

Update 3 - July 2019

# Warrnambool Sewage Treatment Plant upgrade

Community engagement, planning and design work for our largest-ever project - a \$40 million upgrade of the regionally important Warrnambool Sewage Treatment Plant - is well underway.

## The project

Wannon Water is upgrading the Warrnambool Sewage Treatment Plant (STP) to cater for projected industrial and residential growth and ensure the facility continues to protect the environment well into the future.

The project involves the construction of two new intermittent decanted extended aeration (IDEA) tanks, a new septage receival facility, a new inlet screening plant and a fine screening system on the outlet channel.

The IDEA process has been in use at the plant for more than 20 years and is a robust and proven technology, both at the site and throughout the water industry.

## The case for expansion

Unlike typical sewage treatment plants, wastewater in the Warrnambool system is predominantly fed by industrial activity.

Around 50 per cent of the current flow is sourced from major industrial users, meaning organic and nutrient loads treated by the plant are much higher than those typically derived from domestic sources.

At present, the plant is nearing capacity, which could limit the capability of industry to respond to expansion and investment opportunities. The project will expand the capacity of the plant by 50 per cent and has strong industry and community support.

## The site

The Warrnambool STP is located at the southern end of Elliott Street in South Warrnambool. The new tanks and associated infrastructure will be built at the northern end of the existing site.

The project will involve the excavation of a large amount of soil which will be used to create an earthen mound as a visual screen. Native coastal vegetation will be planted around the boundary of the site to minimise visual impacts.

We will also work to minimise any impacts to surrounding properties from increased traffic, noise and dust during construction works.

## Improved screening

Wannon Water is committed to protecting and enhancing the environment in line with community expectations.

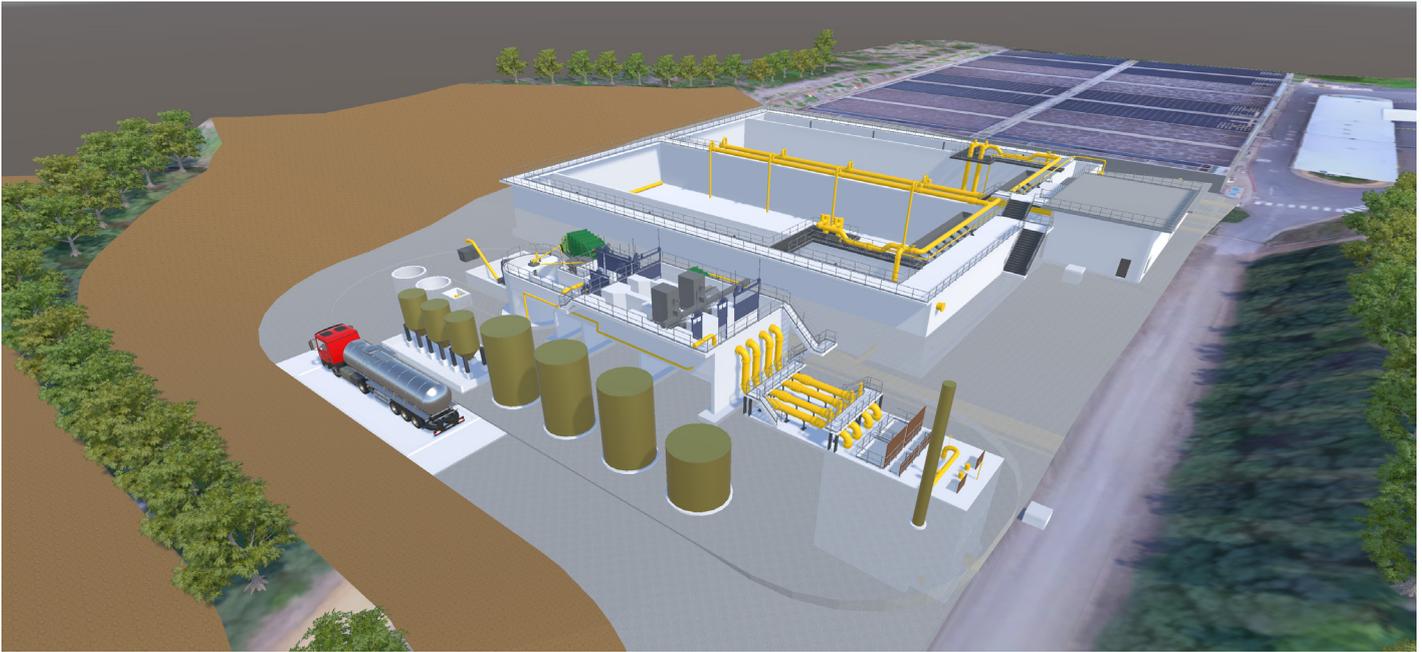
The illegal dumping of nurdles through the plant and their subsequent spill into the ocean in 2017 highlighted the global problem of plastic pollution on beaches.

