

Review of Environmental Factors



Hornsby Heights Water Resource Recovery Facility Heater System Renewal

1 Determination

This Review of Environmental Factors (REF) assesses potential environmental impacts of Hornsby Heights Water Resource Recovery Facility (WRRF) Heater System Renewal. 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.

Decision Statement

The main potential construction environmental impacts of the proposal include impacts from odour emissions and air quality and potential Hazardous Building Materials (HBM). During operation, it is unlikely that any adverse impacts will occur. 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.

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. The REF considers how the proposal aligns with the principles of ecologically sustainable development (Appendix B). The information it contains is neither false nor misleading.

Prepared by:	Reviewed by:	Endorsed by:	Approved by:
Environmental Scientist	Snr Environmental	Senior Project Manager	Snr Mgr Environment &
Sydney Water	Scientist	Sydney Water	Heritage
	Sydney Water		Sydney Water
Date: 10/04/2025	Date: 17/04/2025	Date: 06/05/2025	Date: 22/05/2025

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2 Proposal description

Table 1 Description of proposal

Aspect	Detailed description
Proposal need and objectives	The current heating system for the digester at Hornsby Heights Wastewater Treatment Plant (WRRF) is inadequate, leading to poor digester performance.
	The proposal objectives are to:
	 install an additional heating system consisting of new heat exchangers, hot water system and hot water pump to increase heating capacity for the digester and a new sludge transfer pump for sludge recirculation
	 replace the existing digester sludge mixing system with a new mixing system consisting of pumps with discharge nozzles to improve the digester mixing facility.
Consideration of alternatives/options	A Do-Nothing option risks further asset deterioration and potential failures. This would disrupt wastewater services to customers, potentially cause damage to the surrounding environment and have safety implications.
	Multi Criteria Analysis (MCA) was used to select the preferred option which is to provide a new heating system and a new mixing system.
Proposal description and methodology	The proposal includes the installation of a new heating and mixing system at Hornsby Heights WRRF, with the details of the works outlined below.
	Enabling works:
	site investigations and establishment
	relocation of sump pump gantry
	widening of digester building door
	 installation of new underground electrical cable from dewatering switchroom to digester plant
	trenching for installation of electrical conduits, pit drainage and electrical pit
	excavation of manhole pit for sump pump installation
	concrete encasement of affected live services
	modification of digester building's back wall.
	Construction works:
	new pump mixing system for digesters
	new hot water heater, heat exchangers and a pump
	new sludge transfer pump



	site reinstatement.
	Decommissioning/ removal of equipment:
	 decommissioning and removal of the digesters gas mixing system, diesel pump, tank and related equipment
	 removal of decommissioned pipes, instrumentation.
	Electrical Works:
	electrical connections, switchboards and panels
	 relocation of remote input/output panel and rewiring
	 integration of controls to existing Plant SCADA (supervisory control and data acquisition) system.
Location and land ownership	Hornsby Heights WRRF is located at Sector States States and Sector NSW 2077 (Lot 1 DP610147) within the Hornsby Shire Council area.
Site establishment and access tracks	Access to the proposed site will be via the existing secure gate and driveway via Pike Road.
Ancillary facilities (compounds)	A construction site compound / temporary fencing and lay-down area will be established within the WRRF site. Skip bins will be placed in the compound to hold and segregate the excavated and imported fill materials. The existing Confluence Water site office will be used as the site amenities. These details including stockpile locations will be confirmed by the contractor but will be located within the WRRF (refer to Figure 1).
Work hours	 Work and deliveries will be scheduled during standard daytime hours: 7 am to 6 pm, Monday to Friday 8 am to 1 pm, Saturdays.
	The proposal is not expected to require work outside these hours. However, Sydney Water's Project Manager can approve work outside of standard daytime hours if required. The approval process is described in the mitigation measures in Section 6.
Proposal timing	Construction is expected to start in June 2025 and take about 27 months.
Operational requirements	Current operational procedures to be followed; no additional requirements are needed. The works will be staged to keep one digester in operation during construction.

Figure 1 Location of proposal and environmental constraints



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3 Consultation

Community and stakeholder consultation

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

Stakeholder and community engagement is a planned process of initiating and maintaining relationships with external parties who have an interest in our activities. Community and stakeholder engagement:

- enables us to explain strategy, policy, proposals, proposal or programs
- gives the community and stakeholders the opportunity to share their knowledge, issues and concerns
- enables us to understand community and stakeholder views in our decision-making processes alongside safety, environment, economic, technical and operational factors.

