



South East Queensland Water Infrastructure Plan

**BUILDING OUR REGION'S
WATER SECURITY FUTURE**

Investing in the SEQ Water Grid for future water security

Economic boost & jobs for industry



Major dam upgrades and water security projects will see Seqwater deliver a significant capital program over the next decade – providing a pipeline of jobs and economic opportunities for industry.

Seqwater is committed to working with our contractors, once appointed, on employing local subcontractors and suppliers where possible.

Catering for growth in SEQ



Ensuring the Seqwater network is well placed to support the region during the 2032 Brisbane Olympic and Paralympic Games when demand from the transient population is expected to rise by five per cent.

Community recreation facilities



Seqwater offers picnic areas and designated swimming areas at a number of lakes in South East Queensland for the community to enjoy. Dam Improvement Projects will be carefully sequenced, with most recreation facilities expected to remain open during construction.

Our commitment to sustainability



In line with the Queensland Government's Energy & Jobs Plan, Seqwater's approach to Environment, Social and Governance (ESG) is targeted towards potential opportunities to transition asset management and operations to a more sustainable future.

Over the next five years, Seqwater's investments in projects and initiatives will incorporate consideration of how Seqwater sources and consumes energy within its operations, as well as across its energy-related value chain.

Employer of choice



From nationally recognised flexible working environments, to reward and recognition programs, career development opportunities, industry engagement, and social, health and mental wellbeing strategies, Seqwater is committed to supporting their people to reach their goals and enjoy what they do as an employer of choice.

Maintaining a high level of water security into the future

The South East Queensland Water Infrastructure Plan will support our region's water security now, and into the future.



Dam Improvement Program

Major dam upgrades at Somerset, Wivenhoe, North Pine and Lake Macdonald will ensure the ongoing safety of these important bulk water supply assets.



Enhancing the SEQ Water Grid

We're investigating enhancements to the SEQ Water Grid to maintain a high level of water security and withstand drought periods as our population grows and we feel the impacts of climate change.



More desalinated water

Through climate change research, Seqwater appreciates it may have to rely less on dams in the future.

Seqwater is planning to expand the use of desalinated water which doesn't rely on rainfall patterns.



Our region's population is growing and changing

South East Queensland's population is set to grow over the next 30 years.



