

# Back to the grindstone

Welcome to the first Aggregate News for 2024.

I hope you've had a good break and there's not too much 'back to the grindstone' feeling about. Certainly, we will all need our energy for another big year of production. Being among those living in the rain shadow, I also hope it's a drier year than sodden (sod it) 2023.

Come rain or shine our sector remains poised for further growth.

There's no better evidence of that than the audacious decision by Kaipara to establish its own custom-built sand manufacturing operation at Brookby Quarry. With Auckland/Waikato demand set to experience further high demand for sand, Steve Riddell and his team set about quietly developing and testing the product with the concrete industry and are confident it will be available very shortly.

I know many of us will be watching this with considerable interest (see story page 49).

Demand for concrete is already high and there's more discussion on concrete roads.

At the 2022 Future Roads conference Acciona's National Pavements Manager Jamie Egan said only 0.5 percent of NSW's concrete roading slabs need replacing every decade.

At last November's conference, Eric Ferrebee from the American Concrete Paving Association said such pavements can last 35 years in the US. Apart from long-term economic benefits, there's environmental gains – better fuel efficiency, lower emissions, less reflected heat, alongside much better resilience to weather events (see story page 48).

As the new Government embarks on a massive infrastructure spend – and knowing what our climate is now throwing at us – it will be looking for solutions that are both durable and cost-effective; a wider discussion on concrete roads may emerge than that at road constructors' conferences.

Speaking of conferences, Early Bird registrations for QuarryNZ 2024 are now open. The emergence of ChatGPT in 2022 with its ability to write exam papers (and much more), made clear that AI is now here and not part of a sci-fi



film. It's appropriately the theme for our conference, though that won't replace the much-valued personal catch-ups and comradeship in Rotorua in July, (see story on page 50).

Even earlier, some of us will be gathering on March 20 at the Komatsu Women in Extractives Lunch in Hamilton. There will be three awards given to celebrate diversity and inclusion in our sector. Nominations close shortly (February 21) and I encourage you to consider putting a name or two forward if, like me, you have some outstanding women colleagues or staff, (story also on page 50).

As for celebrations, Fulton Hogan's 90th looked like it hit all the spots. Great to see that some 2500 people turned out in Dunedin where the company began.

I particularly liked it that visitors to the Blackhead Quarry open day were first guided to a 10-tonne pile of aggregate and told this was equivalent to their annual consumption.

A new way of saying that is: we all consume about one kilogram of aggregate an hour. Next time you get someone complaining about your quarry, perhaps present them with a kilogram of crushed aggregate in a jar. That's grindstoning at its best.

**Jayden Ellis**  
Chair, AQA



Skye Knox with MinEx & AQA CEO Wayne Scott at the inaugural Komatsu Women in Extractives event last year. Skye accepted the award named after her sister Kristy Christensen, given to mark her pioneering work for diversity and inclusion in extractive sector workplaces.



Fulton Hogan's community involvement stretches to sponsoring kapa haka uniforms for Fairfield School which performed at the 90th celebrations.

## Southern roots celebrated

**Fulton Hogan celebrated 90 years in business late last year with a community event in Dunedin that attracted 2500 people before a gathering of staff and shareholders.**

The company began in Depression days when Jules Fulton and Bob Hogan worked together repairing the road between Dunedin and Mosgiel.

Now it employs more than 10,000 people in more than 100 quarries and asphalt plants across Australasia with Christchurch as its base.

However, Dunedin Operations Manager Grant Pellowe says its roots and links in the southern city are important. He, and others organised an open day at the Fairfield transport yard, previously known as the Jubilee Sand Quarry, which drew in a huge number of local residents.

"Some residents who had been living in the area 50 years had never been to the site."

The company has strong links with Fairfield School and sponsored uniforms for the kapa haka group which performed on the day for residents, staff and shareholders. There were also displays of projects Fulton Hogan has done over the years for the Dunedin community.

These included developing a cycleway on the Otago peninsula that included more than a million rocks from Blackhead Quarry being placed, one by one, onto the sea wall.

Vintage buses took those who were interested for a view of Blackhead Quarry, which Fulton Hogan operates in a joint venture with Palmer & Son.

Its GM, Tony Hunter's son Joe who manages Logan Point quarry, along with Blackhead quarry manager Gavin Hartley, toured people around the site, starting with a 10-tonne pile of aggregate.

"They explained to the visitors that this volume is their individual annual usage," says Grant.

"Everyone was astonished with that fact, also the operations of the quarry, but in particular the picturesque landscape grafted by the rock columns on the coastal edge."

After the community event, a small function for staff and shareholders was also attended by former staff.

Fulton Hogan's employee share scheme, which started in the

1970s, is seen to have helped retain staff. It also rewarded many, with early inductees sharing in the growth of the company over recent years.

