

Cowan Wastewater Scheme

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Introduction

Sydney Water will provide Cowan with a new wastewater service by mid 2014 under the Priority Sewerage Program (PSP).

The PSP is a NSW Government initiative that aims to provide improved wastewater services to unsewered urban communities.

The proposed wastewater service for Cowan is a pressure sewerage system. Wastewater from Cowan will be transferred, via Berowra, to the Hornsby Heights Wastewater Treatment Plant for treatment.

This booklet will provide you with information on:

- the wastewater system for Cowan
- the serviced area
- the location of wastewater assets
- timeframes and costs
- the Review of Environmental Factors
- frequently asked questions.



Scheme objectives

The PSP provides improved wastewater services to urban villages in environmentally sensitive areas. These areas include drinking water catchments, waterways used for recreational activities and national parks.

The main objectives of the Cowan Wastewater Scheme are to provide a wastewater service that:

- reduces risks to public health
- improves public amenity
- protects the surrounding environment
- provides capacity for limited identified growth in the urban area of Cowan.

Location and setting

Cowan is located in the Hornsby Shire Local Government Area on the northern fringe of Sydney. The village is situated on the Hawkesbury escarpment surrounded by several national parks.

Major features of the area include the Muogamarra Nature Reserve, the Ku-ring-gai Chase National Park and the Berowra Valley Regional Park.

Most properties within Cowan are residential and use on-site wastewater management systems. The most common types are:

- septic tank with pump-out
- septic tank with on-site soil absorption
- aeration treatment with on-site irrigation.

Some of these systems leak or overflow. Leaks from on-site systems impact the air and water quality in the area. Surface water monitoring shows that the quality of water in the area may pose some health risks to the community.

Other issues with on-site systems can include:

- inability to cope with increases in household numbers due to visitors
- poor performance during wet weather
- odours
- mosquitoes and other insects.

A new wastewater scheme will benefit the Cowan community by providing a reliable wastewater service that will reduce risks to public health and the environment.



Benefits of the scheme

Benefits of connecting to the new scheme include:

- the opportunity to remove existing on-site wastewater systems and use a more reliable and efficient system that Sydney Water owns and maintains
- potential cost savings for properties with regular pump-out and maintenance costs
- fewer potential odours from on-site systems and pump-out trucks
- cleaner waterways and local environment
- reduced public health risks from leaking on-site systems
- the removal of dampness and seepage
- the opportunity to reuse existing on-site systems to collect stormwater and/or greywater
- a potential increase in property values.



Cowan Wastewater Scheme

Assessing the options

Sydney Water started planning for the Cowan Wastewater Scheme in 2011. A list of options on ways to collect, transport and treat wastewater was developed and an assessment of these options was done.

We assessed the options against some mandatory criteria, including regulatory and technical requirements, socio-economic and environmental factors.

Three options were then carried forward to the next stage of assessment. These were:

- Installation of a septic tank effluent pump on each property with transfer to a new local wastewater treatment plant (WWTP) with sub-surface irrigation.
- A pressure sewerage system with transfer to the existing Hornsby Heights WWTP.
- A pressure sewerage system with transfer to a new local WWTP with sub-surface irrigation.

A multi-criteria analysis was undertaken for these three options and a preferred wastewater scheme was chosen.

Description of the scheme

Cowan will have a pressure sewerage system with transfer to the Hornsby Heights WWTP. This scheme was chosen based on environmental, technical, operational, cost and social factors specific to the area.

The pressure sewerage system works by collecting wastewater in a small tank installed on each property. A pump located inside the tank will grind the wastewater into a slurry and pump it through to a network of pipes located in the road reserve.

The wastewater will then flow, via pressure, to a chemical dosing unit (CDU) located along the Pacific Highway. Chemicals will be added to the wastewater at this point to provide additional control of odour and corrosion issues along the new pipeline.

From the CDU, the wastewater is transferred to the existing wastewater system in The Gully Road, Berowra, and then on to the Hornsby Heights WWTP for treatment.



Figure 1 Scheme area map showing transfer pipeline

Serviced area

The Cowan Wastewater Scheme will service about 250 lots. It will cater for limited identified growth in the village based on current council zonings.

The properties within the serviced area that are eligible to connect to the system include:

- all residential properties
- other properties with wastewater flows equal to typical residential flows (excluding industrial zoned properties) and do not produce trade waste.

Sydney Water will supply and install the necessary equipment at no cost to eligible property owners for 12 months from the date customers are advised they can connect to the Cowan Wastewater Scheme. After this time, property owners wanting to connect will need to purchase and install their own equipment.

Where properties have mixed residential and commercial use, they will be eligible to receive the equipment if they meet the requirements mentioned above.

All eligible property owners who wish to join the scheme are responsible for the cost of connecting their household drainage to the system.





