

Three poop

Nobody wants to think about it, but every community has to deal with it. We're talking about sewage here – and as Rob Maetzig backgrounds, New Plymouth has been rather efficient in that regard.



It's 1984, and New Plymouth Mayor David Lean officially opens the city's state-of-the-art Carrusel sewage treatment plant. It remains a leading-edge facility.

TWELVE metres under central New Plymouth there are two huge chambers. Combined, they are close to 3000 long and extend on an angle from close to the foreshore to Malesworth St. They are 4m in diameter, easily large enough to accommodate a small army of fully grown men ... not that anyone would have ever wanted to be in there.

That's because, for more than half a century, these chambers handled that most distasteful of byproducts of any community: sewage.

The chambers are closed off now, access barred by retaining walls built as part of the city's coastal walkway.

But they're there, all right, a hidden reminder that for almost its entire history, New Plymouth has been impressively forward-thinking in providing the right facilities for disposal of its waste.

It wasn't at the start, though. For the first 65 years of its existence, New Plymouth had no public sewerage system. Instead, every property at first had its own long-drop toilet, then progressed to earth closets that were regularly visited by workers with the so-called night carts that took the waste away. Unfortunately, the workers

didn't take the waste very far. They dumped it into the Huatoki and Mangaotaki streams. And this, accordingly to popular history of New Plymouth, resulted in a number of epidemics of the often-fatal diseases typhoid and cholera.

One only has to wander through cemetery areas at Te Hemi and in the St Mary's churchyard to spot scabring references to many young

children and sometimes entire families killed by these diseases. Something had to be done. Initially, the health authorities responded by dedicating an unpopulated area near the Waitahakaho River (now Peringa Park) as the official disposal site for what was known as night soil.

But at the start of the 20th century, the New Plymouth Borough Council installed the

community's first public waterborne sewerage scheme. This consisted of about 16km of sewers in the central part of town that drained to a communal septic tank near where the rest rooms on James Lane are. From there, the partly treated effluent discharged into the Huatoki Stream.

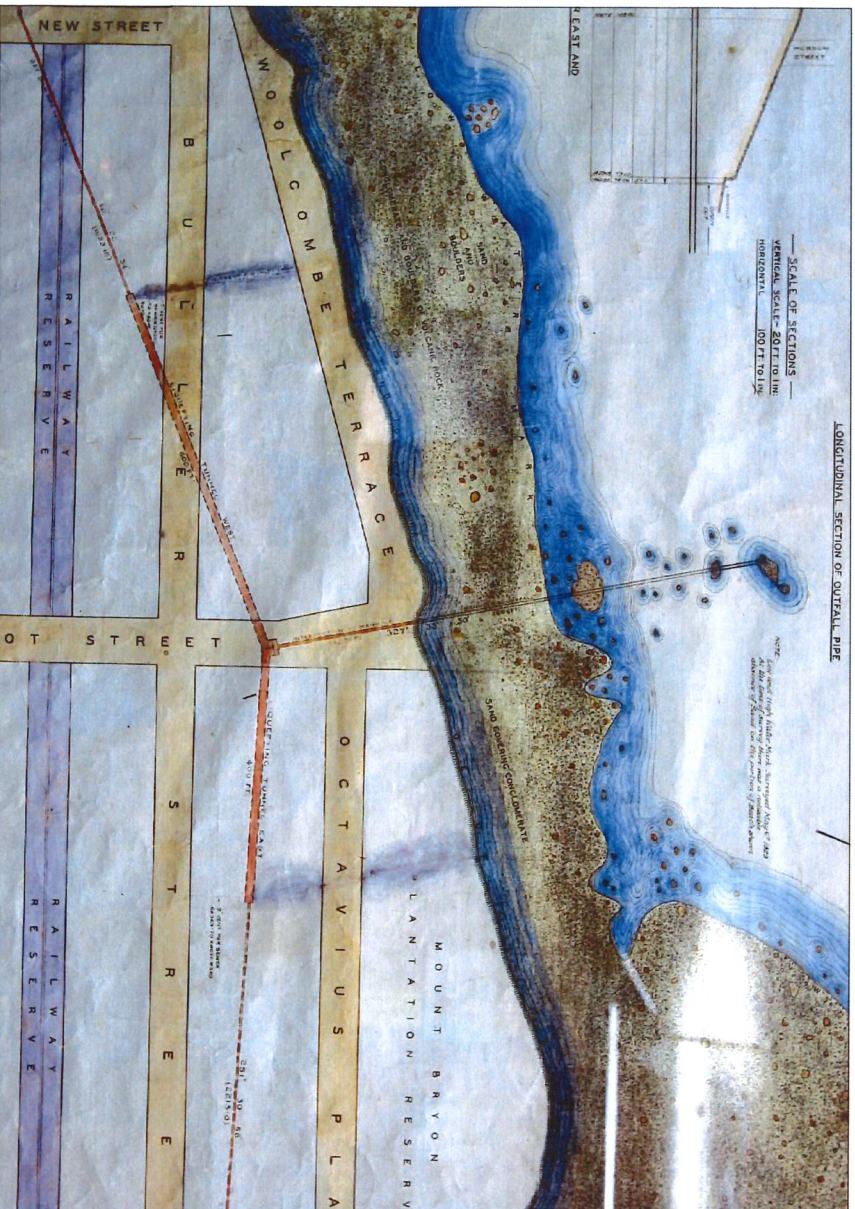
Although this worked well enough and was at times extended, New Plymouth continued to grow, and in 1927, the borough engineer Mr C. Clarke created a comprehensive and far-sighted sewerage scheme. The scheme consisted of the two chambers in central New Plymouth, which were known as liquifying chambers and were essentially huge septic tanks, and they were connected to two main sewers that headed east and west. A series of trunk mains then connected to these sewers.

