



Peter Walsh.

The Government needs to listen

This edition of *Aggregate News* is again centred around our industry's concerns about the new government regulation that prohibits any earthworks on any wetland, with a wetland definition that is too vague and open to wide interpretation.

We make no apology for campaigning on this issue for the second edition in a row, as it is one of the most serious challenges for our industry for many years.

Government needs to listen to the very real concerns of quarry industry leaders and fully understand the very real negative consequences of the regulations.

As an industry we fully understand and are committed to our environmental responsibilities, but regulations need to allow a degree of flexibility in achieving our responsibilities while being able to support the county's infrastructure development through the supply of aggregates.

As we were putting together the article on Kerry Reilly's innovative work (showing how newly-engineered wetlands can enhance and benefit the environment – see page 36), he sent the AQA an email. I re-quote him because no one has put it better.

"My experience talking to quarrymen and mine operators clearly indicates that they are not reckless rapists of the land, but passionate, hard-working, skilled people working in most cases under pressure to supply an increasing demand of resources with low margins and high risk ...

"We cannot choose where suitable rock and minerals are located; the harder we make it to secure and have access to the resources that are close to our markets, the harder it will be to control and reduce the overall environmental and financial impacts on our society.

"There needs to be sensible and balanced decisions made very soon or we will all pay the price; what I have demonstrated at Meremere is that wetlands can be engineered, are extremely valuable, intrinsically beautiful and environmentally beneficial.

"Rock resources, specifically around our main city centres are rapidly diminishing, the RMA has curtailed the acquisition and development of suitable resource fields to provide for sustainable development; we are in trouble, believe it or not, time will tell and numbers don't lie.

"In my view taking care of and enhancing our environment is a no-brainer, managing our resources in a balanced and sustainable manner is equally important.



Kerry Reilly built a wetland that now couldn't be built.

"The people that introduced Regulation 53 without proper consultation are irresponsible ... and will negatively impact our country."

Thanks Kerry, you've captured the reality of what will happen if the newly re-elected Government does not listen to the AQA and industry people like you. We will continue to make that case as forcefully as possible.

If we can't get access to the necessary resources, the current boom in tunnelling in New Zealand will be one of the most affected construction sub-sectors. Read about that on page 38.

Elsewhere in this edition, I was pleased to welcome Tim Hazell to the AQA Board at our most recent meeting. As you'll see from the article on page 40, Tim brings deep, hands-on quarry management experience to the Board replacing Matt George.

AQA Technical Adviser Mike Chilton provides his update (page 41) on the technical matters so critical to our industry's integrity and reassurance.

This is the last issue of *Aggregate News* for 2020. It has been the most challenging year that most of us can remember.

Let's hope 2021 starts with some positive signals from the Government to implement policies that support the continued supply of quarried materials.

If that happens, we will all have a happy New Year. **AQA**

**Peter Walsh, Chair
Aggregate and Quarry Association**

Reilly good advice on wetlands

If the Government truly wants to expand and protect wetlands, they should talk to Kerry Reilly first.

The contentious Regulation 53, introduced without consultation as the Election loomed, bans earthworks on ground that is wet.

Kerry Reilly says if the regulation persists, it will cost New Zealand society dearly.

This from a quarryman who at heart is also a conservationist. In 1999 he bought a greenfield site at Meremere near the Waikato River. Adjoining the site was a farm and beyond that the world heritage Whangamarino Wetland, at 7200 hectares the second largest in the North Island.

Kerry says on purchase, climate change was already starting to impact with weather bombs causing enormous runoff, even before he started excavating the site.

"I sat there on very wet days watching what actually happens. I soon realised I was really exposed."

That was accentuated because he had no significant flat land to dispose of overburden.

He approached the neighbouring farmer, Peter Buckley, who happened to be chair of the Waikato Regional Council, proposing to build a wetland at Kerry's cost on his land.

"I said I have to protect the environment from the silt leaving my quarry and you should start thinking about the nitrate and cow poo you create – you can pump it into my wetland."

Peter Buckley agreed. Kerry got Waikato University advice on plants to filter silt and nitrates in the five pond system he devised. Power generator Mighty River Power paid for 15,000 native plants.

"We ended up with a lot of people getting a win."

That included Kerry winning numerous awards including last



Kerry Reilly and neighbouring farmer Peter Buckley cooperated to develop a wetland that was a winner for everyone.

year's Caernarfon Award, given to the best international paper submitted through the international Institute of Quarrying.

