

Drought Response Desalination Plant



Council has been developing a project to implement drought response infrastructure in the form of a desalination plant on the Coast for many years. This desalination plant would only be constructed and operate when dam levels fall to critical levels and while this is unlikely, we need to seek planning approval now so we are ready to build it if we need to.

A Development Application (DA) for a desalination project has been active since 2007, however the best option for effectively collecting seawater with minimal impact on the community has changed. To include this, we need to seek a modified DA consent, and are consulting with the community as part of that process.

What's currently approved

The current DA consent is for a desalination plant at Toukley, delivering up to 30 Megalitres of drinking water per day. The project also includes a subsurface intake structure on Budgewoi Beach, a raw water pumping station next to the northern most carpark on Budgewoi Beach and a raw water rising main constructed next to Budgewoi Rd (Central Coast Hwy). The waste product (brine) would be discharged via the existing Norah Head Effluent Ocean Outfall.

However, a detailed assessment of this proposed model revealed a number of potential risks and associated construction challenges. As a result, this model and subsurface intake structure is no longer favoured.



Image: Desalination Plant Location

The preferred model

Instead, the preferred model, would utilise a conventional direct ocean intake located approximately 1000m off the coast, between Jenny Dixon Beach, Noraville and Pelican Point Beach, Magenta. This involves seawater entering the ocean intake structure, then travelling along the intake tunnel to the intake well located at the desalination plant. This seawater then goes through various treatment processes including filtration and reverse osmosis before it is treated to meet Australian Drinking Water Guidelines. This drinking water then travels through pipelines to enter the Central Coast supply network. The waste is pumped to Toukley Sewage Treatment Plant before transfer to Norah Head Ocean Outfall where it would be returned, along with wastewater effluent, to the ocean.

