of this environmental assessment. The CEMP should specify licence, approval and notification requirements. Before works start, all project staff and contractors will be inducted in the CEMP.

The CEMP must be readily available on site and include a site plan which shows:

- go/no go areas and boundaries of the study area including locations of lay-down and storage areas for materials and equipment
- location of environmental controls (such as erosion and sediment controls, fences or other measures to protect vegetation or fauna, spill kits)
- location and full extent of any vegetation disturbance.

The CEMP will identify appropriate delineation. Delineate approved impact area boundary before commencement of construction.

Prepare an Incident Management Plan (IMP) outlining actions and responsibilities for:

- predicted/onset of heavy rain during works
- spills
- unexpected finds (e.g. heritage and contamination)
- other potential incidents relevant to the scope of works.

All site personnel must be inducted into the IMP.



Mitigation measures

Complaints to be managed in accordance with Sydney Water's Complaints Procedure and relevant Community Engagement Plan.

Assign single person with accountability for coordinating communication and information flow across contractors and consultants and provide the contact details of this person in the CEMP.



6. Conclusion

Sydney Water has prepared this REF to assess the potential environmental impacts of Cronulla SP0362 Upgrade. The proposal is required to improve the reliability of flows through the pumping station and maintain a safe and reliable wastewater treatment system which is compliant with EPL requirements.

The main potential construction environmental impacts of the proposal include impacts to biodiversity and working adjacent to sensitive areas, including the Towra Point Nature Reserve, coastal wetlands, and threatened ecological communities. During operation, no additional impacts are expected. Given the nature, scale and extent of impacts and implementation of the mitigation measures outlined in this REF, 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 ESD. The proposal will result in positive long-term environmental improvements by improving wastewater flow to the WRRF. The proposal 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

Section 171 of the EP&A Regulation requires a determining authority to take into account the environmental factors specified in the environmental factors guidelines that apply to an activity (a proposal). The *Guidelines for Division 5.1 Assessments* (DPIE, 2022) are applicable guidelines for the proposal. Section 3 of the guidelines identifies the environmental factors to be considered, which refers to and lists the factors included in section 171(2) of the EP&A Regulation.

These environmental factors are listed below in Table A-1 below, along with the corresponding findings of the REF assessment.

Table A-1 Consideration of environmental factors under section 171 of the EP&A Regulation

Section 171 checklist	REF finding
Any environmental impact on a community	There may be impacts on the community from construction noise and traffic. While the project is expected to take 5 years, the noisier works are expected to be short-term and intermittent (and traffic volumes low). During operation, no additional impacts are expected. There will be environmental improvements by providing a reliable wastewater service to the local community.
Any transformation of a locality	The proposal would include a new building at SP0362. However this will be in keeping with existing structures at SP0362 and not visible to the public. As a result it is not expected to significantly transform the locality.
Any environmental impact on the ecosystems of the locality	The proposal would have minor environmental impacts to ecosystems of the locality from vegetation removal, and minimal indirect impacts to nearby coastal wetlands and Ramsar wetlands. There will be environmental improvements by ensuring a reliable wastewater service will collect and treat wastewater, minimising any impacts on the ecosystem.
Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality	The proposal will not result in a reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality.
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 will not have 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. Although the access road to SP0362 overlaps with multiple heritage listings, no work is required on the road, so no impacts to these items are expected.
Any impact on the habitat of any protected animals (within the meaning of the <i>Biodiversity Conservation Act 2016</i>)	The proposal would have a minor impact on the habitat requirements of protected animals. Some native vegetation, including potential habitat, would be removed or trimmed. Pre-clearing inspections would identify and manage any native fauna that may be present on site.
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 will not endanger any species.



Section 171 checklist	REF finding
Any long-term effects on the environment	The proposal will not have any long-term impacts on the environment but will have a long-term benefit by providing a reliable and modern wastewater service for the area.
Any degradation of the quality of the environment	The proposal will not cause the degradation of the quality of the environment.
Any risk to the safety of the environment	The proposal will not increase risk to the safety of the environment.
Any reduction in the range of beneficial uses of the environment	The proposal will not have any reduction in the range of beneficial uses of the environment.
Any pollution of the environment	Environmental mitigation measures will mitigate the potential for the proposed work to pollute the environment. No pollution of the environment is expected. The proposal will operate in accordance with EPL 1728.
Any environmental problems associated with the disposal of waste	The disposal of wastes will be conducted in accordance with the environmental mitigation measures (including any known hazardous materials). No environmental problems associated with the disposal of waste are expected.
Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply	The proposed work will not increase demand on resources, that are, or are likely to become, in short supply.
Any cumulative environmental effect with other existing or likely future activities	There may be minor cumulative environmental impacts between this project and other existing or likely future activities. If impacts were to occur they would be minor.
Any impact on coastal processes and coastal hazards, including those under projected climate change conditions	The proposed work will not have any impact on coastal processes or hazards, and coastal processes and coastal hazards are unlikely to have any impact on the proposed activity. Although the proposal is on land mapped as coastal use area and coastal environment area, no impacts are expected to either land use.
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 proposed work forms part of a renewals program.
Any other relevant environmental factors.	The proposed work has been assessed against the factors listed above, and there are no other relevant environmental factors to consider.

Appendix B – 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 works 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 works 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 <i>National Parks and Wildlife Act 1974</i> or land acquired under Part 11 of that Act? <i>If so, consult with DPE (NPWS).</i>	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? <i>If so, consult with DPE (NPWS).</i>		X



TISEPP section	Yes	No
Will the proposal include a fixed or floating structure in or over navigable waters? <i>If so, consult TfNSW.</i>		X
Will the proposal be on land in a mine subsidence district within the meaning of the <i>Coal Mine Subsidence Compensation Act 2017</i> ? <i>If so, consult with Subsidence Advisory NSW.</i>		X
Will the proposal be on land in a Western City operational area specified in <i>the Western Parkland City Authority Act 2018</i> , Schedule 2 and have a capital investment value of \$30 million or more? <i>If so, consult the Western Parkland City Authority.</i>		X
Will the proposal clear native vegetation on land that is not subject land (ie non-certified land)? <i>If so, notify DPE at least 21 days prior to work commencing. (Requirement under s3.24 Chapter 3 Sydney Region Growth Centres - of the SEPP (Precincts – Central River City) 2021).</i>		X



Appendix C – Ecological Assessment