StormFilter™

Fonterra Dairy Processing Plant

Stormwater360 recently worked alongside Fonterra and their engineering consultants MWH (now part of Stantec) to provide a bespoke industrial stormwater treatment solution for a dairy processing plant situated in Takaka, Golden Bay.

The existing infrastructure directed and pumped stormwater runoff to a combined onsite wastewater treatment facility before discharging to Millbrook Creek. A proposed stormwater upgrade intended to reduce the occurrence of pumping stormwater to wastewater, and provide treatment of the principal contaminant of concern; very fine particulates (10μm), total suspended solids (TSS), dissolved heavy metals (Zinc and Copper) and conductivity.

In response to this, the Stormwater360 design team developed a site-specific solution using the StormFilter™.

Stormwater360

The StormFilter™ uses rechargeable, self-cleaning, media-filled cartridges to absorb and retain the most challenging pollutants from stormwater runoff. The cartridges are fully adjustable, allowing specific contaminants to be targeted with a combination of media, flow and contact time. In this case, the StormFilter™ was custom-designed to operate at half its normal flow rate with ZPG (a proprietary blend of Zeolite, Perlite, and Granulated Activated Charcoal) cartridges, providing a longer contact time to improve dissolved metal removal.

This solution resulted in a larger-than-normal device, compared to a typical low-trafficked carpark, but the client and consultant agreed that it was the most appropriate solution given the location, unique site specifications, and environmental outcomes.

The design was further customised to make additional cost savings, including being constructed in two parts for ease of transport to a remote location and designed as a 'plug and play' system that would be instantly operational once installed. The design team also suggested an open-top system to lower maintenance costs and improve safety. The system was delivered ahead of schedule and with an ongoing maintenance program.