

Woodlands Park stormwater harvesting project

Moonee Valley City Council
Essendon

Overview

Moonee Valley is a densely populated and established municipality with limited open space opportunities to implement Water Sensitive Urban Design (WSUD) projects. In the neighbourhood that the park is located in, there is an estimated population of 11,238, which is expected to grow to 16,450 by 2040. With increased development and growth in this area, the role of green healthy public open space is incredibly important for local residents.

The Woodlands Park Stormwater Harvesting Project is a good example of how Moonee Valley City Council has adopted an innovative approach to transform existing stagnant ponds in this historical parkland, without significantly reducing the grassed open space areas. The project has created beneficial environmental, social and ecological outcomes for the site and waterways beyond. It has provided Council and local residents with a significant amount of learning and insight into integrated water management.

Organisations

Moonee Valley City Council, Engeny Water Management (Engineering consultant)
Co-funded by City West Water and Melbourne Water

Cost

\$1,370,000 excluding GST

\$580,000 funding from City West Water and \$300,000 funding from Melbourne Water

Timeframe

The inception of the Woodlands Park Stormwater Harvesting Project began with the Masterplan in 2017, which proposed to upgrade the existing ponds, transforming them into a functional stormwater harvesting and treatment system to provide a sustainable water source to irrigate the site. The project received considerable support from the community. Construction was completed in late 2019.



Woodlands Park upgrade works implemented on site

Objectives

- To green Council's second premier with a sustainability focus.
- To increase local biodiversity and wetland habitat.
- To improve waterway health.

Outcomes

The project has only recently been constructed, expected outcomes are:

- Reduced stormwater pollutant loads and nitrogen
- Reduced total stormwater runoff volume entering Five Mile Creek
- Increased stormwater evapotranspiration to improve local microclimate
- Improved community understanding and engagement to promote more water sensitive behaviors and Water Sensitive Urban Design implementation
- Improved local amenity and landscape value including recreation, urban ecology, habitat value, wellbeing and liveability
- Flood mitigation and reduction in downstream flooding and creek erosion
- Improved safety by replacing the bluestone edge with a soft planted border.

Ornamental ponds can be re-purposed for water sensitive urban design...

Lessons learnt

- Unexpected discovery and protection of wildlife including Eastern Long Neck Turtles, Murray Short Neck Turtles, Freshwater Mussels and Yabbies.
- Unexpected number of exotic fish - removal of over 1000 Carp prior to introduction of native fish species.
- Practical opportunities for staff to be more involved on site and learn about urban ecology, design implementation and design constraints.
- Discovery and management of sub surface site constraints to improve wetland functionality and habitat.
- On-site and impromptu consultation with local residents and school students.
- The importance of liaising with Wildlife Victoria, DELWP, local vets, local wildlife carers and educational institutions.

The project will harvest and treat over 53 ML of stormwater per annum from a Melbourne Water drain, which establishes a sustainable source of irrigation water of 12 ML to be used for the surrounding parkland each year.

Council are proud of what has already been achieved for the community through this project. Maintenance and ongoing consultation with the local community will ensure the success of the project and continuous improvements to wildlife habitat and water treatment at Woodlands Park.



Pre construction



Construction underway



Completion of construction