A PLAN TO DELIVER

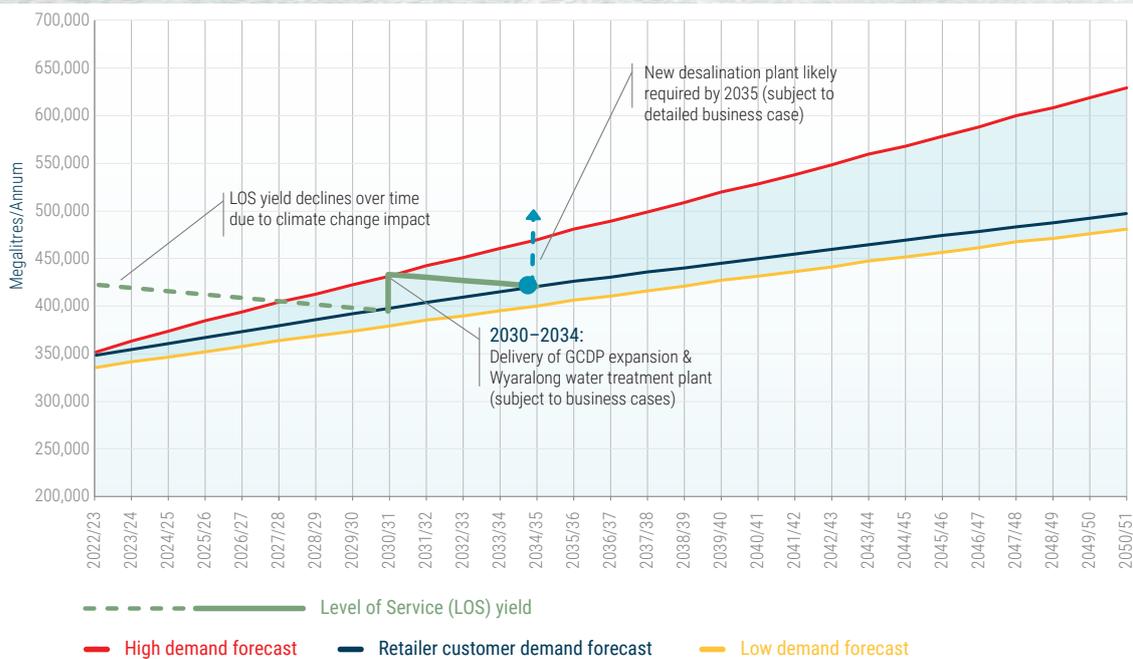
Water security & increased supply

Dam safety improvements by 2035

Ongoing flood mitigation

Jobs for industry

Planning for the future bulk water supply needs



Level of service (LOS) yield including proposed future bulk water infrastructure upgrades*

South East Queensland (SEQ) is currently home to more than 3.7 million people. This is set to grow over the next 30 years.

Climate change research also suggests that SEQ will see an increase in the annual average temperatures and levels of evaporation, as well as potential impacts to the volumes of inflows into dams. This means that climate change may materially reduce the volume of water that is

reliably available from the system of existing bulk water sources.

We will need to enhance SEQ's bulk water supply to maintain a high level of water security and withstand potential drought periods.

*Resource: Seqwater Water Security Program 2023



Enhancing the SEQ Water Grid

From the Sunshine Coast to the Gold Coast, the SEQ Water Grid is the backbone of SEQ's bulk water supply network.

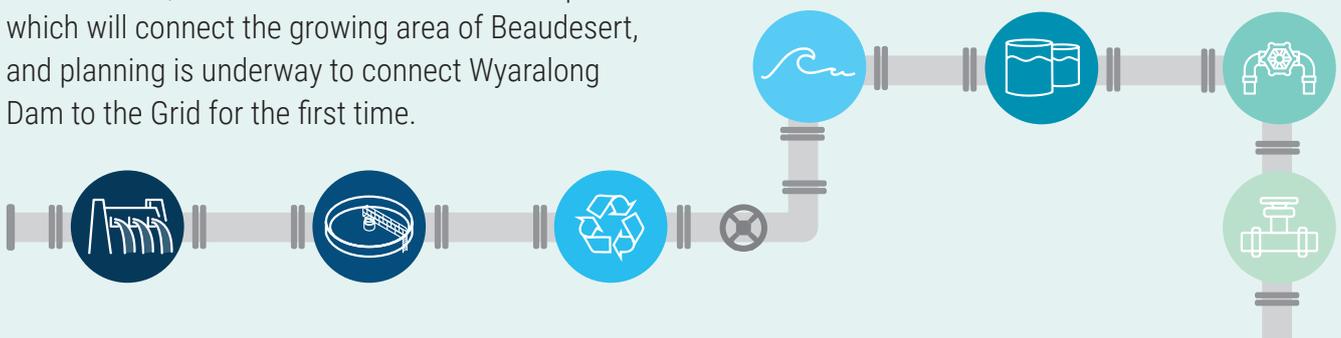
Connecting a range of dams, treatment plants, reservoirs and pump stations, the Grid allows treated drinking water to be moved around the region as required via 600 kilometres of interconnected bulk water pipelines. This is especially important when variable rainfall leaves some areas with full dams and other parts of the region with lower dam levels.

SEQ is no stranger to harsh conditions, including droughts and floods, and Seqwater is constantly exploring ways to maximise the Grid. Being a publicly owned asset allows for current and future enhancements to the Grid to be made, while keeping bulk water prices as low as possible.

The Grid is continuing to expand to serve growing communities, such as the new South West Pipeline which will connect the growing area of Beaudesert, and planning is underway to connect Wyaralong Dam to the Grid for the first time.

With the known impacts of climate change, Seqwater is also exploring further opportunities for climate-resilient water sources. More desalinated water could be supplied across SEQ with investigations underway into the proposed expansion of the Gold Coast Desalination Plant, in addition to a new plant. Desalinated water is a safe and reliable water source to complement existing bulk water assets within the region.

Seqwater also continues to examine further opportunities to utilise the Western Corridor Recycled Water Scheme to supply recycled water to industry and agricultural customers to offset demand on our dams. The Scheme also continues to remain a key drought response measure.