At present, the sewage treatment plant has an inlet screening system that removes the majority of foreign material such as wet wipes, cotton buds, sanitary products and other objects that should never be flushed down the toilet or sink.

After the nurdle incident two additional effluent screens were installed at the outlet of the plant to further reduce the likelihood of microplastics being discharged into the ocean mixing zone. These screens need to be manually removed and cleaned at least once a day.

As part of the expansion project, Wannon Water will undertake substantial upgrades to the influent, effluent and septage screening systems at the plant.

We are investing in best practice technology that provides a safe, reliable and permanent solution to maximise screening performance and environmental protection.



*A concept design of the expanded Warrnambool Sewage Treatment Plant showing the existing tanks and building in the background, with the two new IDEA tanks, screening plant and septage receival facility in the foreground.*

## First stage 2019 - Effluent screening

Historically, the treated water being discharged to the ocean mixing zone did not undergo any additional screening.

As mentioned, two screens were installed on the effluent outfall channel to prevent any remnant nurdles from entering the ocean and improve environmental protection.

By the end of the year, a new one-millimetre mechanical screen will be installed into the effluent channel. The unit is expected to have an excellent capture rate for particles greater than two millimetres in size and a very good capture rate for particles between one and two millimetres in size (some particles may be forced through the apertures at high velocity).

The two existing effluent screens will be retained as back-ups in the outlet channel after the new band screening process, but will be adjusted so they can be removed and cleaned when necessary while improving operator safety.

## Second stage 2021 - Influent screening

At present, raw sewage pumped to the plant via the sewerage network passes through a step screen.

As part of the screening upgrade, a new band screen will be installed, which is designed to capture significantly more solid material than the current screen

## Second stage 2021 - Septage screening

Waste cleaned from septic tanks is also processed at the sewage treatment plant. Authorised contractors are permitted to transport waste to the plant and dispose of it via a septage acceptance point.

Prior to the nurdle incident, septage originally passed through a six-millimetre screen and then into the tanks for treatment. This process was subsequently improved so the septage is now double screened - passing through the six-millimetre screen and then through the three-millimetre influent step screen.

In future, we will continue this double screening process, but the septage will pass through the new band screen to improve capture rates.

## Timeline

Mid 2019 - Tenders called for mechanical screen.

Late 2019 - Installation of effluent screen; earthworks.

2020/2021 - Construction and commissioning.

## Support

The upgrade project has formal recognition and support from:

- Regional Development Australia Barwon South West
- Great South Coast Food and Fibre Council
- Warrnambool City Council
- Moyne Shire Council
- Saputo Dairy Australia (Warrnambool Cheese and Butter)
- The Midfield Group.

## Further information

Keep up to date by following Wannon Water on Facebook or head to the project page on our website <http://www.wannonwater.com.au/whats-happening/projects/warrnambool-sewage-treatment-plant-upgrade.aspx>