THE EVOLUTION OF THE WSUD GUIDELINES FOR MELBOURNE COUNCILS

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Abstract

Overview

In 2007, Melbourne Water’s Living Rivers Program initiated the development of Water Sensitive Urban Design (WSUD) Guidelines for councils on the south eastern fringe of Melbourne (Round 1 Guidelines). These guidelines included involvement from South Gippsland, Baw Baw, Bass Coast, Cardinia and Mornington Peninsula Shire(s). Since this initiative began in 2007 these guidelines have been rolled out as a Round 2 guidelines to pick up the northern and western fringe councils, which included Hume, Whittlesea and Wyndham City Councils, and the Macedon Ranges, Melton, Mitchell, and Moorabool Shire Councils.

Round 3 of these guidelines has seen a return to the South East councils of Melbourne where the content and participants for the guidelines has increased reflecting the significant increase in the understanding and implementation of WSUD.

Parsons Brinckerhoff has been involved in each round of guideline development, allowing a process of implementation to be adopted that has been refined to address the current council challenges with WSUD.

This paper outlines the evolutionary process of these guidelines through each round, which is reflected in the document content:

- Round 1 - Design Guidelines
- Round 2 - Design Guidelines considering some construction, operation and maintenance considerations
- Round 3 – WSUD Lifecycle guidelines providing consolidated documentation of planning, design, construction, operation and maintenance considerations.

Objectives

The objective of the project is to assist councils with a framework for lifecycle thinking for WSUD assets. The evolution of the guidelines aim to ensure councils have a clear and well outlined position on:

- Engagement to ensure the success of WSUD assets
- Planning for successful WSUD outcomes
- Governance and accountability
- Legacy and building capacity

**Methodology**

The method of delivery of the guidelines has been refined through the various rounds of development. This method focuses on significant consultation with council key personal involved in WSUD.

The method in each round altered slightly however each followed the general process of:

- Phase 1 – Lessons Leant Assessment
- Phase 2 – Develop project methodology
- Phase 3 - Council consultation (interviews and workshops)
- Phase 4 - Guideline development
- Phase 5 – Guideline finalisation

**Results**

There are several key outcomes from the guidelines development, which include:

- The method of delivery is refined in each round to ensure additional aspects of WSUD are considered and addressed which assists with capacity building within councils
- The guidelines establish or formalise council’s processes for WSUD to ensure a decision making process is in place for these systems through their entire lifecycle
- Establishing a processes enables all stakeholders in council to contribute to the delivery of successful WSUD outcomes

Broader outcomes:

- A regional sharing of knowledge, experience and networks
- The findings from the guideline process is valuable for Melbourne Water who seek to gauge where they can invest in building councils capacity to successfully deliver WSUD projects

**Conclusion**

In conclusion the WSUD guidelines developed for Melbourne’s councils are a long standing initiative that forms part of the ongoing capacity building for councils. A clear and well defined guideline for internal and external purposes, covering considerations over the lifecycle of WSUD assets will go a long way to assisting make WSUD projects more successful.
Introduction

Melbourne Water’s Living Rivers Program works in partnership with local councils across Melbourne Water’s catchment area, to support an integrated approach to stormwater treatment and improvements in urban water planning and design.

By partnering with Living Rivers, local councils are provided support through funding, expertise, guidance and training to:

- Help build necessary understandings, skills, leadership and organisational capacity for sustainable stormwater quality management
- Develop strategies and targets, which outline future council commitment towards sustainable stormwater management.
- Design and implement on-ground stormwater quality works that provide opportunities for learning and innovation.
- Encourage local government Water Sensitive Urban Design (WSUD) networks with a focus on sharing of experiences and ideas.

In 2007 the Living Rivers program identified an opportunity to collaborate regionally with councils in the outer south east of Melbourne to develop WSUD Guidelines. These guidelines were driven by council request and acknowledging the need for a clear process in design and delivery of WSUD assets in residential developments.

The guidelines have been delivered in two parts including:

- A main document with WSUD themes common to all councils
- An addenda for each council outlining their specific requirements for WSUD.