PROPOSED EXPANSION OF THE GOLD COAST DESALINATION PLANT

A detailed business case is underway, investigating the expansion of the existing Gold Coast Desalination Plant to potentially increase capacity by an extra 45 megalitres per day, or the capacity to supply more than 100,000 extra households.

The plant has been in operation since 2009 and is particularly useful to supplement supply during times of peak demand, drought, flood and when other water treatment plants are required to go offline for maintenance.

The detailed business case is expected to be completed in 2024.

GOLD COAST DESALINATION PLANT FAST FACTS:



The Gold Coast Desalination Plant has been in operation since it was brought online in 2009.



With short notice, the plant can provide up to 133 megalitres (ML) of water per day to the SEQ Water Grid.



In 2022-23, the plant produced more than 7,310ML of treated bulk water to support the operation of the Grid, including in response to the 2022 flood events when raw water quality issues reduced production at conventional water treatment plants.



In the preceding two financial years, the plant was also used extensively in drought response.

INVESTIGATING A NEW SOUTH EAST QUEENSLAND DESALINATION PLANT

The next major enhancement of the SEQ Water Grid will likely be needed by 2035, based on growth projections and the known impacts of climate change. Therefore, it is prudent that Seqwater commence planning now.

Early investigations are underway to explore opportunities for a new desalination plant for the region.

Seqwater will undertake a detailed business case to investigate this solution further which is due to be completed by the end of 2024. The business case process will explore in detail potential locations, capacity and timing of delivery.

Seqwater is committed to keeping South East Queenslanders informed as planning progresses.



Connecting Beaudesert to the Grid

Scenic Rim is experiencing a period of significant growth.

The Beaudesert Water Supply Upgrade will connect Beaudesert to the SEQ Water Grid, providing long-term water security for the area.

Stage one, in 2020, involved the completion of two concrete storage reservoirs adjacent to the Beaudesert Water Treatment Plant.

Stage two of the upgrade is underway and includes the construction of a 27-kilometre pipeline and Water Transfer Station connecting the region to the Grid.

The project is expected to be completed in early 2024.

PROPOSED WYARALONG WATER TREATMENT PLANT

Seqwater is continually exploring opportunities to get the most out of the SEQ Water Grid and its existing assets. One such exploration involves a new Water Treatment Plant downstream from Wyaralong Dam and connection to the SEQ Water Grid.

A detailed business case process is currently underway and due to be completed in 2024.





Mt Crosby East Bank Flood Resilience Program

The Mount Crosby East Bank Water Treatment Plant produces up to one-third of SEQ's drinking water supply, making it the most critical water treatment plant on the network.

Seqwater is currently delivering the East Bank Flood Resilience Program Master Plan, which will aim to reduce flood risks at the site, including improving connectivity for the local community, and acknowledging the rich history of the area.

Seqwater has worked with local stakeholders to create a shared vision for the precinct.

THE MASTER PLAN INCLUDES:

- + A new electrical substation located on higher ground
- + Critical electrical upgrades to the raw water pump station
- + Construction of a new road bridge river crossing
- + Renovations to the workers cottages in the Mount Crosby precinct
- + Reestablishment of a community hall for community use.

As the precinct surrounding the raw water pump station is listed on the State Heritage Register, Seqwater is also working to revitalise and preserve the area as part of the program.



Dam Improvement Program

Dams are long-life assets which require continual assessment, monitoring and maintenance.

Through Seqwater's Dam Improvement Program, we're investing in our region's dams to ensure they provide water security for years to come.

13

**dam upgrades
already delivered**

including Ewen Maddock,
Sideling Creek and Leslie
Harrison.

**Next tranche
now underway**

Somerset, Wivenhoe, Lake
Macdonald and North Pine
Dams.

**On track for
2035**

Seqwater is on track to
deliver these sites
by 2035, in line
with regulatory
requirements.

South East Queensland dams were built to high safety standards, but most were built some decades ago. Methodologies and data used to estimate extreme rainfall events continue to improve and industry engineering standards and understanding of risks can progress over time.

Across Queensland and Australia, there are multiple dam upgrades occurring to meet modern engineering standards.

