Adopted Report
of the
Water Services Committee Meeting
held
Wednesday, 11 December 2013
at
02:00 pm
G6 Committee Room
Nerang Administration Centre
Nerang Southport Road Nerang
### Index

**Adopted Report 671**  
Water Services Committee Meeting  
Wednesday, 11 December 2013

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<th>Page</th>
<th>Subject</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>GCW</td>
<td>CM787/788/06/01(P1)</td>
<td>4</td>
<td>WATER SERVICES COMMITTEE FORWARD PLANNING SCHEDULE 2013</td>
</tr>
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<td>2</td>
<td>GCW</td>
<td>WSS1125/1227/01(P1)</td>
<td>6</td>
<td>WATER AND SEWERAGE TARIFF REVIEW</td>
</tr>
</tbody>
</table>

**Closed Session**

| 3    | GCW     | PN41521/36(P1)     | 17   | CONSIDERATION FOR RELIEF FROM WATER LEAK OUTSIDE POLICY |
| 4    | GCW     | WSS1125/343(P1)    | 18   | DUAL RETICULATION REVIEW AND PROPOSED SCHEME AMENDMENTS UPDATE |

**General Business**

**KEY:**

- CEO - Chief Executive Officer  
- CMS - Community Services  
- EDMP - Economic Development & Major Projects  
- ES - Engineering Services  
- GCW - Gold Coast Water  
- OS - Organisational Services  
- PET - Planning Environment & Transport
ADOPTION BY COUNCIL 12 DECEMBER 2013

RESOLUTION  G13.1212.029  Moved Cr Taylor  Seconded Cr Robbins

That the Report of the Water Services Committee Meeting held on Wednesday, 11 December 2013 covered by Recommendations numbered WS13.1211.001 to WS13.1211.004 be received.

CARRIED

RESOLUTION  G13.1212.031  Moved Cr Taylor  Seconded Cr Robbins

That the Report of the Water Services Committee’s Recommendations of Wednesday, 11 December 2013, numbered WS13.1211.001 to WS13.1211.004, be adopted with the exception of:-

Recommendation Number WS13.1211.004 which was specifically resolved.

CARRIED

ATTENDANCE

Cr P A Taylor  Chairperson
Cr C L Robbins
Cr C M Caldwell
Cr M J Grummitt  (arrived at meeting 2:10pm)
Cr R La Castra  (arrived at meeting 2:08pm)
                (absent from meeting 2:28pm to 2:30pm)
Cr W Owen-Jones (Visitor)

Mr P Heaton  Director Gold Coast Water
Mr D Went  Manager Operational Strategy
Ms M Hildebrandt  Acting Manager Commercial Performance
Ms K Evans  Coordinator Strategic Land Use Planning
Mr A Kersting  Coordinator Pricing and Regulation
Ms J Dewe  Senior Pricing and Regulation Officer
Mr M Hulse  Manager City Development
Ms C Kenyon  Executive Coordinator Revenue Services
Mr H Ryan  Supervisor Water Billing

APOLOGIES
## 671 Water Services Committee Meeting – 11 December 2013

<table>
<thead>
<tr>
<th>Item No:</th>
<th>iSPOT No:</th>
<th>Subject</th>
<th>Action Officers</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 *</td>
<td>#37409759</td>
<td>Action List and Forward Planning Schedule</td>
<td>Paul Heaton</td>
<td>Forward Planning Schedule for Water Services Committee Agenda Items.</td>
</tr>
<tr>
<td>2 *</td>
<td>#42054882</td>
<td>Water and Sewerage Tariff Review</td>
<td>Marilyn Hildebrandt/Andre Kersting</td>
<td>That a Report be brought back to Council late 2013 providing a review of the Water and Sewerage Tariffs.</td>
</tr>
<tr>
<td>3 *</td>
<td>Confidential #41726668</td>
<td>Consideration for Relief from Water Leak Outside Policy – PN41521/36(P1)</td>
<td>Hardie Ryan</td>
<td>To present for Council’s consideration the granting of relief from a water leak outside of Council’s adopted Water and Sewage Leakage Relief Policy.</td>
</tr>
<tr>
<td>4</td>
<td>Confidential #41987562 #41988126</td>
<td>Dual Reticulation Review and Proposed Scheme Amendments Update</td>
<td>Kathy Baker/ Kim Evans</td>
<td>That an updated status report be brought back to Council early in the 2013-14 Financial Year.</td>
</tr>
</tbody>
</table>
ITEM 1 (Continued)
ACTION LIST AND FORWARD PLANNING SCHEDULE (5 DECEMBER 2013)
CM788/788/06(P1)

WATER SERVICES COMMITTEE 2014

<table>
<thead>
<tr>
<th>Item No:</th>
<th>iSPOT No:</th>
<th>Subject</th>
<th>Action Officers</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>#42009590</td>
<td>Stapylton Sewerage Catchment Servicing Strategy</td>
<td>Sayed Khan</td>
<td>To update Council on the current status of sewerage services within the Stapylton Sewerage Catchment and provide a forward strategy to service growth within the catchment.</td>
</tr>
</tbody>
</table>

RECOMMENDATION

It is recommended that Council resolve as follows:

That the Action List and Forward Planning Schedule for Water Services Committee be noted.

COMMITTEE RECOMMENDATION WS13.1211.001
moved Cr La Castra  seconded Cr Caldwell

That the Action List and Forward Planning Schedule for Water Services Committee be noted.

CARRIED
ITEM 2  
WATER AND SEWERAGE TARIFF REVIEW  
WSS1125/1227/01(P1)

Refer 1 page attachment

1  BASIS FOR CONFIDENTIALITY

Not Applicable.

2  EXECUTIVE SUMMARY

Gold Coast Water has commenced a comprehensive tariff review. Implementation of tariff reform is currently proposed in two stages. Stage 1 is focussed predominantly on commercial Customers and is planned for implementation on 1 July 2014. Stage 2 is focussed predominantly on residential Customers and is planned for implementation on 1 July 2015.

3  PURPOSE OF REPORT

To provide an update to the Water Services Committee on the progress of the tariff review currently being undertaken by Gold Coast Water (GCW).

4  PREVIOUS RESOLUTIONS

Not Applicable.

5  DISCUSSION

5.1  Background

Tariff structures, which are used to distribute charges for the provision of GCW services, have not been reviewed in over 10 years.

Review of tariff structures is typically undertaken utilising an agreed set of pricing principles. These principles typically aim to promote efficiency and simplicity. The National Water Initiative (NWI) developed a number of pricing principles to assist in moving towards a consistent approach to pricing, which have been adopted for the GCW review.

Table 1 Pricing Principles

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Principle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sustainable revenue stream</strong></td>
<td>Prices provide GCW a sustainable revenue stream that does not abuse monopoly power. Prices are set to recover operating and maintenance expenditure and a return on and of existing and future assets.</td>
</tr>
<tr>
<td><strong>Subsidy free</strong></td>
<td>In the absence of Customers willingness to pay, prices are set to recover the costs reflective of the service provided.</td>
</tr>
<tr>
<td><strong>Tariff structure design</strong></td>
<td>Tariff structures should be simple, understandable and cost reflective. For the provision of water and sewerage services a two-part tariff structure is preferred. Trade waste tariffs are based on a polluter pays principle where prices are based on load-based charges (where measurement is feasible and where the benefits outweigh the costs).</td>
</tr>
<tr>
<td><strong>Customer focus and equity</strong></td>
<td>Tariffs should have regard to the ability of Customers to understand the tariff and the service offering, and to respond appropriately to price signals.</td>
</tr>
</tbody>
</table>
5.2 Current Situation

An essential part to the tariff review process is engagement with Customers. In recognition of the importance of Customer engagement, GCW has undertaken a number of initiatives. These include:

Residential Customer Water Survey *(February 2013)*

The objective of this survey was to obtain information on a range of water-related issues, from Council’s Community Reference Group and the general public.

Key survey findings suggest:

- half the respondents to the survey had a preference for lower fixed service charges and a higher variable charge, while one-quarter were satisfied with the current structure
- almost half the respondents were of the view that increasing the variable charge would drive household investment in water efficiency
- a large proportion of survey respondents supported the consideration of a “step” based approach (often referred to as an inclining block tariff) and
- more than two-thirds of respondents considered it appropriate to keep the price of recycled water low to promote usage, whereas one-quarter believed the price of recycled water should reflect the cost of supply.

Commercial and Industrial Customer Service Survey *(June 2013)*

The objective of this survey was to identify the needs and priorities of commercial and industrial Customers (who use more than 10 million litres of water per annum) and understand their experience with GCW and the previous Government Water Efficiency Management Program (WEMP).

Key insights included:

- customers placed high importance on water use control and provision of timely information
- there was little knowledge of Council’s effort to raise Customers awareness of water consumption or water efficiency
- businesses had limited understanding regarding the application of water and sewerage tariffs and low awareness of additional metering services and trade waste charges offered by Council.

Residential Water Use Tariff Design *(funded under the Riverstone Crossing Water Conservation Project -currently underway)*

This project aims to use Customer engagement strategies to explore equitable and cost-reflective tariff reform options for GCW’s residential customers. Modelling and testing of alternative tariff structure options will be undertaken to achieve greater water conservation potential.

Tariff options may include:

- inclining block tariffs
- increasing variable charges and reducing fixed service charges and
- the introduction of a variable residential sewage tariff.

The Project Management Group is scheduled to present a draft report to the Project Reference Group by February 2014. The Project Reference Group is Chaired by the Chair of the Governance and Finance Committee and includes the Chair of the Water Committee, Chief Executive Officer and a representative from the Queensland Council for Social Services.
Recommendations are expected to be presented to Council for resolution in mid to late 2014, with implementation on 1 July 2015.

