GRIFFITH CITY COUNCIL

SMART METERING PROJECT

Assessment against Socio-Economic Criteria as part of the Resilient Rivers Water Infrastructure Program

May 2025

Section 1: Overview 3
1.1. Project Summary 3
1.2. About Griffith City Council 5
Section 2: Project Description 7
2.1. Project outputs at a glance 7
2.2. Project Scope 7
2.3. Project Delivery 7
2.4. Project Budget - Funding 8
Section 3: Socio-Economic Criteria 9
3.1. Preparing for the future 9
3.2. Benefits to industry 10
3.3. Benefits to community 11
3.4. Environmental benefits 11
3.5. Supporting the Murray-Darling Basin Plan and the Murrumbidgee Regional and NSW Water Strategies 12
3.6. Cultural impacts and benefits 12
3.7. Community support and engagement 12
3.8. Positive Economic Outcomes 13
3.8.1. Management of future lifecycle costs 13
3.8.2. No impacts to the water market 14
3.8.3. Supporting regional communities economically 14
3.8.4. No negative third-party impacts 14
3.9. Water savings shared between the environment and water users 14
3.10. Overall value for money 14
3.11. Water savings 15

Section 1: Overview

1.1. Project Summary

Griffith City Council (GCC) is proposing a $5.23 million project to upgrade Griffith's water metering system to a smart metering system. With some installed 25 years ago, water meters in the system are ageing beyond their useful life and requiring replacement. The system is also lacking the technology to support real-time consumption data, making it difficult for Council to manage their water losses effectively and for consumers to accurately track their water usage. Leaks can go undetected for weeks and waste valuable water. The current metering system is unreliable, inefficient and ill-equipped to support the growing community.

The project will address these challenges and modernise Griffith's water metering system. The project will result in a total water savings of 414 ML/year, reducing water losses in Griffith's water supply systems by 57%. 207 ML of Murrumbidgee high security water (category 3) will be returned to the Commonwealth, providing significant environmental value. Based on the cost of this project per ML saved and the market value of the water, the multiplier for this project is 2.98. A new smart metering system will enable Council to accurately monitor their water network, enhance leak detection, identify high water users, detect inaccuracies or unauthorised consumption and provide consumers with real-time insights into their water usage. This project will empower the communities that call Griffith, Yenda and surrounding towns home to manage their water use more effectively, saving valuable water.

The project involves the following works:

- Replacement of 100% of the smaller 20/25 mm water meters (11,194 meters) with new meters integrated with Automatic Meter Reading components.
- Retrofitting of 100% of the larger water meters (772 meters) with Automatic Meter Reading components.
- Implementation of the online application and customer portal for real-time data access, available to both Council and consumers.

The project will result in a range of benefits including:

- The project will provide value to Griffith's communities and surrounding towns and ensure water from the Murrumbidgee catchment (Murray-Darling Basin) is fully utilised.
- Provide environmental benefits through additional water for the environment, even under drought conditions. Improve water security for the region through water savings, reducing the water lost by 57%.
- Improve the health of the Basin and surrounding places that are culturally important to First Nations.
- Lower the region's energy consumption by reducing the amount of water needing to be extracted, pumped, treated and transported across the water distribution network, resulting in fewer greenhouse gas emissions.
- Assist in the long-term financial sustainability of Council by lowering the costs of operating the water supply system and allowing the saved funds to be re-allocated to benefit the community through lower rates or other community assets. Currently, manual water meter readings cost Council $240,000 per year, which will be directly saved on the completion of this project.
- Improve flood and drought preparedness by enabling remote monitoring if the system becomes inaccessible, and providing accurate information required to manage water conservation efforts.
- Allow better predictions of demand trends of the growing communities in and around Griffith.
- Enhance the detection of leaks that pose safety risks to the community.

- Lower water bills by enhancing the identification of and timely response to leaks.
- Enable local industries to optimise their water use and increase productivity, particularly as water plays an integral part in Griffith's vibrant food culture.
- Provide consumers with real-time insights into their water usage, avoiding bill-shock.
- Provide accurate metering to ensure fair and equitable billing of water consumption.
- Encourage the collective responsibility that Council and the community have in working together to reduce water losses, return water to the Commonwealth, support green initiatives and to work and live more sustainably in preparing for the future.

