

## Project Details

**Project:** Waimea Dam  
**Location:** Nelson, NZ

## Project Partners

**Specifier:** DAMWATCH  
**Contractor:** Fulton Hogan  
**Subcontractor:** SCP - Specialist Concrete Products

## Products

10t Edge Lift Anchor - 10ELAWF  
10t Edge Lift Clutch - 10ELALE  
7t Edge Lift Hairpin Anchor - 7HPAWFP  
3Dx™ 7t Edge Lift Anchor - 3DX7N  
3Dx™ 7t Edge Lift Clutch - 3DX7NLC



# The Parapet Wall: Engineering Excellence

**Reid™ Edge Lifting Systems were integral to the safe, easy and efficient transportation, rigging, lifting and installation of precast parapet panels for this iconic Waimea Dam project.**

Challenging, be-spoke, precast shapes required confident and well engineered solutions for SCP - the precast concrete contractor and Lift N Shift the crane contractor.

Using Reid™ Edge Lifting Anchors ensured the unique parapet design was lifted without the need for shear bars. Manufactured under strict quality requirements using the highest quality steel and manufacturing processes.

The Reid™ SwiftLift™ system in conjunction with Reid™ Edge Lift Clutches provided confidence and safety assurance all round.

Purposed as a wave break for the dam - a series of oblong precast structures were manufactured. Composed of 64, 20 tonne parapet panels - its purpose to stop any overflow of the dam which requires the storage of up to 13 million cubic metres of water.

"They were all precast and were lifted, rotated and placed in using Reid lifting anchors and clutches. That took a lot of the engineering work and some tight scheduling to get done. It was quite a fun challenge to do. Reid have been a key part in getting this project over the line and done." - **Zach Boraman** - Fulton Hogan Site Engineer.



## Efficiency, Safety, and Reliability

Reid™ Edge Lifting Anchors were used in conjunction with mechanical anchoring in transporting the parapet wave break to site formed part of the two and a half thousand mechanical anchors that were required in transport and construction.

A construction and transport challenge for SCP meant the parapet panels needed the specialist knowledge and partnership of Reid™ engineering. Reid™ not only supplied lifting systems, the engineering team also completed lifting designs and certification for the contractors as a value added service.

As Hayden White of SCP explains - "The shape it was very new to us to build as we've never done something like that before and like I said the weight is quite distributed in different areas of this shape so lifting it was very hard. With the Waimea Dam, our relationship with Reid is extremely important. We've

**Especially with the Waimea Dam, our relationship with Reid is extremely important.**

**Hayden White**  
SCP Contracts and Finance Manager

worked with them as long as I've ever been here to supply our lifters, but they also supply good knowledge of where they need to be, what products we need to use, and when it comes to the dam we really relied on them."

## Extensive Testing

The Reid™ Edge Lift Hairpin Anchor products used on the dam are the most comprehensive, researched and tested anchor and lifting components of any supplier in New Zealand. Forged for added strength. The anchors are designed to provide secure lifting in both shear and tension applications, even in thin concrete panels (minimum panel thickness is 100mm). All of Reid™ lifting anchors are hot dipped galvanised for corrosion protection, beneficial in thin panels where concrete cover is minimal.

## Contractor Safety Assurance

"Reid have a system that's engineered from start to finish, so if we use their product, we're covered. If we use their product, we know it's engineered start to finish from putting it in the concrete to adding the clutch to lifting onto site. We know that they've covered all bases. In terms of safety, we issue our shop drawings to Reid™ and they come back to us with a lifting plan, not only of where the lifters are and which lifters to use, but when we can de-mould the product." - **Hayden White** - SCP Contracts and Finance Manager

## Products Used

### IOELAWF - 10 tonne Edge Lift Anchor

Reid™ Edge Lift Anchor with feet range - available in 3 work load limits of 2.5tonne 2ELAWF, 7 tonne 7ELAWF and 10 tonne 10ELAWF. A forged steel anchor for use with Reid™ Edge Lift Clutch (ELALE).

Designed for thin panels, Reid™ range of ELAWF Edge Lifting anchors are manufactured from forged, high strength steel for added strength and manufacturing accuracy, contain integrated shear feet, a slot for a perimeter bar and hot dipped galvanised to AS/NZS 4680 for corrosion resistance.

Reid™ Edge Lift Anchor with feet range are industry leading with compliance of WLL (working load limit), manufacturer's identifier, and a unique numbering system clearly marked. Designed to a minimum safety factor of 3.0. Reid's commitment to continuous improvement sees them consistently testing their products in concrete. this data allows for guidance to be continuously updated for the benefit of the industry. refer to [www.reids.co.nz](http://www.reids.co.nz) for most up to date information. Meeting high and consistent standards, ensuring they are fit for purpose.

### 3DX7N - 3DX™ 7 tonne Edge Lift Anchor

**Now available as our new product Reid™ 3DX™ 7t Edge Lift Anchor - with forged I Beam design removes the need for shear bars and increases bearing area vs 7HPAWFP.**

Features of the new Reid™ 3DX™ Edge Lift Anchor (Part No. 3DX7N) include: Forged, hot dip galvanised and then Epoxy coated to mitigate galvanic reactions in precast panel production. Yellow colour allowing for easy visual QA checks. Backwards compatible to 7ELARRF voids and 7ELALE clutches.

The patented I Beam and toothed design allow the anchor to be more compact than the 7HPAWFP. The 3DX7N is specifically designed for use in low and early strength concrete, allow the precast the shortest possible cycle times.

Tested to New Zealand conditions, using NZ materials. NZ GPG compliant.

Industry leading with compliance of (working load limit) WLL, manufacturer's identifier, and a unique numbering system clearly marked. Minimum FOS for general lifting is 3.0, for repetitive lifting is 5.0. Design of the lifting anchor includes the ductile behaviour and robustness of the anchor. Made in accordance with valid international standard or technical reference.



I think with the association with Reid, of course, it's our partner's and supplier's product that we cast and it's very important that we have a close relationship then too, because it's a moving target. Every panel is different in some structural engineering way and even cosmetic because obviously with precast it's not just a structural element.

**Brett Steyer**  
SCP Precast Manager



10ELAWF



3DX7N

7HPAWFP

The Reid™ 3DX™ Edge Lift Anchor (Part No. 3DX7N) used in conjunction with SwiftLift™ clutches such as the 3DX7NLC are designed so that they cannot spontaneously disengage whilst the system is under load at any orientation, provided they are correctly engaged with the correct lifting system.

When the lift is complete and the load released, the SwiftLift™ Edge Lift Clutch is quickly and easily disengaged.

As the HPAWF range the is available in two sizes, and is forged for added strength. Its thick, long hairpin legs provide secure lifting in both shear and tension applications, even in thin concrete panels (minimum panel thickness is 100mm).

Hot dipped galvanised for corrosion protection, beneficial in thin panels where concrete cover is minimal.

The ELAWF series of anchors are specifically designed for Edge Lifting for New Zealand conditions.

A built in anti-shear foot that eliminates the need for separate shear reinforcement.

Suitable for thin panels and low strength concrete lifts, the new design has a larger slot designed for one or two trimmer bars, assisting the pre-caster during setup.



3DX7NLC



The installation of the parapet wall on the top of the Waimea Dam, forming a wave break.



## Learn more about this project

Click or scan the QR code to learn more about this project and to watch the full case study video

For further information, please contact Reid New Zealand

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[www.reids.co.nz](http://www.reids.co.nz)