

CAIRNS WATER SECURITY STRATEGY**B Millar | 24/1/142 | #4861332-v4****RECOMMENDATION:****It is recommended that Council:**

- 1. Adopts the recommendations included in the report of the Water Security Advisory Group (WSAG) dated March 2015 as the Cairns Water Security Strategy (CWSS);**
- 2. Notes the assessment of the WSAG recommendations and endorses the short-term actions identified to advance the implementation of the CWSS; and**
- 3. Notes that monthly progress reports will be provided to the Water and Waste Committee.**

EXECUTIVE SUMMARY:

At its Ordinary Meeting of 29th April 2015, Council received and noted the WSAG's final report. The recommendations contained in this report are now recommended to be adopted as the CWSS.

The WSAG recommendations have been assessed by CRC officers (refer Attachment 1) and consideration has been given to actions necessary to implement the CWSS. Endorsement of these proposed actions and future reporting regime is also sought from Council.

The proposed actions identified are outlined below:

1. Undertake a review of levels of service;
2. Conduct a sensitivity analysis of the timing of stages to ensure security of water supply, considering two main factors - population growth and water use per capita per day;
3. Update the water pricing model and Council's 10 year financial model to assess impacts on the ratepayer;
4. Engage with government to establish funding opportunities;
5. Undertake a feasibility study to consider the potential of purchasing a portion of the Mulgrave Central Mill's entitlement;
6. Prepare a project management plan for the construction of the Draper Road Water Treatment Plant including Stage 1 of the Mulgrave River source;
7. Develop and implement a revised Demand Management Strategy (DMS);

8. Maintain a watching brief whilst actively participating in the feasibility study for Nullinga Dam and other possible future bulk water supply opportunities;
9. Develop and implement the Communications Strategy – Ongoing (recognising the ongoing need for communication).

Endorsement is sought for these actions, with progress on their implementation being provided to the Water and Waste Committee on a monthly basis.

BACKGROUND:

The CWSS involved the formation of the WSAG. This was a community based collaborative process involving the participation of general community, government, local industry and specific interest groups.

In April 2015, Council received and noted the “Water Security Strategy – Final Report” dated March 2015, as adopted by the WSAG. Council also resolved at that meeting:

- 1. To progress with the preparation of the WSAG Implementation Plan (WSIP), which will include a detailed evaluation of the Preferred Strategy’s short, medium and long-term initiatives, as well as including a communications strategy; and*
- 2. Will engage with relevant Ministers and Departments of the State and Commonwealth Governments communicating Council’s strategy and seeking financial and regulatory support in recognition of the medium to long term goals in relevant policy and legislation.*

The recommendations of the WSAG have been assessed by officers and are considered suitable to be adopted as the CWSS. In terms of an implementation plan, officers have identified the activities necessary to progress the CWSS.

Discussions have also been conducted with a representative of the Department of Natural Resources and Mines (DNRM) regarding the progression of approvals to develop Stage 1 of the Mulgrave River water source (as recommended by WSAG). Whilst the Department’s Resource Operations Plan, to implement the Minister’s Water Resource Plan for the Wet Tropics Catchments (which includes the Mulgrave River), is still being developed for draft release, it was advised that there does not appear to be any regulatory or policy constraints that would preclude approval.

Further engagement with other government and regulatory bodies will progress as necessary under the activities outlined in this report.

OPTIONS:

1. Endorse Council's assessment of the 29 Recommendations and subsequent short-term actions; or
2. Do not endorse Council's assessment, and request further evaluation, or alternative recommendations.

Option 1 is the preferred option as it is consistent with, and capitalises on, the work undertaken by the WSAG and provides a substantial platform from which Council can implement short-term actions to provide water security for Cairns.

Option 2 is the least preferred option as it would not be consistent with the outcomes of the WSAG process and the resulting CWSS, and would not enable planning to further progress the implementation of actions to address the short-term water security requirements for Cairns.

CONSIDERATIONS:

Risk Management:

The CWSS is all about managing the long term risk of inadequate water supplies to service the existing and future population of Cairns.

The success of the CWSS will depend on the ability of Council to manage government directions and policy, achieve approvals as planned and ensure the impact on the ratepayer is minimised.

Ongoing consultation with government and regulatory bodies will be critical to the success of the CWSS.

Financial:

The 10 year capital works financial plan, and the 15/16 Operational Budget for the Water and Waste Department, includes budgetary allowances for the implementation of the CWSS.

