

2.1 Waterproofing the South

Review and status of Waterproofing the South following the completion of the rescoping.

This is an update on a previously reported project, concept or issue.

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File Reference:

Attachments: 1 (2 pages - Original WPS Stage submission elements)

2 (1 page - Prospective stakeholder role statements)

3 (1 page - WPS Stage1 project funding)

4 (2 pages – National Water Commission letter of offer)

5 (19 pages – Marsden Jacob's report)

6 (6 pages – ARUP Review of Waterproofing the South)

7 (3 pages – ARUP WPS rescoped)

8 (5 pages – Project Risk Register)

1 Executive Summary

1.1 Topic

A comprehensive briefing of Waterproofing the South (WPS) following completion of the technical and financial rescoping of the various project elements prior to future consideration of the Funding Deed.

1.2 Context

Council last considered WPS at the meeting of 18 September 2007 and resolved as follows:

1. *That Council accept the Letter of Offer from the National Water Commission on the following basis:*
 - *Condition 1: Council has received written assurance from the State Government that the State Minister for Environment and Conservation formally adopted the current revised McLaren Vale Prescribed Wells Area Water Allocation Plan (WAP) on 17 February 2007. This WAP maintains allocations within limits set by the sustainable yield as it is currently understood and is therefore considered to establish sustainable levels of extraction. (The WAP is required to be reviewed at least once every five years*

under the Natural Resources Management Act 2004 when further refinements and adjustments may be made to reflect possible impacts from climate change and other emerging issues).

- *Condition 2: once these standards (National Water Initiative environmental water accounting) are agreed that they will be able to be undertaken in a cost effective manner for Council.*
 - *Conditions 3 and 4: on the understanding that no additional costs will be generated for the Council (in accordance with the Prime Minister's undertaking that the National Plan for Water Security will not generate additional costs for the States).*
3. *That we continue to develop a rescoped Waterproofing the South Stage 1 with the consortium members and the National Water Commission.*
 4. *That a further report be brought back to Council seeking its consideration of the National Water Commission Funding Deed for the rescoped Waterproofing the South.*

1.3 Suggested Outcome

That Council provide direction on the outcomes and roles it considers appropriate for Council in negotiating the funding deed with NWC and the consortium members.

2 Recommendation(s)

1. That

- a) **under the provisions of Section 90(2) of the Local Government Act 1999 an order be made that the public be excluded from attendance at the meeting in order to consider in confidence this item.**
- b) **the Council is satisfied that it is necessary that the public be excluded to enable the Council to consider the report at the meeting on the following grounds:**
 - (b) **information the disclosure of which -**
 - (i) **could reasonably be expected to confer a commercial advantage on a person with whom the council is conducting, or proposing to conduct, business, or to prejudice the commercial position of the council; and**
 - (ii) **would, on balance, be contrary to the public interest;**
 - (d) **commercial information of a confidential nature (not being a trade secret) the disclosure of which -**

- (i) could reasonably be expected to prejudice the commercial position of the person who supplied the information, or to confer a commercial advantage on a third party; and
 - (ii) would, on balance, be contrary to the public interest;
- c) That accordingly, on this basis the principle that meetings of the Council should be conducted in a place open to the public has been outweighed by the need to keep the information or discussion confidential.
- 2. That the report on Waterproofing The South be received and noted.
- 3. That Council provide direction on the outcomes and roles it considers appropriate for Council in negotiating the funding deed with National Water Commission and the consortium members.
- 4. That an order be made under the provisions of Section 91(7) and (9) of the Local Government Act 1999 that the abovementioned document (or part of such document) including the minutes and the report of the Council relating to discussion of the subject matter of that document, having been dealt with on a confidential basis under Section 90 of the Act, should be kept confidential on the grounds of information contained in 90(3)(b), 90(3)(d) until negotiations with the NWC are completed and Council has determined its position on the Funding Deed.

Key Factors

3 Discussion

3.1 Background

What is Waterproofing the South?

It starts with the premise that water is a precious resource.