As part of the tariff review, GCW will be looking at the differential price movements between Customers and Customer segments to understand Customer impacts. Understanding these Customer impacts will enable GCW to assess the equitable application of cost-reflective tariffs.

The tariff review currently being undertaken by GCW is the first stage in the proposed implementation of tariff reform over the next two to three years. The first stage of this review is scheduled to be implemented on 1 July 2014 and will focus on streamlining and simplifying tariffs in a number of key areas.

The second stage will focus on the more difficult and wide ranging issue of residential water tariffs and is planned for implementation on 1 July 2015. The following Table summarises the proposed timing for the review of different tariff structures.

Table 2 Summary Proposed Tariff Review (Stage 1 and 2)

<table>
<thead>
<tr>
<th>Tariff</th>
<th>Customer Group</th>
<th>2014-15 (Stage 1)</th>
<th>2015-16 (Stage 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Service Charge</td>
<td>Residential</td>
<td>No change</td>
<td>Options may include: - increasing variable charges and reducing fixed service</td>
</tr>
</tbody>
</table>
|                               | Non-residential| Standardise and simplify meter connection charging | *
| Water Volumetric Charge       | Residential    | No change         | Options may include: - block volumetric tariffs and - increasing tariff variability. |
|                               | Non-residential| No change         | * |
|                               | Raw Water      | No change         | * |
| Sewerage Service Charge       | Residential    | No change         | Options may include: - introduction of volumetric residential sewerage tariffs. |
|                               | Non-residential| No change         | * |
|                               | Vacant Land    | No change         | * |
| Trade Waste Volumetric Charge | Non-residential| Change tariff based to be based on the risk a business poses to GCW’s sewerage system. Charge will be simplified to a “load factor” multiplied by sewerage volumetric charge. | *
| Recycled Water A+ & C Volumetric Charges | Residential | TBD | TBD |
|                               | Non-residential| TBD               | TBD |
5.3 Options

The following section outlines in more detail, the range of options and issues under consideration for tariff reform. As part of the residential water use tariff design, GCW (through Griffith University) is undertaking a comprehensive residential Customer survey to explore in further detail, issues and options surrounding residential Customer tariff structure.

5.3.1 Water Charges

Current Tariff Structure

GCW currently levies a two-part tariff on its residential and commercial Customers. This two-part tariff consist of an annual water service charge and a water volumetric (variable) charge (per kilolitre of water consumed).

Residential Customers currently receive an annual (fixed) water service charge of around $206 per connection. Whereas commercial Customers’ water service charges are applied using a methodology that considers both the meter connection size and the volume of water consumed. A list of these charges has been provided at Attachment A.

Issues Under Consideration

The current methodology used to determine the water service charge applied to commercial Customers is complicated and inequitable. Consideration is being given to the removal of the volumetric adjustment and transitioning to a simplistic charging regime based solely on the meter connection size. This approach is consistent with other jurisdictions.

Consideration is also being given to the introduction of an inclining block tariff (IBT). An IBT sends price signals to Customers by charging them more as their consumption exceeds certain levels (or blocks). The Residential Customer Water Survey undertaken in February 2013 found that Customers supported the consideration of an IBT. This will also be explored further in the Customer survey to be undertaken as a part of the Residential Water Use Tariff Design Project.

Finally, the mix between the fixed and variable component of water charges was raised in the Residential Customer Water Survey and will also be explored as part of the Residential Water Use Tariff Design Project.

Current Status

Issues have been identified regarding the reliability of billing data extracted from Council’s billing system. GCW has been working closely with Revenue Services in an attempt to better understand this data.

It is imperative GCW can rely upon this data as it is fundamental to undertaking the necessary revenue and Customer impact assessments associated with tariff reform.

Implementation of tariff reform may be delayed beyond 2015-16 if issues associated with data validity cannot be resolved.
5.3.2 **Recycled Water Charges**

**Current Tariff Structure**

GCW’s Class A+ recycled water volumetric charge was originally set as a percentage of the water volumetric charge and has been increased by CPI each year. GCW does not currently charge Customers for the use of Class C recycled water.

**Issues Under Consideration**

In response to comments received during the Residential Customer Water Survey, GCW will consider the costs and benefits of introducing charges to recover the costs associated with provision of this service.

**Current Status**

GCW is reviewing both Class A+ and Class C Recycled Water tariffs as part of this review. All current Class C recycled water supply agreements are currently under renewal and modification to allow the introduction of appropriate charges over the next 5 years if required.

5.3.3 **Sewerage Charges**

**Current Tariff Structure**

Currently, GCW levies a fixed sewerage service charge on its residential and commercial Customers. Non-residential Customers receive a six monthly volumetric discharge allowance of 92.5kL of sewage released into the distribution system. Once Customers reach this allowance they are charged for each kilolitre of sewage released into GCW’s sewerage network.

**Issues Under Consideration**

The concept of volumetric sewerage charges for residential Customers was introduced in the Residential Customer Water Survey. Unfortunately it was difficult to ascertain respondents position in relation to a volumetric sewerage charge from the survey results. Consequently, the potential for such a tariff structure will be further explored in the Residential Water Use Tariff Design Customer survey.

**Current Status**

Results from the residential water use tariff design project survey are expected to be available in early 2014. Pending Customer responses the introduction of volumetric sewage charges would not be considered until 1 July 2015.

5.3.4 **Trade Waste**

**Current Tariff Structure**

Currently trade waste Customers are charged for three pollutant load parameters.
ITEM 2 (Continued)
WATER AND SEWERAGE TARIFF REVIEW
WSS1125/1227/01(P1)

Issues Under Consideration

GCW has completed its Trade Waste Management Reform Project and is proposing to move away from the application of pollutant load charges and towards a risk-based approach that calculates a Customer's load factor (based on the Customer's risk profile) and multiplies it by the commercial sewerage volumetric tariff.

Current Status

It is anticipated that the approach proposed above will be implemented on 1 July 2014, however, a glide path approach may be adopted if the impact to these Customers is not considered reasonable.

5.3.5 Non-core and non-regulatory fees and charges

Current Tariff Structure

Currently there are around 80 non-core and non-regulatory fees and charges, the majority of which have not been reviewed for a number of years.

Issues Under Consideration

The review of GCW’s 2014-15 non-core and non-regulatory fees and charges includes:

- data collection
- internal stakeholder consultation and
- price modelling (bottom up approach) taking into consideration labour cost, on-costs and corporate overheads to ensure cost recovery.

It is anticipated that the number of fees and charges may be reduced by around 35%.

Current Status

To manage Customer impacts GCW proposes a staged approach to the reform and rationalisation of non-core fees and charges. The first stage is scheduled for implementation on 1 July 2014.

6 ALIGNMENT TO BOLD FUTURE VISION, CORPORATE PLAN, OPERATIONAL PLAN

Not Applicable.

7 FUNDING AND RESOURCING REQUIREMENTS

Budget/Funding Considerations

- The residential water tariff design project ($150,000) is funded under the Riverstone Crossing Water Conservation Agreement over the two years 2013/14 and 2014/15.

All other resources associated with the tariff review are internal, at an estimated cost of $33,000.

Costs for Capital Works and Service Proposals

Not Applicable.
WATER AND SEWERAGE TARIFF REVIEW
WSS1125/1227/01(P1)

In accordance with the budget review guidelines the following circumstances require referral to the Special Budget Committee

- Not Applicable.

People and Culture

- Not Applicable.

8 RISK MANAGEMENT

A staged approach to the tariff review has been taken in order to manage risk associated with inadequate data and information to determine the impacts to both GCW’s revenue and its Customers.

GCW will consider a glide path approach to prices where necessary as a part of the tariff review. This approach will be utilised to allow for the recovery of costs over a longer-term to avoid undue price shock.

The tariff review will take into consideration regulatory pricing principles as defined by the Queensland Competition Authority (QCA).

9 STATUTORY MATTERS

Not Applicable.

10 COUNCIL POLICIES

The following Council policies are relevant to the price monitoring submission:

- Revenue Policy

11 DELEGATIONS

Not Applicable.
ITEM 2 (Continued)
WATER AND SEWERAGE TARIFF REVIEW
WSS1125/1227/01(P1)

12 COORDINATION & CONSULTATION

<table>
<thead>
<tr>
<th>Name and/or Title of the Stakeholder Consulted</th>
<th>Directorate or Organisation</th>
<th>Is the Stakeholder Satisfied With Content of Report and Recommendations (Yes/No) (comment as appropriate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardie Ryan  Supervisor Water Billing</td>
<td>Organisational Services</td>
<td>Yes</td>
</tr>
<tr>
<td>Denis Favero  Coordinator Rating and Billing Services</td>
<td>Organisational Services</td>
<td>Yes</td>
</tr>
<tr>
<td>Michael Hopewell  Water Use Officer</td>
<td>Gold Coast Water</td>
<td>Yes</td>
</tr>
<tr>
<td>Scott Emmonds  Coordinator Demand Planning</td>
<td>Gold Coast Water</td>
<td>Yes</td>
</tr>
<tr>
<td>Ross Ahrens  Co-ordinator Water Revenue and Asset Protection</td>
<td>Gold Coast Water</td>
<td>Yes</td>
</tr>
<tr>
<td>Vicky Longley  Senior Integrated Planning Officer</td>
<td>Gold Coast Water</td>
<td>Yes</td>
</tr>
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</table>

13 STAKEHOLDER IMPACTS

External/community stakeholder Impacts

As part of the tariff review Customer impact assessments will be undertaken. In setting 2014-15 prices, GCW will consider a glide path approach in circumstances where Customer impacts are considered unacceptable.

Internal (Organisational) Stakeholder Impacts

Any changes to tariff structures will have an effect on Revenue Services. GCW is working collaboratively with Revenue Services to ensure proposed tariff structures can be administered with ease.

