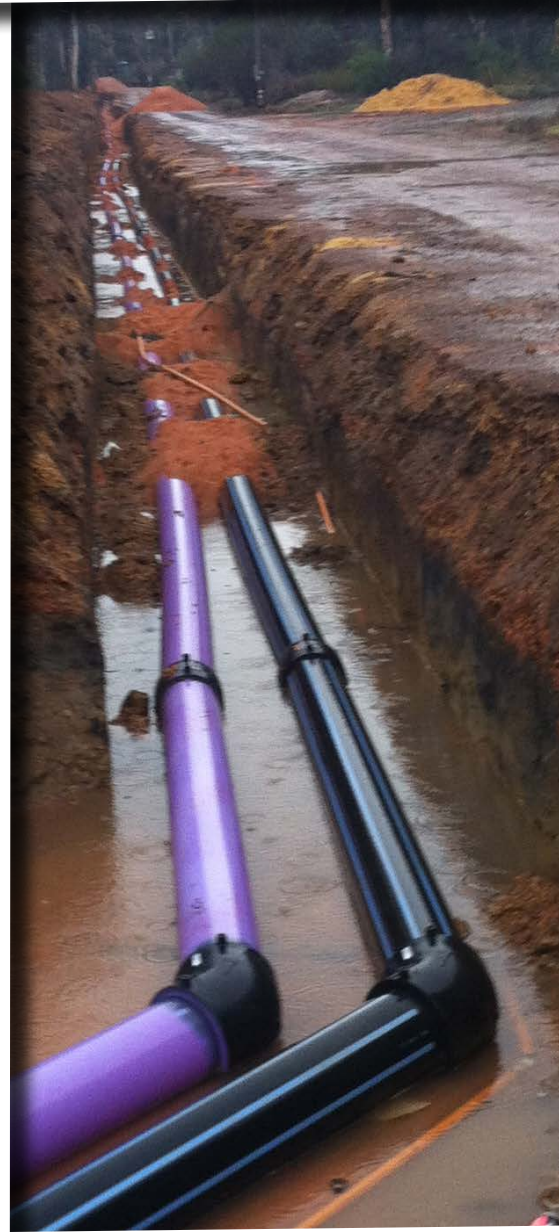


STORMWATER REUSE PROJECT

FINAL REPORT



Government of Western Australia
Department of Regional Development





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Written and designed by Wheatbelt NRM

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Government of **Western Australia**
Department of **Regional Development**



Department of
Agriculture and Food



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● Merredin dam cover



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● Merredin water tanks

Executive Summary

In 2012, the Department of Agriculture and Food, Western Australia (DAFWA) contracted Wheatbelt NRM to deliver the Stormwater Reuse Project in the Wheatbelt. The project was funded through Royalties for Regions and managed by DAFWA.

Project description

“The project builds on work undertaken by DAFWA through the Rural Towns – Liquid Assets project, implementing selected recommended actions from Rural Town Water Management Plans. Outcomes will be delivered through Wheatbelt NRM by working in partnership with DAFWA and selected local government authorities.

Wheatbelt NRM will identify two to three priority townsites based on multi-criteria assessment of Expressions of Interest. Existing stormwater management plans of priority local governments will be assessed for accreditation against a standard agreed by technical reference group/steering committee based on the WA Stormwater Manual.

Stormwater harvesting and reuse schemes will be implemented in these towns, followed by an assessment of the outcomes of the implementation.”

Project Objective

“The objective of the project is to improve the capture, storage and distribution of stormwater runoff in identified Wheatbelt towns to reduce pressure on reticulated supplies and meet shortfalls in demand for non-potable water.”





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The project was launched on 6 June 2012 with a ministerial event in Brookton.

The total project funding was \$2,000,000. The funding agreement required \$1,750,000 of funding be allocated infrastructure projects with local governments, while the remainder was used for project management and delivery.

