



# North Head

## Water Resource Recovery Facility

Our wastewater system works behind the scenes to protect the environment and the health of our communities.

The **North Head Water Resource Recovery Facility** (previously known as the North Head Wastewater Treatment Plant) serves over one million Sydneysiders: from Seven Hills in the west, Yagoona in the south, and Ku-ring-gai and Collaroy in the north.

This newsletter provides an update on what's happening at the North Head facility, including:

- the biosolids upgrade project
- how we're using renewable energy
- other upgrades underway to keep things running reliably.

### Biosolids upgrade project

We're building two new digesters and upgrading equipment to improve how we process biosolids at North Head. This project has been in the works for a number of years. Funding was approved in late 2020 and we're now starting construction.

The biosolids upgrade project will:



#### Contribute to a circular economy

*Recovering biosolids for reuse in agriculture helps reduce waste to landfill and contribute to a circular economy.*



#### Produce better quality biosolids

*Biosolids are used in agriculture to fertilise soil. Better quality biosolids will ensure we can continue to reuse 100% of the biosolids created.*



#### Reduce odour

*Improving the quality of the biosolids will make them less smelly. This means less odour as our trucks transport biosolids from North Head to farms in regional NSW.*



#### Increase processing capacity

*Two new digesters will increase sludge processing from 40 to 70 tonnes per day by 2043.*



#### Improve reliability

*In the long run, the new digesters and upgrades to sludge tanks will ensure the ongoing reliability of the facility.*

### Staged construction

Construction will be delivered in two phases – phase one between late 2021 and 2024, with the timing of phase two dependent on funding approval for future Sydney Water projects.

The map over the page provides an overview of the construction program as well as the upgrades during phase one.



Our Water Resource Recovery Facility at North Head.

## The journey so far

### 2018 REF display

The Review of Environmental Factors (REF) was displayed for community comment.

### 2019 detailed planning

We prepared in-depth plans and costs for construction.

### 2020 securing funding

Funding for the delivery of two new digesters and upgrades to biosolids processing equipment was approved.

### 2021 finalising designs and preparing for construction

We've been working behind the scenes with Confluence Water, our new delivery partner, to finalise designs and prepare for construction to start in late 2021.

## What to expect

All construction will take place within the existing North Head facility. You won't be able to see, smell or hear our work, but you may notice more trucks transporting equipment, people and materials at different stages of construction.

