North West Wastewater Connection

Construction, noise and vibration fact sheet

Updated June 2025

Sydney Water is delivering a transformative investment to ensure our water, wastewater and stormwater systems meet the needs of our customers now and in the future.

Development in the Metro North West Growth Corridor and North West Growth Area has accelerated, so we're delivering a number of projects that will support this growth, ensure ongoing reliability and enhance the resilience of wastewater treatment in the region, servicing 24,000 additional dwellings and amplifying the recycled water network to service an extra 16,000 dwellings.

The North West Wastewater Connection project will connect the pumping station at Taylee Place to the Rouse Hill Water Resource Recovery Facility at Mile End Road via a new 800 metre underground pipeline. This work will increase the capacity of the wastewater pipes and reduce the risk of wastewater overflows to the environment.

We recognise that construction can be disruptive to the local community, and we are committed to minimising the impacts on nearby residents and businesses.

This fact sheet provides information about how we have assessed potential noise and vibration impacts from construction work, including tunnelling, and how we plan to manage it.

What are we building

The North West Wastewater Connection will connect the pumping station at Taylee Place to the Rouse Hill Water Resource Recovery Facility (WRRF) via a new 800 metre underground pipeline.

The tunnel excavation will be about 1.80 metres in diameter with the pipe being 1 metre in diameter. The cavities between the pipe and the tunnel edge will be grouted following installation.

We will also be upgrading the pumping station, installing an odour control unit and an emergency generator for back-up power supply.

Where we will be working

There will be three main work sites – the pumping station at Taylee Place, the WRRF at Mile End Road, and land we have leased at Lot 96 Hare Place for our site office and launch pit.

A small tunnel boring machine will excavate a tunnel for the new pipeline between 9 and 27 metres underneath properties in Nunkere Crescent, Kindilen Close, Milford Drive, Bilyana Place and Mile End Road (see map overleaf for further details).

Planning approval for the project was granted in November 2024. The approval followed community engagement in 2021 and publication of the Review of Environmental Factors Addendum and further engagement in 2024. This document is available to view at www.sydneywater.com.au/north-west-wastewater-connection

Construction noise

Common sources of construction noise for the project include the operation of heavy machinery and truck movements.

Ground borne noise can occur during intensive work such as tunnelling and piling, where the sound and vibration is transmitted through the ground into a building.

Example of a small tunnel boring machine, which will be used to create the tunnel.

During tunnelling, properties above the tunnel alignment and 50 metres either side may hear ground borne noise from the tunnel boring machine. The machine is only expected to be under any one particular property for one to two days as it moves along the alignment, however some ground borne noise might be heard as the machine moves towards and away from the property.

Vibration

Construction activities generate varying degrees of vibration depending on the type of machinery, the method used and the distance from the activity.

Vibration is most likely to be felt during the excavation of three large pits at each of our work sites for the launch and retrieval of the tunnel boring machine. Humans can detect vibration at levels well below those causing risk of cosmetic impacts to a building.

Planning our projects

There are guidelines we follow to help minimise and manage the level of noise and vibration on our projects. These consider the type of building, for example residential, commercial or industrial.

During the planning phase of a project, we prepare a Noise and Vibration Impact Assessment to predict what the construction noise and vibration impacts will be at nearby properties. The assessment recommends mitigation measures to help minimise impacts on the community where appropriate.

The assessment for the North West Wastewater Connection project found that while there will be noise impacts resulting from construction work, the impacts could be managed effectively with the recommended mitigation activities.

The assessment also found that low levels of vibration may be experienced by some properties around the pumping station but no adverse structural or cosmetic damage to buildings is anticipated as a result of the work.

Managing noise and vibration

Where noise levels are predicted to be high, we will communicate with residents to explain the duration and noise levels of the work, and how we will minimise impacts.

Our delivery partner, Ironbark Joint Venture (IBJV) has prepared a Construction Environmental Management Plan (CEMP) that outlines how the project will be delivered safely and minimise impacts on the environment, including noise and vibration.

The project will implement various mitigation measures, including:

- Installing temporary noise barriers (3 metres high) around construction sites at the pumping station at Taylee Place and Lot 96 Hare Place.
- Applying appropriate respite during high impact work by staggering loud activities.
- Conducting regular monitoring of noise and vibration levels throughout the project to ensure work is within predicted noise levels.
- If monitoring finds that noise levels have been exceeded, we will stop work and reassess.
- Limiting the use of multiple plant and equipment at the same time and location.
- Using non-tonal reversing beepers on plant, equipment, and heavy vehicles.
- Implementing traffic management plans to minimise disruption in residential streets.
- Using alternative construction methods that are less noisy.
- Turning off plant and equipment when not in use.
- Providing advance notification of noisy activities.

How is noise measured?

We measure noise in decibels (dB(A)). Everyone hears and interprets noise differently. Many people can hear an increase of 2 dB(A). A loud TV or radio is about 70dB(A). A lawnmower is about 90 dB(A), and a motorcycle is about 100 dB(A). To the ear, a motorcycle sounds almost twice as loud a lawnmower.

Typical everyday noise levels

Property condition surveys

Whilst the Noise and Vibration Impact Assessment has determined the work will not cause any structural or cosmetic damage to properties, those situated along the tunnel alignment and around the pumping station at Taylee Place will be offered a property condition report prior to any work taking place, and after the project has been completed.

Construction work hours

Our standard working hours are Monday to Friday from 7am to 6pm, Saturdays 8am to 1pm. If we need to work outside of these hours, we will notify the community and do our best to mitigate impacts.

After completing detailed design, we have determined that tunnelling will need to operate 24 hours a day, seven days a week. These extended hours will enable us to reduce tunnel construction time from five months to around three months.

Keeping you informed

We will work with the community to ensure that the impact of noise on residents is as minimal as possible. We will keep residents informed as tunnelling work progresses and are available to meet with you to answer any questions you have about the work.

If you have any questions or concerns regarding this work, you can call us on 1800 010 556 or email northwestwastewaterconnection@sydneywater.com.au

Interpreter service 13 14 50

Arabic | Chinese (Traditional) | Chinese (Simplified) | Greek | Korean | Vietnamese

اتصل بالرقم أعلاه إذا كنت بحاجة إلى مترجم

如果您需要口譯員，請撥打上面列出的電話號碼

如果您需要口译员，请拨打上面列出的电话号码

Εάν χρειάζεστε διερμηνέα, καλέστε τον αριθμό που αναφέρεται παραπάνω

통역이 필요한 경우 위에 나열된 번호로 전화하십시오.

Nếu bạn cần thông dịch viên, hãy gọi số điện thoại được liệt kê ở trên