Seqwater's Dam Improvement Program is ensuring the region's dams comply with the latest safety standards and continue to function safely during extreme weather events in line with regulatory requirements.

REDUCED FULL SUPPLY LEVELS

While the Dam Improvement Program is underway, Wivenhoe, Somerset and North Pine Dams are operating at a reduced full supply level.

This is an industry-accepted practice to manage dam safety and demonstrates Seqwater's commitment to the ongoing safety of our infrastructure.

Seqwater undertakes regular monitoring and engineering assessment to make sure the region's dams continue to operate safely.

Further details regarding dam levels can be found at seqwater.com.au



Somerset Dam Improvement Project

Built:	Between 1935 – 1959
Current phase:	
Project status:	Detailed business case underway
Design considerations:	<ul style="list-style-type: none"> • raising the height of the dam wall • improvements to the spillway • extending and reinforcing the dissipator basin and training walls • replacement of the existing sluice gates • adding concrete to the downstream face of the dam wall • exploration of community legacy benefits such as recreation facility improvements <p>Seqwater is also undertaking comprehensive environmental investigations as part of the project planning.</p>

FAST FACTS

- + Somerset Dam is one of the region’s oldest and largest water storages and is also one of the most popular recreation destinations in the region.
- + The dam’s full supply level is 379,849 megalitres (which is equivalent to 152,000 Olympic-sized swimming pools).
- + The dam wall is 305m long and is built across the Stanley River, near Kilcoy.
- + Somerset Dam has eight crest gates (7.9m wide and 7m high) and eight sluice gates (2.44m wide and 3.66m high).
- + Somerset Dam is named after Henry Plantagenet Somerset, a pastoralist and politician whose property Caboombah had a view of both the Stanley and Brisbane Rivers.

Seqwater has undertaken extensive technical investigations to inform design options for Somerset Dam, including geotechnical investigations, hydraulic modelling of the spillway and dissipator basin using a scale laboratory model, 3D scanning of the dam wall, downstream bathymetry and lidar aerial surveys.



Wivenhoe Dam Improvement Project

Built:	1984
Current phase:	
Project status:	<p>Early planning underway</p> <p>As Somerset and Wivenhoe Dams operate as one system for both water supply and flood mitigation, the outcomes of the detailed business case for Somerset Dam will inform final considerations for Wivenhoe Dam.</p>

FAST FACTS

- + Wivenhoe Dam is South East Queensland’s largest water storage and is the main supply of water for Brisbane and the greater Ipswich area.
- + The dam’s full supply level is 1.165 million megalitres (which is equivalent to 466,000 swimming pools).
- + The dam wall is 2.3 kilometres long and is built across the Brisbane River, near Fernvale (80km north of Brisbane).
- + The dam was built for the dual purpose of providing a safe and reliable water supply for the region and flood mitigation.
- + Wivenhoe Dam has five radial gates, 12m wide and 16.6m , which allow controlled water releases to be made during heavy rain.

FLOOD MITIGATION

Somerset and Wivenhoe Dams are often operated together to provide flood mitigation benefits. In the case of Wivenhoe Dam, the total amount of water the dam can safely store is divided into two compartments: a water supply compartment and a flood storage compartment. Water released from Somerset Dam flows into Wivenhoe Dam. Seqwater sometimes makes operational releases from Somerset Dam to balance the water storage between the two sites. Both Somerset Dam and Wivenhoe Dam will continue to provide water supply, flood mitigation and recreation areas after their upgrades.



PREVIOUS UPGRADE WORKS

Since 2008, Seqwater is on track to meet the 1 October 2035 deadline set by the Queensland Dam Safety Regulator, and has already delivered 13 dam improvement projects.

Project name	Completion date
Bromelton Off-Stream Storage	2008
Lake Manchester Dam	2008
Borumba Dam Stage 1 Spillway	2009
Hinze Dam Stage 3	2011
Wyaralong Dam	2011
Ewen Maddock Dam Stage 1	2012
Maroon Dam Stage 1	2013

Project name	Completion date
Moogerah Dam Stage 1A	2013
Wappa Dam	2017
Cooloolabin Dam Stage 2	2018
Leslie Harrison Dam Stage 1	2019
Sideling Creek Dam Stage 1	2020
Ewen Maddock Stage 2A	2021



North Pine Dam Improvement Project

Built:	1976
Current phase:	
Project status:	Options analysis underway
Design considerations:	Raising the dam wall, raising the saddle dams and upgrading the spillway (and gates). Seqwater is also undertaking comprehensive environmental investigations as part of the project.