Three rounds of the guidelines have now been developed by Parsons Brinckerhoff working with Melbourne Water over the last 5 years, which have included:


Parsons Brinckerhoff has been involved in each round of guideline development which has provided a continuity of knowledge and understanding which has enabled the refinement of project approach to help build on the guidelines to address current council challenges around WSUD.

The following paper describes each round of guideline development, outlining how the process of development of the guidelines has evolved to match the rapid development of the WSUD industry.
Background

The objective of the Guidelines is to assist councils with some of the following areas of development:

- Engagement to ensure the long term success of WSUD assets

Ensuring involvement of key stakeholders at early project planning to consider planning considerations, engineering design requirements, environmental objectives and constraints, construction obligations as well as operation and maintenance budgeting and provisions.

- Planning for successful WSUD outcomes

Involving input from key internal stakeholders including the operations and maintenance team early in the WSUD planning process ensures ongoing successful projects. Ensuring sufficient budget allocations are made for the eventual operation and maintenance of WSUD assets allows systems to perform at their intended capacity.

- Governance and accountability

The guidelines provide clear outlines of council’s expectations for WSUD projects including relevant requirements for the development and handover of all assets as well as clear outlines of responsibilities for all parties involved in the development of assets.

- Legacy and building capacity

A regional guideline ensures the document leverages local experiences and expertise in WSUD using the collective regional experience in their development. This sharing and documentation of regional experiences assist build local capacity and recording knowledge/experiences.

In mid 2007 the Round 1 WSUD guidelines were initiated to assist five councils (within a 50-150km radius from Melbourne) in the outer south east of Melbourne.

The intent of the guidelines was to manage expectations of developers through the design process and outlining preferred WSUD types, application process and approvals required for design. The councils involved in this process were faced with moderate Greenfield and Brownfield growth and at the time had limited capacity, resources and knowledge of WSUD. This guideline round was prolonged over a period of 1.5 years, with the project formally completed in late 2008.

The Round 2 WSUD guidelines were initiated in late 2009, given the spread in interest in the guidelines to the northern and western growth area councils. Seven councils were included in this round of the guidelines. These councils were concentrated in a 40-90km radius from Melbourne, in a development zone that had undergone and was subject to significant Greenfield growth pressures. The focus of this round was an expansion of scope from the Round 1 guidelines to include operation and maintenance of WSUD assets. This round was completed in 2010 following a one year project duration.

The Round 3 guidelines were initiated by Melbourne Water in late 2011, and are near completion. They were again focussed in the south eastern region of Melbourne Water’s operating area. The
guidelines were initiated following interest from a wider number of councils than that involved in the previous rounds. The profiles of councils involved were broad and included:

- Suburban Councils – located less than a 30km radius from Melbourne
- Growth Area Councils – located in a 30-60km radius from Melbourne
- Outer Councils – located in a greater than a 60km radius from Melbourne

From the significant learning’s of previous rounds, the development of the guidelines was expanded to include:

- Additional and broader scope for consultation, including a greater focus on the later project phases for the implementation of WSUD assets (construction and maintenance)
- Additional support to councils in the development of their council specific addenda to assist manage the timeframe for implementation of the guidelines.
- Considerations for validating the use of the guidelines by councils.

The focus of this round was the entire WSUD lifecycle thinking for councils. This guideline round has been running for the last 8 months and is near completion. Validation options for the guidelines are currently being assessed and will likely occur at a later date.

Methodology

With the creation of the WSUD guidelines over the various rounds there has been a significant refinement in the method of delivery. The methods for Round 1, 2 and 3 are further defined below.

**Round 1**

The method adopted in the creation of the Round 1 guidelines can be summarised as a simple exploratory exercise that was aimed at understanding issues faced by councils with the development of WSUD assets.

In the delivery of this project significant focus was placed on a workshop involving all councils. This workshop aimed at exploring the current and future considerations for the design of WSUD assets. The workshop outcomes were separated into reoccurring themes across councils (which were addressed in the main document of the guidelines) and council specific comments (which formed the addenda document for councils).

