

Western Bay outlook

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Western Bay Outlook

Wastewater trial a New Zealand first

COUNCIL is working with environmental and engineering consultants, URS Woodward-Clyde (NZ) New Zealand Ltd, on a new sub-surface, drip wastewater treatment and disposal trial at Waihi Beach.

Glenn Snelgrove, Council's Chief Executive Officer, says the basis for the three-year trial is to give Council options in relation to complying with resource consent conditions by developing an environmentally-friendly, cost-effective and culturally-acceptable wastewater treatment solution. "Carrying out the type and scale of investigation required under our resource consent conditions is an expensive process, and we are delighted to have formed a partnership with URS as it allows us to share costs, skills, knowledge and experience," Glenn says. "This is a significant breakthrough in effluent disposal."

Peter Gearing, URS project manager, says the trial involves pumping the effluent from the pre-treatment chamber of an existing treatment plant, via a pipeline into a network of small-diameter tubes buried in the ground. The partially-treated effluent, which trickles out of these tubes into the soil, is being used to irrigate a commercial crop of eucalyptus trees at the trial site.

While Subsurface Drip Irrigation (SDI) may sound simple, if it can be proven to be

sustainable over the long-term, it could have significant environmental and economic benefits, Peter points out. "It could, for example, remove the need for expensive treatment options and, because disposal is below ground, it should also prove to be a lot safer for both the public and the environment. In addition to reducing the possibility of human contact with the effluent, SDI avoids cross-contamination of rain run-off, thereby reducing the risk to water courses."

The eucalyptus trial is being watched with considerable interest, since it may help to assess the viability of using SDI for horticulture, farm crops, pasture or recreational areas such as golf courses.

Systems using a similar underground water-injection process have been employed successfully in the United States for the past 10 years.

Although the Waihi Beach trial is not a world first, it is significant in how it combines various technologies together with intensive monitoring while using only partially-treated waste. The trial is a major investment for URS, says Peter, and they are confident the knowledge gained will enable them to refine the technology for local conditions to a point where it can offer practical solutions to other communities

similar to Waihi Beach.

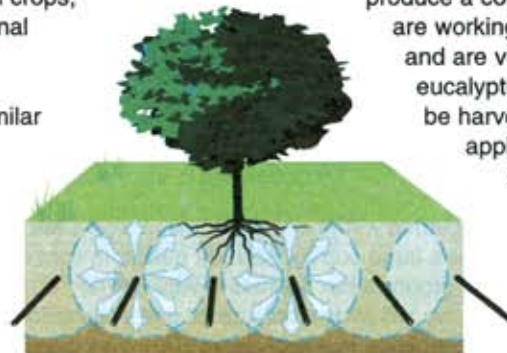
"The SDI system incorporates patented sophisticated monitoring technology that can be controlled remotely, which in the case of Waihi Beach will be from our Auckland offices. We will be able to tailor application rates to any environment, whether it be affected by heavy rainfall or drought.

"The technology also allows for herbicide-impregnated drip emitters to prevent root intrusion and bactericide-lined tubes to reduce bio-fouling.

"Our hope is that we will not only be able to meet rigid environment goals, but also produce a commercial return. We are working with Forest Research, and are very confident the eucalyptus crop will be able to be harvested for commercial applications."

Glenn says that whether SDI technology will be used elsewhere in the district will largely depend on the results of the trial.

"Three questions that communities invariably ask when new technology such as SDI is put forward are, Where has it been proven? How can we be sure of its long-term effectiveness? And, what is it going to cost?" he said. "The Waihi Beach trial is designed to answer the first two questions and provide us with sufficient information to calculate for the community an answer to the third question."



Schematic Subsurface Drip Irrigation Layout
(URS Woodward-Clyde)