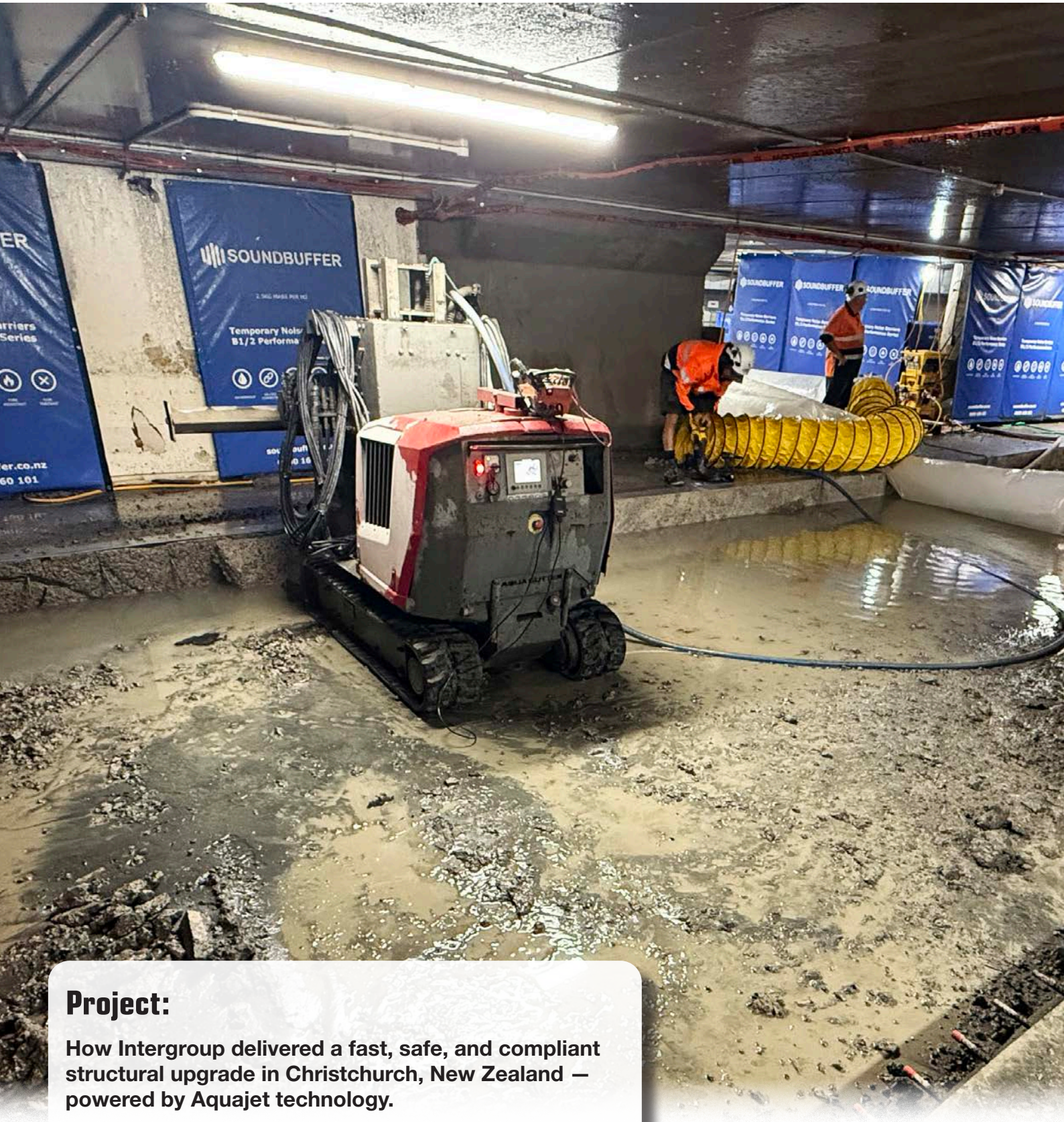
ON LOCATION

CUTTING EDGE HYDRODEMOLITION



Project:

How Intergroup delivered a fast, safe, and compliant structural upgrade in Christchurch, New Zealand — powered by Aquajet technology.

AQUAJET

INTERGROUP

PROJECT

- **Location:** Merivale Mall, Christchurch - New Zealand.
- **Scope:** Hydrodemolition and concrete slab replacement with full noise, water, and structural monitoring. Approximately 48 metres of linear cutting at a depth of 600 mm.
- **Stages:** 3 (completed ahead of schedule)
- **Outcome:** Safe, compliant, efficient concrete removal.
- **Equipment:** Aqua Cutter 710V.

