On 16 March 2017 Council resolved that:

1. A comprehensive independent review of Council’s Tweed District Water Supply, Demand Management and Drought Management reports be undertaken, as a matter of priority, to determine if those recommendations are still relevant, if new technological advances are available or now affordable, and to give further peer reviewed consideration for the most ecologically sustainable, climate change resilient, cost effective and socially acceptable long term water management and augmentation options available.
    a) Such a review should include, but not be limited to, consideration of the full range of demand management, drought security, and supply options available.
    b) This review to be undertaken concurrently with the progression of the current planning processes and land acquisitions for the raising of the Clarrie Hall Dam wall.

2. The community working group that was previously established to consider the water augmentation options be reconvened (with the exception for new Councillor representatives, and any vacancies to be advertised), to recommend the terms of reference for the review, recommend the selection criteria and weightings for selecting a preferred consultant for the review, and as a project reference group for the review.

Further, on 7 December 2017 Council resolved that:

1. Prioritises the completion of work required by the resolution of Council from its meeting held 5 October 2017 relating to the Bray Park Weir Tidal Protection Project.

2. Endorsement of the process and budget required as outlined within this report, to be in accordance with its resolution of 16 March 2017 to undertake a Comprehensive Review of Tweed District Water Supply, Demand Management and Drought Management and on completion of that review to recommence the Review of Council’s Demand Management and Water Efficiency Strategies and that this work be undertaken sequentially following completion of Item 1.

3. In regards to the Comprehensive Review of Tweed District Water Supply, Demand Management and Drought Management, the Terms of Reference and selection criteria for the Project Reference Group to be approved by Council.

Consideration of the project reference Group by Council or Southern Cross University as per the process for the former Community Working Group for approval by Council and a further report be brought back to Council.

Costs to be curtailed by giving consideration to the Project Manager and Facilitator being locally based so as not to incur exorbitant travel costs.

The Project Reference Group to be provided progress reports and meet regularly during the review to ensure the Terms of Reference of the review are being met.
4. This review (Comprehensive Review of Tweed District Water Supply, Demand Management and Drought Management) should be completed 7 months prior to the end of the current Council (February 2020).

This engagement is for a suitable consultant to facilitate meetings of the Project Reference Group in accordance with its Terms of Reference for the Comprehensive Review of Tweed District Water Supply, Demand Management and Drought Management, as resolved by Council.

Water Supply Augmentation Strategy

In 2008 and 2009, a series of studies were undertaken to compare options for the augmentation of the Tweed District Water Supply.

The first stage Coarse Screen Assessment of Options report, completed by consultants MWH in October 2009, identified nine options for analysis (and several sub-options) and ranked these options using multi criteria analysis (MCA).

To address the increasing community interest in this project, Council established an independent Community Working Group (CWG) soon after.

A Fine Screen assessment of the options was then carried out. The Fine Screen Assessment of Options report, completed by MWH in September 2010 was informed through detailed studies and information from a comprehensive Community Consultation process. The detailed information was sourced through:

- additional consultants reports focusing on environmental, cultural heritage, planning and costing issues;
- consultation with stakeholder groups including potentially affected landholders, the Aboriginal community, government agencies, and community groups;
- consultation with residents and the Tweed community through a comprehensive six month process;
- facilitation of the CWG; and
- feedback and submissions provided through a designated email address and Freecall 1800 number.

A Submission Report was prepared by Council in August 2010, consolidating all feedback on the Water Supply Augmentation project received by Council from the Tweed community between October 2009 and May 2010.

The Fine Screen assessment had narrowed the options to three. The CWG then considered and assessed the remaining options:

- Raise Clarrie Hall Dam
- New Byrrill Creek Dam
- Pipeline to SEQ Water
The options were assessed on the criteria of Environmental Impact and Social Impacts of the options. The CWG assessed the options on the rating of:

- I can live with this option
- I don't know / am not sure
- I cannot live with this option

The results of the assessment are set out below:

**CWG Assessment of Options based on Environmental Impact:**

<table>
<thead>
<tr>
<th>Option</th>
<th>Raise Clarrie Hall Dam</th>
<th>New Byrrill Creek Dam</th>
<th>Pipeline to SEQ Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can live with this option</td>
<td>9</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>I don't know / am not sure</td>
<td>1</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>I cannot live with this option</td>
<td>1</td>
<td>8</td>
<td>3</td>
</tr>
</tbody>
</table>

**CWG Assessment of Options based on Social Impact:**

<table>
<thead>
<tr>
<th>Option</th>
<th>Raise Clarrie Hall Dam</th>
<th>New Byrrill Creek Dam</th>
<th>Pipeline to SEQ Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can live with this option</td>
<td>6</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>I don't know / am not sure</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>I cannot live with this option</td>
<td>1</td>
<td>6</td>
<td>2</td>
</tr>
</tbody>
</table>

The results showed that more people (15) could "live with" the raising of Clarrie Hall Dam than could "live with" New Byrrill Creek (4). Fewest (2) could "live with" Pipeline to SEQ Water.

