



## STORMWATER MANAGEMENT - SOURCE CONTROL

Course Duration: Two Days

### Target Audience

Municipal and consulting engineers engaged in the planning, design and maintenance of urban storm drainage infrastructure incorporating current best practice principles of 'water-sensitive urban design' (WSUD) including flood management, pollution control/treatment and stormwater harvesting.

### Course overview

Introduces participants to the principles and technology of stormwater retention/'source control' practice. Using case studies, this course explains how this technology can be used to manage flooding, to control/treat pollution and to provide water for rainwater tanks and non-potable uses in Australia urban communities.

The focus of the Workshop is on practical application of the hydraulic/hydrological theory including case studies developed in the Handbook.

### Course benefits

Knowledge and understanding of the key principles of water-sensitive urban design (WSUD) are particularly essential tools for municipal and consulting engineers engaged in the development or redevelopment of urban communities in Australia. These principles are responsible for keeping communities safe from the risk of flooding, ensuring that available water resources are managed in a sustainable manner, and providing a high level of amenity particularly in relation to the quality of riverine and coastal receiving waters.

### Course topics

- Stormwater retention - options available in the urban landscape
- Infiltration systems, hydraulic conductivity, continuous simulation modelling
- Modified design storm method, 'emptying time', WSUD 'do's and don'ts'; case studies

- Theory and case examples of six (non-tropics) flood management practices
- Flood management practices for tropical environments
- Principles of urban pollution control/treatment, 'sizing' of bioretention facilities and swales
- Stormwater harvesting: 'sizing' of rainwater tanks; case examples of harvesting systems

### Learning outcomes

- Explain why stormwater retention practices are cost-effective and environmentally beneficial
- Design simple flood management components for tropical and non-tropical urban environments
- Determine the dimensions of bioretention facilities in any of Australia's five climate zones
- Design swales for residential streets and highways in any of Australia's five climate zones
- 'Size' rainwater tanks to meet the in-house and irrigation needs of Australian families
- Explain how storm runoff can be harvested/stored/retrieved for non-potable urban uses

### Learning method

Throughout the course, learners will be challenged through a series of learning activities that apply theory to real work situations. These activities, along with course tools and templates, support the transfer of learning to the workplace. Activities may include but are not limited to work simulations, group projects, problem solving, case studies, peer-to-peer learning and facilitated discussions.

### Take home tools

A copy of the Student Edition of the "WSUD Handbook" (over 200 pages) as well as detailed explanations of solutions to the homework exercises.