Staff (past and present) still account for 45 percent of Fulton Hogan shareholders. Of its 250 Dunedin staff, more than 35 have been employees for more than 25 years.

Among those representing the company at the Dunedin events were Dunedin Regional Manager, Richard Fulton, his mother Margaret Ann, and Bob Hogan's grandson Rob Johnstone, a recently retired director.

Grant says it was timely and appropriate to mark the company's 90th anniversary.

"A lot of our history lies with current people and 100 years might be a bit of a stretch for some. When we get to our centenary, we might do something more formal."

A book has been produced celebrating Fulton Hogan's transition from a small Dunedin company to an Australasian heavyweight. The book is being given to staff, shareholders and stakeholders.

Celebrations marking the 90 years were also being held in Canterbury, Central Otago and Southland in varying formats. **AQA**



Trevor Tamblin, supported by his wife Erin, worked nearly 40 years for Fulton Hogan and as the truck indicates, has never really left.



# Savings set in concrete



**Concrete roads can cost more upfront, but bring considerable economic and environmental savings, even when laid over existing pavements.**

That was the message at November's Future Roads conference from Eric Ferrebee, senior director of technical services for the American Concrete Pavement Association.

He says, while asphalt roads are still just ahead in total miles of roading across the US network, a lot of concrete pavement is being laid.

Concrete overlays typically lasted 35 years before any major maintenance work was required. While these long-term economic benefits were the driver, concrete roads also came with environmental benefits.

These include better fuel economy and lower transport-related emissions because of the smoother and stiffer surface, less heat emission than asphalt and even some absorption of carbon by concrete. Resilience was another key attribute.

"If we don't do that, then everything else we're doing with sustainability kind of goes out the window."

Eric said he'd seen a lot of concrete flyovers in New Zealand that showed its versatility. In some US states, asphalt roads often ended at concrete roundabouts because of their durability.

Flooding was now more of an issue in the US and concrete pavements proved very durable in such events.

The low maintenance requirements meant no disruptions for a very long time for road users after construction. Eric said much of the new concrete pavement in the US is overlays on existing asphalt roads, even widening them at the same time. This could add 20-35 years to the life of a road.

Around 11,500 lane kilometres of concrete pavement are now being put down every year across all US states covering every climatic and topographical mix – mountains, deserts and coastal areas.

The design life of a concrete road can often be doubled with an extra 25mm (1 inch) of paving laid.

"That little bit of extra concrete can buy you a lot of extra life, which can really change how you manage your assets long term across your entire network," he says.

"Concrete is typically a bit higher in upfront costs but brings long term benefits."

Asked by a Future Roads attendee about how big is the cost differential, Eric said it varies. Some states had a lot of concrete roads and they can be competitive on initial cost, but the life cycle benefits were still there even if asphalt was initially cheaper.

"When you're developing an industry and there's not a lot of experience there it may take some investment up front to get the industry up to speed and the more it exercises itself the better off it's going to be in terms of cost, quality, and expertise."

He adds that concrete spreads the load better, meaning it is a little less reliant on the base foundation.

Measured by vehicle movement, at between 150 and 300 trucks per day, concrete starts to be more competitive.

Noise from concrete roads could be a big consideration in urban areas though diamond grinding greatly reduces noise issues. **AQA**



Brookby sand operation.

# Kaipara draws first line in the sand

**The country's first major manufactured sand operation is due to start operation within weeks to supply Auckland and Waikato concrete manufacturers.**

Kaipara's Brookby Quarry announced its plans in late November, by which time it already had crushing equipment from the US and Northern Ireland on site and specifications that met concrete market requirements.

Steve Riddell, Kaipara's managing director, says \$12.1 million will have been spent when stage one of the project starts seeing 300,000 tonnes of sand being produced each year using greywacke from Brookby. If demand is confirmed, a second stage will be ready in a further year or so's time at the cost of \$5.1 million.

At 600,000 tonnes, this would meet about 40-45 percent of the Auckland/Waikato sand demand.

Asked if the project was designed to compete with natural sand producers such as McCallum Bros, who extract sand off the north Auckland coast at Pakiri, Steve Riddell said no.

"We think this is an enhancement of the market given the complications of river and sea sand."

McCallums has faced protracted opposition to renew its Pakiri consents.

Currently, Brookby is producing a blend of imported natural sand and minus 6-7mm aggregate, so new synergies were possible. Steve Riddell also points to rising demand for sand given infrastructure needs.

"We are a family business and take an inter-generational view of the infrastructure required for Auckland/Waikato – it's only going to increase sand demand."

Kaipara used its own staff to develop its own wet process for processing the greywacke into sand.

"They've done an outstanding job," says Steve.

Much sand processing is done in a dry process. Going wet has

a number of benefits.

