

# Malabar Wastewater Treatment Plant

**Malabar Wastewater Treatment Plant is the largest of Sydney Water's 16 wastewater treatment and 12 water recycling plants serving greater Sydney, the Blue Mountains and the Illawarra.**

The plant serves an area of 627 km<sup>2</sup>, from the Tasman Sea to Glenfield and treats an average of 498 ML a day in dry weather.

## Primary treatment

### Screening

Wastewater passes through rotating bar rake screens and then step screens to remove solid items such as paper, cotton tips and plastic.



### Grit removal

Grit is removed using an aerated grit chamber, which causes the grit to spiral to the bottom of the tank from where it is removed.

### Sedimentation tanks

The wastewater flows to the sedimentation tanks where the solids settle to the bottom. The solids are transferred to the solids handling process. Oil and grease float to the top of the tank and are removed by scrapers.

*Sunlight, salt water and wave action work together to break down and disinfect the treated wastewater.*

# Ocean outfall

The primary treated wastewater is discharged to the deep ocean outfall.

The wastewater from Malabar enters a large tunnel, which carries the wastewater under the sea bed about 3.6 kilometres out to sea, where the ocean is about 80 metres deep.

The wastewater is released into the ocean through 200 diffusers. The diffusers are spread over 800 metres at the end of the tunnel.

# Monitoring and testing

We do monitoring and toxicity testing on the marine environment to check for any impact. Both the Environmental protection Authority (EPA) and Sydney Water continue to study the marine environment around the deep ocean outfalls.

# Solids handling

## Anaerobic digesters

Solids from the sedimentation tanks are fed anaerobic digesters that stabilise them and prevent odours.



We're turning waste methane gas (biogas) into electricity to help power our wastewater treatment plants. The biogas is captured and converted into electricity through combustion technology.

We have cogeneration units at Malabar, Bondi, Warriewood, North Head and Cronulla wastewater treatment plants and at Glenfield, Liverpool and Wollongong water recycling plants.

## Centrifuge

The solids are then fed into high speed centrifuges to remove excess moisture.

## Beneficial re-use

The treated biosolids are now ready for re-use in agriculture, forestry, land rehabilitation and landscaping.