Similarly, the results showed that the fewest people (2) "cannot live with" Raise Clarrie Hall Dam compared to fourteen (14) who "cannot live with" Byrrill Creek Dam and five (5) who could not live with Pipeline to SEQ Water.

Subtracting "cannot live with" numbers from "can live with" ranks the options in order of preference were:

- Raise Clarrie Hall Dam (13)
- Pipeline to SEQ Water (-3)
- New Byrrill Creek Dam (-10)

Based on this assessment, and including additional comments by members of the CWG, a Recommendations report was prepared and put to Council. The report recommended that the preferred option for augmenting the Tweed District Water Supply was the raising of Clarrie Hall Dam.
On 19 October 2010 it was resolved that Council:

1. Monitors and resources demand management actions with the aim of achieving at least BASIX/WELS reductions and reports to Council annually on progress.
2. Adopts Byrill Creek Dam as the preferred option for augmenting the Tweed District Water Supply.
3. Proceeds with the Planning Approvals process and Detailed Design in relation to Byrill Creek Dam.
4. Pursues dialog with the relevant South East Queensland water authorities in parallel as an alternative augmentation option and as an emergency drought option.”

However on 18 October 2011 it was resolved by Council that:

“…..parts 2 and 3 of Minute 688 from the meeting held 19 October 2010, Item 24 – Tweed District Water Supply Augmentation Options – Selecting a Preferred Option, being:

2. Adopts Byrill Creek Dam as the preferred option for augmenting the Tweed District Water Supply.
3. Proceeds with the Planning Approvals process and Detailed Design in relation to Byrill Creek Dam.

be rescinded”.

On 15 May 2012 it was resolved that Council places a "moratorium on any dam proposal at Byrill Creek for a period of the next twenty (20) years, effective from 15 May 2012."

This placed Council in a position where it had no preferred option to augment the Tweed District Water Supply and any dam proposal at Byrill Creek could not be considered until May 2032.

The matter remained unresolved until November 2015.

Studies undertaken for Tweed Shire Council by Hydrosphere Consulting, to estimate the future demand for water, and NSW Urban Water Services, to estimate the secure yield of Tweed District Water Supply as impacted by climate change, demonstrated a requirement to augment the Tweed District Water Supply by 2026.

It became imperative for Council to make a decision about the augmentation of the Tweed District Water Supply.

In November 2015, a renewed assessment of the previously shortlisted options was undertaken by staff. Consistent with Council resolutions, the options of raising
Clarrie Hall Dam and link to SEQ Water were considered in the new assessment. In addition, three different Byrrill Creek Dam options and a link to Gold Coast City Council were also considered. The options considered were:

- Raise Clarrie Hall Dam
- Build Small Byrrill Creek Dam
- Build Small Byrrill Creek Dam and raise it at a later date
- Build Large Byrrill Creek Dam
- Link to SEQ Water
- Link to Gold Coast City Council

Council considered an analysis of various aspects and impacts of the options.

Subsequently on 10 December 2015 Council resolved in part that:

1. *Based on the information currently available, Council adopts the raising of the wall of the Clarrie Hall Dam as the preferred option for future water security and proceeds with the planning approval and land acquisitions phase for the project.*

Council is progressing with the planning approval and land acquisitions phase for the project.

**Demand Management Strategy (DMS)**

Consultants MWH prepared the TSC Demand Management Strategy in 2009. Stage 1 focussing on residential water use was completed in November 2009 and Stage 2, the non-residential program evaluation, was completed in December 2009.

The Stage 1 report was adopted by Council at its meeting of 17 February 2009. It was placed on public exhibition for a period of eight weeks closing 1 August 2009 with only one late submission received. The report included demand managed water use projections for the entire shire to enable the continuation of ongoing planning, with a proviso that these estimates would be reviewed once the Stage 2 report was completed.

On 19 January 2010 the Stage 2 report focussing on non-residential water use and a combined summary report to coordinate the recommendations from the two stages were placed on public exhibition. The Stage 1 report was also updated and corrected as required to improve consistency between the three documents. All three documents were placed on public exhibition for a period of twelve (12) weeks closing 30 April 2010.

