



Fairbairn Park Pavilion Project: The Design and Construction of a Hydraulically “Disconnected” Drainage System

Nick Andrewes¹, Kaye San Foong²

¹Engeny Water Management, Melbourne, Australia, ²City of Moonee Valley, Melbourne, Australia

Fairbairn Park is located on the Maribyrnong River flood plain within the suburb of Ascot Vale. The approximately 26 hectare open space caters for sporting activities including cricket, football and tennis as well as shared user paths and walking tracks. The area is recognised by the City of Moonee Valley as a major open space reserve that provides significant benefits for the local community and environment and in 2013 developed a master plan for the improvement of the parks facilities. As well providing upgrades for existing ovals and tennis courts and setting aside areas for native vegetation a new pavilion was earmarked as the centrepiece and community hub for the site.

The Fairbairn Park pavilion was identified by the City of Moonee Valley as an opportunity for an innovative stormwater management project that could simultaneously reduce Council’s demand for potable water via the capture and onsite use of roof water, and treat stormwater runoff generated on site to standards exceeding Best Practice Environmental Management Guideline targets. Engeny Water Management (Engeny) was engaged by the City of Moonee Valley to work with Council’s engineering and landscape team to design the stormwater quality treatment system for the pavilion.

The design of the stormwater quality treatment system for the pavilion was considered as opportunity to create a hydraulically ‘disconnected’ drainage system that provided the same drainage service standard as a traditional pipe drainage system whilst also providing environmental benefits associated with disconnecting the drainage system from the receiving waterway. The design included a bio-retention basin and a series of infiltration and exfiltration trenches that were used to collect convey and discharge stormwater into the surrounding soils. Exfiltration trenches were sized with a specific detention capacity to allow exfiltration of the stormwater at the hydraulic conductivity rate of the surrounding in-situ soils.

The construction of the system took place in late 2017 and this presentation focuses on lessons learnt throughout the design and construction stages.