

CIVIL CONTRACTORS NEW ZEALAND / HIREPOOL

# CONSTRUCTION EXCELLENCE AWARDS '19

Z People Awards  
Connexis Company Training  
Development Awards



in association with **CONTRACTOR** magazine



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SUCCESS**

**CONGRATULATIONS!**

On behalf of the team at Hirepool, a big congratulations to all the category winners and category finalists in the 2018 CCNZ Hirepool Construction Awards. All projects were worthy winners so you should feel proud of your achievements. As New Zealand's largest hire company, we have involvement in many of these fantastic projects and we love nothing more than seeing them come to completion.

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**CCNZ / HIREPOOL CONSTRUCTION EXCELLENCE AWARDS 2019**

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**PRODUCTION**  
 Design: TMA Design

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ISSN: 0110 1382



**CONTRACTOR**



**Celebrating Construction Excellence**

4 Judges comments

**Category 1A**

Projects with a value of less than \$5 million  
 (Company turnover less than \$10 million)

- 6 Bridge It NZ
- 7 Concrete Treatments NZ
- 8 Construct Civil
- 9 Rock Control
- 10 Troy Wheeler Contracting
- 11 Utilities Infrastructure

**Category 1B**

Projects with a value of less than \$5 million  
 (Company turnover greater than \$10 million)

- 12 Brian Perry Civil
- 13 Downer New Zealand
- 14 Fulton Hogan
- 15 Isaac Construction
- 16 Quality Roading Services (Wairoa)
- 17 Waiotahi Contractors

**Category 2**

Projects with a value between \$5 million and \$20 million

- 18 Downer New Zealand
- 19 Downer New Zealand
- 20 Fulton Hogan
- 21 HEB Construction
- 22 Higgins Contractors
- 23 McConnell Dowell Constructors
- 24 Northern Corridor Improvements Alliance

**Category 3**

Projects with a value of between \$20 million and \$100 million

- 25 Downer New Zealand
- 26 Downer New Zealand
- 27 Fulton Hogan
- 28 McConnell Dowell Constructors
- 29 McConnell Dowell Constructors

**Maintenance**

Excellence in the maintenance and management of assets, including routine maintenance

- 30 HEB Construction

**Z People Awards**

- 32 Emerging Leader
- 33 Personal Improvement

**Connexis Company Training Development Awards**

Turnover \$10 million

- 34 Construction Contracts
- 34 Blackley Construction

Turnover \$10 - \$100 million

- 35 Isaac Construction
- 35 Construct Civil

Turnover \$100 million+ Alliances

- 36 Fulton Hogan Christchurch
- 38 Downer New Zealand

Civil Contractors NZ established the Construction Excellence Awards in 1978 as a means of recognising excellence in the civil engineering, construction, maintenance and contracting industry. Hirepool has been a proud sponsor of the awards since 2003.

Civil contractors who are members of CCNZ compete for the awards annually. The winners are presented with their award at a gala awards dinner held in conjunction with CCNZ's annual conference.

In 2019 the annual conference and awards were held on 31 July - 3 August at the Energy Events Centre, Rotorua.



# Celebrating Excellence

We thank the awards judges: Category 1, 2 and 5, Dave Macdonald and Paul Bishop; Category 3, Steve Hart and Alan Powell. Their comments on the winning entries are summarised below.



## Category 1A: Projects valued up to \$5m – smaller companies

**WINNER:** Concrete Treatments NZ – South Karori Road Stormwater Renewal

The remediation of a 50 year old severely eroded and corroded corrugated 1350 culvert 220 meters long with substantial fill and private properties above was extremely challenging.

Prior the final works preparation was required to remove protruding connections, manage ground water inflows, prepare the corroded base and provide a weir and pump stormwater from upstream of the job. At commencement the specific alignment of the pipe was unknown. Access was difficult through a section of native forest that limited mechanical equipment and storage on site.

The successful methodology (which was required to be trenchless) included the use of a fully structural mortar Geo Spray, a product sourced from overseas and used for the first time here.

The client, consultant and Concrete Treatments worked closely together to approve the product and to ensure the solution achieved the desired outcomes. High standards of health, safety and quality were adopted to complete successfully this difficult and challenging project.

**HIGHLY COMMENDED:** Rock Control – Site TECCO System Installation

## Category 1B: Projects valued up to \$5m – larger companies

**WINNER:** Fulton Hogan – Wynyard Quarter Pump Station

This was a very challenging project within a very small site and in an area with substantial recent development and further high rise development and infrastructure improvements occurring.

The works are on reclaimed land with the pump station wet well affected by high ground water levels. Cement stabilisation of the existing ground occurred which minimised ground water, strengthened the reclaimed land, limited the extent of the works and provided initial treatment to the contaminated reclamation that was removed.

The site challenges were successfully overcome through the smart methodology developed by FH and a close working relationship with the designer and client. Health, safety, environmental and quality requirements were all exceeded. The project was completed to the agreed programme and Watercare is very happy with the facility provided.



## Category 2: Projects valued between \$5m and \$20m

**WINNER:** Higgins Contractors – NZTA Watchman Road Roundabout & Airport Intersection Project

Although it was understood in the initial planning stages that this work was complex with many unknowns, it was offered as a 'Lump Sum' contract. This created difficulties from the outset, but Higgins with the assistance of the other involved parties was able to successfully complete the demanding project.

The Watchman Rd roundabout was completed under difficult traffic conditions with particularly demanding environmental works and aesthetic considerations.

The finished job is a credit to all involved in its final completion and provides an attractive entry point to Napier City.

**HIGHLY COMMENDED:** HEB Construction – Port Otago Multipurpose Wharf Extension



## Category 3: Projects valued between \$20m and \$100m

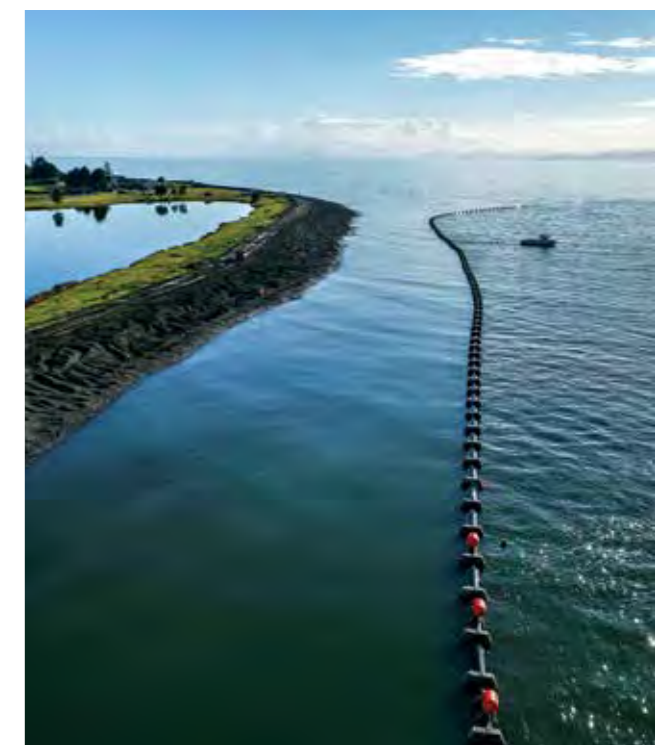
**WINNER:** McConnell Dowell Constructors – Army Bay Ocean Outfall

Watercare's Army Bay Wastewater Treatment Plant Outfall Replacement at Shakespear Regional Park provides a very significant improvement in the capacity and treatment of effluent from this facility.

This project to increase outfall capacity was bid as a Design Build contract by Watercare, with an upgrade to the existing UV plant, an outfall with a two kilometre horizontal Direct Drilled land section connecting to a 950m marine section providing disposal in the Tiritiri Matangi channel. McConnell Dowell offered an alternative to this, with a new UV plant and a tunnelled land section, using a Herrenknecht Direct Pipe TBM, with a 1200 ID steel carrier pipe and an 1100 ID HDPE liner to meet Watercare durability concerns.

The judges were very impressed by the innovation McConnell Dowell used to win this project and the associated risks they carried in their lump sum tender. The project required the extension of the Direct Pipe tunnelling technology, far beyond anything previously achieved, ultimately making a world record 1929m.

This project has achieved much in furthering the frontiers of TBM utilisation and acceptance in New Zealand and is a tribute to the benefits to be achieved by cooperation between client and contractor.



## Maintenance and management of assets

**WINNER:** HEB Construction – Selwyn Roothing Maintenance Contract

Although there was only one entrant in this category the judges were impressed with the innovations achieved on this contract.

Selwyn District has a large roading network comprising both sealed and unsealed roads and the Council has been extremely satisfied with HEB's performance and collaborative working style.

Defects in the roading network are reported and recorded by way of an app 'Snap-Send-Solve' that allows for easy identification and location of issues by either staff or the public.

Development of this reporting system and other smaller innovations has led to highly successful outcome for the Selwyn District which, in conjunction with HEB, is looking at additional technical measures to boost efficiency.





