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THE AGGREGATE & QUARRY ASSOCIATION OF NZ

Aggregate News
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Spring in our step but no sprint

Spring is usually a season where pessimism fades and optimism takes hold.

I think we as an industry have particular reason to go with the seasonal flow this year.

It seems hardly a week passes where we are not getting another direct and encouraging message from the Government.

Most recently, as our CEO Wayne Scott reports on page 3, we've heard a Minister publicly identify that our industry's concerns about the effects of the current National Policy Statement on Indigenous Biodiversity will be addressed as part of the Government's reform of the RMA.

A week or two earlier, Infrastructure Minister Chris Bishop said he expects the new National Environment Standard for Infrastructure will provide uniform consenting which allows quarries around the country to deliver the foundations for roading and building projects. The work the AQA has done here on its own NES for Quarrying will no doubt contribute.

And, a bit before that we learned that quarries make up five percent of the 384 projects that applied to the Independent Advisory Group to go under the Government's new Fast-track Approvals process.

As we well know, you can't build anything without quarried materials, so that suggests a number of quarries will make the fast-track cut..

So, finally, we are seeing the signs that we've long advocated for and what was needed will actually be enshrined in law. That said, we do also all need to recognise that a Beehive announcement doesn't make the honey flow.

These changes will take many months to bed in to the point where quarries will benefit. In the interim, let's acknowledge it continues to be tough for some in our sector and many beyond.

There are, however, some other positive signals beyond what's coming out of the Government.

Winstone Aggregates, having made some modifications, is now working to finalise consent conditions for its major new quarry in Canterbury. See story page 4.

And Ravensdown says that while the operating environment has been tough across agriculture, it's entered the new financial year with a solid base and cause for optimism. Ravensdown has also been an industry leader in sustainability with two of its three MIMICO Environment & Community Award entries contributing to a substantial cut in its overall emissions. Story page 5.

Meanwhile, Nelson-based Taylors Contracting used innovation and team work to allow it to supply a major consignment of large rock to Wellington through the tight constraints and confines of Port Tarakohe in Golden Bay. See *Q&M* feature, and our article on page 2.

In our Technical Report, AQA Technical Adviser Mike Chilton details the final shape of the new M04 specification. Thanks are due to him and the AQA Technical Committee for the many months of hard work to get us there.

I also want to acknowledge Wayne, and some of our industry leaders working in the background, who have got us to a position where the Government is listening to, and acting on, our concerns.

You have helped put a spring in our step – even if we know the sprint to the finish line is still some way off.

Jayden Ellis
Chair, AQA

Golden Bay rock exported to Wellington

In just 79 workdays, 21,263 tonnes of rock was extracted from Taylors Contracting's Balcks Quarry in Golden Bay for export from Port Tarakohe to Wellington.

Pictured at Port Tarakohe left to right: Alan Brunning (Sollys), Kevin 'Skin' Bruning, Neil McKay, Wayne 'Swassie' Schwass, Ben Burbidge, Mick Fenemore, Kerry 'Butch' Schofield and Rob Cumming.

A Taylors team of seven people commuted from Nelson to the quarry each day to undertake the work and comply with the quarry's consented three-month annual operating window.

"To put that volume into context, our Lee Valley quarry would do that volume over a 12-month period to meet the ordinary Taylors' Rivers Department supply requirement for a year," says Taylors Contracting's Rivers and Quarries Department manager Ben Burbidge.

The quarry site itself was extremely constrained for space, so rock had to be extracted and stored off site until extraction from the quarry finished in mid-April.

This was exacerbated by the fact that consent only allowed for one large-sized range of rock – being supplied to an unspecified project in the greater Wellington region. Everything smaller had to be carted out to an interim dump site. That rock will eventually be put back in the quarry site at the end of its life.

"We then spent three weeks carting export rock from stockpiles near the quarry to Port Tarakohe," says Ben.

"During that time we were also planning how we would handle the constraints of the loading site at the port, given the multiple users of the wharf space and the challenges of loading the rock barge."

Taylors worked collaboratively with the owners of the barge, Heron Construction, local transport company Sollys, and other Port Tarakohe users to load the barge.

Taylors Contracting CEO Charlie Taylor says the project was an example of innovative problem solving to meet the wider infrastructure needs of our community.

