

STABILISING CHILDCARE INFRASTRUCTURE FOUNDATIONS

Site Profile

Childcare centres are vital to the success of our growing economy. Without them, many businesses would suffer from a lack of qualified staff and the impact on the financial impact on our government would be astronomical. The charming St Marina Early Learning Centre in Paramatta, Sydney supplies hundreds of families with care for their children.



The Situation

The childcare centre is constructed on a sloping block and for many years the site had experienced poor drainage with water flowing from the high side of the block to the low side.

Not only did the site have poor drainage due to the soil type it was constructed on, but it also suffered from the natural erosion that occurs as a result of water flow.

This in turn meant that the isolated brick piers holding up the building were experiencing movement due to the subsidence and long-term settlement of the reactive clays beneath them.

The owners of the childcare centre were preparing for a large-scale renovation of the entire facility and so needed to start with the basics and ensure that their foundations were solid to avoid costly damage to their renovation work in the future.



Our client thought ahead and sought a future proof and time efficient solution to protect their assets.

Our Solution

Rockbuild Group, the contractors for the renovation, engaged Resinfect to propose a suitable solution to stabilise the foundations of the centre. Subsequently, Resinfect's experienced consultants promptly attended the site and assessed the foundation issues.

It was discovered that the 120 brick piers of the centre were built on reactive clay. Clay naturally expands and contracts due to changing moisture levels and it never returns 100% to its original position meaning that anything built on this material with poor drainage and excess ground water is subject to long term foundation settlement.

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Resinfect proposed an underpinning injection programme targeting all 120 isolated brick piers with the aim of stabilising each one.

The top metre of ground is the most susceptible to moisture change and movement, so we injected our sustainable resin solution at varying depths below the ground to squeeze and compact the ground to fill the voids and fissures that had occurred as a result of the clay movement.



This deep in-ground injection approach improved the load bearing capacity of the foundations and prevents further movement and ensuring longevity of the ground stabilisation works.

The Results

After completing the underpinning and pier-pad injection solution, the childcare centre was protected from any future movement and the important renovation to the life blood of this Paramatta community could go ahead with the confidence that they will not have to repair their renovation work as a result of damage caused by foundational movement.

Resinfect services were completed within a short timeframe, and in collaboration with other trades on site.

The team received a positive testimonial Danial, Queensland State Manager.

Richard and the Resinfect team were a pleasure to work with on our St Marina project. From the initial site visit, quotation to project delivery, the team was aware of project timeframe restrictions and provided a quality solution to the works required at this childcare centre. Thanks Richard and the team at Resinfect.



Acknowledgements

Resinfect would like to thank Rockbuild Group and the St Marina Early Learning Centre for the opportunity to demonstrate our sustainable, and cost and time effective solutions.

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