1.2. About Griffith City Council

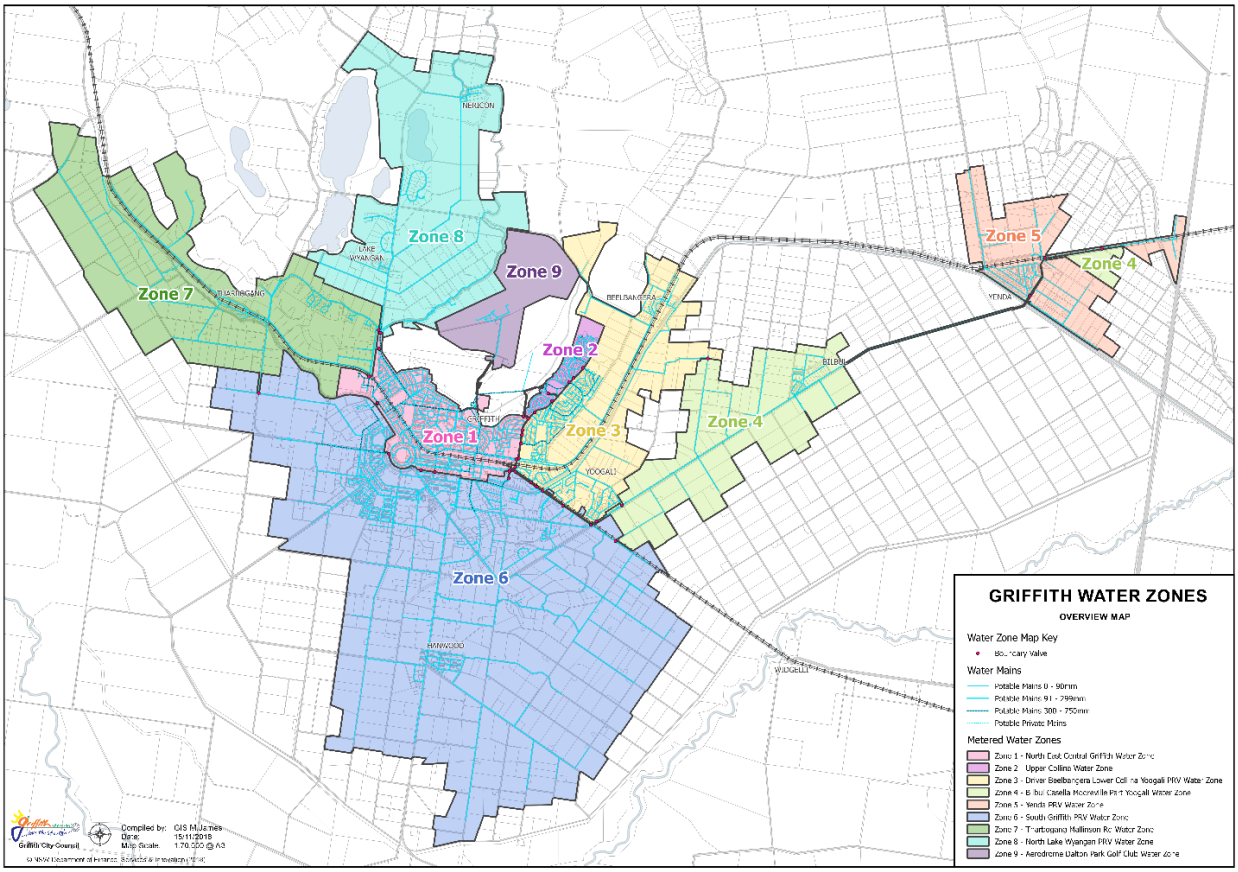
GCC supplies drinking water to residents through two water supply systems:

- Griffith water supply system
- Yenda water supply system

Griffith is a regional city, located within the Murrumbidgee catchment of the Murray-Darling Basin in the Riverina region of NSW. Yenda is a small town, located about 16 km east of Griffith. Griffith and Yenda are home to approx. 28,700 people, inextricably tied to GCC's water supply system through 10,530 connections.

Figure 1. Location of Griffith in the Murrumbidgee Catchment (Murray-Darling Basin) of NSW

Figure 2. GCC water supply system



Section 2: Project Description

2.1. Project outputs at a glance

Roll out of 11,966 modern smart water meters

Implementation of the online application for access to real-time water data

2.2. Project Scope

Upgrading Griffith's water metering system to a smart metering system will include the implementation of 11,966 modern smart meters and the online application and customer portal for real-time data access for both Council and consumers. Scope for the smart metering system falls within the areas of Griffith, Yenda and surrounding towns.

The project addresses the following issues:

- Water meters in the system are ageing beyond their useful life and requiring replacement.
- Council do not have access to real-time data and are unable to reliably and efficiently identify leaks, high water users, inaccuracies or unauthorised consumption, and manage their water losses effectively.
- Consumers lack the ability to accurately track their water usage.

The project requires a total investment of $5.23 million and will include the following works:

- Replacement of 100% of the smaller 20/25 mm water meters (11,194 meters) with new meters integrated with Automatic Meter Reading components.
- Retrofitting of 100% of the larger water meters (772 meters) with Automatic Meter Reading components.
- Implementation of the online application and customer portal for real-time data access, available to both Council and consumers.

2.3. Project Delivery

Planning for the upgrade to Griffith's water metering system has been conducted and utilised for the development of this project proposal. Funding is required for project management, implementation of the smart metering system and integration of the system into the current workings of Council and the wider community.

