

Sewer Waste Process

The sewer waste received on the site largely originates from Sydney Water and generally consists of non-putrescible solids suspended in water.

Due to the limited nature of the waste to be received, the process required is a simple screening of the suspended solids through a multi-level screen which separates solids and liquids. The Plan titled **BRSL-003R1** to be read in conjunction with the description presented below.

The process works in the following way.

Plant i.d. number 1000:

In this part of the process the vacuum truck reverses into position suitable so that the connection point on the rear of vacuum truck and a flexible hose is able to be connected. The operator once connection point is confirmed opens his valve and the valve on plant automatically will open accepting liquid and solid waste into 4" hose. The liquid and solid wastes are split into three parts:

1. Solid waste which is waste greater than 8mm - this waste is conveyed up an auger and washed through its travel up auger and dropped into a bin as labelled coarse. This coarse material is all landfill material and typically consists of rags, rocks, sticks and other similar waste materials.
2. Solid fine sands and silts less than 8mm in size and typically sands, fine gravels and silts - this material travels through the first screen and typically floats with the water due to the resonance time in suspension and heavier than water, the material drops out of suspension and into cross augers which feed into bin labelled fine sands silts bin. The material from this position is tested in accordance with EPA's procedures. If the material is suitable for recovery it is reused after testing occurs alternatively sent to an appropriately approved and licensed landfill.
3. Liquid waste is then transferred from plant i.d. 1000 to plant i.d. 1001. These liquids are already processed having all solids removed and sent to storage.

Plant i.d. number 1001:

In this part of the process the material has been sent from plant i.d. 1000 - this is post treatment - the liquid material in this area i.d.1001 are storage tanks. These storage tanks hold the liquid waste for testing prior to being released to sewer.

Each tank is on a measuring device called loadcells. These measuring devices give level of each of the tanks.

Once testing has occurred and material is suitable for release to sewer then a valve is opened at the bottom of each tank and liquid flows through a flow meter to the Sydney Water discharge system through to Glenfield STP.

The discharge process is licensed through Sydney water with a consent to discharge through conditional consent number 50996.

As there is air displaced and replaced with the filling and discharge, a carbon filter system is used for the filtering and cleaning of air during filling and emptying of the tanks.

Plant i.d. number 1002:

In this part of the process once vac truck has completed discharging all of the waste material, to clean any residual sand and soils out of rear of vac truck the hose is disconnected and rear door of vac truck is opened. A freshwater hose is used to clean any remaining residue out of rear of vac truck. The vac truck once cleaned out is suitable for re-use. All residues are collected and conveyed via augers and pumps into trommel screen.

The liquid and solid waste are split into three parts as described below.

1. Solids waste is waste greater than 4mm - this waste is conveyed along the trommel internally which is semi immersed in water and product is cleaned as it is conveyed. Once at the end of the trommel the solids are dropped into a bin as labelled coarse greater than 4mm. This coarse material is all landfill material and typically consists of rags, rocks, sticks and similar waste materials

2. Solids fine sands and silts less than 4mm in size and typically sands, fine gravels and silts - this material travels through the trommel and drops through the holes. This material is agitated and an anti-clockwise auger on outside of trommel is used to convey materials back to buckets which grab the fine material and pick it up and drop onto screen labelled es601 screen. This screen de-waters any remaining residue and vibrates solids fine into a bin labelled fine sands / silt. The material from this position is tested in accordance with EPA's procedures. If the material is suitable for recovery it is reused after testing occurs alternatively it is sent to an appropriately approved and licensed landfill.

3. Liquids waste is then gravity fed from trommel back to plant i.d. 1000 and then to plant i.d. 1001. These liquids are already processed having all solids removed and sent to storage.