Before implementing tariff reform for recycled water, trade waste and non-core fees and charges, GCW’s Commercial Performance Branch will liaise with internal stakeholders, namely Service Sustainability and Network Reliability Branches to review Customer impact assessments.

14 TIMING

The tariff review currently being undertaken by GCW will be implemented over the next two years. The first stage of this review is scheduled to be implemented on 1 July 2014 and the second on 1 July 2015. Stage one of the recommended tariff structure for commercial Customers will be presented to Council in early 2014.
ITEM 2 (Continued)
WATER AND SEWERAGE TARIFF REVIEW
WSS1125/1227/01(P1)

15 CONCLUSION

The tariff review currently being undertaken by GCW will be the first stage to implementing tariff reform over the next two years. The first stage of this review will be implemented on 1 July 2014 and the second on 1 July 2015.

GCW will continue to work closely with stakeholders to ensure the optimal outcome for GCW and Customers. While it is important for GCW to move toward cost-reflective prices, a glide path approach may be used to allow for the recovery of costs over a longer term and manage Customer impacts.

16 RECOMMENDATION

It is recommended that Council resolves as follows:

Note the progress of Gold Coast Water's tariff review to date.

Author: Andre Kersting
Acting Manager Commercial Performance
28 November 2013

Authorised by: Paul Heaton
Director Gold Coast Water

CARRIED
## Water and sewerage pricing (detailed listing)

### 2013-14 tariffs

(GST exclusive)

<table>
<thead>
<tr>
<th>$</th>
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</table>

### Section A - Utility charges

<table>
<thead>
<tr>
<th>Water service charge</th>
<th>Six-monthly base water service charge ($)</th>
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</thead>
<tbody>
<tr>
<td>Residential</td>
<td></td>
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<tr>
<td>* Consumption - this figure is calculated from previous year's annual consumption*</td>
<td></td>
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<tr>
<td>20mm</td>
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<tr>
<td>25mm; 0 - 200KL consumption pa</td>
<td>193.23</td>
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<td>269.30</td>
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<tr>
<td>32mm; 0 - 200KL consumption pa</td>
<td>103.23</td>
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<tr>
<td>32mm; &gt; 200KL consumption pa</td>
<td>269.30</td>
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<td>40mm 45KL consumption pa</td>
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<td>50mm; 0 - 1160KL consumption pa</td>
<td>732.60</td>
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<td>732.90</td>
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<td>100mm; &gt; 1160KL consumption pa</td>
<td>1,145.17</td>
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</tr>
<tr>
<td>450mm; &gt; 1814KL consumption pa</td>
<td>2,031.63</td>
</tr>
</tbody>
</table>

### Vacant land

|  |
|----------------------|------------------------------------------|
| Residential          |                                          |
| Non-residential      |                                          |

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102.87
163.23
CLOSED SESSION
LOCAL GOVERNMENT ACT 2009 AND SUPPORTING REGULATIONS

PROCEDURAL MOTION
moved Cr Robbins seconded Cr Caldwell

That the Committee move into Closed Session pursuant to section 275(1) of the Local Government Regulation 2012, for the consideration of the following item/s for the reason/s shown:-

<table>
<thead>
<tr>
<th>Item</th>
<th>Subject</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>CONSIDERATION FOR RELIEF FROM WATER LEAK OUTSIDE POLICY</td>
<td>RATING CONCESSIONS</td>
</tr>
<tr>
<td>4</td>
<td>DUAL RETICULATION REVIEW AND PROPOSED SCHEME AMENDMENTS UPDATE</td>
<td>PREJUDICIAL/ FINANCIAL MATTER</td>
</tr>
</tbody>
</table>

PROCEDURAL MOTION
moved Cr Grummitt seconded Cr La Castra

That the Committee move into Open Session and that Committee Recommendations WS13.1211.003 and WS13.1211.004 be moved and carried as indicated on the following pages.
ITEM 3  GOLD COAST WATER
CONSIDERATION FOR RELIEF FROM WATER LEAK OUTSIDE POLICY
PN41521/36(P1) REPORT CONFIDENTIAL

COMMITTEE RECOMMENDATION   WS13.1211.003
moved Cr La Castra   seconded Cr Caldwell

1 That the report/attachment be deemed a confidential document and be treated as such in accordance with sections 171 (3) and 200 (5) of the Local Government Act 2009 and that the document remain confidential unless Council decides otherwise by resolution.

2 That Council note the circumstances surrounding the leaks at this property.

3 That Council note that the most recent leak has occurred within three years of another leak for which relief was granted.

4 That Council note that the property owner has received the full benefit of Council’s decision to amend its Policy and allow relief for a second (major) leak within three (3) years.

5 That Council write to the property owner to advise that further relief is not approved.

CARRIED
1 BASIS FOR CONFIDENTIALITY

1.1 I recommend that this report be considered in Closed Session pursuant to section 275 (1) of the Local Government Regulation 2012 for the reason that the matter involves:

(g) any action to be taken by the local government under the Planning Act, including deciding applications made under that Act;

(h) other business for which a public discussion would be likely to prejudice the interests of the local government or someone else, or enable a person to gain a financial advantage.

1.2 I recommend that the report/attachment be deemed a confidential document and be treated as such in accordance with sections 171 (3) and 200 (5) of the Local Government Act 2009 and that the document remain confidential unless Council decides otherwise by resolution.

2 EXECUTIVE SUMMARY

Over the last 12 months, an extensive review of the existing and future dual reticulation schemes within the City of Gold Coast has been undertaken.

The outcomes of this review is that in all dual reticulation options the costs far outweighed the value of the benefits.

The option with the least Net Present Cost is for no Class A+ recycling. This option assumes that Class A+ recycled water is discontinued and that potable water is supplied via the existing recycled water network for existing customers and the future network will be potable water only.

It is recommended that Council discontinue the existing dual reticulation scheme in Pimpama Coomera and transition to a “Supply Switch” which will see potable water supplied to existing customers via the existing recycled water main. It is further recommended that all future development areas not be required to install dual reticulation and will only be required to install potable water mains as their single water supply source.

Implementation of the recommendations will lead to an estimated $114m savings to Council in future capital, operational and maintenance costs.

3 PURPOSE OF REPORT

The purpose of this report is to update Council on the Dual Reticulation Review project and to inform Council of the key recommendations and findings.
4  PREVIOUS RESOLUTIONS

Council at its meeting of 12 December 2005, resolved in part (G05.1212.020):

“37. Adopts a contribution to the GCWF water balance from Recycled Water of 20ML/day by 2056;

38. Establishes dual reticulation schemes in the north of the City to provide high quality recycled water to future communities for toilet flushing and outdoor uses;

39. Immediately begins conditioning the provision of recycled water infrastructure for all new development in defined dual reticulation areas for:
   o Pimpama / Coomera;
   o Yatala / Stapylton; and,
   o Beenleigh / Waterford.

40. Immediately begins engineering and planning studies to identify the size and technical requirements of trunk recycled water infrastructure, to secure locations for Recycled Water storage facilities and distribution networks and to specify water quality requirements for future Recycled Water Treatment Plants”

Council at its meeting of 26 March 2013, resolved (G13.0326.025 and G13.0326.026):

“1. That the report/attachment be deemed non-confidential except those parts deemed by the Chief Executive Officer to remain confidential in accordance with sections 171(3) and 200(5) of the Local Government Act 2009.

2. Council notes the changes to the original planning assumptions associated with the Stapylton dual reticulation scheme.

3. Council notes that estimates of ultimate recycled water use within dual reticulation schemes is expected to be significantly less than previously planned.

4. Council agrees to immediately cease conditioning proposed developments for dual reticulation in the following areas: Yatala, Stapylton and Cabbage Tree Point (Steiglitz).

5. Council approves the cancellation of previous conditions and requirements in relation to dual reticulation in the following areas: Yatala, Stapylton and Cabbage Tree Point (Steiglitz).

6. Council approves “in principle” to amend the Gold Coast Planning Scheme and all relevant documentation to reflect the changes to the proposed dual reticulation area.

7. Council approves the detailed review of scheme over the remaining calendar year.

8. Council approves the immediate notification of changes via the City of Gold Coast website and direct communication to key stakeholders.

9. Council notes that the Director Gold Coast Water will bring an updated status report to Council early in the 2013-14 Financial Year.”
5 DISCUSSION

5.1 Background

The Gold Coast Water Futures (GCWF) Strategy was adopted by Council in 2005 as the key water resources strategy for the Gold Coast to the year 2056. The GCWF Strategy was developed at the time Gold Coast was the owner and operator of all bulk water supply assets and South East Queensland was in the middle of an extensive drought. Key components of the Strategy included:

- raising of the Hinze Dam (completed and now owned and operated by Seqwater)
- construction of the Tugun Desalination plant (completed and now owned and operated by Seqwater)
- establishment of the Pimpama-Coomera dual reticulation recycled water scheme (in-progress).

The Pimpama-Coomera Class A+ dual reticulation recycled scheme was anticipated to contribute 20ML out of 366ML\(^1\) (or 5%) of total city water demand by the year 2056.

Ten years after adoption of the GCWF Strategy and five years after the “go-live” of the Pimpama-Coomera Water Futures Master Plan (A+ recycled water scheme), it is appropriate to review and consider the current and future costs and benefits of the scheme as part of the City of Gold Coasts’ future water supply.

5.2 Current Situation

The current Pimpama-Coomera Class A+ recycled water scheme meets around 0.5% (0.8ML/day) of the City’s total water demand. As a comparison, approximately 17.6ML/day is supplied by Class B/C recycled water schemes (equivalent to 10% of Gold Coast water use).