The funding agreement also required that the funding allocated to local governments could only be spent on capital costs and not operating costs, which included planning and community consultation; however funding could be used for technical support such as engineering design.

There was an expectation at the start of the project that local governments had 'shovel ready' water management plans that they could implement with this funding.

Eight projects funded across seven local government areas

- Shire of Kulin
- Shire of Lake Grace
- Shire of Merredin
- Shire of Northam
- Shire of Nungarin
- Shire of Toodyay
- Shire of York

Benefits provided

- Approximately 50 mega litres in increased storage capacity (50,000KL).
- Savings to local government of \$150,000 per year (based on price of \$3.00/KL).
- Savings to Water Corporation of \$350,000 per year (based on supply cost of \$7.00/KL).
- Assuming minimum 10 year life span of projects:
 - Savings to local government of \$1.5 million (over 10 years).
 - Savings to Water Corporation of \$3.5 million (over 10 years).

The project was completed in September 2015.

Project Management

The project was funded through Royalties for Regions and then contracted to DAFWA who subcontracted the project to Wheatbelt NRM.

A contract requirement was the formation of a Project Steering Committee to assess the applications received from local governments for funding.

The Steering Committee first met in August 2012 and had the following representatives:

| Group Positions | Member |
|--|---|
| Wheatbelt Natural Resource Management (WNRM) | Natarsha Woods (Chair) |
| Department of Agriculture & Food, WA (DAFWA) | John Ruprecht |
| WA Local Government Association (WALGA) | Karen Barlow <i>(later replaced by Mark Batty)</i> |
| Wheatbelt Development Commission (WDC) | Phillipa Kirby |
| Department of Water (DOW) | Don Cummins <i>(later replaced by Michael Allan)</i> |
| Project Manager – DAFWA | Mark Pridham |
| Project Manager – WNRM | Rebecca Palumbo |
| Project Officer – WNRM | Don Woodcock |

Wheatbelt NRM was the project delivery organisation and appointed a Project Manager and a Project Delivery Officer. The Project Delivery Officer was funded through project funds.

The management of the project was undertaken through the use of recognised project management methodology and relied on a Project Management Plan. Progress reports were provided quarterly to the Wheatbelt NRM Board as well as the project manager from DAFWA. Informal progress reports were provided to the Steering Committee at meetings.



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Project Activity

One of the major actions of the project was to develop an application process to enable local governments to apply for funding for their projects.

The aim of the application process was that it was easy and accessible for local governments. Our previous experience with local governments has demonstrated that they will disengage from processes where there is too much effort required based on return on investment.

The project originally intended to only fund projects that were 'shovel ready', that is all planning was in place and projects could be implemented as soon as funded was approved. This proved to be a major risk to the project. When applications closed only a handful of applications were submitted. Targeted one-on-one engagement of all 44 local governments in the Wheatbelt during the application process showed that not many local governments had water management plans that were advanced enough for work to begin straight away. As a result, the application process was reopened and the Steering Committee agreed that there would be some leniency in determining what 'shovel ready' looked like.

At the close of the application process, eight applications were received from seven local governments. The three largest projects all required a level of engineering design that was funded through the project.

Contract Administration

From the very beginning we were concerned about project slippage. Infrastructure projects are notorious for falling behind schedule, even more so when they are managed by local governments who have many competing demands.

As part of the contract process with local governments a construction schedule was developed. This forced the local governments to seriously consider scheduling and also gave them a timetable to work from. Most importantly it gave Wheatbelt NRM a monitoring schedule. It provided early notice of project slippage and enabled us to address this risk early.



● Wundowie retention basin

Project Deliverables

Eight projects were funded with seven local governments. Originally, the project envisaged funding two to three projects because there was an expectation that the projects would be large-scale and valued in excess of \$500,000. In reality, because local governments did not have plans they made applications for small-scale, fairly simple projects that did not need extensive technical input.