FAST FACTS

- + North Pine Dam predominantly supplies parts of Brisbane and Moreton Bay and can also supply parts of the Sunshine Coast.
- + The dam's full supply volume is 214,302 megalitres (equivalent to 86,000 swimming pools).
- + The dam wall is 579m long and is built across the North Pine River, near Petrie.
- + North Pine Dam has five radial gates, 12.2m wide and 8.6m high, which allow controlled water releases to be made during heavy rain.

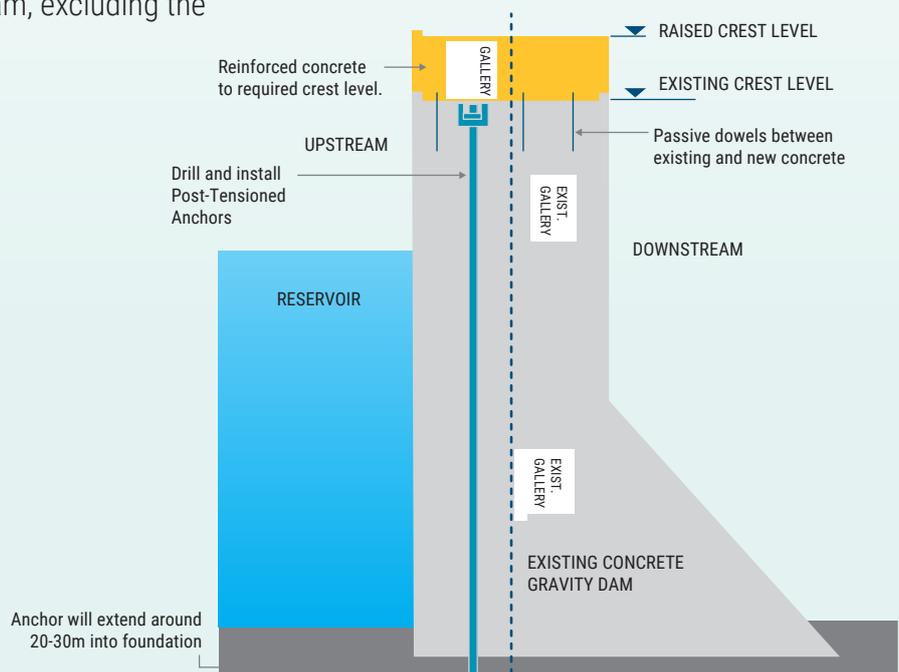
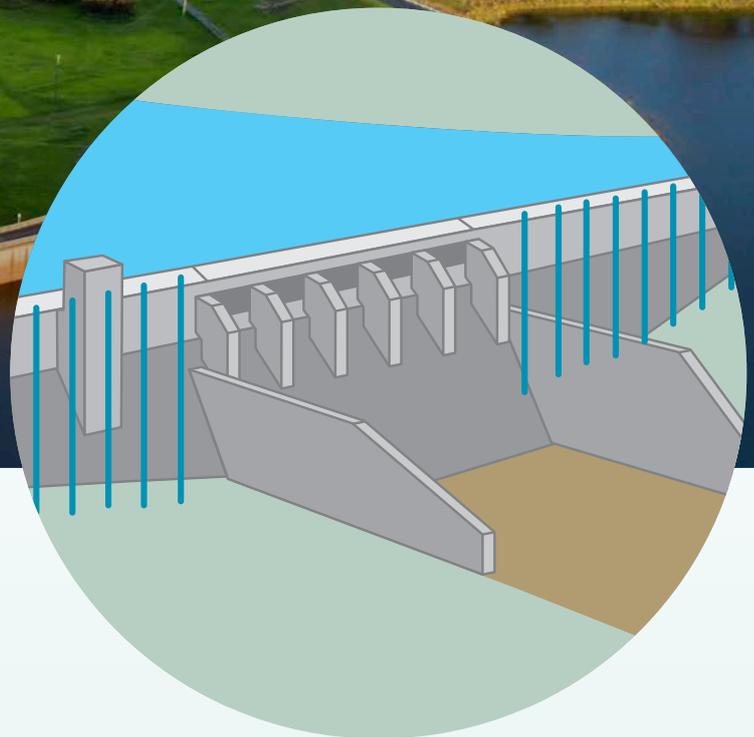