Based on current usage rates, the volume of Class A+ recycled water projected to be utilised in 50 years (estimated to be fully developed in the Pimpama-Coomera dual reticulation area) is approximately 8 ML/day which equates to 2.4% of total water demand and around 50% less than that originally projected.

\(^1\) Adjusted due to reductions from measures such as water conservation, pressure & leakage management and rainwater substitution.
Figure 1: Class A+ Recycled Water as a proportion of Total Water Supply Demand

Based on the reduction in projected demand, GCW has also reviewed the original assumptions, costs and drivers outlined in the Pimpama Coomera Waterfuture (PCWF) Master Plan, with the current demands, costs, viability and value of the Pimpama Coomera dual reticulation scheme.

A summary of the key changes since the PCWF Master Plan was originally developed are provided below. (Refer to Attachment C for more detail)

**Table 1: Key Changes since establishment of PCWF Master Plan**

<table>
<thead>
<tr>
<th>Issues</th>
<th>Assumptions / Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>Millennium drought broke and water use behaviours have changed significantly in SEQ.</td>
</tr>
<tr>
<td>Bulk water supply arrangements</td>
<td>The State Government took over and invested heavily in bulk water supply assets in SEQ. Projected increases in bulk water supply costs reflect this significant investment in improved water supply security.</td>
</tr>
<tr>
<td>Population projections</td>
<td>Equivalent population (EP) growth rates have slowed from those projected for the PIP. The PIP 2011 EP projections are approximately double the actual 2011 EP and the PWCF 2011 EP projections are approximately 8% higher than actual 2011 EP,</td>
</tr>
<tr>
<td>Environmental discharge</td>
<td>Originally it was anticipated that high quality recycled water releases would occur at Pimpama River. This has not been sanctioned and is extremely unlikely to be approved by the environmental regulator in the future.</td>
</tr>
</tbody>
</table>
Issues | Assumptions / Outcomes
--- | ---
Outdoor water use | General outdoor water use (which makes up a large proportion of recycled water use) has decreased by 65% compared with original assumptions.
Household recycled water demand | Actual recycled water demand per household is currently 75% less than that assumed for original demand projections.
Scheme capital costs | Whole of life (50 years) capital costs for Class A+ recycled water are $127 million, which is approximately double the figure that was originally estimated in the PWCF.
Figures are present value in 2012/13 dollars.
Scheme operating costs | Whole of life (50 years) operation and maintenance costs of the Class A+ recycled water treatment and distribution system are $120.5 million, which is ten times greater than originally estimated ($11.7 million).
Figures are present value in 2012/13 dollars.

5.3 Options

As previously advised to Council (Council Meeting, 656 26 March 2013), Gold Coast Water has conducted a study to re-assess the performance and ongoing viability of dual reticulation schemes on the Gold Coast. The study consisted of four stages. The outcome of Stage 1 was reported to Council on 26 March 2013 and resulted in cessation of the proposed Stapylton dual reticulation area.

Stage 2, 3 and 4 have now been completed and results are detailed in Attachments B to D.

A value assessment has been completed which utilises a comprehensive framework to help assess the economic viability of recycled water schemes. The assessment framework utilised has been produced by the Queensland based Australian Water Recycling Centre of Excellence (AWRCE). (Attachment A contains some background regarding the AWRCE framework).

The framework examines the total economic value of recycling including financial, environmental and social factors. Where benefits (and costs) are non-financial, the value has been quantified in terms of the community’s willingness to pay for the benefits (or avoid the cost). A cost benefit analysis framework was used to assess the “value” and viability of five potential future options for the Pimpama-Coomera scheme.
The five options included:

- "no recycling" – cease construction of all future dual reticulation, shut down the current A+ treatment plant, and supply all customers with potable water
- "existing only" – cease construction of all future dual reticulation, but continue to supply existing customers with recycled water
- "full expansion" – continue construction of all future dual reticulation, continue to supply existing and all future customers with recycled water
- "delayed expansion" – assumes all future dual reticulation is expanded in accordance with original plans, but the supply of recycled water is suspended for 10 years (saving operational costs)
- "indefinitely delayed expansion" – assumes all future dual reticulation network is expanded in accordance with original plans, but the supply of recycled water and expansion of the recycled water treatment plant is deferred indefinitely (scheme operation would commence in the future potentially under drought conditions).

The economics of water recycling was examined from two perspectives:

- the commercial value (costs and benefits) to the City of Gold Coast
- the economic value (costs and benefits) to the whole Community (and the environment).

Table 2 summarises the outcomes of the value assessment including the capital and operating costs, benefits and Net Present Value (NPV) for the five options identified above. Adoption of “no recycling” as opposed to the “full expansion” of Class A+ recycling within the Pimpama-Coomera Water Futures Master Plan area will result in an estimated net saving to Council of $114 million in future spending.
### Table 2 Summary of total costs and benefits

<table>
<thead>
<tr>
<th></th>
<th>Option 1 No Recycling</th>
<th>Option 2 Existing only</th>
<th>Option 3 Full Expansion</th>
<th>Option 4 Delayed Expansion</th>
<th>Option 5 Indefinitely Delayed Expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Community ($'000)</td>
<td>Council ($'000)</td>
<td>Community ($'000)</td>
<td>Council ($'000)</td>
<td>Community ($'000)</td>
</tr>
<tr>
<td>Total Capital Cost</td>
<td>852</td>
<td>852</td>
<td>9,907</td>
<td>9,907</td>
<td>83,547</td>
</tr>
<tr>
<td>Total Operating Cost</td>
<td>12,604</td>
<td>12,992</td>
<td>53,969</td>
<td>53,969</td>
<td>120,449</td>
</tr>
<tr>
<td>Total Benefits</td>
<td>-</td>
<td>-</td>
<td>19,380</td>
<td>7,323</td>
<td>93,988</td>
</tr>
<tr>
<td>Net Present Value</td>
<td>-13,456</td>
<td>-13,844</td>
<td>-44,496</td>
<td>-56,553</td>
<td>-110,007</td>
</tr>
<tr>
<td>Net additional costs</td>
<td>0</td>
<td>0</td>
<td>$31,040</td>
<td>$42,709</td>
<td>$96,551</td>
</tr>
</tbody>
</table>

### Table Notes

1. The smaller the negative NPV the more economically viable the option.
2. No recycling (Option 1), while deemed to have "no benefits", proved to be the least cost ($13.8 million) and the most viable for both the Community and for Council, of all the options.
3. Full expansion (Option 3) of the PCWF Dual Reticulation Scheme would result in the highest total cost albeit with the highest total benefit to both the Community and Council.
4. Option 3 is the least commercially viable with the lowest NPV and cost of $128 million to Council.
5. All existing assets are considered sunk costs and therefore not included in the analysis (if they had been included, the results for Option 2 to 5 would have been significantly worse than the figures above (Refer to Attachment B for a summary of the methodology, options and results).
6. The net additional costs of continuing recycling are benchmarked against Option 1 No Recycling.
Based on the above result, further more detailed analysis was then undertaken to fully understand options for the utilisation of the existing recycled water treatment and network infrastructure.

These options (to supply “existing (users) only”, “delayed expansion” into the future etc.) were then analysed using detailed modelling, desired standards of service, discount rates, unit costs and actual recycled and potable water networks that are in the ground. The results (refer Attachment D) again show that the “no recycling” option is the least cost for Council ($48m less than continuing to supply recycled water to the current customers only). This option is based on fully utilising the existing current recycled water pipe network to carry potable water to all existing customers.

Prior to any changes in the water supply system occurring within the Pimpama-Coomera area, a transition plan will be required to be developed to identify and address the following issues:

- communication plan and materials for residents, plumbers, developers, real estate agents, owners etc
- regulatory requirements
- capital works delivery plan
- budget requirements
- operational optimisation
- fire flow requirements
- advice to the bulk water provider (Seqwater)
- Class C return main interface
- pricing glide path over 10 years for existing customers moving from dual reticulation to potable water supply
- Council policy and procedural matters
- effected internal staff
- REDACTED XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
- asset decommissioning or sell off.

As part of the Transition Plan, there is potential that the existing Pimpama Recycled Water Treatment Plant (RWTP) could be utilised by Gold Coast Water for other reuse projects, or sold to other users to produce recycled water for commercial, industrial or open space purposes.

6 ALIGNMENT TO VISION, CORPORATE PLAN, OPERATIONAL PLAN

The analysis and report aligns with Focus Area Outcome - A city shaped by clever design, Item 6.1 – Integrated land use planning takes account of environmental, social and economic needs to provide the basis for a sustainable community.
7 FUNDING AND RESOURCING REQUIREMENTS

Budget/Funding Considerations

Capital and operating budgets for various options have been discussed. If the “no Class A+ recycling” is adopted, additional costs involved to develop the Transition Plan and update the City Plan will be covered by internal staff and are estimated to be:

<table>
<thead>
<tr>
<th></th>
<th>2013-14</th>
<th>2014-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transition Plan</td>
<td>$50,000</td>
<td>$50,000</td>
</tr>
<tr>
<td>City Plan updates</td>
<td>$2,000</td>
<td></td>
</tr>
</tbody>
</table>

Potential decommissioning of the RWTP would lower the Regulated Asset Base (RAB) and decrease operating costs and hence the Maximum Allowable Revenue (MAR) for water by approximately $3 million.

Costs for Capital Works and Service Proposals

Implementation of the recommendations will lead to an estimated $114m savings to Council in future capital, operational and maintenance costs associated with the discontinuation of the existing and future supply of Class A+ recycled water within the City of Gold Coast.