"Obviously you are trying to avoid dust. But doing it wet is also related to the geography of the rock."

Steve says a wet process is also less capital intensive than dry, which also requires crusher dust that isn't common in our quarries, including Brookby.

The initial feed stock will be 750mm before being reduced to the required 3.2mm. Greywacke has some impurities which could be washed out. Some 600,000 litres of water will be recirculated every hour and the fines dried and blended back into other quarry products.

Central to the development is a major mains upgrade, due for completion this month (February) that will provide an extra five megawatts of electricity, so no diesel is used for processing.

"This is sustainable sand," Steve adds, and the sand has already been trialled with key concrete manufacturers meaning specifications and quality requirements have already been met.

He says the price of the sand is a commercial matter, but would be similar to what the concrete companies pay for other quarry materials.

If they wished, trucks would be able to visit Brookby and take a load of sand and a trailer load of aggregates to complete a mix for concrete.

Brookby's annual production of around 2.8 million tonnes is about 30 percent of Auckland's total production.

It's currently designated for expansion under a fast-track resource consent that has been passed from the previous government to the new one.

Steve says the company's investment in sand would have proceeded with, or without, the fast-tracked expansion. **AQA**





Eat Street in Rotorua is a food haven for evening time eating and drinking.

## Time to get booking

**The year is underway and it's time to get organised for some calendar highlights which start with an awards lunch and finish (some months later) with an awards dinner.**

First up, after a successful launch last year, Straterra, AQA and MinEx are holding their second annual Komatsu Women in Extractives Lunch to celebrate diversity and inclusion in our sector. This is being held in Hamilton on **Wednesday March 20** marked by three awards.

**The Kristy Christensen Memorial Award** – will recognise someone who has been a champion for diversity.

**Emerging Star Award** – will celebrate a young person demonstrating exceptional leadership skills, outstanding personal performance and innovative thinking.

**Leader of the Year** – recognising a successful leader who shows a commitment to diversity and inclusion in their everyday work.

Nominations close on Wednesday 21 February and nomination forms are available from all three organisations as well as tickets.

While July might seem a wee bit away, Early Bird registrations for the **QuarryNZ 2024 Conference July 17-19** opened

February 1 at QuarryNZ.com.

The theme for the Rotorua conference is *The Future is Digital: Navigating Shifts in Technology*.

Keynote speaker is Justin Flitter who founded NewZealand.AI in 2017 to support business leaders keen to learn and leverage artificial intelligence in their organisations. He will provide insights into how AI can be adopted to benefit the quarry sector.

Jodi Goodall, who helped write the Brady Review, a report analysing Queensland extractive fatalities, will also address the conference and share her experience on what can make sites safe.

Conference organiser Melissa Bahler says all events will all be held inside Rotorua's expansive Energy Events Centre, with the city's nearby Eat Street being a great option for the free time on the second night. She's also impressed by the recently opened Wai Ariki Hot Springs and Spa, though there's plenty of options if you want a soak. **AQA**

## MIMICO Environmental & Community Award

**AQA CEO Wayne Scott says it's now time to get entries together for the MIMICO Environmental & Community Award.**

"MIMICO shares the AQA's commitment to encouraging environmental excellence in our sector by companies which initiate projects to protect the environment and/or support their community."

A one-page entry form with GM or CEO's signature is all that's required – with a May 12 deadline. Details can be found on the AQA website.

By the end of May, entries also close for the various IOQNZ

and Q&M awards. These cover innovation, leadership, health & safety, technical excellent and educational support as well as emerging young industry leaders. All winners will be announced at the TDX Awards Dinner which wraps up the Rotorua conference on Friday July 19.

A full conference programme will be available shortly and early bookings are advised.

# AQA Technical update

## Focuses for 2024

- Publishing the quarry products training material (meeting with Civil Engineering Testing Association CETANZ for testing videos was very productive).
- Promoting better use of quarry resources – maximising use of raw feed, marginal aggregates and recycled aggregates.

## Manufactured Sand

- The information document prepared by the AQA Technical Committee was to be available to members on the AQA website from January.

## Basecourse

- The M04 specification has recently had its working group meeting; it is now at version 10.
- Now that all comments and unresolved issues have been taken into account the AQA is expecting the new specification to be

piloted soon. There were over 100 comments received in the last round of consultation, indicating a lot of industry interest in this specification.

- Four of the working group members are from the AQA Technical Committee and we thank them for their input.
- A draft dense graded aggregate specification has been prepared (separate to M04) for some pilot trials in NZ.

## NZP&M Production Figures

- We were expecting these to be published before the end of 2023. The AQA will prepare a summary of production for members.
- Thank you to all who sent in their production figures. **AQA**

**Mike Chilton**  
Technical Adviser, AQA

**AQA works for the quarry industry – join us today**

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