Engineering and Commercial Infrastructure - Water Services

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OVERVIEW

This report is for Water Services activities for November 2016. Significant items in this period include:

- There were no LTI's recorded in November which extends the period for no LTI's for the Water Business to 17 months.
- Whitsunday, Isaac and Mackay (WIM) Water Alliance held a Regional Forum in Proserpine on November 3. The forum provided an opportunity to share initiatives and learnings. A number of officers from Mackay gave presentations on Mirani STP’s Storage, Decisions on Large Meters, Safety Issues and Preventative Maintenance.
- Officers attended a Seasonal Outlook Briefing Disaster Preparedness Seminar on November 4. The seminar provided an overview of the Weather & Flood Outlook for the 2016-17 season along with various agency updates.
- Eton continues to experience some water quality issues (elevated Selenium levels in Bore 1 and elevated Uranium levels in Bore 2. Bore 2 continues to be out of service), Senior Council Officers completed door knocks at Eton to inform residents of the recent water quality issues. Three information sessions have been held in conjunction with Queensland Health at Eton Primary School on November 8, November 9 and November 29 where residents could ask questions relating to the water quality.
- On November 7, all fluoride dosing facilities were ceased in Mackay.
- Staff from Northern Territory’s Power Water visited council on November 9, to learn more about demand management initiative that Mackay has undertaken over the last 3-4 years, and also learn about Mackay’s Smart Metering project.
- On November 14, an overview was provided to the Matsuura Citizens Tour on how council has transformed its water business with the Smart Metering project and software development of MiWater and myh20.
- The summer water awareness campaign "watch the flow' was launched on November 18, with adverts on Radio, TV and posts on council's Facebook page.
- A presentation was provided to the Dalby and Surat Basin QWRAP (Queensland Water Regional Alliance Program) on the Smart Metering project in Chinchilla on November 18.
- Officers went to Midge Point in late November to complete some planned flushing of the water mains prior to Christmas and found that the water supply was very discoloured. Staff spent time flushing the water mains to remove the sediment within. The water quality is now good and there is no discolouration.

Director Engineering and Commercial Infrastructure
1.1. Incident Statistics

The incident statistic details a summary of the Water Services safety incident performance. Water Services aspires to achieve zero harm with a stretch target of zero injuries.

The following incidents were recorded in November 2016:
1 x Suitable Duties injury from muscular stress
1 x Near Miss being a Vehicle incident
1 x Non Treatment Injury being Falls on the same level

Data is at 23 November 2016

1.2. Lost Time Injuries

Water Services aspires to achieve zero Lost Time Injuries by improving safety performance by developing a proactive safety culture and implementing best practice safety management across all business areas.

Data is at 23 November 2016

The table below shows the Lost Time Injuries over previous years

<table>
<thead>
<tr>
<th>Department</th>
<th>2012-13 LTI</th>
<th>2013-14 LTI</th>
<th>2014-15 LTI</th>
<th>2015-16 LTI</th>
<th>2016-17 LTI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td></td>
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<tr>
<td>Business Services</td>
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<tr>
<td>Planning &amp; Sustainability</td>
<td></td>
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</tr>
<tr>
<td>Water Network</td>
<td>2 79</td>
<td>4 9</td>
<td>3 71</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Water Treatment</td>
<td></td>
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<tr>
<td>Infrastructure Delivery</td>
<td></td>
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</tr>
<tr>
<td>Water Services</td>
<td>2 79</td>
<td>4 9</td>
<td>3 71</td>
<td>0 0</td>
<td>0 0</td>
</tr>
</tbody>
</table>
2.1. Water Operating Revenue Less Expenditure
The following graph shows the budget, forecast and actual Earnings before Interest, Taxes and Amortization (EBITA) based on cash accounting for the 2016/2017 financial year. The saw tooth nature of the graph is reflective of the timing of water revenue received. Capital revenue has been excluded from this graph.

Operating Surplus $1.37 M below budget, driven by revenue being $2.1M below budget partially offset by cost savings in employee costs and goods and services.