There will be a cost in the short-term to ready the system for the transition to potable water only, including design and capital works to connect potable water to the recycled water network. Estimated transition and supply switch costs below assume that the recycled water reticulation and network has been constructed according to the CAPEX schedule.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Cost</td>
<td>2014-15</td>
<td>$100,000</td>
</tr>
<tr>
<td>Construction Cost</td>
<td>2015-16</td>
<td>$600,000</td>
</tr>
</tbody>
</table>

Attachment E shows the current projects on the 2013-14 approved capital program and four year outlook that will be removed following approval of the proposed recommendation.

People and Culture

Cessation of the supply of Class A+ recycled water may see the reduction of two FTE positions, however this will not be considered until successful completion of the Transition Plan.

8 RISK MANAGEMENT

REDACTED
Reputational Risk

Other recycling schemes in Australia have also encountered significant challenges and costs. Table 3 compares a few examples and their current status.
### Table 3 Other Water Recycling Schemes

<table>
<thead>
<tr>
<th>Scheme (Organisation)</th>
<th>Status</th>
<th>Size</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pimpama Coomera Scheme (City of Gold Coast)</td>
<td>Currently under review</td>
<td>0.8ML/d (7000 properties)</td>
<td></td>
</tr>
<tr>
<td>Western Corridor Recycled Water Scheme (Seqwater)</td>
<td>Currently supplying 8-10ML/day to Swanbank Power Station.</td>
<td>232 ML/d</td>
<td>Potential to supply Wivenhoe Dam if total storage capacity &lt; 40%. An adjusted lifecycle costing methodology to provide present value of lifecycle costs, which includes additional costs outside the direct asset and operating costs, was used to: assess the medium to long term water security; drive efficiencies and reduce water delivery costs regarding the WCRWS, resulted in the decision to shutdown the scheme. Due to be shutdown by the end of 2013 in response to manufactured water assets review and adoption of recommendations by the State.</td>
</tr>
<tr>
<td>South Caboolture (Unity Water)</td>
<td>Currently operating.</td>
<td>1000 properties</td>
<td>Unity Water’s recycled water schemes are currently under review.</td>
</tr>
<tr>
<td>Murrumba Downs (Seqwater)</td>
<td>Agreement in principle with Unity Water to decommission</td>
<td>4ML/d</td>
<td>This is an Advanced Water Treatment Plant.</td>
</tr>
<tr>
<td>Rouse Hill Dual Reticulation (Sydney Water)</td>
<td>Currently operating and planned to continue operation.</td>
<td>5ML/d (24,000 properties)</td>
<td>Rouse Hill is the only Sydney Water dual reticulation scheme in operation. The scheme is predominantly composed of single dwelling residential developments. There was a mixture of drivers that led to the schemes implementation, including reducing reliance on drinking water supplies and meeting environmental regulatory requirements to reduce nutrient discharges to inland waterways. However it was noted by Sydney Water that under the current regulatory and pricing framework in NSW, there are limited opportunities to cost effectively service new greenfield areas with dual reticulation.</td>
</tr>
<tr>
<td>Altona Industrial Precinct Stage 2 (City West Water)</td>
<td>Decision to be made by the Board for project to continue</td>
<td>13ML/d</td>
<td>The Essential Services Commission removed this project from City West’s capital expenditure and revenue requirement. If the board proceeds with the project in spite of this they will not be able to recover the cost from pricing.</td>
</tr>
</tbody>
</table>
ITEM 4 (Continued)
DUAL RETICULATION REVIEW AND PROPOSED SCHEME AMENDMENTS UPDATE
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9  STATUTORY MATTERS

Council currently operates the Pimpama Coomera scheme under a formal management plan with strict regulatory controls and reporting. Negotiations will be required with environmental and health regulators to ensure approved and appropriate transition arrangements are in place.

10  COUNCIL POLICIES

Not Applicable.

11  DELEGATIONS

Not Applicable.

12  COORDINATION AND CONSULTATION

The following stakeholders have been requested to review the agenda report and provide comments.

<table>
<thead>
<tr>
<th>Title of the Stakeholder Consulted</th>
<th>Directorate or Organisation</th>
<th>Is the Stakeholder Satisfied With Content of Report and Recommendations (Yes/No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager Corporate Communication – Warwick Sinclair</td>
<td>Office of the CEO</td>
<td>No comment</td>
</tr>
<tr>
<td>Senior Lawyer City Solicitor – Hamish Kiddle</td>
<td>Office of the CEO</td>
<td>Yes</td>
</tr>
<tr>
<td>Coordinator Financial Accounting – Stephen Cruise</td>
<td>Office of the CEO</td>
<td>No comment</td>
</tr>
<tr>
<td>Coordinator Catchment Management – Grant Periott</td>
<td>Community Services</td>
<td>No comment</td>
</tr>
<tr>
<td>Manager People and Culture - Graeme Wicks</td>
<td>Organisational Services</td>
<td>Yes</td>
</tr>
<tr>
<td>Manager System Control – Chris Hocking</td>
<td>GCW</td>
<td>Yes</td>
</tr>
<tr>
<td>Coordinator Development Assessment - Brian Burrows</td>
<td>GCW</td>
<td>Yes</td>
</tr>
<tr>
<td>Coordinator Pricing and Regulation – Andre Kersting</td>
<td>GCW</td>
<td>Yes</td>
</tr>
<tr>
<td>Executive Coordinator Quality Performance &amp; Compliance - Peter Rawlings</td>
<td>GCW</td>
<td>Yes</td>
</tr>
<tr>
<td>Coordinator Product Control – Jo Csik</td>
<td>GCW</td>
<td>Yes</td>
</tr>
<tr>
<td>Exec Coordinator Strategic Land Use Planning – David Hood</td>
<td>PET</td>
<td>No comment</td>
</tr>
</tbody>
</table>
ITEM 4 (Continued)
DUAL RETICULATION REVIEW AND PROPOSED SCHEME AMENDMENTS UPDATE
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<table>
<thead>
<tr>
<th>Title of the Stakeholder Consulted</th>
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<th>Is the Stakeholder Satisfied With Content of Report and Recommendations (Yes/No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exec Coordinator Contributed Assets and Development Compliance – Jeremy Wagner</td>
<td>PET</td>
<td>Yes</td>
</tr>
<tr>
<td>Executive Coordinator Engineering and Environmental Assessment – Shahadat Hossain</td>
<td>PET</td>
<td>No comment</td>
</tr>
<tr>
<td>Executive Coordinator Planning Assessment – Roger Sharpe</td>
<td>PET</td>
<td>No comment</td>
</tr>
</tbody>
</table>

13 STAKEHOLDER IMPACTS

External/community stakeholder Impacts

- Development community – reduced development costs going forward
- Development community – changes to planned infrastructure
- Community – reduced cross-subsidy of the recycled water schemes
- Landowners – changes to planned (or current) infrastructure, no access to dual reticulation in future
- Existing customers – REDACTED XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
- Future customers – REDACTED XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Internal (Organisational) Stakeholder Impacts

- Corporate Communications (Office of the CEO) – updating website and “non-planning” documentation and communication materials
- REDACTED XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
- REDACTED XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
- City Planning (PET) – amendments to the Planning Scheme
- Recycled Water (Class A+) Staff (GCW) – adjustment of position description and roles and responsibilities
- REDACTED XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
ITEM 4 (Continued)
DUAL RETICULATION REVIEW AND PROPOSED SCHEME AMENDMENTS UPDATE
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14 TIMING

It is anticipated that a discontinuation of A+ recycled water supply would take approximately 36 months to fully implement. The following tasks would be undertaken over the next three years:

- Transition Plan completed by December 2014
- Capital works delivered by June 2016
- “Supply Switch” completed by December 2016
- Decommission Pimpama Recycled Water Treatment Plant by December 2016.

15 CONCLUSION

This report outlines the challenges of continuing the existing dual reticulation scheme and future expansion. The key issues with the Class A+ recycled water system include:

- high cost of operating and maintaining the scheme
- high cost of constructing new capital infrastructure
- low demand usage
- negative net “value” (costs far outweigh the benefits)
- significant regulatory monitoring and reporting requirements
- risk of cross connections.

For these reasons, it is recommended to discontinue the existing dual reticulation scheme in Pimpama Coomera and transition to a “Supply Switch” which will see potable water supplied to existing customers via the existing recycled water network. It is recommended that all future development areas will not be required to install dual reticulation and will only be required to install potable water mains as their single water supply source.

It is recommended that the proposed changes commence immediately and that the Council website is updated as soon as the recommendations are ratified by Council.
16 RECOMMENDATION

It is recommended that Council resolves as follows:

1 Council notes the challenges and issues that impact on the success of dual reticulation schemes.

2 Council agrees to immediately cease conditioning proposed developments for dual reticulation in all areas of the City of Gold Coast.

3 Council agrees that it will not seek to enforce previous conditions and requirements in relation to Class A+ recycled water in all areas of the Gold Coast.

4 Council approves the preparation of a Transition Plan for a "Supply Switch" from Class A+ recycled water to potable water over the next 12 months.

5 Council agrees to take necessary steps to amend the Gold Coast Planning Scheme, Land Development Guidelines, SEQ Water Supply and Sewerage Design & Construction Code and all relevant documentation to reflect the discontinuation of all dual reticulation schemes in the Gold Coast Local Government area.

6 Council approves the immediate notification of changes via the City of Gold Coast website and direct communication to key stakeholders.

7 Council approves a 10 year “glide” path for prices for existing Class A+ recycled water customers to transition to full potable water pricing.

8 Council approves transitioning to a potable water supply via the existing recycled water network.

9 Council notes that the Director Gold Coast Water will bring an updated status report to Council on transition progress during the 2014-15 Financial Year.

