

PRESIDENT WATER

Water Treatment & Irrigation Efficiency Technologies

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Executive Summary

City of Armadale – Gwynne Park Vortex Generator Case Study

President Water is proud to present the results of the 12-month vortex generator irrigation trial conducted in partnership with the City of Armadale at the Gwynne Park Recreation Precinct in Western Australia. This independently verified municipal case study demonstrates exceptional financial, operational, environmental, and community outcomes under real-world council operating conditions.

The installation of a single 100 mm President Water Vortex Generator delivered an independently verified 16.13% reduction in annual water consumption, saving 13,839 kilolitres per year across the 4.7-hectare sporting precinct. Importantly, these water savings were achieved while simultaneously improving turf quality, surface resilience, and visual presentation.

From a financial perspective, the trial delivered total verified annual cost savings of \$16,933.33 from reductions in labour, fertiliser, energy, and maintenance. With a total installed capital cost of \$12,000, the system achieved a rapid 8.5-month payback period and a first-year return on investment of 41.1%, delivering a confirmed cost-benefit ratio of 1.41:1.

Beyond financial returns, the technology delivered substantial sustainability benefits including:

- 13,839 kL annual water conservation
- 60% reduction in fertiliser usage
- 8,564 kWh of annual energy savings
- 6.4 tonnes of CO₂-e emissions reduction per year
- Enhanced soil biology and reduced nutrient runoff

Operational reliability was exemplary, with the vortex generator achieving 100% uptime and zero maintenance requirements throughout the entire 12-month trial, despite full integration into a legacy irrigation system installed in 1974.

Community response has been overwhelmingly positive. Local residents, sporting clubs, and visiting teams consistently reported and commented on the visibly improved turfgrass condition, safer playing surfaces, enhanced uniformity, and improved recovery following high-use sporting events.

As a direct outcome of these verified results, the City of Armadale has formally approved the purchase of additional President Water vortex generator units and has incorporated President Water technologies into its Council Master Specifications for irrigation going forward.

This case study provides an independently verified, council-endorsed validation of President Water's vortex generator technology as a proven solution for water security, cost reduction, and turf performance enhancement in municipal, sporting, and commercial irrigation environments.

President Water is proud to partner with progressive councils committed to sustainable water management, financial accountability, and superior asset performance.