## Alternative design, a hole in one

**CATEGORY 1A:**  
Projects with a value of less than \$5 million

**PROJECT:** Project Legacy, Design & Construction of A1 & A2 Bridges

**CONTRACTOR:** Bridge It NZ

**CLIENT:** Royal Auckland and Grange Golf Club

**VALUE:** \$2 million

**Project Legacy** at the Royal Auckland and Grange Golf Club (RAGGC) included the design and construction of two pedestrian and light vehicle fibre-reinforced polymer (FRP) bridges constructed by Bridge It NZ (BINZ) using Wagners FRP product – referred to as WCFT. The project was managed by Beca on behalf of RAGGC.

As an alternative solution to concrete, BINZ's solution provided the client with significant benefits that resulted in BINZ's original scope of the A1 Bridge increased to include the A2 Bridge.

These bridges are believed to be the first standalone FRP bridges of this scale built in New Zealand. The A1 Bridge was the longest of the two bridges at 65.5 metres, crossing

the tidal Tamaki River, and the A2 Bridge was 45.5 metres and crosses a lake.

Both bridges were partially prefabricated offsite and constructed using a top-down construction methodology allowing them to be built without any plant entering the tidal zone or lake and eliminating the need for temporary staging. The prefabrication of units was one of the keys to the project's success, however this also added complexity. The prefabrication had to be accurate to ensure that all the components fitted together when installed. The kitset nature of the materials also meant that there was little, if any, room for error.

A major risk for BINZ from a contractor perspective was the use of a new product on a project that was the highest contract value BINZ had ever completed. The client (RAGGC) and its representative, Beca, also took a considerable risk in opting to choose an alternative design constructed from a relatively new material in New Zealand.

Praising the finished project Gavin Cormack, RAGGC Club Captain and former Beca executive chairman and Bridging Division founder says; "BINZ were a pleasure to deal with and the quality of their workmanship and their speed of construction exceeded our expectations.

"Their alternative design was superior in all respects to the other conventional materials we examined. Our level of satisfaction could not be higher." ●



**CAT 1A**  
CONSTRUCTION  
EXCELLENCE  
AWARD 2019  
**WINNER**

## Good for another 50 years

**CATEGORY 1A:**  
Projects with a value of less than \$5 million

**CONTRACT:** South Karori Stormwater Culvert

**CONTRACTOR:** Concrete Treatments NZ

**CLIENT:** Wellington City Council (Wellington Water)

**VALUE:** \$1.25 million

**Following a competitive** tendering process managed by WSP Opus and CH2M Beca, Concrete Treatments NZ was awarded Wellington Water's South Karori Stormwater Culvert renewal project.

Over the past 50 years erosion and corrosion had degraded the corrugated culvert's invert over the full 220 metre length of the structure.

The invert of the 1350 millimetre corrugated culvert was completely corroded, which led to the erosion of the bedding material in areas by up to 500 millimetres in depth.

As a result, the proposed rehabilitation needed to be fully structural and to be able to accommodate ovality. The end product was required to deliver a design life of not less than 50 years and be no more than 100 millimetres thick. A

combination of invert stabilisation and a Geopolymer lining system was chosen as a solution.

The culvert had been installed during the making of a surrounding subdivision and laid in a steep gully following the natural course of the streambed and backfilled with up to 11 metres of cover.

Due to this, Concrete Treatments NZ was given a resource consent with strict conditions that ensured compliance for all works that were undertaken in the stream throughout the contract period. No work was allowed in the active channel during the native fish migration period (August to December).

This project was a success despite the challenging and unique conditions. One of the main reasons for the successful outcome was the flexibility of the structural Geopolymer product called GeoSpray, for which Concrete Treatments is the only nationally approved applicator.

Says Jayesh Dhanjee, senior Stormwater engineer, Connect Water; "Given the complex and difficult nature of the works, this contract was well managed and executed by Concrete Treatments. The application of the Geopolymer liner was relatively new to the Wellington region and the outcome was successful.

"They completed the works on time and within the approved budgets, and they completed all the requirements as specified in the contract. This was completed to a very high standard." ●



## Showcasing its full range of services

**CATEGORY 1A:**  
Projects with a value of less than \$5 million

**PROJECT:** The Landing Drive Stage 4 Development  
**CONTRACTOR:** Construct Civil  
**CLIENT:** Dempsey Wood  
**VALUE:** \$420,000

**Construct Civil** worked on The Landing Drive Stage 4 in Manukau, Auckland as a sub-contractor under Dempsey Wood for its client Auckland International Airport.

The project involved the complex installation of ducting for 15 different services into trenches. This consisted of excavation, installation, and backfilling of over 30 kilometres of ducting, 4900+ individually installed ducts, and 80+ hydrants and valves.

Originally planned to occur in August 2019, Construct Civil accelerated the programme by eight months to a January start, completing the final stages in May. This allowed other works at the site to be performed well ahead of schedule, with all the underground lifelines for the future developments completed ahead of time.

Part of the installation was working around the main gas supply to Auckland International Airport, and the team handled this risk well. Construct Civil provided excavation, transport, installation, butt and electrofusion welding, chlorination testing and connections to the existing watermain assets, while coordinating access into their trenches.

Using all its own plant and resources, the work was carried out without a single incident, and directors Ben Lunjevich and Barry Brady say they are very proud of the work performed and of the teams that carried it out. They say this project encompasses the full range of services Construct Civil delivers and showcases its dedication to quality; how the company's team culture contributed to safety and quality excellence; and how it dealt with a complex installation.

Challenges included a large number of excavations near to an estuary that extended up to the edge of the site, and the main fuel line supply to Auckland International Airport.

The client, Dempsey Wood, says it was extremely satisfied with the outcome of the project, which was one of the larger scale full service operations given to Construct Civil, delivered within their expectations of time, scope, cost and quality. ●



## Working skillfully at heights

**CATEGORY 1A:**  
Projects with a value of less than \$5 million

**PROJECT:** Site 20 TECCO System Installation, Kaikoura  
**CONTRACTOR:** Rock Control  
**CLIENT:** NCTIR (North Canterbury Transport Infrastructure Recovery)  
**VALUE:** \$2.5 million

**The impact of** the Kaikoura 2016 Earthquake included rock fall at Site 20, 12 kilometres south of Kaikoura. This part of the coast represents an exposed and narrow corridor for State Highway 1 and the main rail line connecting the upper and lower South Island.

Site 20 features a vertical drop to the Pacific Ocean on the eastern side and a vertical cliff which rises 100 metres high on the western side. During the earthquake rock blocks released from this cliff fell on to SH1 and the rail line below.

Rock Control was involved in the construction of an anchored slope stabilisation system on the cliff face designed to pin any loose material back to the face and prevent uncontrolled release. The company was under a tight schedule and the watchful eye of the nation.

The project design included the installation of rock anchors located at 2.6 metre centres and staggered to form a regular diamond pattern over the face. These anchors work in conjunction with Geobrugg TECCO G65/3 mesh to create a homogeneous support system to prevent the release of rock material.

These works were urgent and lead-times critical. Getting the equipment and personnel to site, given the condition of transport infrastructure in the area, was a major consideration and the steep site was only accessible by helicopter. Critical to the safety of personnel working on the site was to quickly identify rockfall source zones above the work sites and then to develop suitable controls to manage the hazard for the duration of the project.

Innovations on site included mobile anchor storage frames. These were transported from location to location and allowed for anchors to be delivered to the work site by helicopter which reduced manual handling and thereby reducing overall time needed for installation.

The project was delivered to a very high level of satisfaction from the client and – being emergency works – the scope and design of the works changed often. Rock Control's flexibility and proactive approach to finding solutions to problems was appreciated.

The contractor has been awarded multiple other projects on the NCTIR programme of works since completion of Site 20. ●

CONSTRUCTION  
EXCELLENCE  
AWARD 2019  
HIGHLY  
COMMENDED



## Constrained inner-city site project

### CATEGORY 1A:

Projects with a value of less than \$5 million

**PROJECT:** Downtown Carpark Building Seismic Strengthening

**CONTRACTOR:** Troy Wheeler Contracting

**CLIENT:** Auckland Transport

**VALUE:** \$1.4 million

In 2018, Troy Wheeler Contracting (TWC) was engaged by Auckland Transport to deliver the Downtown Carpark Building Seismic Strengthening project in Auckland's CBD.

This project included the upgrade of vehicle safety barriers, in response to several incidents in similar buildings across the country, resulting from insufficient safety features. It involved multiple design and scope changes, and managing significant risks in a constrained inner-city site surrounded by vehicle and pedestrian traffic.

The original programme allowed for 55-days' duration, including the seismic strengthening works of 12 days. The scope of works was expanded substantially over the course of the project, and multiple technical re-designs were

necessary to deliver working solutions.

Besides meeting technical specifications and regulations, quality assurance for this project focused on the continued use of the building by its patrons. Car parking buildings are, by their nature, noisy places, so site-specific risks were numerous.

For instance, the contractor hadn't had to work at heights above a pedestrian route before, nor in an intensively developed urban area and scrupulous job safety analyses were produced to meet the challenges around height and the dangers to public and staff. Daily pre-starts were crucial in this regard, as was the commissioning of the site-specific, purpose-built safety screening systems that were custom-developed over the five floors. No footpath closures were necessary, zero harm was recorded and the work completed well within the expected public accessibility constraints.

Don Pringle (for Auckland Transport) says: "On a number of occasions Troy Wheeler has worked with the design consultants in order to resolve an onsite design issue/query or come up with an alternative solution."

