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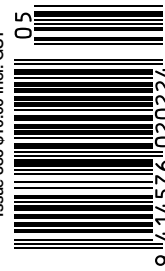


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STABLE GROUND

In the technical world of road stabilisation, it's efficiency that counts – and we spoke to Richie Graham of Graham Civil to discover how their new Neilo M5111 Stabiliser has improved this rapidly expanding contracting business.





The Neilo Grader is a multi-purpose pavement machine

Founded in the Manawātū in 2020, Graham Civil has gone from strength to strength to become a key player in the region. With a team of 23 staff in the Manawātū and Waikato regions, they have taken on everything from earthworks to civil roading and drainage to residential works. They've played important roles in some of New Zealand's major infrastructure builds, including the Waikato Expressway, the new Manawātū Gorge replacement (Te Ahu a Turanga: Manawātū Tararua Highway) and



Richie Graham



The Neilo team did not shy away from the complex engineering challenge

the new Cambridge/Piarere roundabout.

The company also plays a part in several regional maintenance contracts, with a focus on road stabilisation and pavement repairs.

Multi-purpose pavement machine

The pavement maintenance contracts are paid by the metre, so completing the job efficiently is very important. With that in mind, the team at Neilo worked alongside Graham Civil to develop a Neilo Grader

into a multi-purpose pavement maintenance machine. On the wishlist was a cement vane, stabiliser mill, road broom, lifting attachment and a front-end loader bucket. Despite a machine like this having never been produced before, the Neilo team weren't going to shy away from the complex engineering challenge.

The Kubota M5111 was chosen due to its capable 110hp engine and proven reliability, as well as its optional front-end loader to lift cement bags and support the cement vane.



It was then fitted with Neilo's flagship 3050mm undermount grader blade, with all the necessary chassis extensions and accompanying hydraulics/electrical systems.

Then came the challenge of fitting a 1.6-tonne stabiliser on the rear, two 107-litre water tanks somewhere and a 900kg cement vane on the front.

The result has proven to be nothing short of what has been described as a masterpiece. Not only does it reduce the amount of machinery needed for each maintenance job, but it also reduces the number of operators required, transport costs, as well as improving staff safety and wellbeing.

Before the advent of their new M5111 Stabiliser, road stabilisation jobs were

slower and more resource demanding for Graham Civil. The average stabilisation/maintenance job required the following resources: a grader for levelling, a skid-steer with a road mill for stabilisation, water cart truck with a transport trailer, roller, road broom for cleaning up, and an operator for each of the machines.

Now, with the M5111, the skid-steer, road broom and grader have all been made redundant, with each task completed by the single Neilo machine. This has not only freed up capital for Graham Civil, but it has also reduced transport and maintenance requirements.

The new setup is particularly advantageous when it comes time to move between sites. With a top speed reaching



All functions are directly controlled from the cabin



over 40km/h, the M5111 operator simply loads the cement vane onto the transport trailer, along with the roller and drives off to the next site.

"We now only need to make a single truck journey to move between maintenance jobs, which has significantly reduced transport costs," says company director Richie Graham.

The Attachments

Cement Vane

Mounted on the front-end loader is the Active VMA cement vane. This can be quickly removed and reconnected using the quick hitch, so the operator can make use

of the M5111 Stabiliser's lifting, sweeping and loader capabilities. Application rates and widths can be easily adjusted from inside the cab, making cement application a quick and easy process. A clever in-built bag cutter enables large one-tonne cement bags to be easily lifted with the front-end loader and lowered onto the cutter for a mess-free load.

Previously, the Graham Civil team purchased cement for stabilisation tasks in 20kg bags and manually cut them open to spread them over the road surface. Not only was this a slow process, but it also put a physical strain on the staff due to the constant lifting. Utilising the Neilo M5111 Stabiliser has meant that Graham Civil can also purchase and load cement in one-tonne bags which are roughly half the price as the equivalent amount in 20kg bags. The entire cement spreading process can now be completed by one or two operators, saving a significant amount of time and resources, while quite literally

saving everyone's backs.

Stabiliser

The centrepiece of the machine is the FAE RSL/ST 150 Stabiliser, which is mounted on the three-point linkage. Fitted to a side-shift, the stabiliser can be positioned in the centre or to the side to work close to the roads edge. With its ultra-hard replaceable teeth, the FAE can quickly mill up asphalt, soil or aggregate up to 280mm deep in a single pass. Two large tanks cleverly hidden under the rear wheel arches provide water to cool the teeth, reduce dust and assist with cement activation.

All functions are controlled directly from the cabin, which Richie assures is incredibly quiet even when the stabiliser is running full steam in the hardest conditions.

Grader Blade

It should come as no surprise that the grader blade is particularly useful. With the exact dimensions and build as Neilo's other M5111 Graders (cabin and ROPs versions), the blade is designed to be just as powerful

and accurate. For Graham Civil, the grader comes into play once cement spreading, road milling and compaction have all been completed, to achieve the final grade.

Road Broom

The team at Graham Civil also make use of a clever adaptation of the popular Neilo broom. Mounted onto the front-end loader's quick hitch, the broom can easily attach to clean up gravel or asphalt surfaces once paving has been completed.

Conclusion

The results truly say it all, which of course can be credited to Richie and his team's dedication to challenging the status quo and constantly improving. And it's fair to say, Neilo's engineering prowess has really shown itself in their latest development. The civil industries will certainly be watching with anticipation to see what the business comes up with next. ■

For more information, contact nzammachinery.co.nz



Neilo's engineering prowess has really shown itself in their latest development