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 consult with affected groups throughout the proposal. Local residents will be notified due to truck movement for delivery purpose.

Ausgrid High Voltage (HV) cables run along the internal WRRF road on the west side of the proposed works (opposite the digester plant), adjacent to the Dewatering Building. The Ausgrid cable will not be affected or require relocation as part of the works. However, the construction contractor should consult and provide Ausgrid with a minimum of two weeks' notice prior to the work commencing.

Consultation required under State Environmental Planning Policies and other legislation

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

No formal consultation was required under the TISEPP. Further detail is provided in Appendix C.

4 Legislative requirements

Table 2 Environmental planning instruments relevant to the proposal

Environmental Planning Instrument	Relevance to proposal
Hornsby Local Environmental Plan 2013 (Hornsby LEP)	The proposal is located on land zoned SP2 Infrastructure (Sewage Treatment Plant).
State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP)	Section 2.126 of the TISEPP permits development by or on behalf of a public authority for sewerage treatment plants without consent on any land in a prescribed zone.



Environmental Planning Instrument

Relevance to proposal

The proposal involves development of an existing sewerage system and is in land zoned SP2, which is considered a prescribed zone.

As Sydney Water is a public authority, the proposal is permissible without consent.

Table 3 Consideration of key environmental legislation

Legislation	Relevance to proposal	Permit or approval	Timing and responsibility
Protection of the Environment Operations Act 1997 (POEO Act)	The Hornsby WRRF operates under an existing Environmental Protection Licence (EPL) 750. Temporary relaxation of the EPL 750 is not required during construction/ commissioning. A variation to EPL 750 is not required for operation.	EPL variation is not required	N/A
Contaminated Land Management Act 1997 (NSW)	There is a Property Environmental Management Plan (PEMP) on this site. The Section 60 site contamination notification pertains to an area that is outside of this Proposal. As such, notification to EPA is not required.	s60 site contamination notification to EPA is not required.	N/A
Biodiversity Conservation Act 2016 (BC Act)	There are three Plant Community Types (PCTs) identified on the site but these PCTs are not associated with any Threatened Ecological Communities (TECs). One threatened flora species (<i>Tetratheca glandulosa</i>) has been recorded on the site. No threatened fauna species are identified on the site. No threatened species, ecological communities or their habitats are anticipated to be impacted by the proposal. No vegetation or tree removal is required.	REF	N/A





5 Environmental assessment

The environmental impacts checklist (SWEMS0019.01) was completed for the works which considers all environmental aspects. Table includes only the potentially impacted aspects.

Aspect	Potential impacts
Topography, geology and soils	The proposal involves open trenching for the installation of new electrical conduits, electrical pit drainage, and electrical pits along the internal roadway. Excavation and ground disturbance may lead to potential offsite erosion and sedimentation to waterways. The total trench length is approximately 80 meters, with typical dimensions of up to 2 meters in depth and 500-600 mm in width for the conduits and 200-300 mm in width for the pit drainage. The electrical pits will be approximately 2.5 m x 1.2 m x 1.2 m in size and a manhole will be approx. 3 m depth and 1 m diameter. The proposal is not anticipated to have an adverse impact on the site topography, geology or soils of the area and the works can be managed using the environmental mitigation measures specified in Section 6 of this REF.
Water and drainage	Calna Creek, a tributary of Berowra Creek runs through the middle of the site. Hornsby Heights WRRF discharges treated effluent into Calna Creek. No dewatering of groundwater is anticipated. However, stormwater may accumulate in trenches during wet weather which may need to be discharged. This would be done in accordance with Guidance Standard 9.1 Excavation Dewatering (ENV-GS-001). The proposal will require temporary storage of fuels and/or chemicals for equipment and machinery operation during construction. Potential impacts include accidental leaks, spills and seepage into the soils, groundwater, or local stormwater system. Implementation of mitigation measures in Section 6 will adequately manage potential impacts on water and drainage during construction and operation.
Flora and fauna	Vegetation within the Hornsby Heights WRRF includes three plant community types (PCT 1083 Red Bloodwood; PCT 1250 Sydney Peppermint and PCT 1780 Sydney Peppermint/Coachwood). These PCTs are not associated with any Threatened Ecological Communities (TECs). A threatened flora species (<i>Tetratheca glandulosa</i>) has been recorded on the site, however no impacts to this species are anticipated. The proposal is limited to the WRRF site and no vegetation will be removed as part of this work. No impact to the Groundwater Dependent Ecosystems (GDEs) located approximately 30 m east of the site is anticipated. With the implementation of the mitigation measures in Section 6, no construction or operational impacts on flora and fauna are expected.
Heritage	Aboriginal heritage