"In a project where there have been quite a few variations due to design changes, Troy Wheeler has constantly been on top of the situation." ●



## A 'first class' pipeline project

### CATEGORY 1A:

Projects with a value of less than \$5 million

**PROJECT:** Lyttelton Wastewater Project Works Package #2

**CONTRACTOR:** Utilities Infrastructure

**CLIENT:** McConnell Dowell/Christchurch City Council

**VALUE:** \$1.65 million

This project was part of a major upgrade to Christchurch City Council's wastewater assets and involved the construction of the Governors Bay and Diamond Harbour submarine pipelines and the Lyttelton Harbour onshore pipeline.

Utilities Infrastructure (UINZ) was awarded the Lyttelton Wastewater project by McConnell Dowell, through a competitive tender process (the company's first project for MD) to complete installation of twin pipelines that extend from the shore at the Godley Quay boat ramp, along the foreshore and into the fuel industrial area towards a new pump station site. The UINZ team delivered all works required to excavate, install and connect the twin wastewater pressure lines along a 1.4 kilometre alignment from the Godley Quay boat ramp to the new pump station on Simeon Quay.

The brownfield nature of the landside environment and sensitive marine location also demanded rigorous attention to detail and implementation of environmental best practice for: Recording dewatering sheets and managing discharge into stormwater; separating contaminated materials in Godley Quay and dumping at an approved dump site; and managing handling and disposal of asbestos and coal tar.

Port of Lyttelton is extremely busy and UINZ had to maintain continuous access for vehicles and communicate closely with fuel companies to assist with the logistics of critical deliveries, which required nightwork.

The worksite was complex (the pipeline alignment passed over 100 underground services, including 12 major fuel, oil and gas lines) and discovery of unknown services meant 'on-the-fly' design changes were necessary and timelines were negatively impacted.

The scope of works undertaken was on the critical path of a wider project. Timely completion of the twin pipelines was essential – they had to be commissioned, and in service, prior to expiry of a resource consent in December 2018.

This was achieved, despite the challenges, with UINZ's performance described by the client's Engineer's Representative, Jim Bell, as "first class" and "exceeding client and stakeholder expectations". ●



## Cost effective innovative design

**CATEGORY 1B:**  
Projects with a value of less than \$5 million

**PROJECT:** Dixon Street Pump Station & Rising Main  
**CONTRACTOR:** Brian Perry Civil  
**CLIENT:** Wellington Water  
**VALUE:** \$2.5 million

Wellington Water's Dixon Street Pump Station and Rising Main project posed the perfect opportunity for the Brian Perry Civil team to use an innovative design solution in the form of an eight-metre deep circular precast segmental shaft. It was the first time such an approach was completed here.

Located in Wellington's CBD, this creative solution resolved a number of issues by allowing a quicker, less intrusive, construction method that reduced the impact on stakeholders, adjacent businesses and transport routes. The system was also more cost-effective than conventional methods.

The team's approach was based on the segmental precast caisson system, which uses the absolute minimum footprint of the excavation, without over-digging for working space.

This reduced the volume of material to be excavated and minimised the volume of contaminated material to be removed.

The segmental caisson system is constructed in one-metre increments at ground level, then pushed into the ground using hydraulic jacks.

The nature of this work, which is relatively quiet and with no vibration effects, removed concerns of damage to adjacent structures, and allowed for construction of a seven-metre deep caisson with all work carried out at ground level, without the need for workers to enter the caisson. The pump station site was extremely compact and surrounded on all sides by physical constraints. Prior to mobilising the site, an extensive precondition survey was completed of the work site. This included an intensive survey of all the existing paving, including counting all cracked and damaged pavers prior to mobilising plant.

Due to the small footprint available, the site facilities were kept to a minimum. The site was fenced off early on day one, to minimise disruption to passing pedestrians.

The project was completed within the overall project budget, a testament to the adapted solution, as encountering contaminated soil and groundwater using traditional construction methods could have potentially made the project unviable.

The project had a significant number of variations for items which were revised after the original tender design, but other variations such as the directional drilling were cost neutral, providing a better value for money outcome for the client, Wellington Water. ●



## A relationship-based approach

**CATEGORY 1B:**  
Projects with a value of less than \$5 million

**PROJECT:** Tarewa Wastewater Overflow Storage Tank  
**CONTRACTOR:** Downer New Zealand  
**CLIENT:** Whangarei District Council  
**VALUE:** \$5 million

Whangarei District Council's 10-year plan to prevent storm spills into the region's beautiful harbour culminated in the construction of a new wastewater storage tank in Tarewa Park.

Downer NZ built the asset in partnership with WSP Opus and with support from local contractors Steve Bowling Construction, Stainless Steel Products, Cates Brothers, Northland Scaffolding, and Atlas Cranes.

The new overflow tank – the 'Tarewa Tank' – comprises a 650 cubic metre storage tank and an ultraviolet disinfection system, to hold and treat the water that comes into the system during big storms.

Its successful completion in September 2018 marked the end of Council's \$24 million programme of projects that have reduced or stopped all sewer spills into the harbour during

wet weather, and reduced bacterial discharge by more than 99 percent.

Downer NZ's collaborative, relationship-based delivery approach supported the project's timely delivery from its October 2017 start date throughout many project challenges.

WSP Opus's technical design lead, Eros Foschieri says of the project: "From the beginning, Downer, ourselves, and Whangarei District Council established a collaborative working relationship that supported working through engineering and construction challenges as quickly and easily as possible, with the goal of achieving best for project outcomes."

Works were delivered to the contract specification and WDC standards. Some minor quality issues arose on site but were dealt with proactively and to the satisfaction of the engineer to the contract.

Regular site safety audits were also carried out by the WDC project engineer and H&S supervisor. These visits generated positive feedback on the formal and informal H&S approach for Tarewa Tank's construction.

The main risk to the programme was having only a brief window of good weather during spring and summer in which to excavate and construct the tanks.

To make up for potential and actual lost time, Downer re-programmed allowing parallel construction activities, where possible. ●



**CAT 1B**  
**CONSTRUCTION**  
**EXCELLENCE**  
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**WINNER**

## Above and beyond expectations

**CATEGORY 1B:**  
 Projects with a value of less than \$5 million

**PROJECT:** Wynyard Quarter Pump Station  
**CONTRACTOR:** Fulton Hogan  
**CLIENT:** Watercare Services  
**VALUE:** \$4.5 million

**This project is** in the heart of the Wynyard Quarter, an area in central Auckland that is currently experiencing rapid growth.

The project was required to facilitate the removal of wastewater and to provide emergency storage capacity. Construction of the Wynyard Quarter Pump Station consisted of two main structures, a control building and a wet well pumping station.

The primary facility was a 14 metre-deep wet well pumping station and storage tank constructed entirely below ground.

The project was managed by Watercare, with design input from Jacobs and Architectural input from Chow Hill. Panuku Development Auckland, and Auckland Transport also had input into the design and functionality of the control building.

Fulton Hogan self-performed the majority of the contract

using specialised subcontractors for the piling, electrical and mechanical scope.

Wynyard Quarter Pump Station project amassed 44,000 man-hours including subcontractor hours. The ground conditions were contaminated with leached fuel from many years of fuel storage on the site, unidentified services, and old process pipelines. Consideration was given to the ground conditions due to the differences in heights between the two buildings: the control building 12 metres in height and the pump station just two metres away and 14 metres below ground level.

The complexity of the work was complicated due to the high groundwater level, the extent of known and unknown services, and the architectural design and shape of the control building.

Fulton Hogan has worked on many Watercare Services projects in the past, and this one was delivered on to the client's requirements, delivering a fit-for-purpose, safe, compliant infrastructure asset, that will continue to provide for the community for years to come.

Says the client: "In delivering the project Fulton Hogan went above and beyond our expectations, particularly with their collaborative approach in delivering an innovative and technically challenging project involving several main stakeholders. We definitely appreciated the 'no surprises' approach and that all challenges were addressed using a 'best for project' solution." ●



## A train passes through

**CATEGORY 1B:**  
 Projects with a value of less than \$5 million

**PROJECT:** Rosy Morn Gabion Basket Wall  
**CONTRACTOR:** Isaac Construction  
**CLIENT:** NCTIR (North Canterbury Transport Infrastructure Recovery Alliance)  
**VALUE:** \$676,365

**Isaac Construction** was contracted to deliver the first traditional NCTIR contract (S0001); the high-profile Rosy Morn Gabion Wall situated on SH1.

This project was south of Kaikoura at Rosy Morn, or more commonly known to contractors working in the area as Slip 29a, which is one of the many slips brought down in the 2016 Kaikoura earthquake.

The scope of the project was to construct a 3.5 metre tall and 100 metre long Gabion Basket Wall with a Galmac safety fence adjacent to Slip 29, with the purpose of protecting the rail line and SH1 from rock fall and any future slips.

Isaac construction had never undertaken a project of

this nature. Therefore, its entire team was put through Working at Height and Elevate Working Platform training, to enable them to safely and competently carry out the tasks required to complete the project. The team was also exposed to extreme environmental pressures, due to the location of the site being directly under one of the major Kaikoura slips, compounded by sharing the workspace with both seals and goats.

The programme was tight and required multiple work fronts. This was because this project was part of a wider programme, meaning that Rosy Morn commenced immediately after the abseil team had installed the catch fencing above, and needed to be finished so a temporary block wall could be moved to enable the next slip remediation.