INVESTIGATING EARLY STRENGTHENING WORKS

While planning for the North Pine Dam Improvement Project is underway, opportunities to strengthen sections of the main dam, excluding the spillway, are being considered.

This may involve installing post-tensioned anchors vertically through sections of the dam wall and into the rock foundation below.

The strengthening options will be designed to integrate with the permanent structural improvement options.



Delivering Water Security for the Noosa Region:

Lake Macdonald Dam Improvement Project

Built:	1965
Current phase:	
Project status:	Early works commencing early 2024 ahead of major construction in mid-2024.
Design considerations	<p>The Lake Macdonald Dam Improvement Project will involve building a new spillway and reconstructing the existing earth embankments to better protect the dam structure against earthquakes and extreme floods.</p> <p>At completion of the project, the new dam will have the same storage volume and full supply level as the existing dam (storage to 8,000ML). The improved design will be able to withstand a 1 in 500,000 year flood, meeting modern dam safety guidelines. Seqwater has worked to minimise environmental impacts from this project, with a revised construction methodology that will temporarily reduce the water level by approximately 2 metres, from the full supply level. This will allow the dam to retain water throughout the project to support water security.</p>



FAST FACTS

- + Water from the Sunshine Coast Region (including Lake Macdonald Dam) is treated at the Noosa Water Treatment Plant which predominantly supplies the towns of Cooroy, Tewantin, Pomona and Noosa.
- + Lake Macdonald Dam's full supply volume is 8,018 megalitres (which is equivalent to 32,000 swimming pools).
- + The dam wall is 501m long and is built across Six Mile Creek, near Cooroy.
- + Lake Macdonald is an ungated dam, which means once the dam reaches its full supply level, water flows over the spillway and out of the dam.
- + Lake Macdonald was named after the late Ian Macdonald who was Chairman of Noosa Council from 1964 to 1980.



Seqwater's commitment to sustainability

In line with the Queensland Government's Energy & Jobs Plan, Seqwater is committed to a more sustainable future.

Seqwater's approach to Environment, Social and Governance (ESG) is targeted towards potential opportunities to transition asset management and operations to a more sustainable future.

Over the next five years, Seqwater's investments in projects and initiatives will incorporate consideration of how Seqwater sources and consumes energy within its operations, as well as across its energy-related value chain.