Table 4 Key environmental aspects and potential impacts of construction and operation



	An Aboriginal Heritage Information Management System (AHIMS) basic search with 200m buffer was completed on 19 March 2025. No Aboriginal sites or places were recorded.
	The proposal site has been disturbed by construction of the WRRF and the potential to impact unidentified Aboriginal heritage is very low. With the implementation of the mitigation measures in Section 6, no construction or operational impacts on heritage are anticipated.
	Non-Aboriginal heritage
	The proposal is not in the curtilage of any of the non-Aboriginal heritage items. No impacts to non-Aboriginal heritage items are anticipated.
Noise and vibration	The proposal is located approximately 160m east from the nearest resident. With the site surrounded by dense bushland. The construction activities including trenching, excavating pits and removal of existing equipment may generate some noise and vibration. However, all works are in standard working hours and any disturbance will be minor and temporary.
Air and energy	There is the potential to impact air quality from plant and vehicle emissions, and dust from vehicle movements. However, there are no sensitive receivers in close proximity to the proposal, so these impacts are expected to be low.
	Working on a digester building at Hornsby Heights WRRF can present several potential odours risks due to the nature of the materials and processes involved including sludge handling and potential for digester leaks. The digester will be drained down as much as possible prior to opening, in order to minimise odour from any remaining sludge. As a result, minimal odour is expected, and it will be contained within the digester. Measures to control odour include appropriate ventilation. With the implementation of mitigation measures in Section 6, the likelihood of air quality impacts from the proposal is low. There will be no change to the risk of air quality impacts during operation.
Waste and hazardous materials	HazCentral identified the following hazardous building materials within Hornsby Heights WRRF:
	• asbestos
	lead paint
	polychlorinated biphenyls (PCBs)
	• synthetic mineral fibres (SMF).
	Before construction starts the buildings would be inspected for these hazardous materials as they may be present within the buildings subject to this proposal.
	During construction, the proposed work has the potential to generate:



	 general construction waste such as concrete, steel, plastic, metal, electrical cables / conduits etc
	soil and excavated material
	sludge, biosolids
	contaminated material (if encountered).
	Any waste not able to be reused or recycled would be temporarily stockpiled or taken directly offsite to a facility licenced to accept the waste. With the implementation of the mitigation measures in Section 6, no waste or hazardous materials impacts are expected.
Traffic and access	The proposal is located entirely within the Hornsby Heights WRRF. Access to the Hornsby Heights WRRF is via the main entry on Pike Road through the access driveway with access to the site and construction compound via the existing roadway within the WRRF site. There is sufficient onsite parking available for workers. Additional overflow parking is also available outside the southwest boundary of the of the site. The proposal is not anticipated to have a significant adverse impact on traffic and access.
Social and visual	The proposal has the potential to cause social impacts related to odour and air quality, which have been assessed above. Visual impacts associated with construction activities are expected to be low, as all the works are within the WRRF boundary and existing buildings, also additional assets will be within existing plant infrastructure. No operational impacts are expected.
Cumulative and future trends	 Hornsby Height WRRF is an operational wastewater treatment facility. No construction is currently underway on the site. However, work on the dewatering switchroom is scheduled to commence in early June. Potential impacts of the proposed works are expected to be minor and localised, and unlikely to make a significant contribution to any cumulative environmental impact on a local or regional scale. Future trends such as climate change were considered. Factors such as bushfires, flooding, extreme heat and extreme storm events that could impact the proposal were considered. The proposal is not anticipated to have an adverse impact regarding cumulative impacts of the surrounding area.

6 Environmental mitigation measures

Table 2 Mitigation measures

Mitigation measures

General 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 Delivery 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.

Contractors should perform a pre-mobilisation and post-demobilisation dilapidation survey of the proposed compound site to confirm no residual impacts.

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

the change:

- remains within the proposal area for the EIA and has no net additional environmental impact or
- is outside the proposal area for the EIA 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 Delivery 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. Prior to the start of work, 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:

- boundaries of the work area/disturbance corridor 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 with (eg metal fencing for AHIMS, white flagging for construction corridor, red flagging for no go zones etc). Delineate approved disturbance boundary before construction.

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

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

All site personnel must be inducted into the IMP.

To ensure compliance with legislative requirements for incident management (eg *Protection of the Environment Operations Act 1997*), Follow <u>SWEMS0009</u> and attach <u>SWEMS0009</u> to the CEMP.