HYDRODEMOLITION IN ACTION

Intergroup tackles Merivale Mall's substructure with Aquajet precision

The Merivale Mall redevelopment in Christchurch demanded precision, safety, and environmental care. Following ongoing seismic strengthening work, the mall's aging foundation slabs required partial demolition and reconstruction — all while minimizing vibration, dust, and disruption to nearby businesses.

To meet this challenge, McIntosh Commercial Construction Ltd partnered with Intergroup, New Zealand's leading provider of infrastructure and industrial services, to execute a multi-stage hydrodemolition project powered by Aquajet's Aqua Cutter 710V robotic system.

About Intergroup

InterGroup is a locally owned and operated Kiwi business with over 45 years of experience in infrastructure and industrial services. As one of New Zealand's most trusted service providers, the company delivers tailored solutions across a wide range of sectors—including liquid waste management, drainage maintenance, pipeline inspection, industrial maintenance services, and more.

For over two decades, Intergroup has led the way in adopting robotic cleaning and demolition systems, reflecting a strong commitment to innovation, efficiency, and safety. The company continues to invest in high-quality technology to enhance health and safety standards, boost productivity, and reduce operator fatigue. With a clear focus on smarter, safer, and faster delivery, Intergroup's ongoing investment in advanced technology ensures improved programme performance, efficiency, and outcomes for their customers.

Aquajet's Aqua Cutter 710V in operation — delivering vibration-free concrete removal with millimetre precision beneath Merivale Mall.

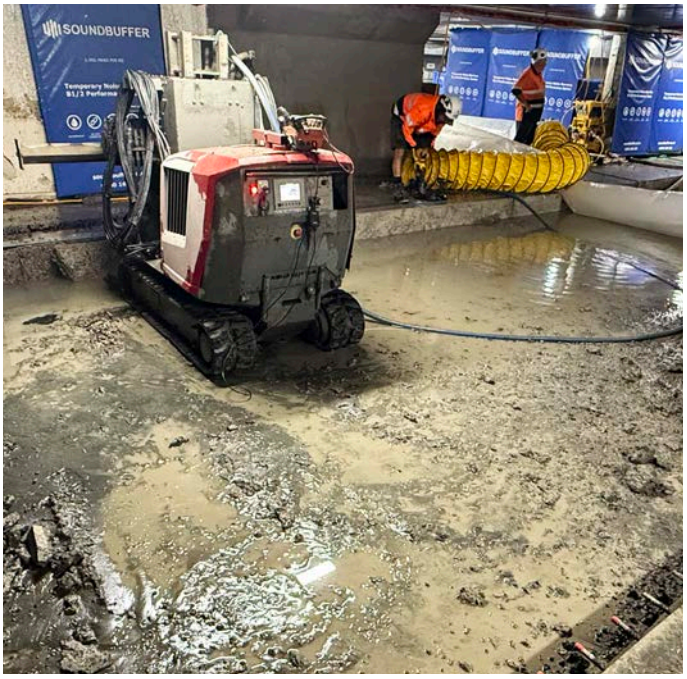
A challenging environment

Located directly beneath the busy Merivale Mall retail and business hub, this foundation demolition project presented a unique mix of technical and logistical challenges. Working beneath tenants including a nail salon, Pilates studio, and law offices, the team faced strict limits on noise (below 85 dB), vibration, and environmental impact.

Traditional demolition methods were ruled out early, as any vibration risked compromising the existing structure. Instead, Intergroup deployed Aquajet's Aqua Cutter 710V, using robotic hydrodemolition to remove up to 600 millimetres of concrete with millimetre precision — eliminating dust, vibration, and structural risk.

"The use of the Aqua Cutter reduced downtime and fatigue while improving productivity five-fold compared to manual methods. It eliminated vibration through the structure, allowing the surrounding businesses to continue operating as usual," said Isaac Thomas, Regional Manager at Intergroup.

The project also required meticulous water and discharge management to ensure clean release into stormwater drains. Intergroup identified potential discharge risks early and implemented a tailored filtration strategy that maintained full compliance with local resource consents, ensuring safe and sustainable operation throughout the project.



"McIntosh Commercial Construction commissioned Intergroup to provide hydrodemolition services on our underground project in Merivale. They came highly recommended by other trade professionals, particularly for their strong health and safety practices and their exceptional knowledge and skill in hydro demolition. Throughout the project, Intergroup's involvement proved invaluable. Their expertise extended well beyond the demolition scope — particularly in managing the complex environmental requirements associated with the works. Their innovative filtration strategy ensured compliance with environmental standards and played a crucial role in the project's overall success. Had it not been for Intergroup's proactive approach, technical capability, and commitment to best practice, the project would not have achieved the same level of efficiency or environmental performance." – John McIntosh, Managing Director at McIntosh Commercial Construction Ltd.