Financial approvals will follow the delegated authority levels adopted for other capital works. Council will remain fully informed of the financial position of the program, including items awarded outside of Council meetings via delegated authority, through the monthly progress reports.

Statutory:

Cairns Regional Council Water & Waste Department is a registered Water Service Provider as defined by the *Water Supply (Safety and Reliability) Act 2008*. Council has a statutory obligation to ensure the security of our water sources to meet projected water demands into the future. In managing its water sources, it is the responsibility of the Water Service Provider to comply with all relevant state legislation and supporting regulations.

CONSULTATION:

Water Security Advisory Group

The approach taken by Council in forming and collaborating with the WSAG in its water supply planning review represents an “involve” / “collaborate” level of engagement. Collaborating with WSAG throughout the process ensured that community issues and concerns were consistently understood and considered.

Membership of WSAG included industry, general community, government and specific interest groups representation. The WSAG unanimously voted to recommend the report, its preferred strategy and recommendations, to Council for adoption.

Future community engagement

As an immediate action, an Integrated Marketing and Communications (IMC) and Community Based Social Marketing (CBSM) Strategy will be produced to educate and inform the broader community about the Cairns Water Security Strategy, in particular regarding Council's DMS.

Direct stakeholder engagement

Progression of the CWSS will also involve direct engagement with identified stakeholders, both internal and external to Council. A stakeholder identification and communication plan will be developed to provide guidance and a framework for appropriate stakeholder engagement as relevant for the various aspects of the implementation of the CWSS.

ATTACHMENTS:

Attachment 1 – Water Security Implementation Plan Review of Water Security Advisory Group Recommendations

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Attachment 1 - #4866130v5

WSAG Recommendations	Cairns Regional Council Assessment & Recommendations	Action	Action number (Ref)
WSAG Recommendations	Cairns Regional Council Assessment & Recommendations	Action	Action number (Ref)
<p>1 Adopt the following objective for the water security strategy:</p> <p><i>'Develop a long term (30+ years) water supply strategy that identifies a program of infrastructure augmentations and demand management initiatives to ensure that Cairns has sufficient water to meet demand under normal and adverse environmental conditions.'</i></p> <p>whilst acknowledging the preferred strategy defined in Section 10 of this Final Report. (Water Security Strategy Final Report #4629524)</p>	Recommend adoption	Adopt	
<p>2 Adopt the following key principles to underpin the strategy:</p> <ul style="list-style-type: none"> ● Affordable – costs must be acceptable to Council and the wider community. ● Practical – initiatives can be delivered with available technology or achievable innovations. ● Compliant - considers all applicable legislation. ● Acceptable - to the wider Cairns community. ● Secure - provides water security for the Cairns Regional Council area. 	Recommend adoption	Use the 5 key principles in the assessment of future activities	
<p>3 Adopt the following minimum requirements for the strategy:</p> <ul style="list-style-type: none"> ● Meet all licence conditions. ● Meet all environmental flow objectives under the relevant water resource plans. ● Minimise the extent of disturbance to Zones A and B World Heritage areas. ● Ensure compliance with defined LoS performance criteria. ● Protect culturally significant sites (Indigenous and historical). ● Consult with relevant parties with respect to all Cultural Heritage aspects. ● Meet all water allocation security objectives under the relevant water resource plans. ● Ensure water supplied is fit for purpose and poses no risks to human health. ● Preserve absolute minimum availability of water for hygiene and sanitary purposes. ● Minimise the risk associated with infrastructure. 	Recommend adoption	Use these minimum requirements in the assessment of future activities	