The net cost to him of the wetland project was only around \$500,000, though the 2008 economic downturn did see him sell the quarry to Higgins, which in turn sold it to Winstones. Kerry ran it until it was mothballed in the last year.

He is providing advice to quarries about how to introduce wetlands and says Regulation 53 could stop any such work in its tracks, not to mention impacting quarry development more generally.

Already, Fulton Hogan says planned expansion at Stevenson's Drury quarry will be halted, locking up 150m tonnes of rock resource, the equivalent of 12 years supply for Auckland.

"I know that site. It's just a few wet paddocks, not a wetland", says Kerry. "This regulation is going to be very costly if it endures – not just to industry but to society. This is about being able to build a house or a road at a reasonable cost."

Kerry says most quarries these days are planting trees and shrubs and increasingly developing wetlands.

"Look at what Lady Isaac achieved down in Christchurch. You've got to have a balance. My wetlands, like hers, are just a legacy that goes on." **AQA**



The Meremere quarry's wetlands proved so popular a viewing platform was included.



Left to right: Rose, Hayley and Jake, Flynn and Theodore from Leamington Primary School, Cambridge with their teacher Elizabeth Davies.

Waikato and Manawatu schools rock

The AQA's second Rock our Future School Competition has seen primary schools in Waikato and Manawatu take away the prizes.

This year the competition was centred on designing a final use for a quarry that had finished extracting rock. There were eight finalists.

AQA CEO Wayne Scott says what stood out was the efforts made by two classes in year 6 at Leamington Primary School in Cambridge and two year seven and eight classes at Newbury School in Palmerston North.

Entries came in the form of physical structures, as well as digital builds through the likes of Minecraft. Each of the four winners receive \$1000 for their school and \$100 prize for themselves.

The brief for the children was that they had been hired by a quarrying company called Big Rock Solutions that had completed extracting rock and now wanted to turn the quarry into an asset for the community.

They were advised the company wanted a sustainable, environmentally sensitive project that would bring benefit to the local community. Neighbours and others in the community need to be considered in whatever final use was designed for the site.

Schools were advised to encourage their pupils to research and make contact with a local quarry and use real-life examples, including, if possible, a quarry that had finished extracting or was getting close to the end of its life. That said, the quarry could be located anywhere.

Wayne Scott says Haana, Rebecca and Monique from Newbury School came up with designing a quarry reserve at nearby Longburn Shingle Co quarry.

"The girls observed that Longburn is an area without much in the way of nature or recreational areas. They came up with a design which had a waterfall running into several natural swimming pools, a camp ground, pathways and even a flying fox."

Bailey, Amara and Aimee from Newbury School came up with the idea of developing a Forest Adventure Park.

Theodore and Flynn from year six at Leamington Primary School suggested making a former quarry site into a history museum.

"We decided to make a New Zealand History Museum because where we live, in Cambridge, we don't have any large museums,"

the boys said in their entry. They planned the museum to be environmentally sustainable and even built in a business case.

"The museum is made out of non-corrosive metal. It is solar powered. The cafe uses electronic stoves and the hot pools are geothermal. It would make a great profit to pay for expenses including; food, workers, repairs, etc. No littering policies ... 15 percent of earnings go to charity."

Rose, Hayley and Jake from Leamington School also won a prize for their entry to build a community house where homeless people could live.

Wayne Scott says as well as the efforts children put into all the entries, the teachers and parents who supported them also deserve to be acknowledged. He says this Rock our Future Competition was made more challenging to organise and judge on its second run because of Covid-19 but the AQA was looking to run it again next year. **AQA**



Wayne Scott with Haana, Rebecca and Monique from Newbury School who came up with the idea of the Longburn Nature Reserve. Their teacher Tim McLay assisted.



The Waterview tunnels are our largest – here the Alice tunnelling machine breaks through.

Tunnelling our way forward

New Zealand may be the land of the long white cloud but currently it's also becoming a nation of long, dark tunnels presenting rising demand for labour, skills and yes, aggregates. Brendon Burns reports.

An avalanche of tunnelling work is either underway or emerging in New Zealand.

It raises questions about whether we as a nation have the skills to meet demand, what health and safety issues may arise, whether the right procurement models are in place to encourage investment and training, and increase the number of companies which are capable of tunnelling work.

McConnell Dowell is the country's leading tunnelling specialist. Most of us know of the Waterview motorway project, one of many feathers in McConnell Dowell's cap, which includes two 13.1 metre internal diameter, 2.5 kilometre, three lane tunnels that now speeds our journeys from Auckland Airport into the CBD. They are also New Zealand's longest road tunnels.