Author: Authorised by:
Kim Evans Paul Heaton
Coordinator Strategic Land Use Planning Director Gold Coast Water

Kathy Baker
Executive Coordinator
Integrated Water Cycle Planning
3 December 2013

TRACKS REF: 41987562
ITEM 4 (Continued)
DUAL RETICULATION REVIEW AND PROPOSED SCHEME AMENDMENTS UPDATE
WSS1125/343(P1)

Committee Recommendation Changed at Council 12 December 2013

Changed Recommendation

COMMITTEE RECOMMENDATION   WS13.1211.004
moved Cr Grummitt    seconded Cr La Castra

1 Council notes the challenges and issues that impact on the success of dual reticulation schemes.
2 Council agrees to immediately cease conditioning proposed developments for dual reticulation in all areas of the City of Gold Coast.
3 Council agrees that it will not seek to enforce previous conditions and requirements in relation to Class A+ recycled water in all areas of the Gold Coast.
4 Council agrees to take necessary steps to amend the Gold Coast Planning Scheme, Land Development Guidelines, SEQ Water Supply and Sewerage Design & Construction Code and all relevant documentation to reflect the discontinuation of all dual reticulation schemes in the Gold Coast Local Government area.
5 Council approves the immediate notification of changes via the City of Gold Coast website and direct communication to key stakeholders.
6 Council approves transitioning to a potable water supply via the existing recycled water network subject to Council adopting an appropriate transition plan.
7 Council notes that the Director Gold Coast Water will bring an updated status report to Council on transition progress during the 2014-15 Financial Year.

CARRIED
ITEM 4 (Continued)
DUAL RETICULATION REVIEW AND PROPOSED SCHEME AMENDMENTS UPDATE
WSS1125/343(P1)

CHANGED AT COUNCIL 12 DECEMBER 2013
RESOLUTION  G13.1212.030  moved Cr Owen-Jones  seconded Cr Tozer

1. That the report/attachment be deemed non-confidential except for those parts
deemed by the Chief Executive Officer to remain confidential in accordance with
section 171(3) and 200 (5) of the Local Government Act 2009.

2. Council notes the challenges and issues that impact on the success of dual
reticulation schemes.

3. Council agrees to immediately cease conditioning proposed developments for
dual reticulation in all areas of the City of Gold Coast.

4. Council agrees that it will not seek to enforce previous conditions and
requirements in relation to Class A+ recycled water in all areas of the Gold
Coast.

5. Council agrees to take necessary steps to amend the Gold Coast Planning
Scheme, Land Development Guidelines, SEQ Water Supply and Sewerage
Design & Construction Code and all relevant documentation to reflect the
discontinuation of all dual reticulation schemes in the Gold Coast Local
Government area.

6. Council approves the immediate notification of changes via the City of Gold
Coast website and direct communication to key stakeholders.

7. Council approves transitioning to a potable water supply via the existing
recycled water network subject to Council adopting an appropriate transition
plan.

8. Council notes that the Director Gold Coast Water will bring an updated status
report to Council on transition progress during the 2014-15 Financial Year.

CARRIED
Attachment A. : Australian Water Recycling Centre of Excellence Notes to Gold Coast Water

Below is the content of an email received from Don Alcock Knowledge Adoption Manager Australian Water Recycling Centre received 14 November 2013.

A comprehensive framework to help assess the economic viability of recycled water schemes has been produced by the Australian Water Recycling Centre of Excellence. The report, developed from a study by Marsden Jacob Associates, examines the economics of water recycling in the broadest sense—both commercial value to businesses and the broader economic value to the community and environment—for non-potable use including residential, industrial, municipal and agricultural schemes. As you participated in an industry briefing with the project leader, Phil Pickering of MJA, I am writing to advise that you can access the final report from the Centre’s website.

The report found that many schemes use a variety of limited assessment methods for their costing and planning decisions. Economic and commercial benefits are often inappropriately estimated and poorly delineated between parties, rendering the economic case for investment in recycled water projects difficult to establish in advance and to determine in hindsight.

The economic framework uses cost-benefit analysis to focus on a wider range of capital, operating, social and environmental costs and benefits, and provides practical guidance on the assessment of business cases for individual recycled water projects. The recommended framework is based on interviews with industry, government agencies and utilities, literature and regulatory reviews, surveys and supporting studies.

The report is available to download on the Centre’s website (http://www.australianwaterrecycling.com.au/research-publications.html)
Financial and Economic Consultants, Marsden Jacob Associates were commissioned to undertake a detailed value assessment of the Pimpama Coomera Dual Reticulation Scheme. Stage 2 examined the Total Economic Value including financial, environmental and social factors. Where benefits (and costs) are non-financial, the value has been quantified in terms of the community’s willingness to pay for the benefits (or avoid the cost). A Cost Benefit Analysis (CBA) framework was used to assess the ‘value’ and viability of five options in Pimpama Coomera. The five (5) options considered by MJA included:

Option 1 ‘no recycling’ – assumes supply to all Pimpama Coomera Dual Reticulation Scheme customers is replaced with potable water supply. Existing recycled water assets are used to supply potable water to customers already connected to the recycled water scheme. Customers that are not currently connected to the Pimpama Coomera Dual Reticulation Scheme will remain unconnected for the duration of the analysis (even if infrastructure in the area has already been laid) and will be supplied only via the potable water scheme.

Option 2 ‘continue existing supply only’ – assumes existing Pimpama Coomera Dual Reticulation Scheme customers continue to be supplied but no further expansion takes place. As with Option 1, customers that are not currently connected to the Pimpama Coomera Dual Reticulation Scheme will remain unconnected.

Option 3 ‘full expansion’ – assumes the Pimpama Coomera Dual Reticulation Scheme continues to be expanded in accordance with original plans, with continued supply.

Option 4 ‘full expansion with delayed supply’ – assumes the distribution and reticulation network is expanded in accordance with original plans, but the supply of recycled water is suspended for a number of years. This option allows the expansion of the recycled water treatment plant to be deferred and constructed at a later time (additional treatment required in future years to meet MDMM demands). Although the timing is uncertain, we have for this analysis assumed the delay period will be 10 years.

Option 5 ‘full expansion with indefinite delay’ – similar to Option 4, this option assumes the network is expanded, but the supply of recycled water is suspended indefinitely. Consequently, the expansion of the recycled water treatment plant is deferred indefinitely as well.

The results of Stage 2 support the Stage 1 conclusion that recycled water in the Pimpama Coomera area is a high cost option compared with potable water supplies. The cost to supply Class A+ recycled water is approximately $7.07-$8.03 per kilolitre compared with potable water supply costs of around $2.05-$3.00 per kilolitre. If additional miscellaneous benefits (e.g. avoided restrictions) and the community’s willingness to contribute to water recycling are taken into account, the total ‘benefits’ increase to a total of $3.26-$3.49 per kilolitre but are still significantly below the cost of the recycled water scheme.
The whole of community economic analysis indicates that the full expansion of the Pimpama Coomera Dual Reticulation Scheme (Option 3) would cost $110 million, while supplying recycled water with a 10 year delay (Option 4) would cost $100 million. Delaying the supply of recycled water indefinitely results in a cost of $85 million. Continued supply of recycled water to existing customers only would cost $45 million compared with $13 million for not supplying recycled water at all (Option 1). A breakdown of the costs and benefits for each option is shown in Table B1. Table B1 also shows that a commercial analysis from the Council of the City of Gold Coast’s perspective produces a similar ranking with lower overall costs, as reticulation assets will be funded by developers.
## Table B1. Stage 2 Net Present Value (base case assumptions)

<table>
<thead>
<tr>
<th></th>
<th>Option 1 No Recycling</th>
<th>Option 2 Existing only</th>
<th>Option 3 Full Expansion</th>
<th>Option 4 Delayed Expansion</th>
<th>Option 5 Indefinitely Delayed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Community ($'000)</td>
<td>Commercial ($'000)</td>
<td>Community ($'000)</td>
<td>Commercial ($'000)</td>
<td>Community ($'000)</td>
</tr>
<tr>
<td><strong>Capital Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution and trunk mains</td>
<td>184</td>
<td>184</td>
<td>184</td>
<td>184</td>
<td>30,249</td>
</tr>
<tr>
<td>Reclamation</td>
<td>29</td>
<td>29</td>
<td>29</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>Pump Stations</td>
<td>419</td>
<td>419</td>
<td>419</td>
<td>419</td>
<td>6,691</td>
</tr>
<tr>
<td>Storage</td>
<td>219</td>
<td>219</td>
<td>219</td>
<td>219</td>
<td>5,006</td>
</tr>
<tr>
<td>Treatment</td>
<td>0</td>
<td>0</td>
<td>9,056</td>
<td>9,056</td>
<td>11,770</td>
</tr>
<tr>
<td><strong>Total Capital Cost</strong></td>
<td>852</td>
<td>852</td>
<td>9,907</td>
<td>9,907</td>
<td>53,745</td>
</tr>
<tr>
<td><strong>Operating Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution O&amp;M</td>
<td>12,604</td>
<td>12,604</td>
<td>12,604</td>
<td>12,604</td>
<td>22,985</td>
</tr>
<tr>
<td>Treatment</td>
<td>-</td>
<td>-</td>
<td>20,062</td>
<td>20,062</td>
<td>70,856</td>
</tr>
<tr>
<td>Carbon emissions</td>
<td>-</td>
<td>-</td>
<td>319</td>
<td>319</td>
<td>1,168</td>
</tr>
<tr>
<td><strong>Total Ongoing Cost</strong></td>
<td>12,604</td>
<td>12,992</td>
<td>53,969</td>
<td>53,969</td>
<td>120,449</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td>13,455</td>
<td>13,844</td>
<td>63,876</td>
<td>63,876</td>
<td>203,996</td>
</tr>
<tr>
<td><strong>Benefits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community willingness to pay for recycled water</td>
<td>-</td>
<td>-</td>
<td>3,372</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Revenue from recycled water</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>14,835</td>
</tr>
<tr>
<td>Lost revenue potable water</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-29,088</td>
</tr>
<tr>
<td>Avoided rainwater tanks</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>240</td>
</tr>
<tr>
<td>Avoided water restrictions</td>
<td>-</td>
<td>-</td>
<td>334</td>
<td>-</td>
<td>1,835</td>
</tr>
<tr>
<td>Avoided bulk water costs</td>
<td>-</td>
<td>-</td>
<td>15,361</td>
<td>21,263</td>
<td>58,175</td>
</tr>
<tr>
<td>Avoided potable distribution</td>
<td>-</td>
<td>-</td>
<td>313</td>
<td>313</td>
<td>13,836</td>
</tr>
<tr>
<td>Avoided potable reticulation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1,491</td>
</tr>
<tr>
<td>Avoided Class B return costs</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4,821</td>
</tr>
<tr>
<td><strong>Total Benefits</strong></td>
<td>-</td>
<td>-</td>
<td>19,380</td>
<td>7,323</td>
<td>93,988</td>
</tr>
</tbody>
</table>