Summary of Funded Projects

| LOCAL GOVERNMENT | PROJECT | VALUE |
|------------------|--|-----------|
| Kulin | New dams installed and drainage improved in town to capture more stormwater for use on recreation areas. | \$314,738 |
| Lake Grace | Solar pumps installed at Newdegate and Lake Grace to reduce overflow from existing dams and decrease reliance on manual pump turn-on. | \$20,000 |
| Merredin 1 | Existing dams replaced with water tanks to reduce evaporation. | \$57,600 |
| Merredin 2 | Dam cover installed at CBH dam to reduce evaporation and provide water for recreation areas. | \$130,000 |
| Northam | Street drainage upgraded in Wundowie, dam cover installed and new retention basin created to increase volume of stormwater captured for use on Bakers Hill oval. | \$980,590 |
| Nungarin | Roaded catchment renewed, and street drainage and kerbing improved to increase amount of stormwater captured for recreation areas. | \$28,835 |
| Toodyay | Water tank installed to capture rainwater from depot and use in community nursery. | \$13,778 |
| York | New dam, pipework and storage tanks constructed to capture and hold stormwater from new building and hard-stand areas, for use on town oval. | \$192,600 |



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Project Delivery

Project delivery schedules were problematic from the very start. Many of the projects faced delays. Most of these delays were due to internal issues in the local government such as turnover of staff, need to call tenders, lack of competitive quotes, and capacity. Local government staff were all trying to 'fit this in' around their existing workload so it meant that project slippage was almost inevitable.

Managing the project schedule was the priority of the project officer and the construction schedule developed with each local government at the start of the project was essential in this task.

It was inevitable though that some projects would not be completed by the end of project date. Accordingly, on several occasions the project was amended to push out the final completion date. The project was planned to be completed in June 2014 with final completion actually achieved in September 2015.

Two projects (York and Northam) were severely hampered by staff turnover and the fact that they were relatively large projects meant new staff coming on board took some time to get going. The tender requirements for local governments also impacted on timeliness.

Project budget and quality was not a problem. Projects were fairly straight forward so quality was good and by the time projects were contracted the budget had been well planned.



● Nungarin drainage

Project Outcomes

Eight projects have been completed with local governments in the Wheatbelt.

Project objective

“The objective of the project is to improve the capture, storage and distribution of stormwater runoff in identified Wheatbelt towns to reduce pressure on reticulated supplies and meet shortfalls in demand for non-potable water.”

Royalties for Regions program objectives

The project also had to deliver on the Royalties for Regions program objectives:

- building capacity in regional communities
- retaining benefits in regional communities
- improving services to regional communities
- attaining sustainability
- expanding opportunity
- growing prosperity.

Volumes of water saved by project

- Approximately 50 mega litres in increased storage capacity (50,000KL).
- Savings to local government of \$150,000 per year (based on price of \$3.00/KL).
- Savings to Water Corporation of \$350,000 per year (based on supply cost of \$7.00/KL).
- Assuming minimum 10 year life span of projects:
 - Savings to local government of \$1.5 million (over 10 years).
 - Savings to Water Corporation of \$3.5 million (over 10 years).

These figures demonstrate the return on investment provided by this project. With local governments using an estimated 440,000KL per annum on watering gardens and ovals in the Wheatbelt, there is scope for more of these projects.

If local governments could reduce their water usage on ovals by 25%, the savings to local government per year would be \$330,000, or over \$3 million over 10 years, and over \$7 million in savings to the Water Corporation.



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● Kulin dam



● Lake Grace dam



These calculations confirm how the project has delivered on the objectives of the Royalties for Regions program.

For example:

- Budget savings for local shire councils lead to more sustainable local governments.
- Improved water harvesting for community infrastructure improves services in local governments and expands opportunities for more liveable communities.
- More liveable neighbourhoods improve community confidence and boost community commitment to that neighbourhood. This assists local governments in supporting their greatest resource – people.
- Improved infrastructure supports better services for the local community.

This project delivers on all aspects of the Royalties for Regions program.



● Toodyay signage



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● York dam