Lower revenues primarily due to lower water consumption charges. While this will create short term challenges, it will deliver longer term benefits and is an indication that the demand management program is delivering on its objectives.

Financial data is up to November 2016.

2.2. Accrued Water Operating Revenue Less Expenditure
The following shows the estimation of the accrued revenue less expenditure. Capital revenue has been excluded.

Annual variance of operating surplus based on currently budgeted cost structure is projected at $3.95M below budget.

Despite the variance, the water business will deliver a surplus of over $19M.

The business is currently assessing what changes can be done to its cost structure to minimise the budgetary impact on the current year and make any adjustment for next year’s budget.

Financial data is up to November 2016.
2.3. Wastewater Operating Revenue Less Expenditure

The following graph shows the budget, forecast and actual EBITA based on cash accounting for the 2016/2017 financial year. The saw tooth nature of the graph is reflective of the timing of water revenue received. Capital revenue has been excluded from this graph.

- Operating Surplus $1.3 M above budget, driven by primarily underspend of $920 K in goods and services. Part of this will erode as they are due to timing differences in incurring costs.
- Revenue is above budget $300K driven by additional interest earned.

Financial data is up to November 2016.

2.4. Accrued Wastewater Operating Revenue less Expenditure

The following shows the estimation of the accrued revenue less expenditure. Capital revenue has been excluded.

- The annual operating surplus is projected to be $900K above budget which will somewhat offset any negative variances within the water business.
- Income is projected to be over budget by $500K with significant contributions from sewer access charges and interest income.
- Operating expenses are forecasted to be $400K below budget with contributions from contract costs, employee costs and insurance premiums.

Financial data is up to November 2016.
2.5. Capital Expenditure Performance

The following trend provides a high level overview of the capital expenditure to monitor actual expenditure against forecast expenditure. The forecast expenditure profile is based on the original Water and Sewerage Capital Program projects budget and delivery schedule.

YTD actual capital expenditure is around 23% of the annual budget for water & sewerage, and around 80% of the capital budget forecasted for spend by November. With comittals included, the capital expenditure is around 41% of the annual budget. Financial data is up to November 2016.

3.1. Requests

This graph details the client requests received and recorded via pathways that relate to the Water Business. The target is to have 90% of all client requests closed at any one point in time.
3.2. Request Types

The following chart displays a summary of the client request types received for the month.

3.3. Plumbing Applications

In accordance with the Plumbing and Drainage Act a plumbing application is required for all new plumbing installations or modifications to existing plumbing. A plumbing application must be lodged to Local Government. Water Services has a regulatory time frame of 20 business days to assess a plumbing application. An internal target of 5 business days has been set for all residential plumbing applications.
3.4. **Trade Waste Approvals**

The program for undertaking trade waste assessment and licensing of all applicable businesses that discharge trade waste is ongoing. As part of the Trade Waste Assessment process a temporary Trade Waste Approval is put in place while the formal approval process is undertaken. The table below summarises the number of Trade Waste Approvals for the Mackay Region.

<table>
<thead>
<tr>
<th></th>
<th>Total Approved Businesses</th>
<th>Temporary Approvals In Place</th>
<th>New Approved Businesses for the Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mackay South</td>
<td>742</td>
<td>23</td>
<td>10</td>
</tr>
<tr>
<td>Mackay North</td>
<td>68</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Sarina</td>
<td>57</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mirani/Marian</td>
<td>29</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>890</strong></td>
<td><strong>30</strong></td>
<td><strong>13</strong></td>
</tr>
</tbody>
</table>

13 new businesses were identified for the month of November.

Data is at 28 November 2016

3.5. **Annual Trade Waste Activity**

Annual targets are set for the Trade Waste team with respect to licensing Trade Waste Businesses. The target has been set at 250 new licensed businesses and audits completed by June 2017. The following graph shows the Actual Approvals, Temporary Approvals and Audits achieved and the number of the target remaining.