Source: Dual Reticulation Review Stage 2: Detailed Value Assessment (June 2013, MJA)
## Attachment C. : Stage 3 Theory to Reality Assessment

Stage 3 revisited the drivers for and assumptions made during the development of the PCWF Master Plan and compared them to the current situation and forecasts with regards to Class A+ recycled water. It should be noted that the PIP had significantly higher equivalent population/equivalent tenements and impacted the amount of infrastructure that was provided compared to what was anticipated in the Master Plan. The key changes that have occurred since the development of the Master Plan are summarised in Table C1 below:

### Table C1. Comparison of Original (Master Plan development) with Current Planning

<table>
<thead>
<tr>
<th>Factor</th>
<th>Development of Master Plan</th>
<th>Current Status of Master Plan</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Drivers:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climate Change and Water Supply</td>
<td>Drought conditions. The only water supply sources were Little Nerang Dam, Hinze Dam and 20ML/day from Wivenhoe Dam via Logan Pipeline.</td>
<td>Drought broken. Water supply from desalination plant, raising of Hinze Dam complete, water grid and SEQ regional pipeline constructed sharing water sources across SEQ.</td>
<td>Increase in water supply sources and therefore improved security of supply.</td>
</tr>
<tr>
<td>Shortages</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health of our waterways</td>
<td>Release of stormwater and treated sewage to the Pimpama River Estuary envisaged.</td>
<td>River release not approved, due to water quality issues in Pimpama River Estuary and Environment Biodiversity and Conservation Act (protected RAMSAR wetland). Recycled water discharged to Coombabah STP and released at the Seaway.</td>
<td>Not imperative to treat recycled water to such a high quality for release.</td>
</tr>
<tr>
<td>Changes in Government</td>
<td>Bulk water supply responsibility of Local Governments.</td>
<td>Bulk water supply responsibility of State Government. Stricter financial monitoring and prudence and efficiency testing of GCW projects.</td>
<td>Gold Coast Water are no longer responsible for ensuring security of supply. Water supply strategy and Seqwater levels of service guarantee supply without facing high restrictions.</td>
</tr>
<tr>
<td><strong>Infrastructure Planning:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coombabah RWTP and backup supply pipeline</td>
<td>5ML/day Coombabah RWTP producing recycled from Coombabah STP as a backup supply to the Pimpama RWTP. Backup supply pipeline to be constructed.</td>
<td>Coombabah RWTP will not be required. A pipeline has been constructed but is currently used as a dual purpose – release/ supply pipeline instead of a potential ‘backup’ pipeline.</td>
<td>Reduction in actual current and forecasted recycled water demand has rendered some of the planned recycled water infrastructure unnecessary.</td>
</tr>
<tr>
<td>Aquifer Storage and Recovery (ASR)</td>
<td>ASR under investigation for seasonal storage.</td>
<td>ASR no longer under investigation.</td>
<td>No requirement for ASR as demand is predicted to be low.</td>
</tr>
<tr>
<td>Different water uses:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor</td>
<td>Development of Master Plan</td>
<td>Current Status of Master Plan</td>
<td>Comparison</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Rainwater</td>
<td>Hot water system, laundry and bathroom.</td>
<td>Cold water tap to washing machine, external uses however tank requirements removed in 2013. Future houses will not be required to install rainwater tanks. Kitchen, trickle top up of rainwater tanks, hot water, bathroom.</td>
<td>Uncertain change in demand for rainwater as it is not used for hot water system and bathroom (risk deemed too high) but it is used externally. Increase demand on potable water supply.</td>
</tr>
<tr>
<td>Potable Water</td>
<td>Kitchen and trickle top of rainwater tanks.</td>
<td>Toilets flushing, external uses, cane farm and open space irrigation.</td>
<td>Decreased demand for recycled water.</td>
</tr>
<tr>
<td>Recycled Water</td>
<td>Toilet flushing, external uses, cane farm and open space irrigation.</td>
<td>Toilet flushing, external uses and open space irrigation.</td>
<td>No cane irrigation from Pimpama RWTP.</td>
</tr>
</tbody>
</table>

**Base Assumptions (for PSD):**

- **Ultimate Population Forecasts (EP):**
  - 150,000 (49,112 ET)³
  - 219,000⁷
  - 46% increase in forecasted population than originally estimated in the development of the Master Plan.

- **Catchment:**
  - Plus Hope Island and Calypso Bay

- **Potable Water Average Day Demand per Dwelling/Account (L/ET/day):**
  - 165 (maximum 258)
  - 351²
  - 36% more potable water used per ET than maximum.

- **Recycled Water Average Day Demand of single dwelling properties (L/ET/day):**
  - 464
  - 117²
  - 75% less recycled water used per dwelling than planned in Master Plan.

- **Total Potable Water Average Day Demands (ML/day):**
  - 8
  - 28
  - Three and a half times more potable water used than envisaged in the Master Plan.

- **Total Recycled Water Average Day Demands (ML/day):**
  - 23
  - 8
  - 65% less recycled water used than planned in Master Plan.

- **Average Total Water for dual reticulated single dwelling properties (L/ET/day):**
  - 886¹
  - 468²
  - 47% less water used per ET than envisaged in the Master Plan.
## Present Value for O&M Costs for Recycled Water ($M)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Development of Master Plan</th>
<th>Current Status of Master Plan</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present Value for O&amp;M Costs for Recycled Water ($M)</td>
<td>$11.7M(^{\text{d}}) (2012/13 dollars) excluding Aquifer Storage and Recovery (ASR), make up/backup supply and onsite systems.</td>
<td>$120.5M(^{\text{d}}) (2012/13 dollars) includes regulatory and institutional costs.</td>
<td>Operational costs are 10 times greater than envisaged in the Master Plan due to factors such as:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Regulatory and institutional monitoring was not considered in the Master Plan and accounted for approximately $25M in the current review.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- The recent review has found that the fully developed dual reticulation systems will have approximately double the length of trunk mains (≥200mm) than what was previously envisaged in the Master Plan.</td>
</tr>
</tbody>
</table>

## Present Value for Capital Costs for Recycled Water ($M)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Development of Master Plan</th>
<th>Current Status of Master Plan</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present Value for Capital Costs for Recycled Water ($M)</td>
<td>$127.5M(^{\text{d}}) (2012/13 dollars) for total Option 3 recycled water infrastructure. $65M(^{\text{d}}) (2012/13 dollars) excluding ASR, make up/backup supply and onsite systems (e.g. on-site irrigation systems).</td>
<td>N/A as ASR, make up supply and onsite systems have not been re-costed. $127.1M(^{\text{d}}) excluding ASR, make up supply and onsite systems.</td>
<td>It is expected that, including existing infrastructure, the full expansion of the PCWF Recycled Water Scheme will cost almost twice more than originally envisaged in the Master Plan if costs associated with the ASR, make-up supply and onsite systems are excluded. Differences are due to factors such as:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- The unit costs utilised for the Master Plan were significantly lower than the updated unit costs used for the current review.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- The recent review has found that the fully developed dual reticulation systems will have approximately double the length of trunk mains (≥200mm) than what was previously envisaged in the Master Plan.</td>
</tr>
</tbody>
</table>

2. Taken from Dual Reticulation Water Consumption Report 2012-2013 (Ispot # 41431458). Values taken from billing accounts for single residential dwellings on average with or without rainwater tanks.
4. Taken from Table 1 of the Dual Reticulation Review Stage 2: Detailed Value Assessment report Option 3.
5. According to Table 3 (for existing infrastructure - $73.35) plus Table 1 (for future infrastructure $53.75) of the Dual Reticulation Review Stage 2: Detailed Value Assessment report, full expansion of recycled water (Option 3).
6. Taken from final Master Plan and Master Plan detailed report.
7. Determined from Office of OESR Estimated Residential Population (ERP) for the Pimpama Coomera study area and as utilised in Stage 1 of the Dual Reticulation Review study.
Attachment D. : Stage 4 Options Assessment

Informed by the outcomes of the cost benefit analysis of the PCWF Dual Reticulation Scheme, the aim of Stage 4 was to investigate alternative servicing options involving the supply of potable water through the Class A+ recycled water network in order to improve the viability of the Pimpama Coomera recycled water scheme. The following four options were analysed:

Option 1: No Class A+ recycled water supply. Supply of potable water through existing recycled water network. No future expansion of Class A+ recycled water network.

Option 2: Supply of potable water through existing Class A+ recycled water network for the next 25 years (until 2039) to properties currently connected to Class A+ recycled water pipeline or waiting to 'go live'. Resumption of Class A+ recycled water supply to existing dual reticulated areas from year 2039.