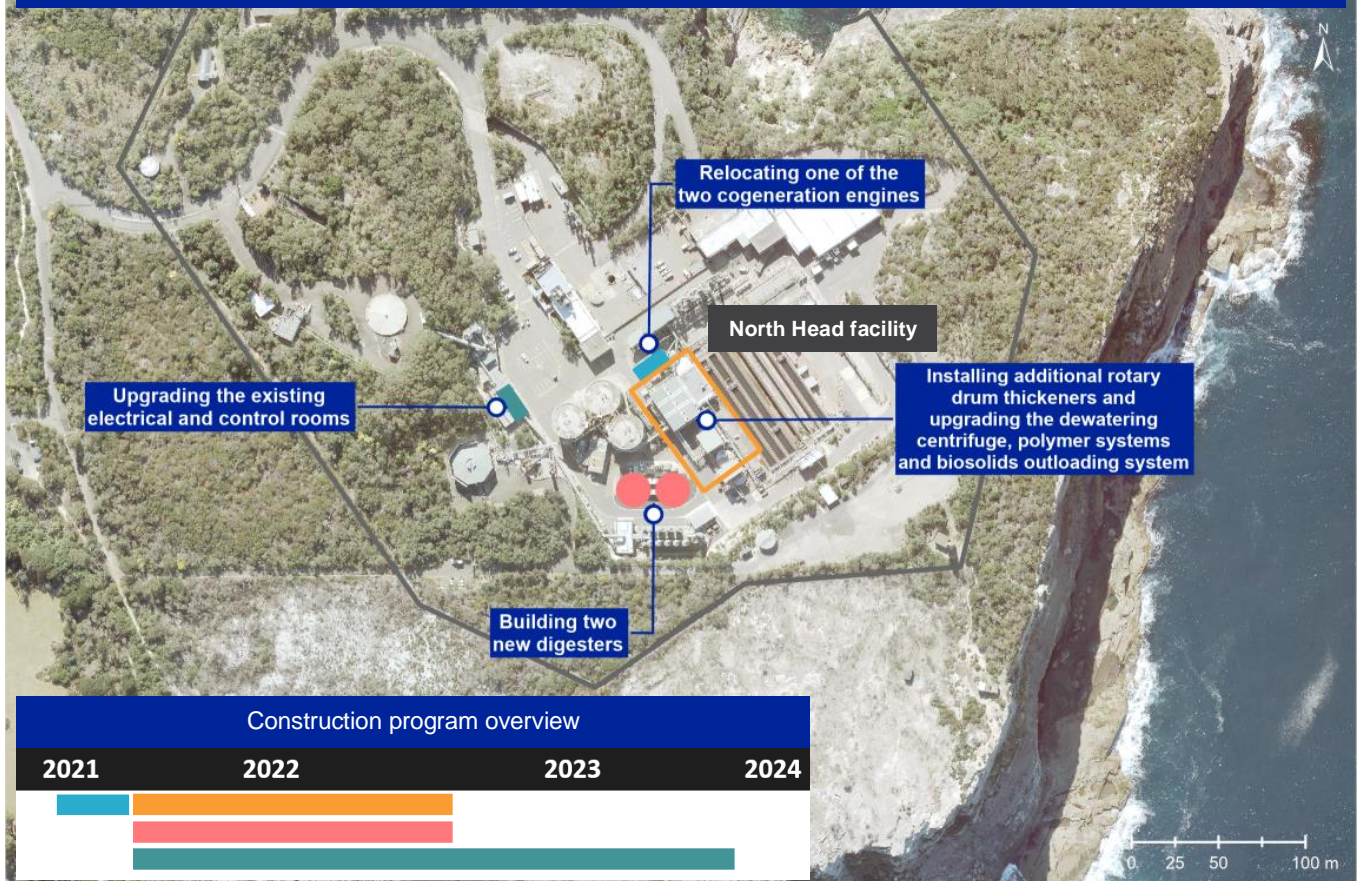
## Work hours

The North Head facility operates 24 hours a day, seven days a week. **Our construction work hours for this project are 7 am to 6 pm, Monday to Friday and 8 am to 1 pm on Saturdays. We won't do construction work on Sundays or public holidays.**

## Working safely during COVID-19

The safety of our staff and the community is our first priority. We follow strict health and safety precautions and everything we do is in line with NSW Government requirements.

### Improving processing of biosolids at the North Head facility: Phase one of the biosolids upgrade project





## What are biosolids?

We produce organic solids (sludge) as a by-product of the wastewater treatment process. This sludge is collected and processed to convert it into a safe, stable, nutrient rich fertiliser product called biosolids.

Each year, Sydney Water produces around 180,000 tonnes of biosolids from our water resource recovery facilities. That's over 9,000 full bus loads!

## Benefits of biosolids

Producing biosolids helps us reduce our environmental footprint and contribute to a circular economy by:

- minimising the discharge of solids to our oceans and rivers
- recycling a valuable resource that helps minimise disposal to landfill
- reducing the amount of chemical fertilisers used on farms
- producing biogas used to generate renewable energy to power our treatment facilities.

## Running on renewables

We've been working hard to improve our energy efficiency and prepare for a low energy future. We aim to keep our energy use, emissions and costs down. That's despite an increasing population and demands for more services.

At North Head, we produce up to 58% of the facility's total energy needs from renewable sources:

**Hydroelectricity:** We have a hydro-electric generator at the North Head facility. The treated wastewater falls down a long drop shaft on its way to the deep ocean outfall. The falling water turns a turbine connected to a generator, which creates useable power from the kinetic energy of the water.

**Cogeneration:** The two cogeneration engines meet some of the facility's energy needs. We capture biogas from the anaerobic digesters and use it to power a combustion engine that drives an electrical generator.

## Biosolids are made up of...





The cogeneration engine turns biogas into energy and heat.

## Other upgrades at North Head

There are several other upgrades underway at the North Head facility to keep things running reliably.

Some of the upgrades include:

- replacing the lighting in the tunnel that is over one kilometre in length and over 100 metres below sea level. The existing lighting has been in place for 20 years!
- upgrading various pumps, valves and generators above ground and underground across the whole facility to improve reliability, safety and performance
- improving the resilience of the emergency power supply the facility.
- replacing cabling that descends 160 metres below the surface, using a specially designed winch system.

## To find out more

### North Head biosolids upgrade project

To find out more about the project, you can contact us on **1800 943 119** or email [confluence@sydneywater.com.au](mailto:confluence@sydneywater.com.au).

### North Head operations

For general enquiries related to the North Head facility, you can contact the North Head Hub on **9934 4423** or email [northheadhub@sydneywater.com.au](mailto:northheadhub@sydneywater.com.au).

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如果您需要傳譯員的協助，請致電以上的號碼。

Αν χρειάζεστε διερμηνέα, τηλεφωνήστε στον παραπάνω αριθμό.

Se vi serve un interprete, telefonate al numero indicato sopra.

통역사가 필요하시면 위의 번호로 전화하십시오.

Nếu quý vị cần thông dịch viên, hãy gọi đến số trên đây.