In parallel with the exhibition period, Council promoted the proposed demand management actions through the Tweed Link and media, utilising the publicity generated by the community consultation for the Water Augmentation project to promote the Demand Management Strategy recommendations.

The DMS was subsequently adopted by Council on 19 October 2010.
In December 2010 Council engaged a Program Leader – Demand Management to implement the activities and projects recommended in the DMS.

Subsequently a three year Demand Management Implementation Plan was prepared and this was adopted by Council on 15 March 2011.

The first task in the Implementation Plan was to develop a framework for tracking the performance of the DMS. Key Performance Indicators (KPIs) were used to monitor the overall performance of the DMS and additional Performance Indicators (PIs) were used for the individual demand management programs outlined in the Implementation Plan. Council adopted the key and other performance indicators on 19 April 2011.

Annual progress reports were made to Council, reporting the performance of the various demand management programs against the agreed performance indicators.

Since implementing the Implementation Plan and in parallel with the State Government's BASIX initiatives demand was reduced. The overall result in 2015 was a 23% reduction in demand from that forecast in October 2010. The reduction is shown graphically below.

On 21 January 2016 Council resolved:

"that Council staff brings a report to a future Council meeting with recommendations for the establishment of a community reference group to participate in the development and monitoring of Council's demand management and water efficiency initiatives and provide input to Council decisions concerning water security for the Shire."

To address Council's resolution it was proposed that Council:

1. Reviews the present Demand Management Strategy and Implementation Plan in the context of the demand reduction achieved to determine the efficacy of
2. Reviews the present Demand Forecasts to determine the assumptions made about the reduction in demand (what has been assumed in the continued reduction in demand and is it realistic).

3. Establishes a Community Reference Group to review the assessment of the Demand Management Strategy and Implementation Plan.

4. Through the Community Reference Group, identifies additional demand management measures to be considered in updating/revising the Demand Management Strategy and Implementation Plan.

5. Analyses proposed demand management measures in terms of cost and achievability and provide the analysis to the Community Reference Group.

6. Through the Community Reference Group's consideration of the analysis, identifies additional demand management and water efficiency measures to be recommended to Council.

7. Through the Community Reference Group, identifies criteria by which the efficacy of the demand management measures can be assessed.

8. Undertakes regular reporting on performance against the criteria.

A draft Terms of Reference for the Community Reference Group (CRG) was prepared and put to Council.

On 17 March 2016 staff brought a report to Council regarding the establishment of the Demand Management CRG. The first step to address Council's resolution was the review of the present Demand Management Strategy and Implementation Plan to determine the efficacy of the Strategy and Implementation Plan in terms of demand reduction achieved. It was proposed that the CRG would then review that assessment.

Nominations for membership of the CRG were sought during September 2016. Media releases, articles in the Tweed Link and direct emails to people registered on the Water Unit’s Interested Parties List were used to invite members. As at 18 October 2016, there were five nominations for the CRG.

Councillors Ron Cooper and Katie Milne were nominated as delegates on the CRG on 17 November 2016.

The first step in the review process was also completed. Hydrosphere Consulting Pty Ltd were engaged to carry out the assessment of the Demand Management Strategy and the Implementation Plan. The report prepared by Hydrosphere Consulting was completed in January 2017 and presented to Council for noting on 16 February 2017.
It was envisaged that community nominees for the Demand Management CRG would be put to the newly elected Council in December 2016 and that the report prepared by Hydrosphere Consulting would be presented to that group.

Due to a further resolution of Council for the Comprehensive Review of Tweed District Water Supply, Demand Management and Drought Management, the separate review of demand management and water efficiency through the Demand Management CRG was put on hold.

The review of the Demand Management Strategy has not progressed further.

**Drought Management Strategy**

Consultants MWH prepared the TSC Drought Management Strategy in April 2009. The Strategy was subsequently adopted by Council in November 2009.

The Drought Management Strategy set out the water restrictions that would be implemented in the event of a drought, the triggers for each level of drought water restrictions and the targeted water savings at each level. Drought water restrictions for levels 2, 4 and 6 were presented in the adopted Strategy. The Strategy recommended that a review of the drought water restrictions, restriction triggers and targeted savings be undertaken in 2012.

The review was carried out in late 2011 and significant modifications to the drought water restrictions were proposed, while recommending no changes to the restriction triggers or targeted savings. Revised draft drought water restrictions for levels 2, 4, 6 and 7 were reported to Council in November 2011. The revised restrictions had been expanded to include more activities and were described in greater detail to provide more information to the public, should drought water restrictions be implemented.