This fact has long been recognized in the South of Adelaide where a number of water related projects have been undertaken to support the economic and social infrastructure of the region. WPS was first conceived in 2003 and it brought together these project proponents to provide substantial momentum for WPS to become a distinct possibility.

WPS is a localised integrated water resource management strategy based in the City of Onkaparinga. The strategy seeks to substitute 'fit-for-purpose' alternative water sources, such as recycled water and stormwater, for traditional sources such as mains drinking water and groundwater so that over-all water use in the region is sustainable; economically, environmentally and socially.

What sparked the vision?

We had a collection of resources which provided the opportunity to create this vision of harnessing all sources of water within the region:

- SA Water's Christies Beach Waste Water Treatment Plant (CBWWTP) – providing treated wastewater;
- Willunga Basin Water Company (WBWC) – a private sector distributor of treated wastewater from CBWWTP;
- City of Onkaparinga's Septic Tank Effluent Disposal Scheme (STEDS) – distribution and treatment of effluent in a PPP scheme with the private sector and disposal via an agreement with WBWC;
- City of Onkaparinga having responsibility for stormwater management.

What do we need to make this vision a reality?

- An upgrade of treated wastewater to Class A standard at CBWWTP;
- The expansion of the Willunga Basin Water Company (WBWC) network to transfer greater volumes of recycled water from Christies Beach for viticulture;
- More storage so that recycled water produced in winter can be used in summer for irrigation;
- Some commercial use and urban irrigation of Council owned parks and ovals with recycled water;
- Dual reticulation of recycled water in new residential developments at Seaford, including toilet flushing and outdoor use;
- Localised stormwater capture and reuse;
- Long term disposal path strategy which would include investigation into viable reuse options including environmental flows; and
- Research into the sustainability of irrigation with recycled water and irrigation management strategies to mitigate potential issues.

The combination of the projects listed above is the start of a long term strategy that will see increased reuse of treated wastewater from CBWWTP with an ultimate aim of reusing all sources of water in the region (recycled water and stormwater). The original WPS Stage 1 submission project elements which embrace the above are provided as Attachment 1.

What does the vision deliver?

Prior to WPS Stage 1 the available treated waste water reuse capacity was 4,400 ML/annum. Stage 1 will deliver a theoretical increase in capacity in excess of 5,000 ML/annum. However the increase in capacity and the components are shown as a conservative 75% of the theoretical maximum (except for urban reuse). This recognizes that demand will not necessarily run at the maximum.

The integration of the elements embodied in WPS provides the basis upon which it may ultimately be possible to save 23 GL of use from the region's primary water resources. Use of this reclaimed water would not only reduce demand on the River Murray and Mt Lofty Ranges but would also reduce the discharge of nutrients to Gulf St Vincent.

Who are the stakeholders and their substantive roles?

Consortium members:

- City of Onkaparinga (Facilitator and lead proponent);
- Willunga Basin Water Company. Pty Ltd (WBWC) (Distributor of treated wastewater delivery);
- SA Water (Water treatment, distribution and disposal: Wastewater treatment, distribution and disposal)
- Adelaide and Mount Lofty Ranges Natural Resource Management Board (AMLRNRMB) (Management of river systems); and
- Flinders University of South Australia (Research and Development).

Advisory partners

- Department of Health (DH);
- Environmental Protection Authority (EPA); and
- Department of Water, Land and Biodiversity Conservation (DWLBC).

Attachment 2 provides the respective (and preferred) role of the various stakeholders in each of the projects.

Funding The Vision

WPS Stage 1 comprises approximately \$120 million of capital projects as costed by private sector consulting engineers ARUP and also by SA Water on the basis of pre-feasibility estimates. The preliminary business cases arising from these costings were reviewed independently by Instate P/L with assistance from and Council's auditor Dean Newberry and Partners.

Council's total contribution to the project is shown as \$ 5,237,400 with a little over \$3.8 million being provided by a Builder Owner Operate Transfer (BOOT) scheme for STEDS Trade Waste Reuse (Refer Attachment 3). This follows the STEDS model where a private operator provides the up front capital to finance the construction of infrastructure.

