

Ventilation shafts

Ventilation shafts allow air to enter and exit the wastewater system to ensure it works properly.

What is a ventilation shaft?

Ventilation shafts (or vent shafts) are similar to an exhaust fan for the wastewater system. Vent shafts allow air to enter and exit the wastewater system, which is important to help the system work properly. Sydney Water maintains and operates about 12,500 vent shafts in the Sydney, Blue Mountains and Illawarra regions.

New vent shafts are unpainted stainless steel (for better durability and lower maintenance). They are between nine and 18 metres tall and from 150 mm to 300 mm in diameter. Vent shafts need to be a specific height to maximise airflow and minimise the risk of odour from the wastewater network.



A typical vent shaft in a residential area.

Why are vent shafts needed?

If the wastewater system isn't ventilated properly, a bacterium found in wastewater produces hydrogen sulphide (rotten egg) gas, which fills up the air space in wastewater pipes. The gas then turns into sulphuric acid which corrodes concrete, causing pipes and maintenance holes to deteriorate and collapse. This can cause blockages, leaks and other issues on the wastewater network.

To reduce the risk of this happening, we need to make sure air can circulate in and out of the wastewater system. We do this by installing ventilation systems, including vent shafts.

The best way to put air into the wastewater system and reduce corrosion is to have a number of vent shafts along a wastewater pipe.

Where are vent shafts installed?

We need to place a vent shaft about every 400 metres along a wastewater pipeline to ensure the network is ventilated properly.

They are often placed at high points, at the beginning and end of the wastewater pipelines, and may be located next to a maintenance hole.

How will construction impact your property?

When we build the wastewater network, we normally install the pipeline first, and then return later to build above ground structures like vent shafts and maintenance holes. If the vent shaft is attached to a maintenance hole, it will normally be built at the same time.

Vent shafts normally need a space of about 2.5 x 2.5 metres as they are bolted to a concrete block that is flush with the ground. Building a vent shaft and maintenance hole together normally takes about three or four weeks, depending on weather and ground conditions.

In some cases, there may also need to be an above ground cabinet next to the vent shaft which houses an air valve.

When the vent shaft is installed and tested, we will restore the area to as close to possible to its previous condition. Normally this involves:

- levelling out the ground
- replacing any topsoil that was removed during construction
- grass seeding the area
- revisiting the site over future months to ensure the restoration is adequate.

We will document the above process with directly impacted landowners in a personalised pre-construction customer agreement.

What about compensation?

We compensate landowners when we build a vent shaft on private property. Compensation is a one-off payment of \$2,750 per vent shaft, and payable once the structure and associated pipeline is built.

If the vent shaft is located next to a maintenance hole, the landowner is compensated for both pieces of infrastructure.

Can I ask to have a vent shaft moved?

Vent shaft locations are restricted by the layout of the wastewater network and the maintenance hole they are attached to. Our construction team can discuss this with the landowner to see if an alternative location can be found prior to construction.

If you would like to relocate an existing vent shaft, you will need to engage a Water Service Coordinator (WSC) at your own cost. The WSC will advise you on the costs of moving the vent shaft before exploring the possibility with Sydney Water.

What happens after the vent shaft is built?

We take a number of steps to minimise the risk of odour from vent shafts or damage to the wastewater network. Our crews need to conduct regular maintenance and testing along the network, including vent shafts – this includes:

- inspecting and repairing vent shafts to ensure they are structurally sound and operate correctly
- dosing selected wastewater systems with activated charcoal to stop gases being formed and/or installing odour control equipment on selected vent shafts and at wastewater pumping stations
- replacing or installing new vent shafts at wastewater pumping stations and along the wastewater network.

If you have a vent shaft on your property you need to ensure we can access it. You can help protect the wastewater network by:

- keeping the area around the vent shaft clear of trees and vines, to avoid damage to the shaft
- calling Sydney Water if the vent shaft needs repair.

Contact us

Please immediately report any damage to Sydney Water on 13 20 90 (24 hours).

To know more:

- visit our website at sydneywater.com.au
- call us on 13 20 92.