A three-stage hydrodemolition approach

Delivered over six months (November 2024 – May 2025), the Merivale Mall Hydrodemolition Project was completed in three distinct stages — each demonstrating the precision, adaptability, and efficiency of the Aqua Cutter 710V system.

Stage 1: Establishing the foundation
The first stage involved precision concrete removal on the widest of the three slabs — a 1-metre-wide cut extending approximately 12 metres. Using Aquajet's Aqua Cutter 710V, Intergroup safely removed 600 mm of damaged concrete to expose and preserve the existing reinforcement steel. This precision allowed McIntosh to tie new reinforcing steel directly into the old, restoring structural integrity in areas affected by the Christchurch earthquakes.

A 1 m wide, 12 m long cut removed 600 mm of damaged concrete — exposing and preserving the original reinforcement steel for a precise rebuild.

At the same time, Intergroup implemented an on-site clarifier system to recycle and treat process water. Water pumped from beneath the foundation was filtered and reused, reducing waste and ensuring full environmental compliance from the outset.

Stage 2: Adapting to changing scope
In Stage 2, the engineering scope was refined, reducing the cut to 300 mm width over a 12-metre section. Midway through this stage, Intergroup encountered filtration challenges as the existing baffling system reached capacity. The team swiftly implemented a freshwater tank system to manage excess suspended solids, keeping operations compliant and uninterrupted.

When the scope shifted to 300 mm cuts, Intergroup reconfigured its system mid-project and upgraded filtration to keep the work moving — and compliant.

Stage 3: Accelerating to completion
The final stage maintained the refined 300 mm cutting scope, extending over 24 metres — roughly equal to the combined volume of the first two stages. Despite the larger scope, Intergroup completed Stage 3 in just seven days, including full clean-up, outperforming the original 10-day estimate.

By this point, the collaboration between McIntosh, Intergroup, and other site contractors like Concut had become a model of efficiency. Optimized workflow, improved filtration, and Intergroup's refined use of the Aqua Cutter enabled the team to deliver results three days ahead of schedule.

In total, Intergroup completed approximately 48 metres of linear cutting across the three slabs, demonstrating the precision, speed, and consistency achievable with robotic hydrodemolition.

The final 24 m of cutting was completed in just seven days, three ahead of plan — proving the efficiency of robotic hydrodemolition.

Safety and control in confined conditions

Working in a compact, partially enclosed basement demanded careful safety management. Intergroup deployed ventilation and exhaust fans, continuous gas monitoring, and strict confined-space entry protocols.

The Aqua Cutter 710V's non-vibrational operation was vital in maintaining structural stability — especially as the site was bi-weekly monitored for building movement using high-precision GPS sensors.

Collaboration and compliance

A strong partnership underpinned the project's success. Intergroup managed the Aqua Cutter 710V and the baffle tank systems, Concut handled basement filtration, and McIntosh oversaw the supply of the flocking agent. This coordinated approach ensured streamlined operations, environmental compliance, and shared accountability across all parties.

Ahead of schedule, ahead of expectations

Through innovation, teamwork, and precise execution, Intergroup and McIntosh delivered a complex hydro demolition project ahead of schedule, without safety incidents, and within full environmental compliance.

"Hydrodemolition gave us the ability to work faster, safer, and with greater precision than traditional methods could achieve. The Aqua Cutter 710V has proven to be an invaluable tool for projects like this," said Isaac Thomas, Regional Manager at Intergroup.

A strong partnership underpinned the project's success. Powered by Aquajet's Aqua Cutter 710V, Intergroup continues to deliver complex projects with precision, performance, and care.

About the partners

Intergroup

InterGroup is a leading New Zealand–owned and managed company with over 45 years of experience delivering nationwide infrastructure, coatings, waste, and industrial maintenance services. A trusted partner to local councils, the energy sector, and major industries, InterGroup combines innovation and expertise across liquid and sustainable waste management, infrastructure, protective coatings, environmental maintenance, and industrial cleaning services.

www.intergroup.co.nz

Aquajet

Aquajet is the world leader in Hydrodemolition technology, designing and manufacturing robotic systems that redefine concrete removal, surface preparation, and structural rehabilitation. The Aqua Cutter 710V is one of several hydrodemolition robots engineered by Aquajet for precision, sustainability, and operator safety — enabling contractors like Intergroup to achieve exceptional results worldwide.

www.aquajet.se

Aquajet equipment

For more information about Aquajet's full range of hydrodemolition equipment, please visit our website at www.aquajet.se.

Hydrodemolition robots

Aqua Rail Systems

SCAN ME

Hydrodemolition high-pressure pumps

Wastewater treatment system

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