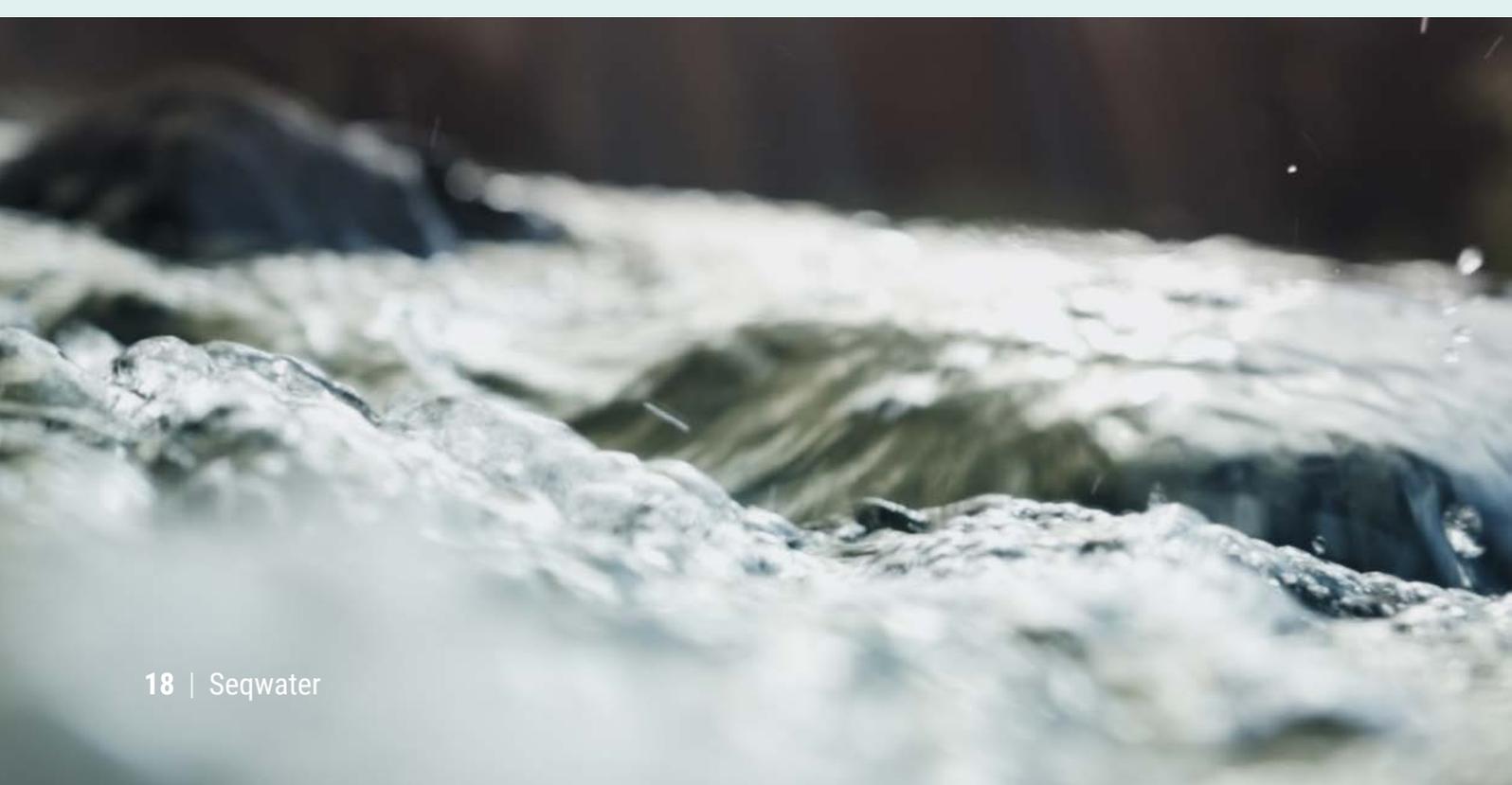
Employer of choice

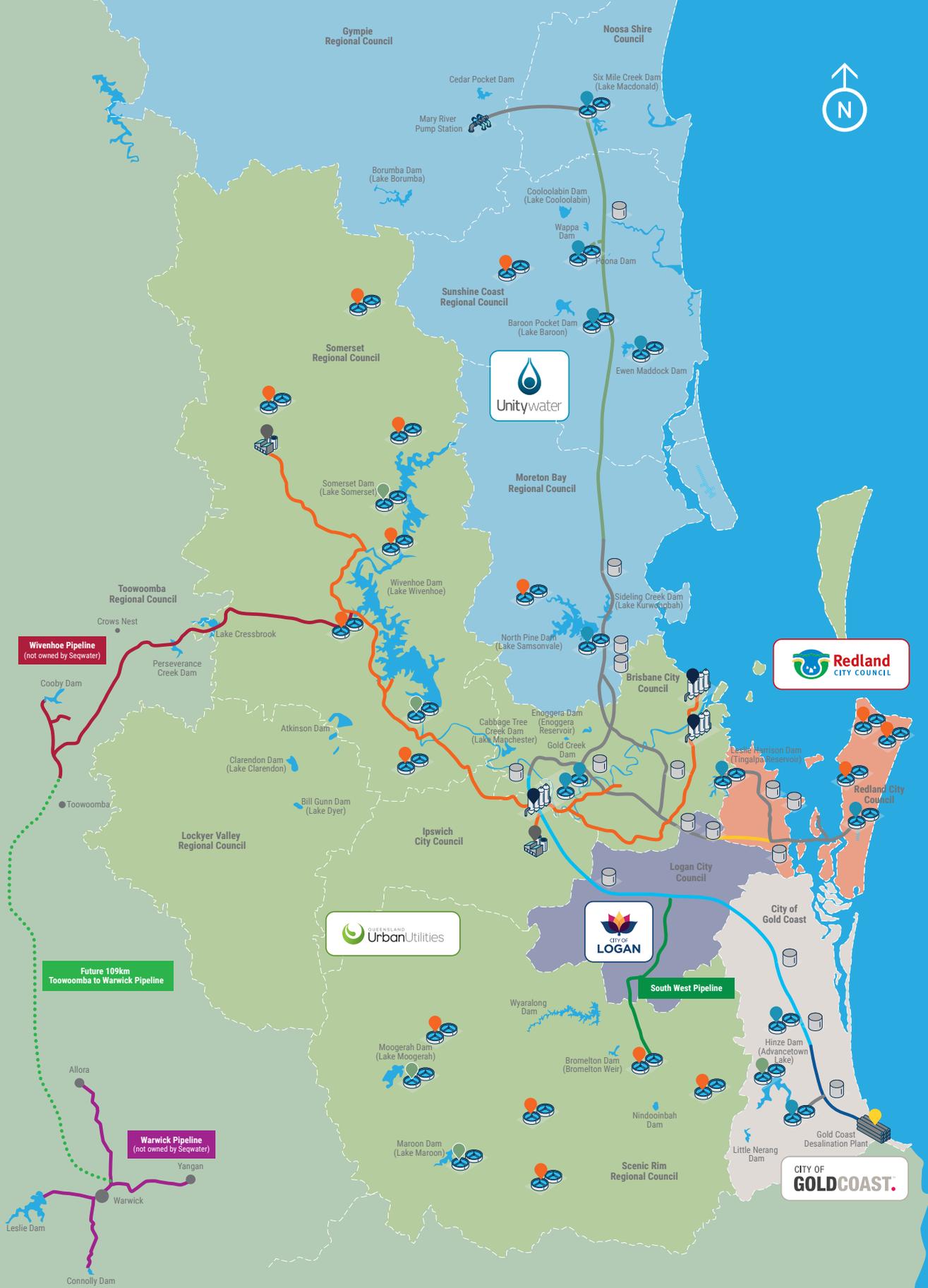
At Seqwater, we do good work, with great people, in beautiful places. We are one of the largest and most diverse water businesses in Australia, providing essential water services for people across South East Queensland.

With a team of more than 800, Seqwater is a major employer across the South East Queensland region, with a head office based in the Ipswich CBD, a satellite office in Brisbane CBD, and site offices at various locations including Hinze Dam, North Pine Dam, Wivenhoe Dam and Mt Crosby West Bank.

From dam operators and engineers, to project managers, water quality scientists and professional services, it takes a dedicated and talented team to run our business.

With nationally recognised flexible working environments, reward and recognition programs, career development opportunities, industry engagement, and social, health and mental wellbeing strategies, we are committed to supporting our people to reach their goals and enjoy what they do.





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| <ul style="list-style-type: none"> — Northern Pipeline Interconnector — Western Corridor Recycled Water Scheme — Southern Regional Water Pipeline — Eastern Pipeline Interconnector — Network Integration Pipeline — Other bulk water pipelines connecting the SEQ Water Grid | <ul style="list-style-type: none"> Local Government Boundary — Wivenhoe Pipeline — Warwick Pipeline Future Toowoomba to Warwick Pipeline — South West Pipeline Bulk Water Storage Reservoirs | <ul style="list-style-type: none"> Water Treatment Plants (WTP) - connected to grid Water Treatment Plants (WTP) - off-grid Water Treatment Plants (WTP) - other Advanced Water Treatment Plants Desalination Plant Power Stations |
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Today, and everyday, we acknowledge the Traditional Custodians of the land, catchments and waterways on which we live, work and play. We pay our respects to Elders past, present and emerging, and acknowledge their continued connection to the land, water and culture of these areas.

Through the delivery of the Water Infrastructure Plan, Seqwater is committed to engaging with traditional land owners to ensure cultural heritage is considered and managed appropriately throughout project design and execution.