15 Approvals issued and 17 Audits conducted during November 2016.

The target is 250 combined Approvals and Audits for 2016/2017 financial year

Data is at 28 November 2016
3.6. Building Over Adjacent Sewers

Building over Adjacent Sewer applications are lodged where the construction of a structure is proposed within close proximity of a sewer main. The application is assessed against Queensland Development Code Mandatory Part 1.4 with council reviewing applications that do not comply with acceptable solutions identified in the code. Building Over Sewer Applications are assessed within a target timeframe of 20 business days.

3.7. Scientific and Analytical Services

Scientific and Analytical Services provides laboratory analysis in accordance with National Association of Testing Authorities (NATA) Standards to both Mackay Regional Council and external clients. A summary of the laboratory activities are detailed below.

Data is at 28 November 2016

The laboratory has undertaken project work for Whitsunday Regional Council – Bowen Sewage Characterisation (Total of 4 weeks and significant number of samples continued into November as well). A number of environmental incidents and ongoing testing for Eton water supply scheme also increased the laboratory work load.

Data is available to 28 November 2016
3.8. Community Engagement

This section monitors Water Services engagement on the services provided. The following chart shows the number of media releases, media updates and the number of people that were reached by the Media Releases on Facebook.

The following chart shows the number of likes and positive comments, the number of neutral comments and the number of negative comments received on Facebook from Media Releases and Media updates for Water Services.

The likes on Facebook were mainly in regard to:
- the works on Bona Vista and Charles Hodge Ave, Mount Pleasant,
- week one of the myh2o summer campaign Facebook post.

Data is at 28 November 2016.
The following chart shows the cumulative number of myh20 registrations for the reporting period.

3.9. Leak Detection Notifications

Leak Detection notifications are sent to clients, when the leak identified is greater than 10 litres per hour. Follow up notices are sent to residents, monthly for a three month period after the initial notification.

The number of new leaks identified during November was 942, which was a decrease from October. The number of leaks ceased during the period is 665, resulting in an overall decrease in the number of meters with leaks at the end of the period.
The average leak days for current leaks shows the average number of days a leak exists before any action by the client to rectify the cause of the leak. The average leak days for ceased leaks shows the average number of days that the leak exists before the leak is repaired.

The number of average leak days for current leaks and average leak days for ceased leaks has increased slightly during the November period.

**ASSET MANAGEMENT**

### 4.1. Surface Water Raw Water Storage Capacities

Water Services sources water from a combination of surface water and groundwater sources. With the exception of Middle Creek Dam the storage facilities are owned and operated by SunWater. Middle Creek Dam is under Council’s control. The water stored in each of the storages is detailed below.

![Graph showing average leak days for current and ceased leaks](image)

Data is at 28 November 2016

**Mirani, Marian and Dumbleton Weirs** are at full capacity. Peter Faust, Teemburra and Middle Creek are at 59%, 93% and 95% capacity respectively.

![Graph showing % volume stored](image)

Data is at 28 November 2016
4.2. Annual Water Consumption vs Allocation by Source

Water Services has a water allocation or water license for each water source. The water allocation and year to date water consumption for each of the water sources is detailed below.

** Calen Water Usage figures are not based on Water Allocation, but show the amount of water usage for the area to date.

4.3. Water Consumption by Locality

Water Services supplies water to both residential and commercial water clients throughout the Mackay Region. The average water consumption in each of the three major community centres is detailed below. The water consumption is presented as litres per equivalent population per day. This graph provides a summary of water consumption including commercial water use.

Water consumption for Sarina has increased compared to the previous month due to the rise in temperature and the low rainfall for November. Water consumption for Mackay, Mirani and Sarina in November 2016 is reduced compared to the same time in 2015.

