

Atlantis®
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Speers Point Football Facility

Project Location

Speers Point, Lake Macquarie,
NSW, Australia

Atlantis Application

Synthetic Turf Sub-drainage

Project Overview

The Speers Point football facility upgrade included two full-size FIFA-accredited synthetic fields and twelve Football FIVE5 synthetic pitches, supported by a new administration building and car park. The synthetic playing surfaces required an integrated subsurface drainage system capable of collecting infiltrated water beneath the turf and transferring it to perimeter drainage infrastructure.

Atlantis Flo-Cell® 30 mm drainage cells were installed across the fields, with Atlantis Mini Flo-Tank® modules forming geotextile-wrapped perimeter drains. Water passing through the synthetic turf and permeable shock pad entered the Flo-Cell® drainage layer, flowed toward the perimeter Mini Flo-Tank® system and was discharged through pits and connected pipework.

Technical Summary

Project	Speers Point Football Facility
Location	Speers Point, Lake Macquarie, NSW
Application	Synthetic Turf Sub-drainage
Completion	April 2014
Size	20,310 m² Flo-Cell® 30 mm + 1,250 Mini Flo-Tank® modules
Surface Use	Synthetic Football Field
Atlantis System	Flo-Cell® 30mm + Mini Flo-Tank®

Design Challenge

The upgraded synthetic football fields required a continuous subsurface drainage strategy beneath the playing surfaces, together with a perimeter collection system capable of receiving and removing water from the field profile.

01 Provide subsurface drainage beneath the synthetic turf playing surfaces.

02 Allow infiltrated water to move laterally across the full field area.

03 Collect drainage water around the perimeter of each field.

04 Integrate perimeter pits and pipework for water removal from the drainage system.

05 Maintain drainage continuity beneath the permeable shock pad and synthetic turf layers.

06 Accommodate drainage infrastructure across both full-size fields and the twelve Football FIVE5 pitches.

Solution

Each field was levelled and compacted before the drainage system was installed.

Atlantis Mini Flo-Tank® modules, wrapped in geotextile, were arranged around the perimeter of each field to form the main collection drain. Pits were positioned at various locations around the perimeter and connected to pipework to remove collected water.

A geotextile layer was installed over the field formation, followed by Atlantis Flo-Cell® 30 mm drainage cells. The Flo-Cell® panels were joined in 4 m × 4 m sections and laid across the field with small gaps between sections, extending over the Mini Flo-Tank® perimeter drain.

A second geotextile layer was installed above the Flo-Cell® drainage layer, followed by permeable shock pads and the synthetic turf surface. Rainwater infiltrated through the turf and shock pad into the 30 mm drainage layer, then flowed laterally to the perimeter Mini Flo-Tank® system and discharged through the connected pits and pipework.

Benefits

- Continuous subsurface drainage beneath the synthetic playing surfaces.
- 20,310 m² of Flo-Cell® 30 mm installed across the project.
- 1,250 Mini Flo-Tank® modules incorporated into the perimeter drainage system.
- Dedicated perimeter collection around each field.
- Pits and pipework integrated for controlled discharge.
- Permeable shock pad allowed water to pass through to the drainage layer.
- Flo-Cell® drainage layer extended across the field and over the perimeter Mini Flo-Tank® system.

Considerations

The documented drainage build-up relied on continuity between the surface layers, the Flo-Cell® field drainage layer and the Mini Flo-Tank® perimeter drain.

The installation sequence comprised:

- Levelled and compacted field formation.
- Geotextile layer over the field.
- Flo-Cell® 30 mm drainage cells installed in 4 m × 4 m sections.
- Mini Flo-Tank® modules wrapped in geotextile around the field perimeter.
- Perimeter pits connected to discharge pipework.
- Upper geotextile layer.
- Water-permeable shock pad.
- Synthetic turf surface.

Project Outcomes

- 20,310 m² of Atlantis® Flo-Cell® 30 mm installed.
- 1,250 Atlantis® Mini Flo-Tank® modules installed.
- Two full-size FIFA-accredited synthetic fields incorporated into the development.
- Twelve Football FIVE5 synthetic pitches included within the facility.
- Flo-Cell® provided continuous subsurface drainage beneath the synthetic surfaces.
- Mini Flo-Tank® modules formed perimeter collection drains around the fields.
- Drainage water transferred from the field surface through the turf and permeable shock pad into the Flo-Cell® layer.
- Collected water discharged through perimeter pits and pipework.

The completed system integrated field-wide subsurface drainage with a dedicated perimeter collection and discharge network beneath the synthetic football surfaces.

Did You Know?

The Flo-Cell® drainage layer extended over the Mini Flo-Tank® perimeter drain.

This created continuity between the field-wide 30 mm drainage layer and the perimeter collection system, allowing water infiltrating through the synthetic turf and permeable shock pad to move directly into the perimeter drain before being removed through the connected pits and pipework.












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Thank You For Your Attention



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