

Leachate to Landfill Project

Opened 7 October 2021

Leachate Pond

Overview

The leachate to landfill project has been years in the making, first initiated in 2011, and largely placed on hold until 2019. The project is important for the future of our wastewater plants, to eliminate the need to treat landfill leachate. While also aligning with our wider wastewater strategy and Waste free CHB aspirations.

How it Works?

The landfill produces on average between 7,500 and 10,000m³ of leachate per annum – historically the leachate was tankered to the Waipukurau wastewater treatment plant for treatment and discharge. This project aims to eliminate the need to tanker the leachate to the wastewater, and find an opportunity to introduce a circular process.

In 2019 a consent was obtained from HBRC to allow for the irrigation of leachate to completed areas of the landfill cap. The leachate will be irrigated through k-line irrigation pods at low rates (up to 3 mm/d on average) to avoid any overland flow and to allow most of the irrigated water to be

lost by evapotranspiration from the cap surface. Storage of leachate is provided for times when the leachate cannot be irrigated, for example overnight and during periods of wet weather. The leachate pond is lined with a HDPE geomembrane to prevent leakage of leachate. The system is designed to discharge up to 36 m³ of leachate per day in its initial stages.




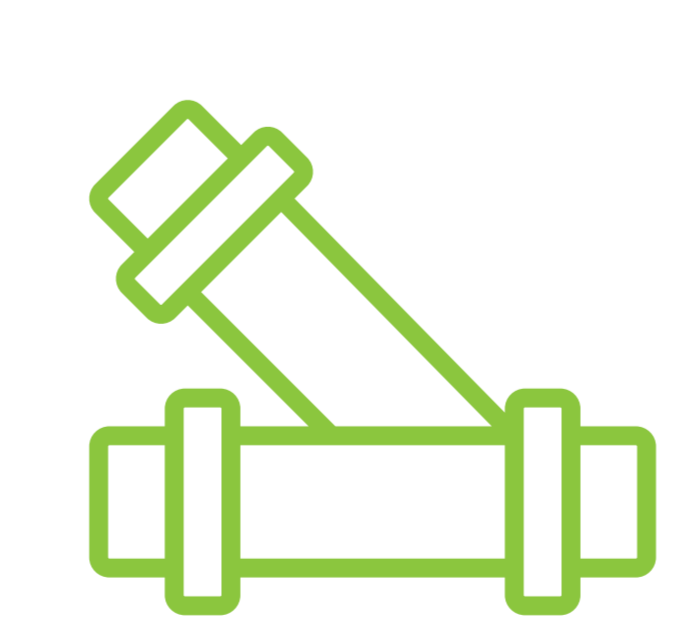
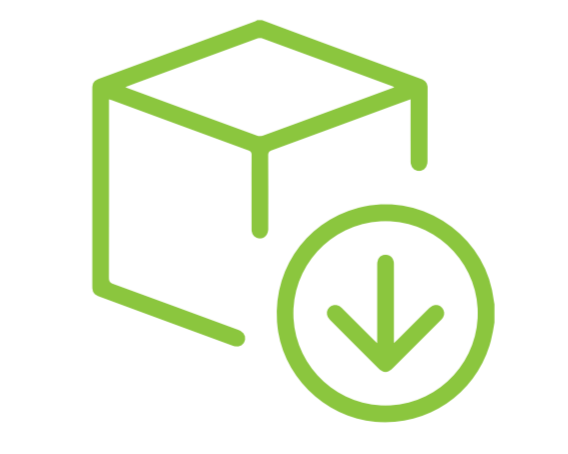


Leachate is collected from the landfill as it seeps through and joins a pipeline that transfers it by gravity to a manhole next to the leachate pond, it then flows into the leachate pond, the leachate pond then stores leachate ready to be picked up by a new pump station to be irrigated to a completed cell at the landfill.

The pond is lined with a high density polyethylene (HDPE) liner.

A subsoil drain runs underneath the pond to capture any groundwater produced to minimise the pressure that is applied to the liner, the groundwater is discharged into the farm pond downstream.



Leachate Pond

<p>140 NUCLEAR DENSOMETERS TESTS UNDERTAKEN</p> 	<p>RAINFALL PER ANNUM: APPROX. 700 - 850mm</p> 	<p>LEACHATE CREATED PER ANNUM: APPROX. 7,500 - 10,000m³</p> 	<p>236m OF PIPE INSTALLED AS SUBSOIL DRAIN</p> 	<p>13500m³ CLAY IMPORTED</p> 	<p>340 TRUCK MOVEMENTS TO EXCAVATE POND</p> 	<p>55 SITE VISITS UNDERTAKEN</p> 
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<p>3810m² OF HDPE GEOMEMBRANE LINER INSTALLED IN THE POND</p> 	<p>CONSTRUCTION STARTED SEP 2019 - PROJECT COMPLETED Oct 2021</p> 	<p>4000m³ TOTAL POND SIZE</p> 	<p>3100m³ MAXIMUM CAPACITY</p> 	<p>2100-2300m³ OPERATING CAPACITY</p> 
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#the BIG Waste Water Story

WASTE FREE CHB