



## Implementing sustainable water strategy through development industry engagement

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### Overview

This presentation is of the outcomes of a project undertaken to assist the City of Greater Dandenong in Metropolitan Melbourne. The project was to assist Council with the implementation of the Dandenong Sustainable Water Strategy. The project focused on integrating development WSUD measures into the building and planning approvals processes. The focus was on applying the 2016 Australian Rainfall and Runoff (ARR 2016 – Engineers Australia) urban catchment philosophy of Volume Management. Volume Management requires that stormwater design addresses multiple criteria. These multiple criteria are that peak flows are attenuated to reduce local flooding, as well as requiring volume reduction targets to be met to reduce downstream flood frequency, and to generally improve water quality outcomes across the catchment.

### Objectives

The Dandenong Sustainable Stormwater Strategy considers the impact of forecast urbanisation, increased catchment impermeability, and climate change. Future development is predicted to be the larger influence on water quality and stormwater infrastructure in the local catchment.

The creation of new growth areas and forecast infill development will result in an increase of impervious areas within the municipality. The catchment is predicted to be 90% covered in impervious surfaces by 2030 under a Business as Usual scenario. This will increase the total volume of stormwater runoff and pollutants discharging to the waterways, which will result in increased pressure on the existing drainage infrastructure. To avoid exponential increases in asset replacement costs, Council undertook a program to implement the building and planning related sections of the Sustainable Stormwater Strategy.

These were the Action Plan items to:

- Manage demand for new and improved drainage systems
- Investigate planning controls and market-based tools to alleviate impact of urban consolidation and infill development on existing drainage infrastructure
- Strengthen local planning policy and/or facilitate market-based tools to manage flood risk (where appropriate)
- Manage the interface between new and old drainage infrastructure
- Develop Guidelines to assist developers in the preparation of Stormwater Management Plans for new developments.

## Method

The project has allowed Council's environmental planners to map out and draw together the different areas of WSUD into one integrated approvals process that includes all stakeholders, leading to a more streamlined process for applicants, and more effective on-ground implementation of initiatives in development and redevelopment sites.

This project has also provided training to the various internal Council stakeholders including our planners and our stormwater engineering team to achieve better WSUD outcomes during the planning application process. This will facilitate the engineering team to deliver the 2016 ARR Guideline's requirements of peak flow attenuation as well as volume reduction and improved water quality outcomes.

The project also involved refining and launching web-based design software to assist civil engineers and other drainage designers in the Municipality to achieve Council's multiple criteria for stormwater design performance.

## Results and conclusions

The streamlined process has allowed Council to understand how stormwater strategy goals can be met by working with the development community in a highly urbanised catchment. By setting clear goals and targets, providing easy to use web-based design tools and training, and by enforcing WSUD standards through the buildings approval processes, progress can be made to improve catchment water quality. In addition, Council will over time, be able to reduce asset upgrade costs through Volume Management and because of a reduction of directly connected impervious areas within the catchment.