Figure 2 Map of the serviced area

Location of wastewater assets

Sydney Water will install four pieces of equipment on each property eligible to connect to the scheme:

- a collection tank with grinder pump
- a discharge pipe
- a control / alarm panel
- a boundary kit (also known as a property connection point).

We will own this equipment and continue to maintain it once it is installed and connected to the scheme.

Figure 3 shows a typical residential pressure sewerage system.



Examples of installed pressure sewerage equipment

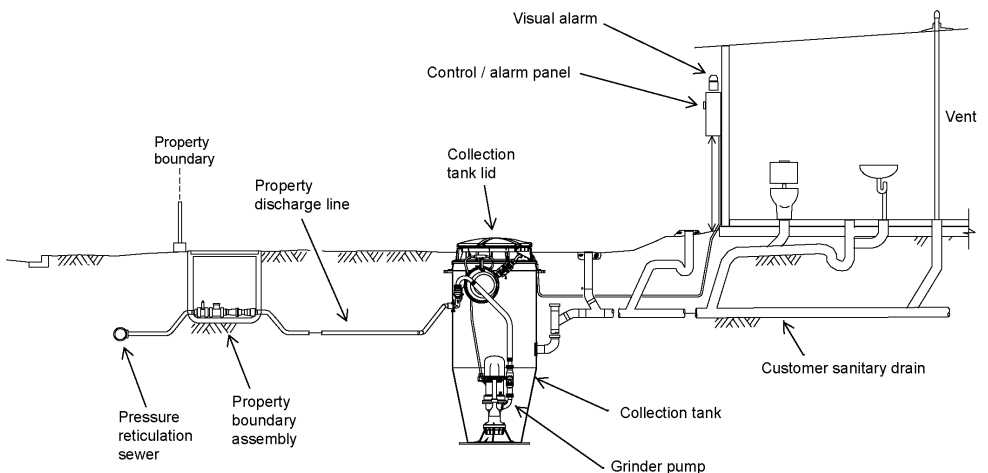


Figure 3 Schematic representation of a property pressure sewerage system

We will meet with each eligible property owner before construction to discuss the location of this equipment. You will receive more information about these customer meetings early next year.

System assets

To transfer wastewater from each property to the Hornsby Heights WWTP we need to build:

- 4.8 km of pressurised pipes in Cowan. The majority of these underground pipes will be located in road reserve in Cowan.
- A 3.4 km pipeline to transfer wastewater to The Gully Rd, Berowra. This pipeline will be installed along the Pacific Highway.

Chemical dosing unit (CDU)

To provide additional protection against corrosion and odour along the pipeline a CDU will be located on the Pacific Highway, about 1.2 km south of Cowan.

The CDU is a building about the size of a single garage that includes a chemical storage container and associated electrical equipment.

A permanent access road would be required to enable ongoing maintenance of the CDU. We do not expect any odour or noise issues associated with this site.



A typical CDU





A typical air release facility

Air release facilities

Air release facilities (ARFs) are found in most Australian suburbs. Sydney Water maintains and operates several thousand of these facilities in the Sydney, Blue Mountains and Illawarra regions.

ARFs are located at high points in the pipeline to allow air out of the system. Without these facilities, air would become trapped in the pipeline and restrict the flow of wastewater. In pressure sewerage systems, steel cabinets, which house automatic air valves, are built next to ARFs. These cabinets are attached to the vertical vent and are usually painted green.

As part of the Cowan Wastewater Scheme we will be installing ARFs at a number of locations in Cowan, and possibly Berowra.

The final number and location of these facilities will be determined during detailed design. Where possible, ARFs are installed among trees to minimise visual impact in the community.





Timeframes and costs

We will start construction in early 2013. Construction is expected to take approximately 12–18 months to complete. Connections will be available by mid 2014.

All eligible property owners who wish to join the scheme are responsible for the cost of connecting to the system. Costs will vary for each property owner depending on the location of the new system and the existing structures on their property.

You will get more information about connecting to the new wastewater scheme and the costs involved as the project progresses.

Keeping the community informed

Sydney Water is committed to keeping the Cowan community informed as we progress with our work. You will get updates through:

- newsletters
- advertisements in your local paper
- online forum (sydneywatertalk.com.au)
- letters
- customer meetings
- information sessions.

Review of Environmental Factors

Sydney Water has a Review of Environmental Factors (REF) for the proposed Cowan Wastewater Scheme. The purpose of the REF is to assess both positive and negative impacts of the proposed scheme on the local environment. It looks at potential environmental impacts and ways to avoid or minimise them.

A summary of the REF is below.

Overview of environmental impacts and mitigation

The REF has identified and assessed the short and long term impacts of the scheme on the environment.

In the short term, there may be minor adverse impacts associated with construction. These include impacts to

- surface water quality
- traffic and access
- noise and vibration
- visual amenity.

Benefits are expected in the long term from the introduction of a reliable wastewater network. Local water quality may improve following the decommissioning of poorly performing on-site wastewater systems in Cowan. The scheme would also improve local amenity and reduce potential risks to public health.