As the site was close to the railway, the team had to vacate the site whenever there was a scheduled train movement – often up to three times per day.

The project was delivered on time, to specification, within the budget, and with no safety, quality or environmental issues, which were the key drivers for NCTIR.

Says Tony Foster and Jonathan Armstrong from NCTIR; "There have been big compliments received on the finished gabion wall by many within NCTIR and all the Isaac Construction staff should be very proud." ●





## On spec, on time and on budget

**CATEGORY 1B:**  
Projects with a value of less than \$5 million

**PROJECT:** Structural Bridge Strengthening  
**CONTRACTOR:** Quality Roading and Services (Wairoa)  
**CLIENT:** Wairoa District Council  
**VALUE:** \$800,000

**Torrential rain**, a raging stream and a woman in early labour who had to get through were some of the challenges on the Waitahora Bridge project.

Quality Roading and Services expected the unexpected, which was exactly what it got. With just one minor alteration the bridge had, for 90 years, served as a crucial crossing between the Gisborne and Wairoa sides of Tiniroto Road.

But with the demands of new generation HPMV (High Productivity Motor Vehicle) trucks putting extra pressure on transport links, the ageing structure had to be brought into the modern era.

At first glance it appeared to be business as usual when QRS tendered for the job, as it had the people, the equipment and the experience for the task required, but this job came with a twist.

Located on Tiniroto Road, just two kilometres from Frasertown on SH38, the bridge is a crucial transport link so the client gave a maximum timespan of just 68 hours in which the bridge could be closed to traffic, dismantled, strengthened and rebuilt.

And it had to be robust. The reconstructed bridge would need to be both safer and sturdier to support road users in the decades to come.

QRS made regional transport history when it succeeded in dismantling, strengthening and rebuilding the bridge well within the 68-hour window, all due to great relationship-building and meticulous planning.

QRS spent six weeks preparing the site, ensuring subcontractors had readied their elements of the job, and keeping open wide lines of communication with both road users and the client (Wairoa District Council).

Being such a time-critical project, the core team of 14 scaffolders, painters, sandblasters, welders and QRS staff were primed to work 12-hour shifts, including the three all-nighters they would pull under generator lights.

It was the around-the-clock dedication of the team, with the support of QRS's stringent processes around everything from health and safety to construction standards, that got the job done. Ultimately, the key requirements were planning, patience and perseverance that saw it through to the end. ●



## Re-building a community

**CATEGORY 1B:**  
Projects with a value of less than \$5 million

**PROJECT:** Edgecumbe College Road Breach Site Stop Bank  
**CONTRACTOR:** Waiotahi Contractors  
**CLIENT:** Bay of Plenty Regional Council  
**VALUE:** \$3.2 million

**When the Rangitaiki River** stopbank breached on April 6 2017 it caused extensive flooding to the town of Edgecumbe.

Property and infrastructure were damaged and many people lost their homes. The Edgecumbe College Road – Breach Site Stop Bank project was a high priority for the Bay of Plenty Regional Council (BOPRC) to make the town safe. Whakatane-based Waiotahi Contractors was given the task.

This contractor had the skilled staff, the plant and equipment, and owned a quarry for supply of materials. Above all, BOPRC was looking for a team of people who could work with sensitivity within this broken community.

Working beside a river with the constant threat of rain both raising the river level and affecting the fill material – this project required engineering skill, agility and clever planning.

Waiotahi worked in collaboration with consulting engineers GHD and BOPRC to get the job done to the specified standards. Waiotahi's engagement with the locals and doing everything it could to lessen the disruption for already traumatised people, made the difference with this project.

Added complications were that the two dams up-river (Aniwhenua and Matahina) let water out every afternoon (to generate electricity) which raised the river level. The stopbank job had to be carefully staged, opening up no more than 50 metres at any one time to enable quick closure if any flooding was anticipated.

All machinery had to be carefully placed at times of river level increase while also working in confined spaces, constrained between the river side and the road side. The ground conditions were challenging, with saturated spoil and debris from the original stopbank.

The satisfied client BOPRC says Waiotahi Contractors was the ideal contractor for the work, being Whakatane-based, owning extensive plant and materials, owning two quarries, and being available with skilled staff, with a reputation for working openly with clients.

The Edgecumbe stopbank project led to the Omeheu Stopbank project being awarded to Waiotahi by the Bay of Plenty Regional Council. ●



## A collaborative approach

**CATEGORY 2: Projects with a value of between \$5 million and \$20 million**

**PROJECT: Ross Creek Reservoir Refurbishment Project**  
**CONTRACTOR: Downer New Zealand**  
**CLIENT: Dunedin City Council**  
**VALUE: \$6.5 million**

The **Ross Creek Reservoir** and associated reserve has been part of Dunedin's heritage for the past 150 years. Some four kilometres from central Dunedin, this special part of the city is a popular recreational area for the community.

The Ross Creek Reservoir Refurbishment project was part of the city's Security of Supply Strategy, as Dunedin's two principal water supply pipelines travel over ageing pipe bridges, leaving them vulnerable to failure.

Physical works started in mid-February 2017 with construction taking 23 months followed by a year of re-commissioning. Works were completed on time and budget, involving in excess of 38,000 hours of complex work, including over 2000 hours of confined space work in the tunnel and valve tower. There were zero MTIs and zero LTIs.

A collaborative approach by client Dunedin City Council, WSP

Opus International Consultants, and Downer was essential to this project's success, especially given the high-risk nature of the structure, the complexity of the work, the wide range of stakeholders (including schools), the unique challenges faced and the associated significant increase in scope. Being the oldest earth dam still in service, the dam structure and valve tower both hold a Category 1 heritage listing.

The contract initially allowed 12 months for construction. The quantum of change resulting from unforeseen conditions and associated redesign, resulted in the contract period being extended by 11 months.

Downer delivered the Ross Creek Reservoir Refurbishment Project on time and to a high level of quality, despite substantial complexity (both foreseen and unforeseen) and growth in scope.

The project achieved its purpose to re-enable full utilisation of the available storage capacity, increase resilience of the wider urban water supply, and leave a lasting legacy.

Dominika Biziak-Kochan, the Dunedin City Council's Capital Delivery Team leader says; "It has been refreshing to work with a company that understands and is dedicated to the collective team approach making the construction process efficient. This takes particular care and focus to ensure that the finished product meets, or exceeds expectations, especially for this complex project." ●



## Right first time

**CATEGORY 2: Projects with a value of between \$5 million and \$20 million**

**PROJECT: Richmond Queen Street Infrastructure Project**  
**CONTRACTOR: Downer New Zealand**  
**CLIENT: Tasman District Council**  
**VALUE: \$12.3 million**

**Queen Street**, the main street in Richmond in the Tasman district, suffered a severe flood in April 2013 affecting many businesses.

This was the key reason for the Richmond Queen Street Infrastructure Upgrade, which was one of the most important and largest capital works projects procured by the client, Tasman District Council.

The design, by Stantec, futureproofed Queen Street by upgrading its stormwater, sewer and water reticulation, and made use of this opportunity to transform the streetscape in the process to reflect Richmond's transition from rural town to urban centre.

Digging up the entire main street from shop-front to shop-front was always going to create unique challenges for this project in the heart of Richmond's CBD, and the client awarded

the contract over two months before physical works could begin, instead of the usual NZS3910 10-day period.

Executing a quality finish streetscape upgrade, and the complex nature of this fast-track project with congested construction workspace, required 'first-rate' QA planning/control processes to be set up. Sections of street needed to be closed, construction fully completed, and then opened back up to the public in stages.

It was also imperative works were done "right first time", targeting zero rework for each and every one of the six complex stages. There was no going back!

Incorrect as-built data of existing services, uncharted utilities, and unforeseen ground conditions were just a few of the unknowns that came to light and required significant changes to the original design. At one point, the project was 15-weeks behind schedule. Downer was able to reschedule the work and regain lost time to finish a week ahead of the contractual completion date. The scheme concept with utilities being upgraded at the same time as streetscaping, also meant that services were able to be laid with the road at subgrade level without the usual excavation and backfill costs.

Tasman District Council was exceedingly satisfied with the quality of the finished works on the street. The Council entered the project into the Keep NZ Beautiful Awards and it won *Best Street in New Zealand 2018*. ●



## A smart approach from day one

**CATEGORY 2: Projects with a value of between \$5 million and \$20 million**

**PROJECT: Rangitahi Peninsula Bridge & Causeway**  
**CONTRACTOR: Fulton Hogan**  
**CLIENT: Rangitahi**  
**VALUE: Unavailable**

The Peninsula Bridge and Causeway (RPBC) project in Raglan took a long time to come to fruition for client Rangitahi. The consenting process alone took over a decade and involved stringent resource and land use consent conditions.

As a 'contractor led' design, the project included early mobilisation for construction access with a 4.2 kilometre long-haul road upgrade before the client could obtain the required approvals to allow works in the causeway to start. Construction within the Coastal Marine Area (within the Whaingaroa Harbour) was classified as 'invasive' and subject to strict consent conditions that required planning and active monitoring to start four months before the start of construction works. Some of the biggest project risks involved adverse environmental impacts and influence of tides on a limited construction window, as consent conditions restricted

causeway construction to three hours either side of low tide. This presented specific programming challenges and health and safety risks to project personnel and plant. Construction on the initial stages of both causeways was only possible when the low tide window coincided with the allowable work hours of 7am to 5pm. Weather also posed a risk in an already reduced work window.