Data is at 28 November 2016
4.4. **Significant Projects**

Water Services undertakes a range of projects across the water business. Projects take the form of Capital works projects, planning studies and investigations. Information for the significant projects in Water Services is provided in the table below and was current as at 28 November 2016. Significant Projects are assessed on the following criteria: Dollar Amount, Risk and/or Community Interest

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>PHASE</th>
<th>PHASE % COMPLETE</th>
<th>INDICATORS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewerage Network Refurbishments (Relining)</td>
<td>Procurement</td>
<td>20%</td>
<td>Schedule</td>
<td>Tender document for relining works being finalised following technical review of products and discussions with stakeholders. 2016/17 CCTV inspection program being scoped.</td>
</tr>
<tr>
<td></td>
<td>Procurement</td>
<td>20%</td>
<td>Budget</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Procurement</td>
<td>20%</td>
<td>Other Issues/Risk</td>
<td></td>
</tr>
<tr>
<td>Sewerage Network Refurbishments (Manholes)</td>
<td>Construction</td>
<td>10%</td>
<td>Schedule</td>
<td>Network crews continue with inspection of restricted access manholes and inspection of buried manholes with CCTV. Tender for Manhole relining works with Calcium Aluminate scheduled to close end of the month and scope of works and specification for relining using epoxy coating expected to be complete and issued to market as a request for quotation early December.</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>10%</td>
<td>Budget</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>10%</td>
<td>Other Issues/Risk</td>
<td></td>
</tr>
<tr>
<td>Sewage Pump Station Resilience Upgrades</td>
<td>Construction</td>
<td>45%</td>
<td>Schedule</td>
<td>The construction is well under way since the 12 September 2016. The Contractor has completed two access improvements out of nine, has installed seven ventpoles out of 28, has factory tested five switchboards and installed and commissioned four switchboards on site out of 20, has relocated six antennas out of six and has completed the first two wet well rehabilitations out of five. They are currently working on the completion of three pump station accesses.</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>45%</td>
<td>Budget</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>45%</td>
<td>Other Issues/Risk</td>
<td></td>
</tr>
<tr>
<td>Water and Sewerage Network Telemetry Upgrades</td>
<td>Construction</td>
<td>99%</td>
<td>Schedule</td>
<td>The Telemetry upgrade works carried over from 2015/16 are complete, with works forecast to be over budget by approximately 8%, as a result of variations for additional scope of work. Still awaiting final invoice for the project.</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>99%</td>
<td>Budget</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>99%</td>
<td>Other Issues/Risk</td>
<td></td>
</tr>
<tr>
<td>PROJECT</td>
<td>PHASE</td>
<td>PHASE % COMPLETE</td>
<td>INDICATORS</td>
<td>COMMENTS</td>
</tr>
<tr>
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</tr>
<tr>
<td>Water Main Replacements - Roads Driven</td>
<td>Design and Construction</td>
<td>45% Overall</td>
<td>Schedule</td>
<td>The 16/17 Capital project includes three water mains (WM) that require relocation prior to MRC road works. Construction of Curlew St WM is complete. Physical Works for Construction of Breen St New Water Main is complete. Construction of Vincent St is scheduled to commence in the new year. Possible addition of another water main relocation being discussed with Civil Projects.</td>
</tr>
<tr>
<td>Water Main Renewals</td>
<td>Design</td>
<td>40%</td>
<td>Schedule</td>
<td>Design has been completed for Gibson St, with internal construction crews commencing work in December. Designs are continuing in house for Gardiner, Duncan &amp; Bagley Streets. A preferred alignment has been selected for Bedford Road. Investigation and design will continue over November &amp; December. Updated project construction estimates indicate a potential budget shortfall, mainly due to the complexities of being in urban built areas. We are reviewing the application of the cost estimate manual.</td>
</tr>
<tr>
<td>Mt Oscar High Level Zone</td>
<td>Construction</td>
<td>70%</td>
<td>Schedule</td>
