

PROJECT UPDATE Te Whare Wai Para Nuku Moa Point Sludge Minimisation Facility

AUGUST 2025



News and Progress Onsite

It has been a busy month for the project team in Moa Point as they reach a major milestone, the concrete pours on all four floors of the Main Process Building have been completed.

Main Process Building

Concrete 'nibs' have also been added around the edges and crews are now installing the secondary steel work that will support the facade of the building.

The secondary steelwork is supported off the floors and independent of the primary steelwork. This is key to the seismic resilience of the building, allowing the facade to move independently in the event of a major earthquake.

Switch Rooms

Work is also underway fitting out the two switch-rooms in the south-eastern corner on levels three and four of the building.

These are critical hubs for the electrical pathways that connect equipment across the facility. Having two switch-rooms provides operational flexibility and resilience allowing one room to be offline for maintenance or repairs while the other keeps the plant running.

Several large, purpose built, industrial switchboards will be installed in each of the rooms. Fabricated and tested in Auckland, these switchboards are up to four metres in length and weigh more than two tonnes. They will arrive for

installation in mid-September. The south-eastern corner of the building will be the first to have the roof and external facade installed to provide a weatherproof environment for this vital equipment,

New Tank Staircase

At the digester tanks site, 'tidy' concrete slabs are being poured around the pump support plinths allowing for easy hosing and cleaning.

The staircase is underway between the tanks and soon the walkways around the tanks will be erected. By the end of September, the digester area will be available for the mechanical installation teams to commence work in this area.

Pipework

Work continues up at the treatment plant installing pipework to connect the new pumps to the existing sludge tanks and will carry the sludges down to Te Whare Wai Para Nuku.

Ground Floor

Meanwhile, on the ground floor, painters are applying a hi-spec coating to the concrete floor to help to protect it from damage. These coatings are being applied under tents to keep the floor dry through the variable winter conditions. Once the floors are complete, they'll be ready for the thermal hydrolysis unit and sludge cooler to be installed. These units are set to arrive from the UK during September and October and will be moved straight into the building so the mechanical teams can start installation immediately.

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New access staircase being built between the digesters

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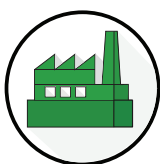
Odour Treatment Building

At the odour treatment plant, crews are installing insulation in the fan buildings for noise control. One of the two large fans being installed that will suck untreated air from across the facility into the odour treatment plant, are shown below.



New Pipework

Work is also underway on installing the one metre diameter ductwork (see photo below) that will connect the bio-scrubber and carbon filters (that 'treat' the odour) to the fans, and on to the 19 m stack that will discharge the treated air.



Faster and more efficient

Biological anaerobic (oxygen-free) digestion is a critical process that Te Whare Wai Para Nuku will use (when completed) to break down and reduce the volume of sludges by up to 80%.



Above: The odour control system, pipe bridge and new ducting being installed.

Digestion happens inside the two 3,000 m³ digester tanks where 'bugs' that thrive in an oxygen-free environment 'eat' the sludges, metabolising them into much simpler, non-volatile compounds.

Many treatment plants use anaerobic digestion, which is the same process used in regular household septic tanks – but at a larger scale and a lot faster.

Household septic tanks can take many months to break down sludges whereas a regular wastewater treatment plant takes about 30-40 days.

But a month is slow, the digesters at Te Whare Wai Para Nuku, will only take around 10 days to treat sludges thanks to the thermal hydrolysis unit.

This provides the bugs with predigested warm 'hydrolysed' sludges – effectively cooking and mashing up the sludges so the bugs can eat it quickly.

This allows for an increased

flow through the digester tanks compared to 'normal', the anaerobic bugs eat through the sludges more quickly and produce smaller volumes out the other side.

The hydrolysed sludges are continually mixed and recirculated in the digester tank. This helps to produce and then capture the biogas, a by-product that is used to help power the facility's gas engines and boilers.

At this stage of the process, the digested sludge is inert that is then sent to the thermal drier for final dewatering.

The product is a Class A bio-solid, which is pathogen-free. This allows the product to be used for broad land applications such as a soil conditioner that won't rot down.

Having two tanks means processing can continue 24/7, 365 days a year. It also improves resilience as the team always has one tank operating while the other is available to support maintenance.