

MUSIC Modelling Guidelines

Version 1.0 – 2010

waterbydesign

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Water by Design welcomes feedback on this publication which can be directed to info@waterbydesign.com.au

Water by Design

Water by Design was established in 2005 and is a program of the South East Queensland Healthy Waterways Partnership. Water by Design builds the capacity of the water and urban development sectors to help successfully implement sustainable urban water management. Sustainable management of the urban water cycle supports sustainable development, including protection of the natural water cycle.

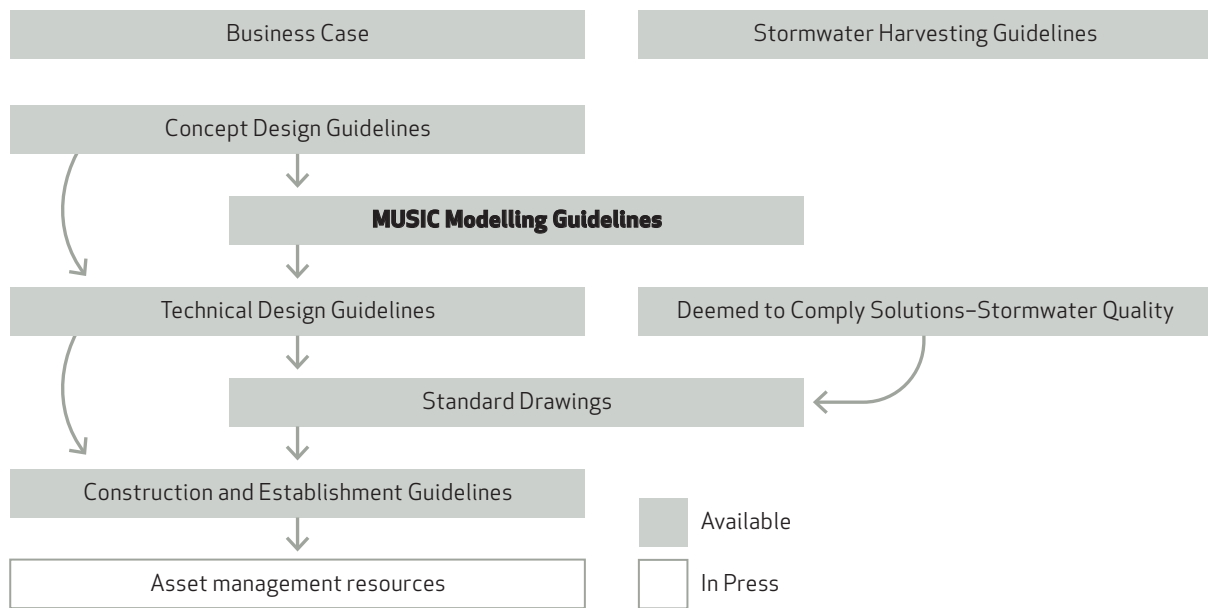
South East Queensland Healthy Waterways Partnership

The South East Queensland Healthy Waterways Partnership is a collaboration between government, industry, researchers and the community. The Partnership was created in 2001. The partners work together to improve catchment management and waterway health in Moreton Bay and the rivers of South East Queensland between Noosa and the Queensland–New South Wales border. The Partnership also manages the Ecosystem Health Monitoring Program (EHMP), which produces an annual report card on the health of the region's waterways, estuaries and bays.

Further information on the SEQ Healthy Waterways Partnership and the Water by Design Program, is available from www.healthywaterways.org and www.waterbydesign.com.au

This document is available for download from www.waterbydesign.com.au

Water by Design Tools and Resources



The above diagram demonstrates the context in which the *MUSIC Modelling Guidelines* relate to other resources which assist in the planning, design and implementation of water sensitive urban design.

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1 Introduction

The Model for Urban Stormwater Improvement Conceptualisation (MUSIC) is a software tool that simulates the behaviour of stormwater in urban catchments. MUSIC is the preferred tool for demonstrating the performance of stormwater quality treatment systems within urban areas.

The purpose of the *MUSIC Modelling Guidelines* is to ensure a consistent and uniform approach to stormwater quality modelling and assessment. This guideline focuses on providing preferred MUSIC parameters to demonstrate compliance with stormwater quality management objectives and should be read in conjunction with the *MUSIC User Manual*. See Section 2 for further details on stormwater quality management objectives.

Assessment authorities will require that all reporting of MUSIC modelling submitted as supporting evidence with development applications is consistent with these guidelines unless locally specific guidelines are available. Before preparing a MUSIC model for a development application, the applicant should contact the relevant assessment authority to ensure use of the most current version of the guidelines and to fully appreciate locally specific reporting requirements.

The guidelines are structured as:

- **Chapter 2: Stormwater management objectives** – discusses stormwater management objectives.
- **Chapter 3: Catchment model set-up** – specifies the preferred meteorological data; source node, rainfall runoff, pollutant export parameters; and the definition of MUSIC catchments.
- **Chapter 4: Stormwater treatment nodes** – provides guidance on the configuration and parameters for modelling stormwater treatment nodes.
- **Chapter 5: Life cycle cost** – summarises the method for estimating life cycle cost information with MUSIC and discusses the important cost information for reporting.
- **Chapter 6: Results** – describes how to analyse model results to determine whether the treatment strategy complies with stormwater quality objectives.
- **Chapter 7: Reporting and assessment** – outlines the information about MUSIC modelling required by assessment authorities for development applications.

These guidelines have been prepared for urban stormwater management professionals experienced in using MUSIC and designing and/or assessing stormwater quality treatment systems. **Prior to undertaking MUSIC modelling readers should refer to the *MUSIC User Manual* and undertake formal training in MUSIC modelling.** MUSIC training is provided by the eWater CRC. The eWater training provides a background to the software, technical information that underpins the model, and advice on how to set up a MUSIC model. Further information about MUSIC is also available via the Catchment Modelling Toolkit www.toolkit.net.au.

These guidelines do not provide advice on selecting or designing stormwater treatment devices or treatment trains. Refer to www.waterbydesign.com.au for further information on planning, designing and constructing stormwater management measures.