Council resolved to place the revised drought water restrictions on public exhibition from 5 December 2011 until 31 January 2012, to give members of the public and other stakeholders an opportunity to submit their comments.

Four submissions were received during the exhibition period and the salient points raised in these submissions were put to Council in a report. Some of the points raised in submissions were more relevant to the Demand Management Strategy as a whole and it was concluded that no changes to the draft drought water restrictions were warranted as a result of the submissions received.

Staff were of the view that that the draft drought water restrictions would best be incorporated in an official Council Policy entitled “Drought Water Restrictions Policy” to formalise the drought water restriction levels, the triggers for each level of drought water restrictions and the targeted water savings at each level.

It was desirable that Council adopted a set of revised drought water restrictions as soon as possible to ensure ongoing management of water security and to manage any risks during the Clarrie Hall Dam spillway upgrade in the coming year.
At its meeting on 25 October 2012 Council resolved to place the draft Drought Water Restrictions Policy on public exhibition.

The draft policy outlined the drought restrictions regime for the Bray Park and Uki water supply schemes which cater for about 99% of water consumers in the shire. It set out the water restrictions that would be implemented in the event of a drought, the triggers for each level of restrictions and the targeted water savings at each level. The draft policy also described when drought restrictions would be lifted, how the community would be notified about them and their enforcement.

The draft policy was exhibited from 5 November 2012 to 3 December 2012. Two submissions and one correction were received during the exhibition period and these were discussed in a report to Council.


In September 2014, the NSW Office of Water convened a meeting of North Coast local water utilities to discuss a consistent approach to drought water restrictions. As a result, the following table was agreed to as a consistent set of water restrictions for the North Coast.
Amendments to Council’s Policy were necessary to align the Policy with these North Coast Consistent Water Restrictions. At the same time, minor errors and anomalies in Version 2.0 were corrected. The required changes related mainly to the naming of the Water Restriction Levels and to residential watering.

At the Council meeting of 21 May 2015, Council resolved to place the revised Drought Water Restrictions Policy on public exhibition, with submissions being invited until 6 July 2015.

The current Drought Water Restrictions Policy was adopted by Council on 17 Aug 2017.
Permanent Water Conservation Measures

Council already has an active Target 160 campaign which aims to reduce residential water consumption. There was therefore no proposal to introduce separate permanent water restrictions in Tweed Shire. It was recommended to Council that the measure - no unattended hoses between the hours of 9.00am to 4.00pm - which forms part of the North Coast Consistent Water Restrictions be adopted as a key communication message for Tweed Shire.

METHODOLOGY

A Project Reference Group (PRG) is to be established to assist with the Comprehensive Review of Tweed District Water Supply, Demand Management and Drought Management, as resolved by Council.

In keeping with Council’s resolution, previous members of the 2009-2010 Water Augmentation Community Working Group are to be invited to join the PRG. Those people who nominated for the Demand Management Community Reference Group in September 2016 will also be invited to join the PRG.

It is envisaged that the PRG will consist of eight community members and two Councillors. Additional community members may have to be sought through advertising and other promotion methods to increase the membership to eight.

A draft outline of the steps for the Comprehensive Review are as follows:

- Draft the Terms of Reference for the PRG. This has been completed by Council staff.
- Engage a facilitator to work with the PRG. This document is the brief for this engagement.
- The facilitator reviews the Terms of Reference and the proposed methodology of seeking members for the PRG.
- Finalise the Terms of Reference.
- Establish the PRG by direct contact with those who were on the Water Augmentation Community Working Group, direct contact with those who nominated for the Demand Management Project Reference Group and public advertisement. Other methods may be used to seek members, as recommended by the facilitator.
- Report to Council. A Council resolution is required to form the PRG and nominate two Councillor delegates.
- Familiarise the PRG with the processes and decisions which have led to the adoption of the Tweed District Water Supply Augmentation Strategy, Demand Management Strategy and Drought Management Strategy through a series of facilitated workshops. There may be more than one workshop per topic.
- Seek advice from the PRG on those aspects/items which require review and what that review would consist of. This may be done in the topic workshop or afterwards if members have reading to do.
TWEED SHIRE COUNCIL – WATER STRATEGIES REVIEW
BACKGROUND SUMMARY AND METHODOLOGY

- Draft a Scope of Work for those aspects/items that the CRG want reviewed. Council will circulate and confirm.
- Council will prepare Requests for Offer and engage an independent consultant or consultants to undertake the reviews. The consultant/s will be required to read and become knowledgeable of all the relevant reports and Council resolutions relating to their review to develop a full understanding of the positions taken by Council.
- The independent consultant/s is/are to provide opinion in a draft report to Council on whether recommendations are still relevant and may also provide a direction forward for Demand Management.
- The independent consultant/s present/s draft report/s to the PRG in facilitated workshop/s to confirm adequacy.
- The independent consultant/s amend the report/s and provide it/them in final form to Council.
- Report to the elected Council. The elected Council resolves what further actions it may choose to take.