However, the contract team was able to engineer out the impact of weather on the construction works through innovative work methodologies. This allowed them to complete the works with environmental impact that were well below the maximums allowed within the consents.

The project team is particularly proud of this feat and so is the client.

The completed project boasts a 70-metre long Northern Causeway and 80-metre long Southern Causeway that is connected by a 92-metre-long, five-span bridge. It provides an all-weather, all-tide access with dual traffic lanes, pedestrian footpaths and cycleway.

This bridge plays a fundamental role in enabling the residential growth in Raglan by unlocking the Rangitahi Peninsula for residential and commercial development.

The project's success at the CCNZ's Waikato branch awards is testament to the fact that it also delivered a high level of satisfaction for the client. ●



## Understanding a client's vision

**CATEGORY 2: Projects with a value of between \$5 million and \$20 million**

**PROJECT: Port Otago Multipurpose Wharf Extension**  
**CONTRACTOR: HEB Construction**  
**CLIENT: Port Otago**  
**VALUE: \$19.2 million**

This project for Port Otago involved extending the existing 300 metre-long, multi-purpose wharf at Port Chalmers, one of New Zealand's two deepest container ports and which services the largest container ships. It is also the primary export port for southern New Zealand and is the country's third largest port by product value. Cruise ships also call there between October and April each year.

Project planning involved meticulous detail to ensure good work-flow and staging of tasks to avoid congestion on a very constrained site. HEB also developed procedures to enable the port to keep more of its storage area in use during construction. Noise monitoring was also critical due to the proximity of the works to the local residents.

Challenges included the unknown aspect of driving the piles through a minefield of large boulders within the reclamation

fill, and HEB drew on its extensive experience in marine works/ techniques to use innovative methodologies for the task and also reduce noise from pile driving.

Working over water posed a risk to the environment, key being pollution of the harbour with fuel, concrete, pile slurry and other construction materials. Furthermore; the wharf now provides berthing, mooring and servicing facilities for container vessels up to nearly 150,000 tonne displacement and 8000 tonne capacity. By delivering ahead of time the wharf extension was immediately pressed into service for the peak export season which also coincides with Dunedin's cruise vessel season.

This project is an outstanding example of a contractor understanding a client's vision and working hand in hand with the client for the benefit, not only of the project, but to embrace the client's passionate belief in sustainable business practice.

The engineer to the contract, David O'Malley and the Port engineer Andy Pullar completed client satisfaction questionnaires and both gave HEB Construction 10/10 for every performance factor.

And nothing says 'happy client' like more work. HEB has already been awarded a separate \$2 million plus project for sheet piling along the length of the existing multipurpose wharf. ●

CONSTRUCTION EXCELLENCE AWARD 2019  
 HIGHLY COMMENDED



**CAT 2  
CONSTRUCTION  
EXCELLENCE  
AWARD 2019  
WINNER**

## Adding significant additional value

**CATEGORY 2: Projects with a value of between \$5 million and \$20 million**

**PROJECT: NZTA Watchman Road Roundabout & Airport Intersection Project**

**CONTRACTOR: Higgins Contractors**

**CLIENT: The New Zealand Transport Agency**

**VALUE: \$10 million**

The **Watchman Road** Intersection Upgrade Project (the Kuaka Gateway) was designed to improve safety at one of the most dangerous intersections in the country, assist in unlocking regional economic growth, and create an iconic northern gateway for Napier and the Heretaunga Plains.

In 2016 the NZTA funded the project to construct an improved combined intersection/access to the Napier Airport. In April the following year Higgins Contractors started construction of the project, which was completed some weeks ahead of schedule.

The design was the result of close collaboration between NZTA and its partners: The Napier City Council; Hawke's Bay Airport; Mana Ahuriri Trust; Ngati Kahungunu; a design and consenting team led by WSP Opus and including Stantec, GHD,

Beca; local artist Jacob Scott; and wildlife specialist Tony Billing.

This signature project for the Napier/Hawke's Bay Region proved a challenging one. The construction site was located near Napier Airport and an important regional route with very high traffic volumes. Delivery of this project was achieved with the excellent planning, construction, temporary traffic management and quality control work of Higgins Contractors, notes Erdinc Atalay, NZTA Senior Project manager (Complex).

Due to both the location of the site and designed improvements, construction staging, and traffic management were key in delivering a successful project. Special consideration had to be made for the local ecosystems within the Hawke's Bay wetland and its bird nesting season. Construction was completed early to avoid the August nesting period.

The project delivered all project objectives as well as adding significant additional value. A collaborative, holistic view to problem-solving; and an aspirational and genuine approach to stakeholder engagement transformed a traffic blackspot into a safer intersection and an admired environmental statement.

"Project feedback has been nothing but positive," says the contractor. Key to this success was early engagement and continued engagement during the project keeping people informed and up to date, which included regular group meetings and site visits where we had the opportunity to show first-hand the challenges and achievements during the project." ●



## An extremely well managed project

**CATEGORY 2: Projects with a value of between \$5 million and \$20 million**

**PROJECT: Lyttelton Harbour Wastewater Upgrade Work Package #2**

**CONTRACTOR: McConnell Dowell Constructors**

**CLIENT: Christchurch City Council**

**VALUE: \$18 million**

**Christchurch City Council** engaged McConnell Dowell to construct submarine and land-based pipelines to improve and futureproof the treatment of wastewater from the Lyttelton Harbour communities of Lyttelton, Governors Bay and Diamond Harbour.

The target is to end all routine discharges of wastewater to Lyttelton Harbour by 2021 in four phases. Phase One involved installation of a fibreglass pipeline to transport wastewater from Lyttelton. Phase Two involved installation of 2.5 kilometres of new underground pipes to connect the Naval Point valve chamber to the Lyttelton wastewater treatment plant outfall as well to the future Simeon Quay pump station and the Lyttelton tunnel wastewater pipe, installed in Phase One.

Both the onshore and offshore sections of work were undertaken in high risk environments. The onshore section

of the pipeline ran through a heavily trafficked area, areas of contaminated ground and close to buried and overhead infrastructure (including critical power, gas, water, data and fuel lines). Hydro/air extraction was the only way to safely expose services. The marine section of the pipeline was installed in a busy working harbour with changing weather conditions and several recreational water users.

The onshore pipeline included an open-cut section at Norwich Quay alongside shops and businesses, through a Hazardous Activities and Industries List site, and underneath two railway lines. It is a narrow corridor with many significant services and heritage sites that required protection or relocation. Several hundred services crossings were encountered during installation of the new pipeline.

McConnell Dowell's CEO Scott Cummins visited the project and assessed it on several factors, scoring it an impressive 4.5/5.

"An extremely well managed project requiring the management of an extensive number of stakeholders," he said. "Stakeholder management has done extremely well, the positive impact of a job well done in this regard cannot be overstated. All works have obviously been well planned and executed by an effective project team, with impressive marine pipelay work that was made to look easy because of thorough planning and preparation." ●



## Collaboration with a panoramic view

**CATEGORY 2: Projects with a value of between \$5 million and \$20 million**

**PROJECT:** Tirohanga Whanui Bridge  
**CONTRACTOR:** Northern Corridor Improvements Alliance  
**CLIENT:** New Zealand Transport Agency  
**VALUE:** \$9.8 million

The **Tirohanga Whanui Bridge** was a jointly-funded project between the Transport Agency, Watercare Services and the Northern Corridor Improvements Alliance to provide much needed infrastructure for Auckland's North Shore.

Watercare needed a watermain to cross the motorway to cater to the growth in the area and installing it under the motorway would have resulted in severe disruption to motorists.

So, between them, Watercare and the NZTA provided a solution for a dual-purpose bridge to convey the watermain across the motorway and provide a walking and cycling connection as part of the Northern Corridor Improvements project.

The bridge was constructed by the Northern Corridor Improvements Alliance (made up of the NZTA, Fulton Hogan,

HEB, Jacobs, and WSP Opus). Called Tirohanga Whanui, which means 'panoramic view', the finished project is an architecturally and visually striking 110-metre walking and cycling bridge spanning State Highway 1 from Spencer Road in East Coast Bays to Corinthian Drive in Albany.

The fabrication and installation of this bridge was very complex. A number of the steel sections were bespoke, sloping and cambered. The 54 metre centre span is made of steel, as concrete would have resulted in an uneconomic box beam. The barrier/throw screen is entirely 316 stainless steel with assemblies electro-polished to eliminate whole-of-life maintenance costs.

The 15-month project programme was guided by the fact SH1 is very busy with up to 100,000 vehicle movements per day. As a vital route north for Auckland, the site required minimal disruption. This resulted in steep access from abutments; a preferred option than gaining access from SH1 which would have caused disruption and slower journey times.

The contractor has delivered an iconic dual function connection over one of the busiest sections of State Highway 1 in the Auckland region and provides the city with a centrepiece at the highest point of the landscape that lights up at night, making it a stand-out feature for people travelling towards the city from the north. ●



## Beautifully designed and constructed

**CATEGORY 3: Projects with a value of between \$20 million and \$100 million**

**PROJECT:** Avon River Precinct  
**CONTRACTOR:** Downer New Zealand  
**CLIENT:** Otakaro  
**VALUE:** Unavailable

**Otakaro is the company** delivering Crown-led and funded Anchor Projects in Central Christchurch and divesting the balance of Crown land.