Mr Clarke's system was created at a time when New Plymouth's population was just 16,000, but he designed it to cater for a city the size of 60,000. That meant the scheme, which was completed in 1933 at a cost of \$317,000, was big enough to function successfully for 52 years.

The only real change that took place over the years was that the main sewers and some of the



This historic photograph, taken in the early 1930s, shows the sheer size of the liquifying chambers built under New Plymouth.



This is the original plan for the sewerage scheme that served New Plymouth for more than 50 years. It shows the liquifying chambers connecting to a ocean outfall off Eliot St.

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trunk mains were duplicated and extended. Even then, the work was done with the future in mind.

This was particularly the case with the duplication of the main sewer west, which also saw it extended to Whaler's Gate so that communities such as Okara could also eventually be included in New Plymouth's sewerage network.

There was one major failing with New Plymouth's sewerage system of the time, however: it poured raw sewage out to sea.

Those two liquifying chambers stored and broke down all the solid wastes while allowing the liquid to flow out to sea via an ocean outfall off Eliot St.

Every now and again, the solids would need to be let go, too, but only when there was an offshore wind and an outgoing tide. But more than once the operators got it wrong and had to watch as a change of wind blew all the solids back to shore again, spreading it all along New Plymouth's beaches.

This issue came to a head in the late 1970s when New Plymouth residents formed what was known as the Clean Sea Action Group and began demanding introduction of full land-based treatment for the city's sewage. It became the biggest local body election issue in 1980, and new Mayor David Lean was swept into power on the strength of his support for the full treatment.

But then the council had to

decide to actually go ahead with the project.

The plan was to use a new (to New Zealand) process called the extended aeration activated sludge process. Argument flew back and forth in the council's debating chamber, and in the end the decision to go the land-based way succeeded by a single vote, after one councillor changed his mind at the last minute.

New Plymouth's new Carrusel treatment plant, built in the Waitahakaho Valley, was commissioned in 1984 at a total cost of \$18.2 million, and it was so leading-edge that its construction immediately triggered a New Zealand-wide re-examination of the appropriateness of discharging raw sewage out to sea.

The New Plymouth Waste Water Treatment Plant discharges (out to sea via an ocean outfall) water that's actually cleaner than the nearby Waitahakaho River, and all the solid waste is converted to fertiliser that is sold throughout New Zealand.

Called Taranaki Biobest 630 (because it contains 6% nitrogen, 3% phosphorus and 0.5% potassium), it's proving a big hit and the 1300 tonnes a year that is produced is easily sold.

And while today the big liquifying chambers sit empty, the main sewers east and west, built of glazed earthenware, continue to be used. They remain in such good condition that the modern-day sewer lines have

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been able to be laid in them.

The two-decade old treatment plant continues to operate efficiently as well, to the extent that New Plymouth is now poised to enter a new phase of far-sighted development: piping all the district's sewage to the single plant. Inglewood's waste already goes there, thanks to the use of the former Moa-Nui effluent pipeline, which carries it to Mamuhahi Rd, where it connects via a newer line to the existing sewer that takes Bell Block's waste to the treatment plant.

And the New Plymouth District Council has now begun a \$40 million project that, over the next couple of years, will see sewage from Okara, Waitara, Omareo and Urenui go there as well.

Council general manager of community assets Anthony Wilson says the treatment plant is undergoing some upgrading work to handle all the extra flow, which will increase by around 5.3 million litres a day.

"This will complete the vision that many people have had for many years. The only communities that won't be included will be Okato, Lepperton and Egmont Village. "The good news is that, unlike many other communities and districts, New Plymouth has the facilities to be able to achieve this. That's important, because one thing is for sure, and that is that 24 hours a day, without fail, the sewage just keeps on coming."