As well as a range of other major project work, McConnell Dowell is currently involved in more than five tunnelling projects in New Zealand. These include the St Marys Bay Water Quality Improvement Project (which is tunnelling nearly two kilometres near Auckland's CBD); more than 6.5 kilometres of tunnel for the Snells Beach ocean outfall near Warkworth, due for completion next year; the Hunua 4 Section 11, 3.5 kilometres of pipeline, also due for completion next year; and an 850 metre ocean outfall at

Hokitika for Westland Milk due for completion in 2021.

Further, McConnell Dowell has just completed working in a JV on the City Rail Link C2 under Auckland's CBD.

The company employs a large workforce directly in New Zealand as well as hundreds more through specialist sub-contractor arrangements. It has been involved in almost every major domestic tunnelling project and puts this down, in no small part, to its long tunnelling track record and excellence in health and safety.

During construction of the Waterview tunnels in late 2013, McConnell Dowell was approached by the Chief Inspector of Mines to share its knowledge and experience with other parties to facilitate a smooth application of newly emerging legislation. Monthly inspections by the High Hazard Unit (HHU) provided insights into large tunnelling projects.

This relationship developed into a strong partnership where regulator and constructor worked together to deliver the best possible tunnel safety outcomes. This model has continued into other company projects.

Fraser Wyllie, managing director for McConnell Dowell New Zealand and Pacific, says the big Auckland projects are only the start of demand for experienced tunnelling staff. The challenge



New Zealand needs to address some issues to succeed with its big pipeline of tunnelling work, says McConnell Dowell MD Fraser Wyllie

will be resourcing these projects, particularly with Covid-19 restricting immigration of many people with skills.

Fraser notes two potential tunnelling projects in Wellington (second tunnels for The Terrace and under Mt Victoria), an expected \$3 billion plus in work to upgrade drinking water supplies to new standards – not to mention the need for a second Auckland Harbour crossing.

“Through the Waterview Connection project we scaled up and recruited people from all over the world who had mega tunnelling project experience. They tend to chase these big jobs around the globe.”

He says to prepare for future tunnelling projects we, as a nation, have to address some issues that include:

- Consistency of the future infrastructure pipeline.

This requires a more consistent workflow, an end to the boom and bust approach to infrastructure, and more alignment by different infrastructure owners around the timing and procurement of major projects.

“We need to be mindful of the unintended consequence of

setting up panels of consultants and contractors or locking in sole source suppliers for extended periods which limits competition and could leave only a few companies with the continuity of work to justify the investment in training,” says Fraser.

“As an industry we need to put weighting on the training programme – lowest cost procurement means that training and apprenticeships will not be prioritised.”

- Adequately resourcing projects with the appropriate skills.

Primarily it will need to be domestic supply.

“We are seeing a huge interest now, people from other sectors who are prepared to come into the construction sector. We have amazing opportunities with the vocational education restructure, government apprentice schemes, and specialist skills to improve New Zealand’s domestic capability.

“We need a step change into some training schemes and align with the future of the work that is anticipated.

“We also need to stop the loss to overseas tunnelling projects once the border restrictions open back up by making the industry more attractive to recruit and retain people,” says Fraser. **AQA**

The Aggregate & Quarry Association appreciates the support of our members

aqa



Hands-on Hazell joins AQA board

Tim Hazell may have the title of Central Operations Manager for Winstone Aggregates but he remains a hands-on quarrying man.

English-born, Welsh-educated Tim brings some diverse experience to the Aggregate and Quarry Association board, replacing Matt George, who's left Winstones to do his own consulting.

Tim looks after Winstone Aggregates' Hunua, Pukekawa, Whitehall and Tamahere quarries which supply a fair chunk of Auckland and Waikato's aggregate needs. He spends 70 percent of his time on-site, with a base office at Hunua.

After gaining a degree in Exploration Geology at Cardiff University, Tim worked a couple of years on oil rigs offshore from Venezuela before deciding he really wanted to work on rocks, not sediment samples.

In 2002, he joined RMC – Readymix Concrete – a vertically-integrated UK pioneer in readymix, first as a supervisor, then manager of a quarry outside Cardiff.

The chance spotting of an advert in a quarry publication saw him relocate with his family to New Zealand in 2007 to work briefly as Quarry Manager at Winstone Aggregates Belmont site before moving to the same role at Hunua until 2010 and then managing the company's Hawkes Bay and South Island operations, along with seven years as a director of Rangitikei Aggregates, a JV with Allied and Fulton Hogan.