"We know that rock supply is crucial, and we will have to work together to find solutions so that we can deliver on all the projects in front of us that require such raw materials.

"Businesses of all sizes have a role to play and as a small, locally-owned quarry, we've shown what we are able to contribute to our region and other regions as a rock exporter."

Taylors Contracting has grown from a small forestry-focused business established in the early 1970s, to now employing more than 150 people working in locations around the South Island and lower North Island.

It provides earthmoving, civil engineering construction, environmental, and quarry services.

Director Charlie Taylor is the long-standing Chair of Contrafed Publishing's Board – *Q&M, Contractor,* and *Local Government* magazines are produced by Contrafed. **AQA**

More bricks out of the BANANA wall

Quarrying has been specifically identified as a sector that will benefit from Government changes to National Policy Statements and environmental standards.

Wayne Scott

AQA CEO Wayne Scott says recent comments from Agriculture Minister Todd McClay have confirmed that the quarrying industry's concerns about the current National Policy Statement for Indigenous Biodiversity have been heard across Cabinet.

Minister McClay says as part of its reform to the Resource Management Act, the Government is progressing a second RMA amendment bill (RM Bill 2) alongside a comprehensive package of regulatory changes to drive growth and productivity.

"In the primary sector, these changes relate to freshwater, indigenous biodiversity, commercial forestry, marine aquaculture, quarrying, and water storage.

"This integrated approach will look to align settings in a way that makes better sense for farmers, foresters, and other land users. The current process for making or amending national direction instruments is long and costly and will be streamlined as part of our significant RMA reforms."

For quarrying, he says it will be easier to obtain consents for quarrying materials as these are key resources needed for infrastructure projects such as roading and housing.

"Quarried material, including crushed rock, gravel and sand, will be more readily available to support New Zealand's increased infrastructure needs."

Wayne Scott says the Agriculture Minister's comments come after Infrastructure Minister Chris Bishop had also specifically mentioned quarrying in comments about RM Bill 2.

"I expect to see a National Environment Standard for Infrastructure which strongly embodies the settings quarrying needs – to be able to deliver the foundations for roading and building projects with some uniformity across consent condition requirements," Mr Bishop had said.

Wayne Scott says the need for uniformity has been a key AQA theme in meetings and messaging with the coalition Government.

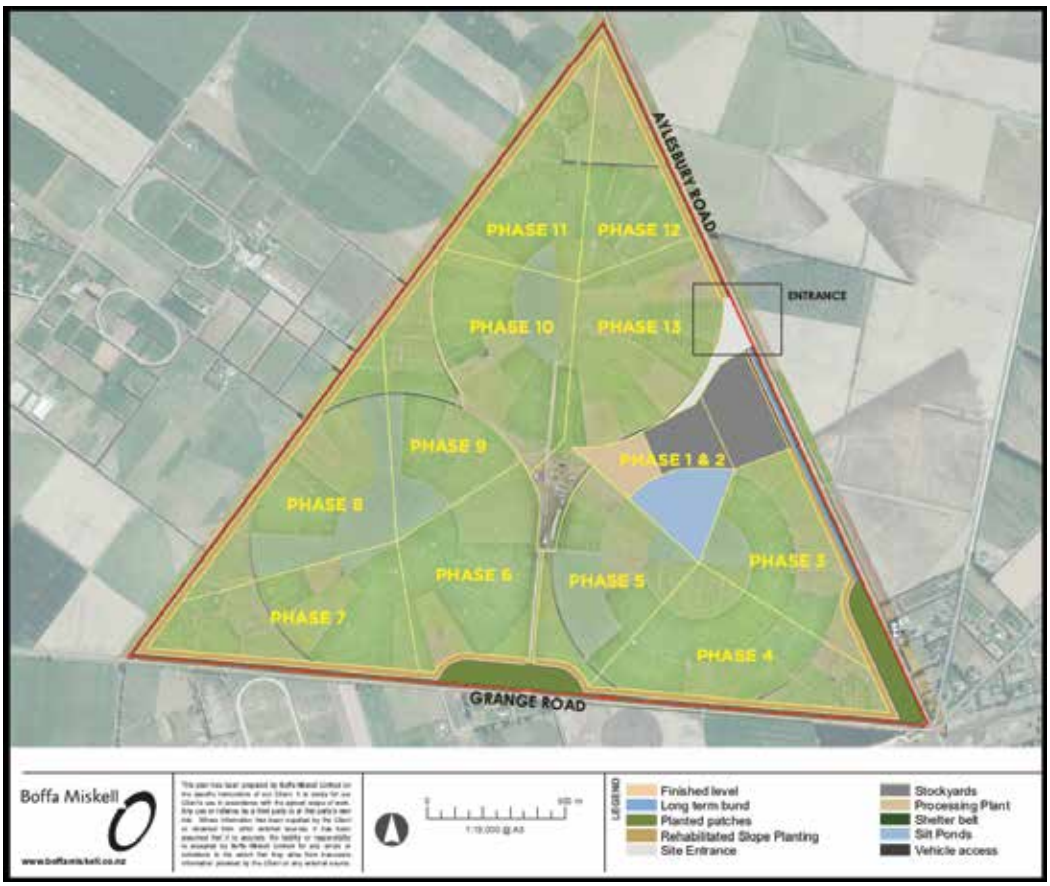
"It's really encouraging to see that what we've been saying has got through.