The guideline development phase was set up acknowledging the limited resources and time available to councils. Therefore the guideline documents were created with the:

- Main document being developed by Parsons Brinckerhoff
- Addenda for each council developed by the council representatives
These documents were issued for council comments and refined accordingly based on comment received. Councils were assisted by Parsons Brinckerhoff on an as needs basis to assist the process of addenda development. In total the timeline for completion of these guidelines was 1.5 years. A large part of this timeline was coordinating all councils through the development of council addenda and commenting on the main document.

Following the guideline development process a lessons learnt session was held and documented for consideration for future guidelines. Lessons learnt focussed on various aspects of the project include:

- Delivery process
- Timeline for the project delivery
- Engagement and council buy-in
- Assessment of final documentation
- The need for a non council involvement in the guideline development

Round 2

The method adopted for the Round 2 guidelines was similar to that adopted in Round 1. However given the lessons learnt from the previous round additional focus was placed on:

- Engaging a broader cross section of council stakeholders involved in WSUD during the consultation phase
- Including a land development engineering consultant in the initial consultation workshop
- Expanding the initial consultation in the project to expand on issues raised by councils from Round 1
- Additional time spent to support in development of council addenda

Round 3

The information from lessons learnt sessions from past guidelines were assessed to inform the method of delivery for the Round 3 guidelines.

The method adopted in the creation of the Round 3 guidelines was a deliberate approach to engage with all aspects of council to gain a consolidated understanding of how councils manage the entire lifecycle of WSUD assets, which includes planning, design, construction, operation and maintenance.

Before commencing the project, lessons learnt from the development of past guidelines were considered, to form the method of delivery for the new guidelines.

The consultation step of the guidelines was separated into two phases:

- Phase 1 - Council specific interviews involving key stakeholder from council. Participants in these interviews included a cross section of council staff members from various departments.
involved in planning, design, construction and maintenance of WSUD assets. The focus of these interviews was to understand council’s current approach to the development of WSUD projects. The intent of these interviews was to identify common themes across councils, identification of key council stakeholders to be involved in the Phase 2 regional workshops, identifying the need and type of support required for specific councils in the addenda development phase

- Phase 2 – Regional workshops involving selection of key people from each council. The intention of this workshop was to expand on key items raised by councils in the Phase 1 interviews and discuss future issues that may impact on councils delivery of WSUD assets

With the findings of the two phases of consultation with councils, the guideline development stage was undertaken. This stage was separated into four phases:

- Phase 1 – Development of a main document (by Parsons Brinckerhoff) in a skeleton form to outline the document structure. The skeleton of the main document was sent to councils for comment prior to proceeding to a draft version of the document. The council addenda template was also sent to council to be populated

- Phase 2 – Support provided by Melbourne Water and Parsons Brinckerhoff to councils in the addenda development phase, support was provided through additional council specific workshops that helped councils work through the content of the document and assisting with some example information to populate councils documents

- Phase 3 – Development of a draft main document for council review and comment as well as finalisation of the council addenda documents

- Phase 4 – Prepare a main document for final review

The final process of validation and promotion of the guideline documents is yet to commence for the Round 3 guidelines. However the intention for this phase is to promote and encourage council’s adoption of the guideline. The method for this phase will invest time in assisting councils:

- Implementing of the guidelines in case studies or real projects

- Educating councils and key stakeholders about the guidelines through information sessions or other relevant forum

- Marketing the document and its benefits

Results

The results for each round of the guideline development were reviewed for the following aspects:

- Technical outcomes

- Project method adopted
- Project timelines
- Council cross organisational buy-in into the project

The results for each round of the guidelines are further detailed below.