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 EWMS and/or CEMP.

Topography, geology and soils

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:

- develop a Soil and Water Management Plan (SWMP) as part of the CEMP
- 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.

Delivery 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 a NSW EPA Resource Recovery Order/Exemption the Delivery 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 Property Portfolio Environmental team) to agree on proposed management approach.

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, or before rainfall.

Eliminate ponding and erosion by restoring natural landforms to the pre-works condition.





Water and Drainage

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.

Keep stockpiles to a minimum and ensure adequate contingency measures are in place to prevent sedimentation of waterways in the event of a large flood event.

If the potential for intercepting groundwater is identified after the REF is determined, Sydney Water will obtain a groundwater Water Supply Works Approval. Where dewatering is >3ML per water year (from 1 July), Sydney Water will also obtain a Water Access Licence from NRAR. The Delivery Contractor is responsible for:

- 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).

Store all chemicals and fuels in accordance with relevant Australian Standards and Safety Data Sheets. Record stored chemicals on site register. Ensure bunded areas have 110% capacity of the largest chemical container, or an additional 25% capacity of the total volume stored within (whichever is greater). Tightly secure chemicals and fuels in vehicles. Clearly label all chemicals.

Conduct refuelling, fuel decanting and vehicle maintenance in compounds where possible. If field refuelling is necessary, designate an area away from waterways and drainage lines with functioning spill kits close by.

No wash down of equipment permitted onsite.

Ensure equipment is leak free. Repair oil/fuel leaks immediately or remove from site and replace with a leak-free item.

Flora and fauna

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.

- Any minor:
- vegetation trimming or



- removal of exotic vegetation or
- removal of planted native vegetation.

where the vegetation is not a threatened species (including a characteristic species of a threatened community or population), heritage listed, in declared critical habitat or in a declared area of outstanding biodiversity value.

 Any removal of remnant vegetation where there is no net change to environmental impact (eg a different area of vegetation is removed but the total area is the same or less than assessed in the EIA).

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 (<u>SWEMS0019.13</u>).

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.

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.

If any damage occurs to vegetation outside of the disturbance corridor (as shown in the CEMP), notify the Sydney Water Project Manager and Environmental Representative so that appropriate remediation strategies can be developed.

In TOBAN period:

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

Staff and contractors should use the <u>Sydney Water Total Fire Ban Exemption Framework</u> to determine exemption permissibility and approval pathway.

Air and energy

Track energy use as per SWEMS0015.28 Contractor NGER template.

Minimise the potential for odours (eg minimise the number of open access chambers, close maintenance holes overnight).

Maintain equipment in good working order, comply with the clean air regulations of the Protection of the Environment Operations Act 1997, have appropriate exhaust pollution controls, and meet Australian Standards for exhaust emissions.

Switch off vehicles/machinery when not in use.

Implement measures to prevent offsite dust impacts, for example:

- Water exposed areas (using non-potable water source where possible such as water from excavation pits).
- Cover exposed areas with tarpaulins or geotextile fabric.





- Modify or cease work in windy conditions.
- Modify site layout (place stockpiles away from sensitive receivers).
- Vegetate exposed areas using appropriate seeding.

Cover all transported waste.

Waste Generation

Manage waste in accordance with relevant legislation and maintain records to show compliance eg waste register, transport and disposal records. Record and submit <u>SWEMS0015.27 Contractor Waste Report.</u>

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.

Prevent pollutants from escaping including by covering skip bins.

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 Contamination and Hazardous Materials team property environmental@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 Contamination and Hazardous Materials 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 safeguards. Conduct hazardous materials survey prior to commencement where works could impact hazardous materials not surveyed in previous HBM assessments.

Heritage

Do not make publicly available or publish, in any form, Aboriginal heritage information on sites / potential archaeological deposits, particularly regarding location.

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.

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 <u>SWEMS0009</u>.

Noise and vibration





Works must comply with the EPA Construction Noise Guideline (Draft, 2021), 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:

- identify and consult with the potentially affected residents prior to the commencement:
 - 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 (eg times identified by the community that are less sensitive to noise such as mid-morning or mid-afternoon for works near residences)
 - acceptance by the community of longer construction periods in exchange for restriction to construction times.
- implement a complaint handling procedure for dealing with noise complaints
- plant or machinery will not be permitted to warm-up near residential dwellings before the nominated working hours
- appropriate plant will be selected for each task; to minimise the noise impact (eg all stationary and mobile plant will be fitted with residential type silencers)
- engine brakes will not be used 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 (eg generators away from sensitive receivers, minimise use of vehicle reversing alarms).

schedule noisy activities around times of surrounding high background noise (local road traffic or when other noise sources are active).