One of these projects is the Avon River Precinct (ARP) promenade, a beautifully designed and constructed shared use pathway that starts at Christchurch Hospital and ends at the Margaret Mahy Family Playground.

Downer was awarded the ECI phase of the project. Other construction projects in construction adjacent to (and even through) the promenade's trajectory presented significant challenges to planning, programme scheduling, and even public goodwill.

The heavily congested road corridor also lent itself to considerable inground risk both for the contractor and long-term maintenance.

The 18-month programme required quality supplier partnerships and stakeholder relationships, along with a genuinely collaborative approach critical to negotiating and agreeing on priorities within the – at times fraught – CBD construction environment.

Downer's risk planning is based on the hierarchy of control – avoid, isolate or control – and avoid was the priority on ARP. The project's complexity and challenge lay in the management and support of multiple subcontractors' deliverables within a programme and scope that changed frequently. To manage and work in with parallel CBD projects and prioritise works within clashing schedules or accessways required flexibility.

The contractor delivered works by the agreed completion date and within budget, with the entire project completed one month after its extended completion date, which was a positive achievement given the volume of changes and uncontrollable variables in delivery.

The ARP achieved zero safety or environmental incidents and garnered widespread praise for its high-quality finish. The Downer team worked tirelessly to accommodate stakeholders, conflicting CBD projects, subcontractor and supplier constraints to deliver an amenity that has immediately been embraced by the public.

"The project had a personal significance for everyone involved beyond any I have experienced to date. Otakaro is delighted with the outcome of the project and fully supports this award entry." says Shaun Jarmai, Otakaro project director ARP construction. ●



## Very clean water

**CATEGORY 3: Projects with a value of between \$20 million and \$100 million**

**PROJECT:** Whanganui Wastewater Treatment Plant Upgrade  
**CONTRACTOR:** Downer New Zealand  
**CLIENT:** Whanganui District Council  
**VALUE:** \$38.9 million

**This project** involved the full replacement of Whanganui's Wastewater Treatment Plant (WWTP) for the Whanganui District Council. The previous plant was completed in 2008, but by 2014 it was in breach of resource consent and bypassing sewage to the ocean after screening.

Hawkins joined the project in 2014 as the ECI contractor with construction beginning in 2016. In 2017, Hawkins was acquired by Downer, however the project continued to be delivered under Hawkins Infrastructure's management systems.

The site was located on Airport Rd near Whanganui Airport and was exposed, elevated, coastal, and buffeted by strong winds. The site topography and geology also added to the challenges. Deep excavations had to be completed in coastal sand dunes and 'running' sands, and this was complicated

with a limited working footprint due to existing structures and ponds. The site also had one entry/exit and there was a risk of site items being blown onto the runway.

Logistics were carefully managed to avoid any holdups to the project, especially when ordering materials and plant. Much of the equipment for WWTPs are specialised and have long lead times.

The project also involved multiple work faces from different subcontractors. During peak construction the site involved 70 workers delivering a wide variety of trades.

The final construction cost was \$38.9 million, which was \$2.3 million under the original budget. Additional costs were incurred in areas such as investigating alternative design options and additional site works, which reduced those budget savings to \$1.5 million from a total budget of \$42.05 million.

The upshot for ratepayers is the Council will be paying \$100,000 a year less than expected in debt servicing with \$1.5 million less debt on the books.

The quality of the new plant was immediately evident when it became operational. The water now discharged into the sea has been through the treatment process, including UV disinfection. And council testing shows the plant discharge is as clean as it looks. ●



## Effective use of ABC technique

**CATEGORY 3: Projects with a value of between \$20 million and \$100 million**

**PROJECT:** Taramakau River Road Bridge  
**CONTRACTOR:** Fulton Hogan  
**CLIENT:** NZTA  
**VALUE:** \$25 million

**The Taramakau River Road Bridge Project** was a NZTA contract to construct a new 250-metre, twin-lane road bridge about 20 kilometres south of Greymouth on the West Coast.

The project was commissioned to replace the old Taramakau River Road/Rail shared single lane bridge that dated back to 1888 and managed by Novare Design with civil input from GHD.

As part of the project an 11 metre-long, 100 metre-wide, two-lane rail over-pass, heavily skewed to the railway line, was constructed along with safe off road facilities for pedestrians and cyclists along the project's 1.5 kilometre length.

Fulton Hogan did a large portion of the contract using specialist subcontractors for the piling and major earthworks scope. As part of the main bridge structure construction Fulton Hogan developed and deployed Accelerated Bridge

Construction techniques, a methodology at the forefront of bridge construction in this country.

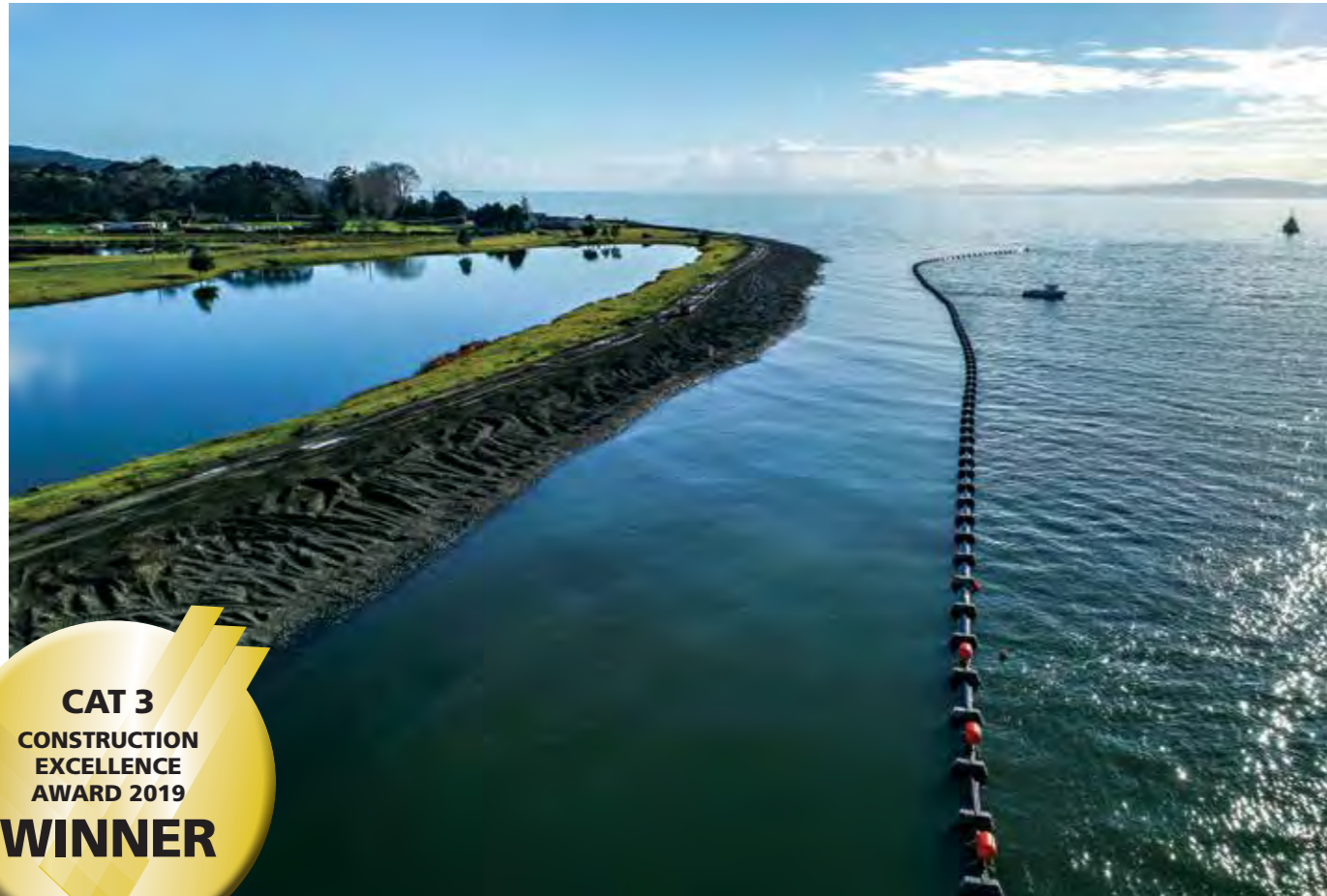
Using Accelerated Bridge Construction (ABC) was a key driver in delivering the project in a shorter timeframe than the contract period with reduced risk and cost.

Given the location of the site, a great deal of effort was also applied to planning and transporting specialist elements across the Southern Alps. Access through Arthurs Pass required co-ordination across several stakeholders to ensure successful heavy haulage.

The flow conditions in the river change quickly with high-intensity rainfall making the use of weather forecasts and local knowledge provided by West Coast-based subcontractors and employees vital.

The river is also of great cultural value to the local community and the contractor actively minimised any impact on their enjoyment of the river. One avid local whitebaiter, who was often located on the riverbed adjacent to the works, remained unaffected by the construction.