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4	Reaffirm the levels of service –consisting of a four-tiered system of water use restrictions – within the strategy.	Recommend a review of levels of service	Undertake a review of levels of service	1
5	Adopt the water demand projections on the basis of: <ul style="list-style-type: none"> • The ‘medium’ population growth forecast including the projected impacts of the proposed development of the ‘Aquis Resort at the Great Barrier Reef’. • A total baseline per capita water use of 418 litres per capita per day (L/c/d). 	Review the projected water demand, and the consequent effect on timing/need for specific project(s) and associated capital spend, on the basis of: <ul style="list-style-type: none"> • Reviewing annually the population growth and revising the forecast demand accordingly; • A current baseline is 418 l/c/d, but to be reviewed annually considering factors such as DMS success 	Conduct a sensitivity analysis of the timing of stages to ensure security of water supply considering two main factors - population growth and water use per capita per day	2
6	Acknowledge that implementation of the strategy will lead to an increase in: <ul style="list-style-type: none"> • rates and charges, which are paid by the entire community • water and wastewater infrastructure charges, which are paid by way of developer contributions. 	CRC acknowledge the probable need for an increase in charges.	Update the water pricing model and Council's 10 year financial model to assess impacts on the ratepayer	3
7	Undertake detailed economic analyses to determine an appropriate mix of increased: <ul style="list-style-type: none"> • infrastructure charges • water and wastewater charges with the aim of minimising the financial impacts on the ratepayers over the strategy timeframe.	CRC acknowledge the probable need for an increase in charges.	Update the water pricing model and Council's 10 year financial model to assess impacts on the ratepayer	
8	Acknowledge that increases to water and wastewater rates and charges also reflect the benefit of water security that the strategy provides to residents and economic prosperity	Acknowledged and agreed	Update the water pricing model and Council's 10 year financial model to assess impacts on the ratepayer	
9	Acknowledge the key decision point at ‘Year 3’ or ‘Year 9’ with regard to further investigation and triple bottom line assessment (social, environmental, economic) between the initial implementation of the Barron River source and a further stage of the Mulgrave River	Acknowledge key decision points, with a review of the actual year in line with forecast demand	Annual review of forecast demand and capacity which is subject to further assessment and ultimately Council approval	

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10 Acknowledging the regional benefits of the preferred strategy, immediately commence negotiations with the State and Commonwealth Governments to secure funding for a proportion of the short-term capital works and further assessment programs.	Funding to be pursued as and when appropriate	Engage with government to establish funding opportunities	4
11 Acknowledging the technical and regulatory constraints, commence a feasibility study to assess the possibility of purchasing a proportion of the Mulgrave Mill water resource entitlement to provide a supplementary water source.	Acknowledged	Undertake a feasibility study to consider the potential of purchasing a portion of the Mulgrave Central Mill's entitlement	5
12 Implement Stage 1 of the Draper Road WTP and augmentations of the supply pipeline from Behana Creek Intake to achieve a treatment capacity of 40 ML/day and increase in scheme yield of 1,000 ML/annum.	Supports the Stage 1 Behana Ck - Draper Rd WTP as being an appropriate initial phase of works, with the gains in supply as noted. The actual timing of commencement of construction will depend on factors such as those mentioned in 5) above and the DMS.	Prepare a project management plan for the construction of the Draper Road Water Treatment Plant including Stage 1 of the Mulgrave River source	6
13 Develop Stage 1 of the Mulgrave River source to increase the LoS yield by at least 5,000 ML/a, including an additional stage of the Draper Road WTP to achieve a corresponding increase in treatment capacity of at least 19 ML/day.	Supports the Stage 1 Mulgrave River - Draper Rd WTP as being an appropriate initial phase of works, with the gains in supply as noted. The actual timing of commencement of construction will depend on factors such as those mentioned in 5) above, the success of the Demand Management Strategy, outcomes of the review of levels of service and receipt of regulatory approvals.	Prepare a project management plan for the construction of the Draper Road Water Treatment Plant including Stage 1 of the Mulgrave River source	6
14 Develop and implement a Demand Management Strategy with defined targets and actions based on considering the applicability to Cairns of initiatives identified during the WSAG process. The demand management initiatives identified are categorised based on the estimated water savings and implementation timeframes of the component initiatives, as follows: a) Part A, to be implemented over a 5-year period with estimated savings of 465 ML/a, consisting of: - Water efficiency labelling and standards - Community education programs	Support the WSAG initiatives. In addition to these, further initiatives will be investigated, such as an expansion of recycled water use.	Develop and implement a revised DMS (Demand Management Strategy	7