"The Government knows it can't really progress any of its infrastructure and housing policies if quarries are locked out of supply by BANANA regulations – Build Absolutely Nothing Anywhere Near Anyone. We're now seeing the bricks being taken out of the BANANA wall."

Minister Bishop has also announced that the alignment of national direction documents will include much needed changes to the National Policy Statement on Highly Productive Land (NPS HPL). This will occur on the same timeline as RM Bill 2, with the legislation, and seven new national direction instruments and amendments to 14 existing ones, introduced by Christmas and in place by mid-2025.

Wayne Scott says the AQA has submitted to the Government, pointing out that quarries actually provide the most financially productive use of land.

"We have been working with officials to ensure consistent consenting pathways for quarrying within all national direction instruments and we now have a timeline to achieve the positive outcomes we have been seeking." **AQA**



Big new quarry proposal near Christchurch reworked

Proposals for a major new quarry south-west of Christchurch at Burnham, to be operated by Winstone Aggregates, have seen amended conditions.

A 362 hectare property had been purchased in 2021 with a view to develop a quarry alongside the existing farming operation.

The proposed site is just north of Burnham Military Camp and is about 18 kilometres from the outskirts of Christchurch. It is bordered by Grange Road and Aylesbury Road, the latter joining State Highway 1 to the south. It would likely be one of the largest quarries in the region.

Winstone Aggregates Senior Project and Resource Advisor, Dan McGregor, says the area is estimated to contain around 30 million bank cubic metres of aggregate, equating to about 60 years' supply based on projected demand.

"While the property itself is large, less than 30 hectares of land will be used for quarrying at any point in time," he says.

"The bulk of the site will continue to be farmed, and Winstone Aggregates will progressively rehabilitate the site as quarrying progresses, with land returned to productive farming."

Quarrying, processing and stockpiling would be located far from neighbours.

The consent application was notified by the Environment Canterbury (ECan) and Selwyn District Council earlier in 2024 with 23 submissions received.

The application was heard before commissioners John Iseli, Graham Taylor and Craig Welsh in early September. During the hearing, Winstone Aggregates made a number of amendments to the application in response to concerns from submitters including:

- Reducing the maximum daily truck movements from 750 to 400, with an allowance to extend that to 550 movements up to 15 days a year.
- Reducing the proposed maximum open area from 40 hectares to 27 hectares.
- Closing the quarry at 1pm on Saturdays rather than the originally proposed 7pm.
- Removing the ability for the quarry to operate on Sundays.

Both the NZTA and KiwiRail advised they were comfortable with the proposal subject to certain conditions being met, including an update of a level-crossing safety assessment of the railway crossing south of the site.

The hearing was adjourned until 25 October to allow for experts to consult on draft conditions; for all parties to comment on the amended conditions; for the level-crossing safety assessment to be completed; and to assess whether a newly consented quarry operation at 658 Wards Road changed the traffic assessments in terms of cumulative effects. **AQA**

Ravensdown cuts coal use and protects indigenous art

Two of the three entries in this year's MIMICO Environment & Community Award from Ravensdown reflects its ongoing commitment to reducing its use of fossil fuels.