Funding has been sought from NWC in two stages, the first is to undertake detailed technical and commercial feasibility analysis and the second is to fund the construction phase.

The WPS submission requested funding of \$53 million from NWC to be applied to the 11 project elements and consortium members on a 50/50 basis as outlined in Attachment 3.

The consortium has, through Council, received an offer of \$34.5 million from NWC (\$18.5 million less than requested) and commissioned work to determine if the projects can be delivered within the funding offer.

Letter of Offer from NWC

The offer presented to Council on 9 July is provided as Attachment 4. The NWC advised that the offer of \$34.5 million is contingent upon all eleven project elements being delivered. Whilst they recognise that there is an \$18.5 million shortfall in the funding requested their assessment is that WPS can be delivered with this subsidy. This assessment is based on the Marsden Jacobs Report (provided as attachment 5) which was commissioned by NWC to determine the quantum of assistance to be provided to WPS. Discussions with NWC on 5 September concluded the following:

- Rescoping needed to retain the basis of the original submission:
 - An integrated project;
 - Demonstration of collaboration between 3 levels of government;

- Public and environmental benefits (eg improvement in stormwater quality and reducing discharge to the marine environment);
- Close as possible to the retention of the 11 projects; and
- Significant water reuse ie close to the 4.4 gigalitres in the submission.
- Rescoping, which reduced the outcomes initially put forward, would need to be accompanied by a critique of the Marsden Jacobs Report outlining why it is considered that the estimate of \$34.5 million as sufficient to complete WPS Stage 1, is flawed. NWC have advised that all grant funds from the National Water Initiative are fully allocated. The Marsden Jacobs Report was the basis upon which the quantum of \$34.5 million was considered sufficient by NWC for WPS Stage 1 to be delivered.
- Deadline remains at 30 June 2010 for the commitment of NWC funds.

A series of meetings have subsequently been held with the consortium members to:

- Determine whether WPS Stage 1 could be completed with the funding offer of \$34.5 million. Our consultants ARUP have concluded that, despite the identification of duplication and savings related to more efficient procurement, when escalation of costs over the life of the project (4 years) are considered the savings are eliminated. (ARUP's findings are provided as Attachment 6)
- Prepare a rescoped WPS which can be delivered for the reduced subsidy.

3.2 Waterproofing the South Rescoped

The following table provides the draft technical rescoping by ARUP and forwarded to NWC for comment. A more detailed explanation of each project element is provided in Attachment 7. This has been viewed by the consortium members and is awaiting the response from NWC before formally endorsing.

| | | Original Submission (Volume, ML/a) | Rescoped Submission (Volume, ML/a) |
|--|--------------------------------|--|--|
| | Reuse Regions - current | | |
| | Current WBWC Contracted Demand | 4400 | 4400 |

| | | | |
|----------|---|-------------|-------------|
| A | Total Current Reuse | 4400 | 4400 |
| | Reuse Regions - proposed for phase 1 | | |
| 1.1 | WBWC Network Expansion | 1219 | 1800 |
| 1.4 | Urban Water Recycling - Seaford | 500 | 560 |
| 1.4 | Urban Water Recycling - Flaxmill Rd | 400 | 200 |
| 1.4 | Urban Water Recycling - Noarlunga | 200 | 200 |
| 1.5 | Willunga Effluent Reuse | 113 | 113 |
| 1.6 | Sellicks Beach Effluent Reuse | 198 | 0 |
| 1.8 | McLaren Flat Stormwater Capture and Reuse | 18 | 18 |
| B | Proposed Additional Direct Reuse | 2648 | 2891 |
| | Storage Volumes | | |
| 1.2 | Network Balancing Storage - Willunga | 116 | 159 |
| 1.3 | Network Balancing Storage - Aldinga | 450 | 400 |
| C | Total Storage Volume Created | 566 | 559 |
| | Water "Saved" | | |
| 1.7 | Willunga STEDS Trade Waste Reuse | 105 | 73 |
| 1.9 | Christie Creek WQ Imp, Storm Det and Reuse | 1050 | 850 |
| 1.10 | WWTP Upgrade | 5893 | 6368 |
| D | Total Water Saved/Available | 1155 | 923 |
| | | | |
| | Total - Phase 1 | 4369 | 4373 |

Overall, the rescoped submission delivers similar direct reuse, storage and water saved volumes. However, Sellicks Beach Effluent Reuse has been

omitted due to SA Water's inability to be able to guarantee that sewerage of Sellicks Beach would occur by the NWC deadline of 30 June 2010.