If works **beyond standard daytime hours are needed (beyond those identified in this REF)**, the Delivery 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 the relevant standard daytime hours safeguards, 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.

Traffic and access

Manage sites to allow people to move safely past the works.





Ensure work vehicles do not obstruct vehicular or pedestrian traffic.

Social and Visual

Restore work sites to pre-existing condition or better.

Maintain work areas in a clean and tidy condition.



Appendix A – Section 171 checklist

Section 171 checklist	REF finding
Any environmental impact on a community	There may be short-term impacts on the community from potential odour emissions. There will be environmental improvements by providing a reliable wastewater service to the local community.
Any transformation of a locality	The proposal will not result in the transformation of a locality.
Any environmental impact on the ecosystems of the locality	The proposal will not result in environmental impacts to ecosystems of the locality. The proposal will lead to environmental improvements by ensuring a reliable wastewater service to collect and treat wastewater, minimising any potential impacts on the ecosystem.
Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality	The proposal will not reduce 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.
Any impact on the habitat of any protected animals (within the meaning of the <i>Biodiversity Conservation Act 2016</i>)	The proposal will not have any impact on the habitat of protected animals.
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 be endangering any species of animal, plant or other form of life, whether living on land, in water or in the air.
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 reduce the range of beneficial uses of the environment.





Section 1/1 checklist	REF finding
Any pollution of the environment	Environmental mitigation measures will mitigate the potential for the proposal to pollute the environment. No pollution of the environment is expected.
Any environmental problems associated with the disposal of waste	Waste disposal will be in accordance with the environmental mitigation measures, and no environmental problems associated with the disposal of waste are expected.
Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply	The proposal 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	The proposal is expected to have only minor cumulative environmental effects which will be temporary. Ultimately, the proposal will contribute to environmental improvement by ensuring reliable wastewater service.
Any impact on coastal processes and coastal hazards, including those under projected climate change conditions	The proposal will not have any impact on coastal processes or hazards, and coastal processes and coastal hazards will not have any impact on the proposal.
Any applicable local strategic planning statements, regional strategic plans or district strategic plans made under the EP&A Act, Division 3.1	There are no applicable strategic planning statements or plans, as the proposal forms part of a renewals program.
Any other relevant environmental factors.	The proposal has been assessed against the factors listed above, and there are no other relevant environmental factors to consider.



Appendix B – Consideration of principles of ecologically sustainable development (ESD)

Principle	Proposal alignment
Precautionary principle - <i>if there are threats</i> of serious or irreversible environmental damage, lack of scientific uncertainty should not be a reason for postponing measures to prevent environmental degradation. Public and private decisions should be guided by careful evaluation to avoid serious or irreversible damage to the environment where practicable, and an assessment of the risk-weighted consequences of various options.	The proposal will not result in serious or irreversible environmental damage.
Inter-generational equity - the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.	The proposal will help to meet the needs of future generations by providing a reliable wastewater service.
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.
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.





Appendix C – Consideration of TISEPP consultation

TISEPP section	Yes	No	
Section 2.10, council related infrastructure or services – consultation with council			
Will the work:			
Potentially have a substantial impact on stormwater management services provided by council?		\checkmark	
Be likely to generate traffic that will strain the capacity of the road system in the LGA?		\checkmark	
Connect to, and have a substantial impact on, the capacity of a council owned sewerage system?		\checkmark	
Connect to, and use a substantial volume of water from a council owned water supply system?		\checkmark	
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?		\checkmark	
Excavate a road, or a footpath adjacent to a road, for which the council is the roads authority, that is not minor or inconsequential?		\checkmark	
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?		\checkmark	
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?		\checkmark	
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)?		\checkmark	
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?		\checkmark	
Section 2.15, consultation with public authorities other than councils			
Will the proposal be on land adjacent to land reserved under the National Parks and Wildlife Act 1974 or land acquired under Part 11 of that Act? If so, consult with DPE (NPWS).		\checkmark	
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> .		\checkmark	
Will the proposal include a fixed or floating structure in or over navigable waters? If so, consult <i>TfNSW</i> .		\checkmark	
Will the proposal be on land in a mine subsidence district within the meaning of the Coal Mine Subsidence Compensation Act 2017? If so, consult with Subsidence Advisory NSW.		\checkmark	
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> .		\checkmark	
Will the proposal clear native vegetation on land that is not subject land (ie non-certified land)? 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).		\checkmark	





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