The fertiliser cooperative converted from processing agricultural lime with coal to woodchip by installing a biomass combustor at its Castle Downs facility near Dipton in Southland. It also built a drying shed at its Geraldine lime works to use the summer sun to dry lime rather than burning coal.

It says the main driver for the change was the climate crisis and Ravensdown's responsibility to stop its reliance on fossil fuels (specifically coal) and meet its commitments to science-aligned emissions reduction targets.

Ravensdown researched a range of alternative fuels and identified a biomass resource close to its Castle Downs site. It also found a NZ-based manufacturer for the combustor in Christchurch.

With this fully installed in early 2024, the site now uses no coal and the project is saving 1,100 tonnes of carbon dioxide equivalent per annum – equivalent to taking 460 cars off the road, and reducing Ravensdown's emissions footprint by 10 percent. The plant produces about 30,000 tonnes of lime per year with emissions now at 6.6 kilograms per tonne, compared to 39 kilograms of CO2 per tonne before the switch from coal. Other emissions have also improved, resulting in cleaner air and coal is no longer transported by truck from Balclutha.

The Dipton project's value to our country's emission efforts resulted in EECA assisting with capital expenditure.

The Geraldine project saw staff on site identify and develop the processing of lime without drying it with coal for most of the year. A shed with good airflow and high capacity was completed late last year, saving well over 700 tonnes of CO2 equivalent a year, six percent of Ravensdown's total 'carbon footprint'. Additionally, by not running conveyors or starting up the plant most days it saves around $3,000 a day in operating costs.

In its 2024 Integrated Report, Ravensdown's COO Mike Whitty says while the operating environment has been tough, the Dipton and Geraldine initiatives provided a 21 percent reduction in the cooperative's emissions from coal.

Ravensdown also continued to reduce its overall emission's footprint, received its first ever shipment of low carbon urea and invested $2.35 million in environmental improvements to properties.

"We continued to share our expertise to help our shareholders get the most from their fertiliser investment, lift soil fertility and improve returns."

Ravensdown's third MIMICO entry recognised pre-European rock art on its Geraldine lime site. It said this prompted a project to protect the rock art and restore habitat in an area with both biodiversity and cultural value.

It engaged with local Maori tribal (iwi) representatives on appropriate protection for the rock art and the site more generally.

This included removing exotic weed species from a natural spring area at the base of the rock face, establishing a wetland by planting native species to improve water quality and flow, and adding some larger eco-sourced trees. The area was fenced and signage provided for visitors to the site.

- *The MIMICO 2024 winner, Road Metals' solar project, featured in September's From the Quarry Face.* **AQA**

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AQATechnical update

NZTA M04: 2024 Specification

- The M04 specification replacing the 2006 specification has now been published and is able to be used in new contracts with suppliers and, we understand, in existing contracts by agreement from both parties.
- This specification and its accompanying notes represent literally thousands of hours of work by working groups and the NZTA, to produce a refreshed basecourse specification that is good for NZ Inc. It recognises the need to conserve premium aggregates for very heavily loaded pavements by allowing and encouraging the use of lower grade aggregates in medium and light applications.
- The step-change introducing classes of aggregate will reduce the need for "M/4 plus" contract specifications, as the purchaser can specify one of four classes of basecourse instead. This was first proposed by William Gray (WSP Opus) in a 2019 draft and was adopted in the latest version.
- Source property testing still requires the familiar tests of crushing resistance and weathering quality index, with the addition of a wet/dry comparison for classes 1-3 and accelerated weathering testing for classes 1 and 2.
- Particle size distribution and shape control limits remain largely unchanged, with a new allowance for 2% retained on the 37.5mm sieve (98% passing gives wiggle room for that one large rock in your lab sample that spoils the sample!), and the limits for shape control adjusted slightly in the smaller fractions to rectify an old typo. See Figure 1 below.
- The biggest change with PSD is how the limits are smoothed using characteristic values and rolling averages to allow non-compliant results in the context of a lot within the limits of statistical acceptance.
- Quality of fines testing has changed a little, with relaxed limits for classes 3 and 4, but the compulsory plasticity index and clay index testing for classes 1 and 2.
- Broken faces limits are also relaxed for classes 3 and 4. Class 4 can be uncrushed.
- Flakiness index testing has been introduced for classes 1 and 2 to prevent poor aggregate particle packing and reduce aggregate breakdown under load.