3.3 Outcomes and Roles

To assist in the analysis the report will consider the outcomes for WPS Stage 1 to be achieved and the implications for Council:

- **Financial**

As outlined above, Council has, through the original submission, had in-principle commitment of \$5,237,400 to WPS Stage 1 of which \$3,828,500 was intended to be delivered by means of a BOOT scheme (for Willunga STEDS Trade Waste Reuse), leaving a balance of \$1,408,900. Allocation has been made in the Major Projects Fund for:

- Willunga Effluent Reuse - \$172,000
- McLaren Flat stormwater capture and reuse - \$92,500
- Christie Creek water quality etc - \$800,000
- Willunga Balancing Storage - \$344,400

Council also has the role of negotiating a funding deed with NWC which will require agreement with the major stakeholders i.e. WBWC, SA Water and Adelaide Mount Lofty Ranges Natural Resource Management Board (AMLRNRMB).

The final form of the deed will be guided by NWC's concern expressed through the Marsden Jacob's report regarding the extent of the provision of public funds (or windfall gain) to a private sector organisation such as WBWC. Unless it could be shown that there was a clear public benefit greater than the public cost and the private benefit is less than the private costs i.e the private sector is unable to secure a commercial return, the implication is that public funding to WBWC would be limited.

- **Volume and sources of treated water reuse**

- **Effluent** – Most of the re-use and associated infrastructure relates to treated effluent and reflects the existing investment and business momentum in this region. Council already plays a role in this area through its largely residential STEDS and, to a very limited degree, trade waste (Aldinga Table Turkeys). However, in recognition of Council's role as a facilitator in this field, this has been outsourced through a Public Private Partnership with United Utilities Australia (UUA). This methodology is proposed to be adopted for the Willunga STEDS Trade Waste Reuse scheme. However the overall contribution in the future by Council in relation to treated effluent reuse is not significant when compared with WBWC/SA Water.

- **Stormwater** – When compared with the overall availability of stormwater for potential reuse, the amount being considered for reuse is negligible. However, its capture, treatment, storage and reuse is in the realm of Council core business. This, along with the estimated quantity of stormwater available for reuse being in the order of 8 gigalitres per annum and their being a reasonable expectation that its discharge to marine environment will be restricted in the foreseeable future, would suggest strongly that Council will need to focus on this aspect of delivering the WPS vision.

Council staff are in the process of developing a draft Water Plan which has a focus on stormwater for Council. A key issue emerging is the scarcity of storage for summer reuse and therefore the expansion of the reuse network.

- **Urban reuse**

- **SA Water proposal** – This would involve SA Water directing treated effluent from CBWWTP to its Aldinga treatment plant (to be upgraded to Class A) where it would be distributed to Seaford Meadows and (potentially) beyond. This would involve SA Water as the distributor and retailer of treated wastewater. Council's role at this point is to facilitate the installation of a purple pipe system by the developer for distribution of treated wastewater within the new development. This has been effected by a Land Management Agreement (LMA).
- **Willunga Basin Water Company (WBWC) proposal** – WBWC would provide the distribution network from CBWWTP and would act as the wholesaler of treated wastewater with a third party, possibly SA Water, as the retailer to Seaford Rise residents. Based on Council's role to date the preferred role would be (and has been) as for the SA Water proposal. The role of Council as a retailer of treated wastewater would be the subject of further consideration should a third party not be secured.

- **Environmental**

The 'driving' objective underpinning WPS is environmental. Integral to this are the various disposal paths which form the basis of WPS. For the

region this is manifest in reducing (and finally eliminating) the outflow of treated effluent to Gulf St. Vincent and reducing sediment impact through the treatment of Christie Creek stormwater. Council's role in the latter is:

- Funder - \$800,000; and
- Owner/custodian – provision of land (Wilfred Taylor Reserve) for water storage and flood mitigation.