Facilitator

The Facilitator will need to take the Project Reference Group through the definition of the project and the review of the Water Augmentation, Demand Management and Drought Management Strategies. This will require a series of meetings/workshops with the PRG over approximately eight months.

The facilitator is to:

1. Review the existing work completed including but not limited to that which is located on the Your Say Tweed website for the strategies, including the draft Terms of Reference for the PRG.

2. Meet with the project team to confirm the approach to be taken by Council and the Facilitator.

3. Confirm the adequacy of the Terms of Reference and provide any suggested amendments.

4. Prepare for and facilitate a minimum of eight (8) PRG meetings to be held, most probably monthly, at the Murwillumbah offices of Tweed Shire Council.

The purpose of initial meetings is to review all of the relevant reports and decisions that have been made relating to the Water Supply Augmentation, Demand Management and Drought Management Strategies, to identify any information gaps, identify any aspects/issues that require further investigation and to assist in the preparation of a scope of work for the independent consultant/s.

The purpose of subsequent meetings is to review the recommendations and findings of the independent consultant/s.
5. Facilitate the production of a Final Report for Council by the PRG on the recommendations and findings relating to the Water Augmentation, Demand Management and Drought Management Strategies.

6. Provide a separate report to Council on the risks foreseen as the project moves forward in PDF and WORD Format.

**Independent Consultant/s engagement**

The PRG will advise what aspects of the strategies require review and what that review would consist of.

An independent consultant or consultants will be engaged to undertake the reviews. This process will be managed by Council. It is envisaged that the engagement of the consultant or consultants and their work will take approximately four months.

The consultant/s will present their work to the PRG for its consideration as outlined above.

**Consideration of Consultant/s Report/s Outcomes**

The PRG will consider the recommendations and findings by the consultant/s in a series of facilitated meetings/workshops. The product of these meetings/workshops will be advice to Council of the Group’s informed position before Council makes a decision on a preferred way forward.

**Timeframe**

The approximate timeframe for this project is:

- Engagement of a facilitator – 17 January 2019
- Meeting with Council staff to finalise PRG Terms of Reference, methodology to seek membership and overall approach – 30 January 2019
- Seek members for the PRG – 7 February 2019
- Report to Council – 7 March 2019
- Initial meetings/workshops of the PRG (monthly) – 5 to 7 months
- Engagement of consultant/s – 3 to 5 months
- PRG meetings to consider consultant/s recommendations/findings and form advice to Council (monthly) – 2 months
- Council decision/s on way forward – 1 month

The total duration of the project is 13 to 17 months.
REFERENCE MATERIAL

Reference documents and material referred to in this scope of work can be located on Council’s website and Your Say Tweed portal.

Go to Council’s website at www.tweed.nsw.gov.au and click on Water and Wastewater. Then choose Drought Management, Demand Management or Water Supply Augmentation, all listed under Water Efficiency. All referenced documents are available as downloads.

The link to Council’s Your Say Tweed portal is located at the very bottom of the Home page under “on Exhibition”.

The main references of interest are:

- Draft Terms of Reference, Water Strategies Review Project Reference Group, Tweed Shire Council
- Water Augmentation Strategy Community Working Group Contact List, 2009
- List of nominations for Demand Management Community Reference Group, Sep 2016
- Stages 1 & 2 Coarse Screen Assessment of Options, MWH, 6 Oct 2009
- Stage 3 Fine Screen Assessment of Options, MWH, 28 Sep 2010
- Submissions Report, Water Supply Augmentation Project, Tweed Shire Council, August 2010
- Tweed Shire Council Demand Management Strategy – Stage 1, MWH, Nov 2009
- Demand Management 3-year Implementation Plan
- Demand Management Key Performance Indicators
- Drought Management Strategy, MWH, Apr 2009
- Drought Water Restrictions Policy v3.1, TSC, 17 Aug 2017
- Relevant reports to Council
- Relevant Council resolutions
- Council’s website and Your Say Tweed portal