Sampling / Testing / Reporting

- To reduce sampling error, only machine sampling methods are permitted now. And test results have an expiry date of 6-12 months depending on the class of aggregate.
- Statistical analysis of test results has also been introduced which has the advantages of collecting and showing the producer's last 30 results and smoothing the typically variable results using a moving average of 5.
- Upper and lower characteristic values have been introduced (similar to the values used for air voids in asphalt).
- The NZTA has prepared a spreadsheet for summarising test results so the statistical analysis can be automated and results can be obtained in a few minutes. It also plots the last 30 test results which is perhaps one of the best outcomes of this specification refresh – producers get process control charts that will help them spot trends before non-compliant test results come in.

Regional Variants

- Regional basecourse variants remain unchanged with the addition of classes allocated for each variant and the introduction of a Canterbury Uncrushed Alluvial Greywacke variant. **AQA**

Mike Chilton, Technical Adviser, AQA

Figure 1 - M04:2024 Particle Size Distribution Comparison

		TNZ M/4: 2006	Frequency	NZTA M04: 2024				Frequency
		AP40		AP40 - Class 1	AP40 - Class 2	AP40 - Class 3	AP40 - Class 4	
	Traffic Class	All		Very Heavy	Heavy	Medium	Light	
SOURCE PROPERTIES	Source Petrographic Testing	ASTM C 295		XRD				
	Crushing Resistance	≤10%@130kN	10,000m³	≤10%@180kN	≤10%@130kN	≤10%@130kN	≤10%@80kN	10,000m³
	Wet Dry Strength Variation	Not Required	or	≤30%			Report Only	or
	Weathering Qaulity Index	AA, AB, AC, BA, BB or CA	2-yearly	AA, AB or BA	AA, AB, AC, BA, BB or CA			yearly
	Ethylene Glycol Acc Weathering	Not Required		≤30%		Not Required		

	Maximum Age of Results			6 Months	12 months	
	Plasticity Index	≤5 or		≤5	≤10	≤15
	Clay Index	≤3 or		≤3	≤5	
	Cone Penetration Limit	Not Required		Report Only	Not Required	
	Sand Equivalent	≥40 or		Not Required	≥30	≥25
	Broken Faces	≥70%		>70%	≥50%	Not Required
	Flakiness Index	Not Required		≤35%	Not Required	
	Sieves PSD	TNZ AP40 M/4 2006		Class 1 & 2	Class 3 & 4	
	53			100	100	
	37.5	100		98 - 100	98 - 100	
	19	66 - 81	1,000m³	66 - 81	62 - 81	1,000m³
	9.5	43 - 57		43 - 57	38 - 60	
	4.75	28 - 43	with	28 - 43	24 - 45	with
	2.36	19 - 33	minimum 2	19 - 33	15 - 35	minimum 5
	1.18	12 - 25	samples	12 - 25	8 - 27	samples
	0.6	7 - 19		7 - 19	4 - 21	
	0.3	3 - 14		3 - 14	1 - 16	
	0.15	0 - 10		0 - 10	0 - 12	
	0.075	0 - 7		0 - 7	0 - 9	
	Shape Control	TNZ AP40 M/4 2006		Class 1 & 2	Class 3 & 4	
	19.0 - 4.75	28 - 48		28 - 48	N/A	
	9.50 - 2.36	14 - 34		14 - 34	N/A	
	4.75 - 1.18	7 - 27		7 - 27	N/A	
	2.36 - 0.600	6 - 22		5 - 21	N/A	
	1.18 - 0.300	5 - 19		3 - 17	N/A	
	0.600 - 0.150	2 - 14		2 - 14	N/A	

PERFORMANCE PROPERTIES	RLT Soaked Undrained	Not Required		1.5	Not Required	Not Required	10,000m³
	RLT Dry Drained	Not Required	10,000m³	0.5	0.5		
	Soaked CBR	≥80%	or	Not Required		>80%	
	MDD & OMC		2-yearly	Report			5,000m³
	Solid Density	Not Required		Report			

Basecourse specification summary table