- **Industry development**

The viticulture industry is the primary beneficiary of WPS and is delivered through the expansion of the WBWC distribution network.

Council's role:

- Regulator – provision of permits for pipelines in road reserve and planning/building approval for associated structures.
- Owner/custodian – provision of storage capacity on Council land (decommissioned STEDS treatment ponds at Willunga).

WBWC role:

- Funder – network expansion and capacity upgrade.
- Distributor – via its pipeline network.
- Retailer – generating viticulture demand.

3.4 Waterproofing the South Risk Assessment/Mitigation

The original WPS submission identified and considered a number of risks associated with the project. These were evaluated and mitigation strategies were developed as part of a risk management process using a risk assessment framework. There were 42 risks categorised under the following headings (Refer Attachment 8):

- Environmental (14)
- Financial (6)
- Political (9)
- Social (2)
- Design and Construction (6)
- Operational (5)

A number of risks have been identified and evaluated from Council's perspective (as opposed to the perspective of the project consortium). These risks are contained in the table below.

| Risk | Mitigation |
|--|---|
| Financial | |
| Greater financial commitment required than foreshadowed in original submission | Investigate the introduction of additional sources of finance eg private sector. |
| Cost overruns on Council funded projects | Ensure major capital works are undertaken on basis of competitive fixed price tenders. Engage professional project management assistance to oversee the implementation of the projects. |
| Repayment of grant funds to NWC due to failure to meet contracted KPI's | Negotiate realistic and achievable milestones or KPI's with NWC. Negotiate realistic and achievable milestones or KPI's with consortium members on the basis of back to back commitments to NWC. |

| | |
|---|--|
| Price of re-use water greater than estimated | <p>Obtain contractual commitment on price of water as part of initial contract negotiations.</p> <p>Adopt conservative financial forecasts</p> |
| Consortium unable to agree on allocation of grant funds | <p>Endeavour to ensure negotiations result in all consortium members obtaining tangible benefits from participation in project</p> |
| Socio-Political | |
| Project does not proceed | <p>Communication strategy outlining the reasons for project closure.</p> |
| One of consortium members does not meet probity standards required by NWC | <p>Negotiate probity requirements of NWC and Commonwealth as part of conditions of contract and obtain acceptance of these from consortium members.</p> <p>Advise NWC of existing probity/governance arrangements of Council, SA Water and WBWC.</p> <p>Negotiate governance arrangements with consortium members which provide Council with ability to enforce Commonwealth requirements.</p> |
| Change of government | <p>Commit to NWC Funding Deed prior to election.</p> <p>Engage with both major parties to obtain their commitment to the project.</p> <p>Negotiate binding contractual commitments with Commonwealth and State government to achieve project outcomes.</p> <p>Seek to influence water policy discussion at Federal and State level.</p> |
| NWC do not agree technical and financial rescopeing | <p>Consult with NWC officers</p> |

| | |
|---|---|
| Failure to agree contractual terms with NWC and/or consortium members | Review published conditions of grant and draft Funding Deed to identify prospective issues |
| Environmental | |
| Project results in negative environmental impacts | <p>Prepare Environmental Impact Assessment, identifying potential impacts and mitigation measures during construction and operating life.</p> <p>Include mitigation measures as part of detailed design.</p> |
| Failure to meet EPA water quality policy – water for the environment | <p>Ensure specification will meet standards.</p> <p>Prepare Environmental Impact Assessment - identify environmental impacts and options for mitigation prior to submitting project for approval (cover all bases).</p> <p>Engage with EPA to identify and mitigate specific environmental issues of concern.</p> |

Risk assessment and associated mitigation strategies will continue to be reviewed as project negotiations progress.

**CITY OF ONKAPARINGA
AGENDA FOR THE SPECIAL COUNCIL MEETING TO BE HELD ON 22 OCTOBER 2007**