Option 3: Continuation of supply of recycled water to properties currently connected to recycled water pipeline or waiting to 'go live' with no expansion of Class A+ recycled water network.

Option 4: Roll out recycled water infrastructure to current planned dual reticulation area. Supply potable water through the recycled water pipeline.

Network modelling was undertaken to determine potable and recycled water infrastructure requirements and capital and operating costs for the above options.

The potable water and recycled water network are currently operated separately. With the Class A+ trunk main crossing the Southern Regional Water Pipeline (SRWP), the Class A+ trunk main could potentially be connected to the SRWP to supply potable water through the Class A+ recycled water network for options 1, 2 and 4. This modification would allow the RWTP to be temporarily or permanently decommissioned, which would also allow for staging of the proposed dedicated Class C release main from Pimpama to Coombabah, until future augmentations were required.

Using the format of the economic evaluation of benefits and costs in Stage 2 as a base with the calculated capital and operation and maintenance costs for the above options, a Cost Benefit Analysis was undertaken. The cost benefit data calculated for Stage 4 are presented in Table D1.

Table D1: Cost benefit data for some parameters

<table>
<thead>
<tr>
<th>Stage 4</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost (in '000) in present value</td>
<td>$0</td>
<td>$5,107</td>
<td>$19,785</td>
<td>$571</td>
</tr>
<tr>
<td>RWTP (fixed &amp; variable)</td>
<td>$0</td>
<td>$7,253</td>
<td>$20,694</td>
<td>$0</td>
</tr>
<tr>
<td>GHG emissions (recycling)</td>
<td>$0</td>
<td>$73</td>
<td>$315</td>
<td>$0</td>
</tr>
</tbody>
</table>
The overall outcome of the Stage 4 Cost Benefit analysis, including the costs and benefits in Table D1 above and the capital and operation and maintenance costs calculated for Stage 4 Options 1 to 4 are presented in Table D2 below:

Table D2: Stage 4 Potable & Recycled Water Networks Servicing Options Cost Comparison

<table>
<thead>
<tr>
<th>Benefit (in '000) in present value</th>
<th>WTP for recycled water</th>
<th>Avoided Cost RWT</th>
<th>Avoided Cost Restrictions</th>
<th>Avoided Cost Potable Bulk Water</th>
<th>Avoided Cost WW Pump Station</th>
<th>Net Cost Benefit of above parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$0</td>
<td>$835</td>
<td>$3,325</td>
<td>$0</td>
<td>$237</td>
<td>$3,802</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$4,729</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- $2,697</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- $21,993</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$4,396</td>
</tr>
</tbody>
</table>

The overall outcome of the Stage 4 Cost Benefit analysis, including the costs and benefits in Table D1 above and the capital and operation and maintenance costs calculated for Stage 4 Options 1 to 4 are presented in Table D2 below:
Table D2 Total Water Servicing Options and Cost Comparison

<table>
<thead>
<tr>
<th>Options</th>
<th>Reticulation Expanded</th>
<th>Treatment</th>
<th>Net Cost other&lt;sup&gt;5&lt;/sup&gt; (million $)</th>
<th>NPC Operations &amp; Maintenance – network&lt;sup&gt;7&lt;/sup&gt; (million $)</th>
<th>NPC Capital cost&lt;sup&gt;8&lt;/sup&gt; (million $)</th>
<th>Net Present Cost to Council (NPC) (million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>On</td>
<td>Off</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 No Recycling&lt;sup&gt;1&lt;/sup&gt;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>$0</td>
<td>$17.45</td>
</tr>
<tr>
<td>2. Existing only&lt;sup&gt;2&lt;/sup&gt;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>$40.79</td>
<td>$18.73</td>
</tr>
<tr>
<td>4 Delayed expansion&lt;sup&gt;3&lt;/sup&gt;</td>
<td>X</td>
<td>X (from 2039)</td>
<td>X (until 2039)</td>
<td>X</td>
<td>$12.43&lt;sup&gt;6&lt;/sup&gt;</td>
<td>$18.17</td>
</tr>
<tr>
<td>5 Indefinitely delayed expansion&lt;sup&gt;4&lt;/sup&gt;</td>
<td>X</td>
<td>In future &gt; 50 years</td>
<td>X</td>
<td>X</td>
<td>$0.571</td>
<td>$40.84</td>
</tr>
</tbody>
</table>

Table Notes
1. Stage 2 Option 1
2. Stage 2 Option 2
3. Stage 2 Option 4 (however deferment 11 years later than stage 2)
4. Stage 2 Option 5
5. Includes RWTP fixed (maintenance) and variable (pumping, chemicals, membrane); regulatory and institutional; greenhouse gas emissions
6. Does not include 5% audits for years when RW offline
7. Calculated as per SEQ Design and Construction Code (not including RWTP or regulatory costs)
8. Does not include existing infrastructure. Additional costs to home owners including subdivision reticulation (provided by the Developer), internal house plumbing costs and an extra connection fee are not included.
9. Return on and return of assets for the decommissioned/unused RWTP have not been incorporated into the net present costs.
It should be noted that direct operation and maintenance costs in Stage 4 were calculated using the SEQ Water Supply & Sewerage Design and Construction Code and other costs such as the GHG emissions and regulatory and institutional monitoring, that can also be considered operation and maintenance costs, were adopted from Stage 2 as a base for calculations in Stage 4.

A direct comparison of the net additional cost of continuing recycling (without including costed benefits) between Stages 2 and 4 should not be undertaken for the reasons detailed in Table D3 below:

### Table D3 Differences between Stage 2 and Stage 4

<table>
<thead>
<tr>
<th></th>
<th>Stage 2</th>
<th>Stage 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assumptions</td>
<td>Gross scale</td>
<td>Detailed modelling</td>
</tr>
<tr>
<td>Extent of network</td>
<td>Infrastructure in PIP up to and including 2011</td>
<td>Actual constructed network in GIS</td>
</tr>
<tr>
<td>Networks costed</td>
<td>Recycled water only</td>
<td>Recycled and potable water</td>
</tr>
<tr>
<td>Delayed expansion</td>
<td>14 years</td>
<td>25 years</td>
</tr>
<tr>
<td>Standards of Service</td>
<td>2006 PIP standards</td>
<td>SEQ D&amp;C code</td>
</tr>
<tr>
<td></td>
<td>4.4% real</td>
<td>6.57% nominal</td>
</tr>
<tr>
<td>Population Projections</td>
<td>2006 PIP growth projections</td>
<td>2013 growth projections</td>
</tr>
<tr>
<td>Unit Rates</td>
<td>2006 PIP rates indexed</td>
<td>2013 unit rates</td>
</tr>
<tr>
<td>Class C Release main</td>
<td>Full cost included in all options</td>
<td>Varying amounts included depending on option</td>
</tr>
</tbody>
</table>

**Final note**

It can be noted that the Stage 2 study did not investigate the costs that would be required to “turn off” the existing recycled water infrastructure, including decommissioning costs, transition costs and the costs of any additional potable water infrastructure. The study also did not consider the mobilisation costs to activate the recycled water scheme in the future. These costs were considered in Stage 4.

Some issues, such as equity or perception, including political sensitivity, moral obligations or cultural issues were unquantified in Stage 2 of DRV project. These issues remained unquantified in Stage 4 as well.
### Attachment E: Current projects in the CAPEX Budget

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Name</th>
<th>Project Description</th>
<th>Year 1 2013-14 Q2 Fcst</th>
<th>Year 2 2014-15 Budget</th>
<th>Year 3 2015-16 Budget</th>
<th>Year 4 2016-17 Budget</th>
<th>Year 5 2017-18 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>70458</td>
<td>Prog RWG - Sickle Ave / Marina Quays Blvd, Hope Island A+ Recycled Water Connection Pipeline</td>
<td>Construction of Class A+ connecting links between the existing trunk at the Hope Island Roundabout and the proposed mains at Sickle Avenue.</td>
<td>$15,000</td>
<td>$0</td>
<td>$285,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70457</td>
<td>Prog RWG - Yawalpah Rd Class A+ Recycled Water Main</td>
<td>Construction of Class A+ recycled water pipe along Yawalpah Road between Cunningham Drive and Kerkin Road to cater for growth.</td>
<td>$10,000</td>
<td>$0</td>
<td>$690,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70459</td>
<td>Prog RWG - Pimpama A+ Recycled Water Scheme Extension</td>
<td>Extension of the PCWF scheme to supply Class A+ recycled water to Stockland Pimpama development.</td>
<td>$0</td>
<td>$200,000</td>
<td>$3,900,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70456</td>
<td>Pimpama STP to Coombabah STP RW Release Main</td>
<td>An increase of wastewater generation in the Pimpama catchment, as a result of population growth, coupled with low recycled water demand will increase the volume of wastewater unnecessarily treated to a class A+ standard. This project is designed to save c</td>
<td>$100,000</td>
<td>$0</td>
<td>$0</td>
<td>$6,710,000</td>
<td>$11,141,000</td>
</tr>
<tr>
<td>71113</td>
<td>Pimpama-Coomera Class A+ Recycled Water Scheme</td>
<td>Provision of Class A+ recycled water services to the existing unserviced developed areas of Pimpama, Coomera as part of the adopted Pimpama Coomera Waterfuture Master plan.</td>
<td>$0</td>
<td>$1,000,000</td>
<td>$1,500,000</td>
<td>$2,000,000</td>
<td>$2,000,000</td>
</tr>
</tbody>
</table>

**TOTAL**                                                                                   | $125,000          | $1,200,000          | $6,375,000          | $8,710,000          | $13,141,000          |

There being no further business the meeting closed at 3:04pm.
These Pages
Numbered 1 to 48
Constitute The Report Of The Meeting
Of The Water Services Committee
Held Wednesday, 11 December 2013