<td>Construction continuing, currently heading along Bona Vista Drive. Forecast for construction completion is January 2017. Cost forecast is still exceeding the original budget, alternate alignment options are being considered as part of the design process, though efficiencies being identified are being offset by rocky ground conditions impacting progress. There have been two recent issues with damage to private property - some concrete garden edging in Ross St and a concrete driveway at Bona Vista Drive. The residents are being consulted in regards to rectification where required. We are reviewing the application of cost estimate manual.</td>
</tr>
<tr>
<td>Water Meter Replacements and AMR retrofits</td>
<td>Construction</td>
<td>26%</td>
<td>Schedule</td>
<td>Replacement of commercial and domestic meters and AMR retrofits commenced. Awaiting delivery of AMR's for commercial meters and retrofits. Domestic AMR retrofits completed with the exception of 30 properties where access is taking time to arrange, customer liaison is continuing.</td>
</tr>
<tr>
<td>PROJECT</td>
<td>PHASE</td>
<td>PHASE COMPLETE</td>
<td>INDICATORS</td>
<td>COMMENTS</td>
</tr>
<tr>
<td>---------</td>
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</tr>
<tr>
<td>Shakespeare Street sewer realignment</td>
<td>Design</td>
<td>5%</td>
<td>Schedule</td>
<td>Survey of the site has been completed and a design consultant appointed, with initial design investigations scheduled to commence early December. Updated project construction estimates based on concept alignments indicate a potential budget shortfall.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Budget</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Other Issues/Risk</td>
<td></td>
</tr>
<tr>
<td>Reservoir Refurbishments</td>
<td>Procurement</td>
<td>25%</td>
<td>Schedule</td>
<td>The project involves repairs of Mount Pleasant Reservoir No 1 and investigations of Mount Oscar Reservoir Nos 1 and 2 and Blacks Beach Reservoir Nos 1 and 2. The tender for the repair works of Mount Pleasant Reservoir No 1 has been advertised, and is due to close in December. Mount Oscar Reservoir investigation report being finalised</td>
</tr>
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<td></td>
<td>Budget</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Other Issues/Risk</td>
<td></td>
</tr>
<tr>
<td>Mirani Storage</td>
<td>Planning / Design</td>
<td>35%</td>
<td>Schedule</td>
<td>Negotiations regarding purchasing the land for the new dam have progressed with a meeting being held with the owner. A follow up meeting is scheduled for the end of November. This aspect of the project is taking longer than originally estimated.</td>
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<td></td>
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<td></td>
<td>Budget</td>
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<td></td>
<td></td>
<td>Other Issues/Risk</td>
<td></td>
</tr>
<tr>
<td>Barnes Creek SRM Bypass</td>
<td>Construction</td>
<td>100%</td>
<td>Schedule</td>
<td>The Barnes Creek Bypass works are complete and sewer is now operational. Funding of these emergent works to be confirmed in the 2nd Quarter budget review in December.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Budget</td>
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<td></td>
<td></td>
<td></td>
<td>Other Issues/Risk</td>
<td></td>
</tr>
</tbody>
</table>
5.1. Drinking Water Compliance
Safe Water supplies are provided in accordance with the requirements of the *Water Supply Safety and Reliability Act* and are measured against the *Australian Drinking Water Quality Guidelines*. Drinking Water samples are taken at the outlet of Water Treatment Plants and within the reticulation network. A summary of the performance is detailed below.

There have been no new exceedances at any schemes. The incident of high selenium at Eton was reported to DEWS and continues to track above ADWG Guidelines (limit is 10 ug/L). Bore 2 at Eton remains out of service and there are no exceedances of Uranium in the reticulation network.

Eton & Koumala have high hardness (>200; range 370 to 410).
5.2. Wastewater Compliance

The discharges from wastewater treatment facilities are regulated by Development Approvals issued by the Department of Environment and Resource Management. The licence requirements differ based on the time the Development Approval was issued and the receiving environment associated with any discharges.

All wastewater test results for November 2016 (available at the time of reporting) were compliant.

5.3. Backflow Testing

Backflow devices are installed on water services where there is a risk that water could return from a private property back into the Water Reticulation network. The requirement for backflow devices is regulated in accordance with the Standard Plumbing and Drainage Regulation.

Data is 28 November 2016