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b) Part B, to be implemented over a 10-year period with estimated savings of 2,152 ML/a, consisting of: <ul style="list-style-type: none"> - Water efficient appliances for new residential developments - Water efficient appliances for new non-residential developments - Water system pressure reduction - Future leakage management - Large water users audit and retrofit program c) Part C, to be implemented over a 5-year period with estimated savings of 269 ML/a, consisting of: <ul style="list-style-type: none"> - Residential retrofit program - Tourist accommodation water efficiency retrofit program - School water efficiency program - Commercial kitchen 'smart rinse' fixtures retrofit a) Part D, to be implemented over a 5-year period with estimated savings of 140 ML/a, consisting of: <ul style="list-style-type: none"> - Commercial cooling tower tune-up - Rain water tank information - Waterless urinal retrofit Sub-metering of new multi-family dwellings	Recommend	Develop and implement a revised DMS (Demand Management Strategy)	7
16 Complete a further investigation and triple bottom line comparative assessment of Mulgrave River Stage 2 and Barron River Stage 1. Should the Aquis Resort proceed, and dependent on the outcomes of the comparative assessment of Mulgrave River Stage 2 and Barron River Stage 1, the additional medium-term initiatives outlined at (16) and (17) below may also be implemented:	Recommend, with timing to be determined subject to demand and impact of regulatory constraints	Complete comparative assessment with timing to be determined	
17 Develop the Barron River strategic reserve source to increase the LoS yield by 5,500 ML/a. This will involve the construction of the Kamerunga WTP to a capacity of 25 ML/day; and/or,	Acknowledged, with any decision contingent on outcome of (16).	No immediate action - maintain a watching brief	
18 Develop Stage 2 of the Mulgrave River water source (either part of the Mulgrave Mill entitlement or Stage 1 River extraction) to increase the LoS yield by 8,500 ML/a. This will involve a further stage of the Draper Road WTP to achieve a further treatment capacity of 33 ML/day.	Acknowledged, with any decision contingent on outcome of (16).	No immediate action - maintain a watching brief	
19 Purchase and utilise part of the 19,000 ML/a Mulgrave Mill water entitlement and augmenting the Draper Road WTP to accommodate the corresponding capacity	Acknowledged, with any decision contingent on outcome of (16) and aligned with (11) above.	No immediate action pending 11) & 16) above	

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20	If required, further develop the Mulgrave River water source, ensuring that the cumulative capacity of the Mulgrave River water source is less than 15,000 ML/a.	Acknowledged, with any decision contingent on outcome of 16)	Progress, further to outcome of 16)	
21	Economically stage the modernisation of the Mareeba Dimbulah Water Supply Scheme (MDWSS) to enable a conversion of the operational losses for urban use by Cairns. This would involve additional augmentation of the Kamerunga WTP.	Recognising Council is not the primary stakeholder, the potential to achieve gains from the MDWSS should be further investigated	No immediate action - maintain a watching brief with Council involvement as required	
22	Investigate the possibility of the use of appropriately-treated water for other purposes, such as environmental flow substitution.	Agreed - that there is a potential to put in place such supplementary schemes, however more detailed modelling is required along with assessment of community and regulatory appetite.	Maintain a watching brief	
23	Access water from a future regional dam (i.e. Nullinga Dam) and, if it proceeds, with a contingent augmentation of the Kamerunga WTP.	Recognising Council is not the primary stakeholder, a future bulk water source is an option, but is to be considered for longer term. Further investigation (establishing options & their feasibility) to be undertaken in line with projected demand vs supply timeline.	Maintain a watching brief whilst actively participating in the feasibility study for Nullinga Dam and other possible future bulk water supply opportunities	8
24	Pursue regulatory and legislative approvals to support the implementation of the preferred water security strategy.	Recommended	Ongoing	
25	Acknowledge the level of investigation and consultation that has been invested in development of the strategy and endeavour to implement each recommendation to ensure the objectives of the strategy are met.	Agreed and acknowledged	Ongoing	
26	Invest in ongoing communication of strategy milestones and achievements to engage the community and encourage awareness, ownership and confidence in the Cairns water supply scheme	Recommend adoption	Develop and implement the Communications Strategy – Ongoing (recognising the ongoing need for communication).	9
27	Council to seek ongoing support from the Water Security Advisory Group and wider region as the water supply strategy is implemented and as the further recommended assessments are made.	Recommended	Ongoing	

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28	<p>Annually review the fundamental assumptions that underpin the strategy to ensure water supply planning remains on track to meet demand. The review should consider:</p> <ul style="list-style-type: none"> ● Unexpected changes in water requirements ● Amendments to water resource plans ● Climatic conditions ● Economic assumptions ● Significant advances in emerging technologies or changes in community attitudes. 	Agreed and recommended	Review annually	
29	Formally review the water security strategy every 4 years, or when there are sufficient changes in the fundamental assumptions that underpin the strategy.	Recommend an annual review for the first phase of the strategy (est. 3 years) and then a minimum review every 4 years after that.	Review accordingly	