**Round 1**

Given the first project of its kind run with Melbourne Water and councils feedback through the process of developing the guidelines was that the document:

- Focussed on external stakeholders
- Defined councils expectations to developers for the design process and design standards for WSUD projects
- Focussed on planning and engineering design

The project method, timeline and buy-in was assessed and it was concluded that:

- The timeline for the project was not conducive to council buy-in and implementation of the document
- The involvement of council stakeholders needed to be broader. The feedback for the guidelines was uniform and focussed predominately on planning and design
- Broader engagement across council would also allow for greater buy-in acceptance and adoption of the guideline across council
- Additional support to councils during the addenda development phase would have assisted the project timelines and content of the final addenda developed

**Round 2**

With the Round 1 learning’s, the Round 2 guideline:

- Remained as an externally focussed document
- Focussed on design standards and process as well as construction and maintenance requirements for WSUD assets
- Became a document that provided a wider approach to WSUD, documenting planning, design well with construction, operation and maintenance being considered

The project method, timeline and buy-in was assessed and it was concluded that:

- The timeline to complete the project had improved since the initial round, however it was still considered too long
- Involvement from councils included a broader cross section of departments which prompted the document to include the areas of construction, operation and maintenance
- Not all councils were able to complete the addenda document due to lack of time, organisational buy-in and resources

- The involvement of a land development engineering consultant in the initial consultation workshop added some additional benefit to the document from an alternative perspective

**Round 3**

With considerable learning’s from previous rounds of the guideline, the Round 3 document:

- Became an internally and externally focussed document that allows councils to have a clear process how they manage their in-house projects as well and design applications from external applicants

- A total lifecycle approach to WSUD that considers planning, design, operation construction and maintenance

- Considers involvement of relevant council representatives to make decisions on the development of a WSUD asset through its lifecycle to promote internal capacity building and buy-in for WSUD projects

The project method, timeline and buy-in was assessed and it was concluded that:

- Initial council interviews gained a comprehensive understanding of councils holistic approach to WSUD. This step added value to council as well as Parsons Brinckerhoff in the development of the guidelines

- Targeted selection of attendees for the workshop phase of the project created productive input for inclusion in the construction, operation and maintenance sections of the guidelines

- The workshops also considered future factors that may Impact on WSUD that should be addressed in the guidelines

- Support offered to councils through the guideline development phase assisted the project timeline and addenda document content

- One council is unlikely to complete the addenda document due to lack of capacity

- The inclusion of a guideline validation phase is an important part to the project to ensure council clearly understand the application of the document and substantiate the significant investment made in the guideline development

- The document was also be considered as a marketing and education document to promote WSUD internally within council and to developers

General observations noted during this round of the project were:

- That setting up guidelines on a regional basis facilitated knowledge sharing of WSUD during the project and considerations for additional dialogue
- Melbourne Water’s Living Rivers Team were provided with a good opportunity to further understand the capacity of councils and key issues in the adoption and implementation of WSUD

Conclusion

The WSUD Guidelines for Melbourne councils has been an evolutionary process that is assisted by lessons learnt through implementation over an extended timeframe. The WSUD industry is a continually evolving space and considering the guideline document as live document that can be regularly updated ensures its content remains current and able to add value to councils.

The investment of time to develop and adopt the guidelines can significantly assist councils in the future, by providing them with a document that can assist successfully plan the lifecycle of a WSUD assets, hence reducing long term costs in re-establishment and maintenance.

The development of WSUD guideline should be built off a well-structured consultation phase as well as support to councils during their development. Both assist buy-in for the guideline, which will improve future implementation.

The WSUD guidelines are as much about technical content as they are about clearly defining process for the development of WSUD project for councils and developers. Ensuring that the guidelines link industry information and vice verse is important to ensure the document adds value and is referenced.

In summary WSUD guideline should be:

- Concise and focus on current issues
- Widely available and acknowledged by all departments
- Cross referenced in broader overarching documents – planning documents, engineering standards
- Formally adopted by council with potential validation by application on real projects

Improvement to future rounds of this project may include:

- A formal agreement by councils to ensure endorsement of the final document by councils
- Additional support and engagement with councils identified as under resourced
- Promotion of the guidelines to gain recognition by all stakeholders within council, industry and developers