

## Update – Scotland Island water and wastewater commercial feasibility

Northern Beaches Council has received funding from the State Government’s Stronger Communities Fund to assess the commercial feasibility of providing water and wastewater services to Scotland Island.

The project has three stages: a high level review of environmental factors, an options study, and a commercial feasibility study.

### High level review of environmental factors

This report is based on existing available information from environmental studies such as the Scotland Island Wastewater Impact Study (1997) by Martens and Associates, and recent Beachwatch monitoring data. The report identifies the environmental risks and legislation that should be considered in both the feasibility study and in any future proposal to build a scheme on the island.

### Options study

The options study has assessed an extensive range of possible schemes that could be built on the island to address the provision of both water and wastewater services. These options ranged from doing nothing to upgrading existing rainwater and on-site sewer systems, through to Sydney Water connections and even potable reuse (using recycled water for drinking).

An expert team, including representation from Council, assessed the options according to five criteria that were equally weighted. The criteria were:

1. Environmental impact – construction and operational impacts and the sustainability of the system in terms of water, energy and material use and their life cycle
2. Community acceptance – equity to other residents in Sydney, cost to the community, land use impact
3. Stakeholder acceptance – management complexity, regulatory and compliance requirements, legal risk
4. Technical risk – design, construction, likelihood of failure, operations
5. Work health and safety – construction risk, operational risk, public health, fire-fighting.

The options were assessed on merit, with the aim of finding options that were preferred for their ability to meet the above objectives.

Two water options, two wastewater options (including two methods of delivery) were shortlisted and these will be costed then taken forward to be assessed for commercial feasibility.

The preferred options after this assessment were:

#### *Water*

1. A small bore supply connected to the Sydney Water network and providing potable (drinking) water would have two connections to each customer. One connection would go to a low-flow drinking water tap in the kitchen. The second connection would provide an automatic top-up to the rainwater tank to ensure a base water supply is available in dry times, however the tank would largely be reserved for rain.
2. A direct connection to the Sydney Water network. Rainwater tanks could still be used, but would not be essential.

#### *Wastewater transport*

1. A pressure system – where every house has a small fibreglass tank mostly below ground about 2m high by 0.8m wide that contains a grinder pump. When the wastewater reaches the trigger level in the tank, the pump switches on and grinds the wastewater before pushing it out to the piped network.
2. A hybrid system that makes use of gravity where possible, but relies on a pressure system to move the wastewater to its final destination. Houses would have different systems depending on their location on the island.

#### *Wastewater collection and treatment*

1. Wastewater collected to a treatment plant on the island, with the treated water discharged to Pittwater.
2. Wastewater collected via a pipeline from Carols Wharf under Pittwater to Church Point, where the wastewater is transported via the Sydney Water system to Warriewood Wastewater Treatment Plant.

Pumping stations may be required on the island for a number of these options.

The community working group has reviewed the options and agreed there was reasonable cause for rejecting those options that didn't make the shortlist. They agreed that the shortlisted options should be taken forward to the commercial feasibility assessment.

#### **Commercial feasibility assessment**

This final stage will be underway shortly. The commercial feasibility assessment will look at the economics of building and operating the preferred systems. This will include a risk assessment of all the areas that have a bearing on whether the scheme can be built and operated effectively, such as construction and technical risks, environmental risks and stakeholder and community acceptance.

The study aims to recommend a water system and wastewater system that are suitable for the island and are the best options to take forward commercially.

The final report will be submitted to Northern Beaches Council for their consideration prior to forwarding to the State Government.

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