Potential operational impacts relate to increased energy use and visual amenity of above-ground infrastructure.

By adopting the mitigation measures outlined in the REF, we anticipate the construction and operational impacts would have only a minor effect on the local community and environment.

A Construction Environmental Management Plan will be prepared before construction starts in early 2013.

Sydney Water will continue to update the community as the project progresses.



Frequently asked questions

Why was this type of system chosen?

Sydney Water is responsible for delivering a wastewater service that best suits the needs of the local area. A pressure sewerage system was chosen as the preferred option for Cowan based on environmental, technical/operational, social and cost factors.

Do I have to pay for the new wastewater equipment on my property?

Sydney Water will install the equipment on eligible properties at no charge. Property owners who receive the new equipment must sign an agreement with Sydney Water that they will connect to the new system within 12 months of connections becoming available.

Property owners who decide to connect after this time will have to pay for the equipment and its installation.

All property owners are responsible for covering the cost of connecting their household drainage to the new system.

Who is responsible for maintaining the new system?

Sydney Water is responsible for maintaining the new system and the new wastewater equipment located on each property. No regular maintenance of this equipment is required. However, customers must comply with the conditions outlined in the Home Owner's Manual. You will receive a copy of this manual before connecting.

Will I be consulted before you start construction on my property?

Yes. We will keep you informed as the project progresses through newsletters, adverts, website updates and information sessions. We will also organise one-on-one meetings with residents who are in the serviced area and who may be affected by the location of our wastewater assets.

Is there financial assistance available to help me connect to the new system?

We do not offer financial assistance. Each property owner is responsible for covering the cost of connecting to the new system. We do encourage residents to start getting quotes from licensed plumbers for their connection as early as possible. This will allow you to manage your connection costs and connect to the new system as soon as it becomes available.

Will I have service when changing between my old system and Sydney Water's new system?

Yes. You will need to engage a licensed plumber who will co-ordinate their connection work with us so you don't lose any service.

How will construction of the scheme impact my property?

Construction impacts will vary for each property according to the location of our work and existing structures on your property. We will try to minimise any impacts and will restore all impacted areas after construction.

Will I be charged a wastewater fee?

When you connect to the new system you will be charged a quarterly wastewater service fee of \$138.77 (Fees are current as of 1 July 2012 and are subject to change). This charge will be added to your Sydney Water bill when you connect to the new system.

Are there any ongoing operational costs associated with this scheme?

Property owners will be responsible for covering the cost of electricity to run the pump installed on their property as part of this scheme. Costs will vary depending on the volume pumped from the property to the sewerage system.

Is it compulsory to connect to the new system?

Sydney Water cannot enforce properties to connect to the new service. However, we do encourage all eligible properties to connect in order to maximise the environmental and social benefits of this scheme.

Hornsby Shire Council can order you to connect once the system becomes available under their Local Orders Policy. Council will send you more information about their connection policy as we move closer to connections becoming available.





What do I have to do to connect to the system? Will it cost me money to connect?

Property owners are responsible for the cost of connecting to the new system. The property owner must engage a licensed plumber/drainer to connect their household sanitary drainage to the new collection tank. The cost of connecting can vary significantly depending on the location of existing structures and site conditions.

What do I do with my existing system once I connect?

When you have connected to the new wastewater system you must arrange to have your existing tank(s) pumped-out and de-sludged by a NSW licensed pump-out operator. Once this is done, you have the option of destroying, reusing or removing your tanks. Hornsby Shire Council is the

authority on your existing system and has guidelines to ensure your system is decommissioned safely. To know more about your options, please contact Hornsby Shire Council on (02) 9847 6666.

What happens if you damage my property during construction?

We will attempt to minimise any impacts to your property during construction. We will take photos of your property before and after construction and will restore impacted areas to as near as possible to its pre-construction condition.

Will the system cater for future development?

The new wastewater system will cater for limited identified growth in the urban village of Cowan under current council zonings.

**What is a pressure sewerage system?
How does it differ from a gravity system?**

A pressure sewerage system collects wastewater from each household in a tank installed on each property. A network of pressurised pipes is used to transfer the wastewater from each property to a pumping station and/or chemical dosing unit. The wastewater is then pumped to a WWTP where it is treated.

Gravity systems rely on gradually sloping pipelines which allow wastewater to flow from each property into the collection network. The wastewater is then transferred to a pumping station where it is pumped to a WWTP to be treated.

Can I build over the Sydney Water pipe installed on my property?

No temporary or permanent structure can be built over the discharge pipe or collection tank without Sydney Water approval. The location of these assets will be negotiated with each property owner.



To know more

- Call a member of our community relations team on **1800 659 809**
- Email pspcommunity@sydneywater.com.au
- Join the conversation and share your views at sydneywatertalk.com.au