The original contract period was specified at 27 months. However by using ABC methods the contract works were delivered in 20 months, reducing the principal's risk and cost of the project and provided improved operational efficiency to the West Coast State Highway network. ●



## Creating world tunnelling records

**CATEGORY 3: Projects with a value of between \$20 million and \$100 million**

**PROJECT:** Army Bay Ocean Outfall  
**CONTRACTOR:** McConnell Dowell Constructors  
**CLIENT:** Watercare Services  
**VALUE:** \$32 million

**Watercare in Auckland** engaged McConnell Dowell and its design partner, McMillen Jacobs Associates, to install a new wastewater outfall and ancillary buildings at Shakespear Regional Park (SRP), upgrade the existing pump station, and build a new ultraviolet disinfection facility at its Army Bay Wastewater Treatment Plant.

The project's location at the end of the Whangaparaoa Peninsula created challenges, including the resource consent limiting truck movements to 10 per day along the single road access to a constrained site. SRP is a pest-free enclave, so extensive environmental mitigation was required. Nor could works impact the operation of the existing wastewater treatment plant being upgraded, which had to remain at full capacity.

The project involved a broad range of stakeholders including the NZ Defence Force and the Auckland Council's Parks' team.

This project attracted international construction fame for its use of a state-of-the-art Herrenknecht Direct Pipe TBM to jack a two kilometre-long, 1.2 metre OD steel carrier pipe some 45 metres deep from the new pumphouse to a transition point in the Hauraki Gulf. And while tunnelling the onshore section, McConnell Dowell set a world-record for the longest Direct Pipe drive at 1929 metres.

The complex nature of this project required a team of skilled and experienced tunnellers and marine specialists. Most were drawn from McConnell Dowell's recent major tunnelling projects, such as the Waterview Connection and Artillery Drive. Although not required to operate the project under tunnelling regulations, the contractor opted to do so.

The project has received many commendations since it was completed. The upgraded wastewater treatment plant operates more efficiently and will support projected population growth in the wider region. The previous system had experienced discharges into the local creek and bay in very heavy rain events.

Says Dirk Du Plessis, Watercare Project manager; "The project objectives were met in March 2019 in line with our completion target.

"It was delivered under budget due to McConnell Dowell's contributions to innovations and no significant risk was realised. Watercare is very happy with the outcome and we thank McConnell Dowell for their outstanding contribution." ●



## An extremely broad scope

**CATEGORY 3: Projects with a value of between \$20 million and \$100 million**

**PROJECT:** Sumner Road Rockfall Risk Mitigation and Road Remediation Project  
**CONTRACTOR:** McConnell Dowell Constructors  
**CLIENT:** Christchurch City Council  
**VALUE:** \$30 million

**Sumner Road** is a vital link between the Lyttelton and Sumner communities, and both an important strategic connection between Lyttelton Port and Christchurch city and a popular recreational space for tourists and cyclists. Significant rockfall from the surrounding cliffs during the earthquakes left a 2.6 kilometre section of the road impassable and forced it to be closed.

Christchurch City Council engaged McConnell Dowell in June 2016 to undertake geotechnical remediation works to reopen the road. To capture rockfall from the bluffs the contractor undertook scaling and ground support of the bluffs above Sumner Road; excavated a 407m by 18m by 15m rock catch bench below the bluffs; and constructed a 50m by seven metre rock bund in the gully to the west of the crater

rim. Project work also included repair and reinforcement of 30 retaining walls below Sumner Road and remediation of the road itself.

Ten months of work was required to make the 100m bluffs safe for road rehabilitation. Working in the Port Hill's rugged landscape, at heights of up to 150m, slopes of 35-45 degrees and with the ever-present risk of rockfall, the environment at Sumner Road could hardly have been more complex.

This project required careful logistics planning and vigilant attention to safety. McConnell Dowell worked with Beca, Jacobs and Golder Associates and many subcontractors to complete these high-profile works safely, and Sumner Road reopened to traffic in April 2019 after being closed for eight years.

Lynette Ellis, manager Planning and Delivery at Christchurch City Council says; "The completion of this project was a joint effort and you all pulled together across multiple teams and organisations to ensure the opening went as smoothly as possible.

"The array of issues in the lead up to opening was challenging in its own right and in the end everything fell into place nicely.

"The fact that this has all gone so smoothly has been a testament to your attention to detail and the efforts put in to get things completed right first time." ●



## A strong focus on delivery

### MAINTENANCE CATEGORY:

Excellence in the maintenance & management of assets, including routine maintenance

**PROJECT:** Selwyn Roding Maintenance Contract

**CONTRACTOR:** HEB Construction

**CLIENT:** Selwyn District Council

**VALUE:** \$1 million

For almost a decade HEB Construction's dedicated Selwyn Roding team has delivered the P/A network management and maintenance contract for Selwyn District Council (SDC); undertaking a range of activities to manage all planned, proactive, and reactive maintenance activities for the roding network across the Selwyn District.

Selwyn is the country's third largest district featuring 2600 kilometres of roads (of which half are unsealed) and five townships.

HEB was awarded the five-year three-month contract in 2010 to deliver cyclic maintenance activities, road sweeping and extensive unsealed road preservation and programmed works,

such as dig-out repairs, stabilising and shoulder maintenance, asset management, and planning advice.

In 2016, HEB was re-awarded a further five-year contract; which now includes the full reseal programme (some 80 kilometres per year) covering asphalt and chipseal resurfacing, as well as annual pavement rehabilitation and footpath renewal.

Keeping on top of 227 kilometres of urban road, 2,313 kilometres of rural road, and maintenance of 1,110 kilometres of unsealed roads, including remote high-country roads, is a constant challenge.

The Selwyn Roding Team, led by contract manager Johnny Brown, uses its expert planning skills, in-depth local knowledge, and stakeholder and client relationship skills, to manage changes in transportation use, scheduling work to meet the requirements of their community.

HEB has worked together with SDC and RAMM creators RSL to use existing RAMM programmes viewable through GIS,

that it has customised to suit the needs of the network. This ensures inspections, programming, and reporting are managed in RAMM and its full suite of applications, which are tailored to suit the contract requirements.

"Under the maintenance contract, we have a strong focus on delivery, with many items measured as a lump sum per month," says the contractor.

"We manage our programmes and claims through RAMM, with SDC having full access and transparency of the work we do, which has streamlined our data quality, and enabled innovation with a real cost saving benefit; resulting in reliable and sustainable integrated technology."

Gareth Morgan, Service Delivery manager, Selwyn District Council endorses this. "HEB's approach is collaborative, they implement real innovation and genuinely work with our team with asset management and understand our customers." ●





# Outstanding achievements within the civil construction industry

The **Z People Awards** were developed by **Civil Contractors NZ**, with support and sponsorship from **Z**, to recognise the outstanding achievements of individuals within the civil construction industry.

## Keith Matheson **Z People Award – Emerging Leader WINNER** SouthRoads

Keith has been working in the civil contracting industry for 12 years. For the past seven years he has been part of the SouthRoads team.

During this period, he has spent time working from SouthRoads Oamaru, Clutha and Dunedin depots. He is currently based in the company's Dunedin office as a contract manager working on a large variety of both civil and drainage projects as well as roading construction and maintenance contracts.

Keith is currently studying part time towards his Diploma in Civil Engineering. Prior to becoming a Contract manager Keith was a construction foreman for six years, which enabled him to gain

a sound understanding of the industry which is reflected in the respect demonstrated to him by his peers.

Keith has a great passion for the industry, through his ability to operate machinery and develop innovative solutions in difficult situations.

He has also developed a great leadership ability and is held in high regard with clients' engineers and co-workers. Keith and his partner Julia are currently building a house on a lifestyle block near Waihola. In his spare time Keith enjoys spending time with his family and outdoor activities including motorbiking. ●



## Aimee Pene **Z People Award – Emerging Leader** Downer New Zealand

Aimee joined Downer in 2015 as a graduate mechanical engineer, after completing her Bachelor of Engineering – Mechanical (Hons) and a level four certificate in Construction Management.

Aimee's technical talent and interpersonal skills were immediately evident and led to her involvement in several major projects – including the \$17 million Northern and Western Operations and Maintenance Contract for Watercare, \$120 million City Rail Link C1 contract, and the \$30 million Samoa Aviation Authority's Faleolo International Airport Project.

Aimee's technical knowledge is backed by her ability to demonstrate initiative and a fresh approach to problem-solving, as proven by her leadership in the establishment of job management

systems and process controls and new and efficient reporting tools on the above contracts.

Her enthusiasm is infectious – she's well-liked by her colleagues and thrives on inspiring and leading teams to deliver their best for project outcomes. Her excellent communication skills have also been rewarded with strong and trusted relationships with engineers, senior leaders and many stakeholders.

Aimee is a great relationship builder and leverages off this to help get things delivered. She has an instinctive understanding of people's personal drivers and uses this to create win/win scenarios with subcontractors and suppliers to make her projects successful for all involved, not just Downer. ●



## Victoria Lord **Z People Award – Emerging Leader** Isaac Construction

Victoria Lord started work for Isaac Construction in 2013 following her Bachelor of Science degree at the University of Canterbury, and her time working in laboratories at Otago University.

Victoria started as a laboratory technician before becoming an IANZ 'approved signatory' and senior laboratory technician the following year.