After nearly 20 years in the quarry industry, Tim says he still enjoys the variety it offers.

"A lot of people not involved in quarrying just don't know how diverse an industry it is," he says.

While you might think Winstone Aggregates, as one of NZ's biggest operators is a huge venture, Tim says there are actually



Tim Hazell still spends most of his time on quarry sites.

only around 350 people employed out of the 16,000 in the wider Fletcher empire.

"We like to think we punch above our weight. There's some smart people doing some smart stuff."

Managing operations across Winstone Aggregates central division means over-seeing the biggest national output and meeting demand on either side of the Bombay Hills.

Winstone Aggregates has been around for more than 150 years and Tim says Winstone Aggregates GM David Welsh has continued building the division since taking over in 2018.

Tim spends a lot of his time working on quarrying development and extension planning as well as health and safety improvements.

"My role is also helping make us more fit for purpose, nimbler and more focused on our major sites serving key customers, while remembering every customer is important to us."

Tim says the company and industry are hugely innovative and that presents a really bright future.

The challenges include continuing to present the importance of quarrying, sensitive management of stakeholder relationships including neighbours, communities and tangata whenua, as well as telling young people about the diverse careers the industry offers.

"There's so many stakeholders and no two days are the same. You have to be across all of that to be successful so it's just a fantastic career, full of challenge and the satisfaction that you are, day by day, providing the resources that keep building our country." **AQA**

AQA works for the quarry industry – join us today

0800 469 272 | 021 944 336 | wayne@aqa.org.nz | www.aqa.org.nz

AGGREGATE & QUARRY ASSOCIATION OF NZ

Supporting New Zealand from the ground up

aqa



Technical Update

M/4 Spec 2021

- Waka Kotahi (NZTA) has appointed Adam Leslie as Lead pavements advisor. AQA will be working with him on the updated M/4 specification (including statistical acceptance).
- A straw man document is in formation and is currently under review by the technical committee.

National Pavements Technical Group

- The NPTG had a few reviews and discussions in November involving aggregates: the Waka Kotahi B-series, construction of deep cement bound sub-bases, the future of Quality Right (WK's no-defects policy), carbon calculating tools for infrastructure procurement and WK's Pavement Delivery Review progress.

Environmental

- We are seeing increasing pressure for aggregate producers to provide an environmental or sustainability declaration for their products.
- WK is moving to replace the current Greenroads™ rating tool with the Infrastructure Sustainability Council of Australia (ISCA) rating scheme. ISCA certification will be compulsory for projects >\$100m and encouraged for projects \$15m-\$100m.
- The ISCA tool can be used to calculate the environmental points of aggregate supply. For example, a 10 percent reduction in cartage distance allows 5 percent extra aggregate to be used.
- WK is still working on its resource efficiency project and incorporating a national conversation on resource efficiency in its Sustainability Action Plan "Toitu Te Taiao".
- WK has engaged Auckland University to conduct research into sustainable use of aggregates in NZ, including supply and demand of aggregates and recycled materials.

Minerals Policy

- MBIE has assembled a new resource markets policy team. They are looking at data on aggregates and the GNS work towards identifying future aggregate potential.
- We are expecting the results of the NZPAM 2019 Aggregate Production survey shortly.

Lime for Asphalt

- The new M27 specification (Stone Mastic Asphalt) introduces the ASTM D242 standard for lime supply which slightly tweaks the grading required (coarser at 600µm, finer at 75µm).
- There is also a requirement for Plasticity Index testing. [AQA](#)



Another view of the wetland that Kerry Reilly built that couldn't now be repeated.

AQA Board

Chair

Peter Walsh
Fulton Hogan

Deputy Chair

Mike Higgins
J Swap Contractors

Jayden Ellis
Stevenson Construction Materials

Tim Hazell
Winstone Aggregates

Tony Hunter
Blackhead Quarries

Brian Roche
Ravensdown

Ian Wallace
Winstone Aggregates

Technical Committee

Chair

Clare Dring
Fulton Hogan

Greg Arnold
Road Science

Jayden Ellis
Stevenson Construction Materials

James Mackechnie
Concrete NZ

Stacy Goldsworthy
Civil Contractors

David Morgan
Winstone Aggregates

Aggregate & Quarry Association of NZ

P O Box 10-668
Ground floor 93 The Terrace
Wellington 6143
0800 469 272

Chief Executive Wayne Scott
wayne@aqa.org.nz
021 944 336

www.aqa.org.nz

