

Atlantis®
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Matamata Residential Development

Project Location

Matamata, Waikato

New Zealand

Atlantis Application

Underground Infiltration Tanks

Project Overview

A residential development comprising 14 housing lots in Matamata, Waikato required a stormwater management system capable of accommodating runoff generated by the new homes. The design called for two modular soakage systems positioned at opposite ends of the site, both capable of operating under trafficked conditions.

The Atlantis Flo-Vault® Modular System was selected to provide a combined 604 m³ of water infiltration capacity. A total of 604 Atlantis Flo-Vault® cubes were installed, with the completed system enabling the site to proceed to construction of the 14 homes with stormwater infrastructure in place.

Technical Summary

Project	Matamata Residential Development
Location	Matamata, Waikato, New Zealand
Application	Underground Infiltration Tanks
Completion	March 2022
Size	604 m³
Surface Use	Trafficable
Atlantis System	Flo-Vault®

Design Challenge

The development of 14 residential lots required stormwater infrastructure capable of managing the additional runoff associated with the new homes. Rather than using a single installation, the design required two separate modular soakage systems located at opposite ends of the development, providing a combined infiltration capacity of 604 m³.

Trafficability was an additional design requirement. Both soakage systems needed to accommodate trafficked conditions, requiring the underground stormwater solution to satisfy the site's infiltration requirements while remaining compatible with the intended conditions above.

01 Manage stormwater runoff associated with a 14-lot residential development.

02 Provide a total of 604 m³ of water infiltration capacity.

03 Divide the stormwater infrastructure between two modular soakage systems.

04 Position the two systems at opposite ends of the site.

05 Accommodate trafficked conditions above the soakage systems.

06 Provide the stormwater infrastructure required for the site to proceed to construction of the 14 homes.

Solution

Following consideration of various stormwater catchment solutions, the Atlantis Flo-Vault® Modular System was selected for the development. The system was configured as two soakage installations providing a combined 604 m³ infiltration capacity under trafficked conditions.

The Flo-Vault® system captures surface water through infiltration before allowing water to recharge the water table. The specified system also provides cleaning and filtration of the captured water before recharge.

A total of 604 Atlantis Flo-Vault® cubes were installed across the two systems. The project involved coordination between Geofabrics, an industry partner, the local council, contractor and designers to ensure that the system met the project's design elements.

Benefits

- 604 m³ total infiltration capacity provided across two modular soakage systems.
- Configuration suitable for the project's required trafficked conditions.
- Stormwater infrastructure distributed between opposite ends of the development.
- 604 Flo-Vault® cubes installed in two days by a four-person team.
- Approximately 30 seconds required to construct each cube.
- System assembly reported as 70% faster than other panel-formed tanks, which can require approximately 2–3 minutes per unit to assemble.

Considerations

Installation involved 604 Atlantis Flo-Vault® cubes distributed across two separate soakage systems at opposite ends of the development. The complete cube installation was undertaken in two days by a four-person team.

Each Flo-Vault® cube required approximately 30 seconds to construct. This resulted in a reported 70% reduction in assembly time compared with other panel-formed tanks, which were identified as requiring approximately 2–3 minutes to assemble.

Coordination between Geofabrics, an industry partner, the local council, contractor and designers supported integration of the Flo-Vault® system with the project's design requirements.

Project Outcomes

- 604 m³ of total stormwater infiltration capacity provided for the residential development.
- Two modular soakage systems installed at opposite ends of the site.
- 604 Atlantis Flo-Vault® cubes installed across the project.
- Complete cube installation undertaken in two days by a four-person team.
- Approximately 30 seconds required to construct each Flo-Vault® cube.
- Soakage infrastructure established for the site ahead of construction of the 14 homes.

The project combined a 604 m³ infiltration requirement with a two-system configuration and trafficked site conditions. Dividing the Flo-Vault® installation between opposite ends of the development provided the required soakage infrastructure, while the installation of 604 cubes in two days addressed the project's construction programme through rapid modular assembly.

Did You Know?

A four-person team installed 604 Atlantis Flo-Vault® cubes in two days, with each cube requiring approximately 30 seconds to construct.

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Thank You For Your Attention



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