In May 2018 she became the laboratory manager. In the past 12 months there has been a significant positive impact under her leadership in both employee and financial performance. Victoria has taken the laboratory to a new level by increasing staff engagement and customer satisfaction and improving efficiencies. Laboratory sales have

increased by over 20 percent in a tightening market, while staff numbers remain at a minimum.

Victoria has a very collaborative leadership style. She develops functional relationships with staff and colleagues at all levels, ensuring her and her team are well informed, competent and produce high quality results.

Victoria has put in a lot of work to develop herself as a leader by increasing her interpersonal skills and learning how to get the best out of her team while allowing them to grow and develop.

Victoria had become a great ambassador not only for Isaac Construction, but a positive role model for all potential leaders and women in construction. ●

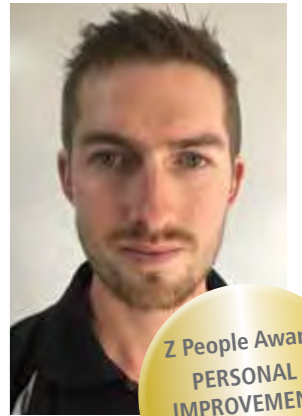


## Dan Elliott **Z People Award – Personal Improvement WINNER** Isaac Construction

Dan's introduction to our industry came through his father who inspired Dan to seek a career in civil construction. He joined Isaac Construction in 2006 at the age of 18 as a labourer and was appointed to the foreman role in 2007.

In 2014 Dan left to broaden his work experience, returning to Isaac Construction in July 2017. He has a history of continuous personal development and a commitment to developing his crew. Since re-joining in 2017 Dan has displayed an increasing awareness of the wider business, working more

closely with supervisors, project managers and engineers to bring projects in on time, to budget and meet quality outcomes. As a result, he has been inspired to start engineering studies. Dan has been nominated because he has a clearly-developed career plan and has been intentional and sustained in working towards this over the years. He consistently demonstrates a personal commitment to lifelong learning through informal and formal learning which is largely self-managed. ●



## Elena Hoffman **Z People Award – Emerging Leader** Higgins

Elena started her career at 17 as a civil engineering cadet with WSP Opus in Greymouth. She was there for six years working her way up to become an engineering technician and service area leader for both the geotechnical engineering and property management business services at the branch.

She then moved on to work as an engineering officer with the Grey District Council for two years where she managed capital works projects and was involved with the utility maintenance contract. During these eight years she also studied part time to get a Diploma in Civil Engineering, a diploma in Engineering Practice, and finally an Honours degree in Civil Engineering, all by correspondence while she worked at her demanding fulltime job.

While at the council, Elena was deployed to

Kaikoura after the earthquake with Civil Defence which is where she became interested in contracting.

Her work with a lot of the contractors on the ground gave her, in her own words, a "real buzz" which prompted her to apply for a job at Higgins as a junior project manager.

Over the past 2.5 years Elena has shown a high level of intelligence, common sense, motivation and initiative, working her way up to becoming a project manager and earning the responsibility of delivering projects for key clients, including NZTA, Christchurch International Airport and the City Council.

Along with this challenging work load she is also currently studying for a post-grad certificate in Strategic Leadership with the University of Canterbury. ●



## Jemma Dutton **Z People Award – Personal Improvement** CPB Contractors

With the start of the Transmission Gully project in 2015, with a project value exceeding \$850 million, the demand for experienced personnel saw an influx of ex-pats and out-of-towners to the Wellington region.

Jemma Dutton was one of these new additions to the project and, at the very start claimed responsibility of a leading role within the Environmental Team.

Throughout the past four years the project has seen an overwhelming amount of diversity and change and Jemma has demonstrated an ability to overcome these challenges while

maintaining a positive and professional attitude on the Transmission Gully project. She has made a significant contribution to the project through her tenacity and knowledge with respect to the project's complicated consent conditions.

Over time, the contractor has seen machine operators gaining a tremendous amount of trust and respect in Jemma due to her knowledge, integrity and willingness to always help where possible, no matter what the conditions are, or the time.

This selflessness, team work ethic and environmental-outcomes focus is a true reflection of her caring and considerate nature. ●



# Building business through people

The **CCNZ Company Training and Development Awards** sponsored by **Connexis** recognise those employers that provide opportunities for their staff to gain skills and knowledge through a nationally-recognised qualification.

These employers invest across all levels of their business, embedding training as a matter of course in everything they do, and create pathways for their people to move up.



## Exceptionally strong commitment

**Connexis Award: Turnover up to \$10 million**  
**Construction Contracts**

**Construction Contracts** is a leading civil construction and drainage contractor based in Lower Hutt, Wellington. They are previous winners of the Connexis Company Training awards and continue to invest heavily in training. They utilise and promote Connexis qualifications throughout the company and have a comprehensive training and development programme for all employees. Their new purpose built offices and yard facility incorporates a training room fitted with modern technology to enhance staff learning.

With an exceptionally strong commitment to skills development through training, including engagement in national qualifications with Connexis, this company has clearly demonstrated the value it places on having a skilled, trained and qualified workforce. From new staff members, through to supervisors and project managers, the management continues to lead the way with the CEO recently becoming Civil Trades Certified. ●

## Invested in a training culture

**Connexis Award: Turnover up to \$10 million**  
**Blackley Construction**

**Blackley Construction** has been a market leader in civil and rural infrastructure projects in the lower North Island since 1960. The company has been supportive training environment with a dedicated inhouse trainer and Connexis approved assessor.

Some 42 percent of its civil team is carrying out training under the Civil Trades Apprenticeship and Career Pathway

programmes. Kevin Blackley is proud of the effort staff put into their training. Kevin believes that the sector generally has a responsibility to support and upskill its workforce. He sees the training environment at Blackley as meeting this responsibility and considers training to be an investment that contributes to the high quality of work that is delivered by his team of skilled workers. ●



## Combining construction and conservation

**Connexis Award: Turnover \$10-100 million**  
**Isaac Construction**

**Isaac Construction** is a Christchurch-based, vertically integrated civil contractor currently employing 300 staff.

All staff are involved in professional development and resourced with coaching and time to study in a culture of continuous improvement, that stimulates an increase in people requesting professional development, rather than being asked to undertake development.

A full-time Training and Development manager resources and supports all training.

On completion of a qualification our coaching question is 'What is your next step?' – this commands engagement with professional development. During professional development

discussions, staff are encouraged to articulate their long-term careers goals, which keeps the 'next step' to the fore.

With a high level of training and qualification uptake across a wide range of staff at engineer, project manager, supervisor, foreman and operator level, training is aligned to meet organisational needs and is integrated into daily work practices and schedules.

Isaac Construction has 33 Certified Civil Tradespeople at foreman and supervisor level, a structured study and coaching regime, and a social responsibility demonstrated by the tagline "Combining Construction and Conservation". ●

## An inclusive and people orientated team culture

**Connexis Award: Turnover \$10-100 million**  
**Construct Civil**

**Construct Civil** works with ducting and pipeline installations, horizontal drilling and three waters works. The contractor currently employs 35 staff, of which all are currently undergoing training or development plans. Every employee outside of the two directors started with no qualifications as general labour, and through Construct Civil have all attained and continue to get qualifications that will provide them with a career, not just a job.

"We feel that one of our strongest reasons for our continual

success in our industry is that our team culture is inclusive and people orientated.

"Ben and Barry, our directors, have focused on employing motivated individuals who are willing to apply themselves to their work, and commit to the development paths that Construct sets out for all staff."

This has given rise to a family-like company where people will generate ideas in all areas from the bottom to the top, in areas from health and safety, through to operational improvements. ●



## Supporting young people to the industry

**Turnover \$100 million+ Alliances  
Fulton Hogan Christchurch**

Fulton Hogan has been operating in the infrastructure sector in New Zealand for 85 years with 5250 staff across the country.

The company has a fully integrated training model operating across all sectors of its business, with extensive use of in-house trainers and assessors.

Fulton Hogan's National Cadetship Programme ensures cultural and gender diversity in introducing and supporting young people to the industry.

Partnering with Connexis, Fulton Hogan has benchmarked

its national in-house programmes for Foundational Leaders, Leading the Way and Contract Management Principles seamlessly to the relevant NZ Certificates. This is an industry first.

In addition, the company has integrated structured career/training pathways aligned to New Zealand qualification progressions across its infrastructure business divisions, thus demonstrating a genuine commitment to develop and retain staff. ●



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## Professional development opportunities

### Turnover \$100 million+ Alliances Downer New Zealand

**Downer** designs, builds and sustains assets, infrastructure and facilities and is one of the leading providers of integrated services in Australia and New Zealand.

With a history dating back over 150 years, Downer's top priority is its people, offering them professional development opportunities such as; study assistance, training programmes, mentoring social engagements, and

secondment opportunities.

Downer has partnered with Connexis over many years to enhance training opportunities across all its operations.

Downer runs a number of employment initiatives that attract a diverse range of employees at all levels within its organisation and trains across all levels of its organisation to maximise the potential of its people. ●

# Proudly fuelling the Z People Awards



We understand that there are thousands of Kiwis working away behind the scenes to improve our country's infrastructure. That's why we're the proud sponsor of the **Z People Awards**. The awards recognise the achievements and professional development of the talented individuals within the civil construction industry.

Enough about us though – here's to this year's finalists.

**Congratulations, from all the team at Z.**