The project has the following high-level delivery schedule, broken down into three phases:

1. Ongoing project management, including the staggered procurement of materials, provisioning of receivers and project management support.

2. Implementation of the smart metering system, including the installation and commissioning of the smart water meters and receivers, with support from a software analyst and tester.
3. Integration of the smart metering system, including setup of the online customer portal and ERP integration, with support from a software trainer. This phase also includes engagement with the communities of Griffith, Yenda and surrounding towns to communicate to the public how the system works and the public benefits of the project.

For the delivery of the project, GCC have consulted contractors with the appropriate resources and skillsets required to deliver the works within the required timeframes. Works are expected to start in 2026 and be completed by the end of 2026. Implementation of the project can continue year-round with limited impact to Griffith's access to water.

The locations that the smart meters will be implemented in span the entirety of the Griffith and Yenda water supplies (see Figure 2 for a map of the system). All water meters in the system will be either replaced or retrofitted, which includes residences, industries, commercial properties and Council properties. Specialised contractors have analysed Council's record of existing water meters and determined based on their serial numbers which need to be replaced, and which require just the digital component to be added to the meter.

2.4. Project Budget - Funding

Council is proposing a budget of $5.23 million, reflecting the expected cost of the project. The development of the budget has been supported by a quote received from the smart meter supplier and installer. Any cost overruns will be covered by GCC.

Section 3: Socio-Economic Criteria

3.1. Preparing for the future

Griffith City Council (GCC) provides safe drinking water to Griffith, Yenda and surrounding towns, contributing to the health and well-being of the local community. The project will result in modernising 100% of Griffith's water metering system. This modern system will enable Council to accurately monitor their water network and make more informed decisions about water resource planning for the future. The population of, and number of visitors to Griffith, is expected to increase in the future. This will increase drinking water demands of households and local businesses, such as restaurants, cafes, stores and places to stay. Griffith is also a major wine-producing region, home to many water-intensive agricultural and food processing industries. This project will allow Council to better predict demand trends and prepare Griffith and Yenda's water supply systems to meet the needs of the growing communities. The system will also have the capacity to support broader smart city initiatives that can integrate the water supply system with other systems, such as energy, as the communities grow.

The smart metering system will also enhance GCC's disaster preparedness for the future. The system will enable Council to respond faster to damaging water leaks or other supply issues. The system will also allow for all leaks to be detected, not just those that can be seen from the surface, but also through data monitoring procedures Council will develop during the delivery of the project. Council will track the repair of leaks identified in a water activity report, which will then be provided in Council's LWU reporting on the water supply interruptions indicator. Of particular importance, Griffith is at risk of flooding and drought. The smart metering system will equip Council to remotely monitor their drinking water system if any parts of the system become inaccessible due to flooding. This opportunity for remote monitoring also has significant work, health and safety benefits, eliminating the need for manual water meter readings. The system will also be able to inform Council's decision-making strategies when faced with drought conditions to manage water conservation efforts and determine at what point water restrictions should be enforced. In a future with ever-changing climate conditions, preparedness and adaption is invaluable.

The project will help to improve water security for the future by significantly reducing water losses through the improved water use smart meters provide. The current total water losses in GCC's water supply systems are 726 ML/year but will be reduced to 312 ML/year with the implementation of smart meters, resulting in a total water savings of 414 ML/year. Half of the total water savings will be returned to the Commonwealth, while the other half will be retained by Council. The 207 ML retained by Council will help to improve the water security of the region. The communities in and around Griffith rely on water for drinking cooking, cleaning, gardening, personal hygiene and other household activities. Griffith is also a renowned wine-producing region and home to vital agricultural and food processing industries, all of which are dependent on a reliable and secure source of water.

Water returns to the environment will help to improve the health of the Murrumbidgee catchment and the greater Murray-Darling Basin, helping to protect plants, animals, food supplies and drinking water supplies. The health of the Murrumbidgee catchment is of particular importance as there are many, often competing, interests for water in the region. In the future, these interests for water may become more complex as communities in the region grow and water demands change and increase. The challenges surrounding the supply of clean drinking water to the greater Murray-Darling Basin, particularly under a dry future climate scenario, are prevalent. This project will help Council in their role in preparing the region to better share and manage future interests for water and increase the volume of the Murray-Darling Basin.

Through the improved water efficiencies that the smart metering system will deliver, this project will also result in significant energy savings. Reducing water extraction from the Murray-Darling Basin will mean that 207 ML of water will no longer need to be pumped, treated and transported across GCC's water distribution networks per year. As the Griffith Water Treatment Plant accounts for 52% of Council's electricity for water supply, treating less water will dramatically lower the region's energy consumption,

resulting in significantly fewer greenhouse gas emissions. This will contribute to the broader responsibility everyone has in mitigating the effects of climate change in preparing for the future.

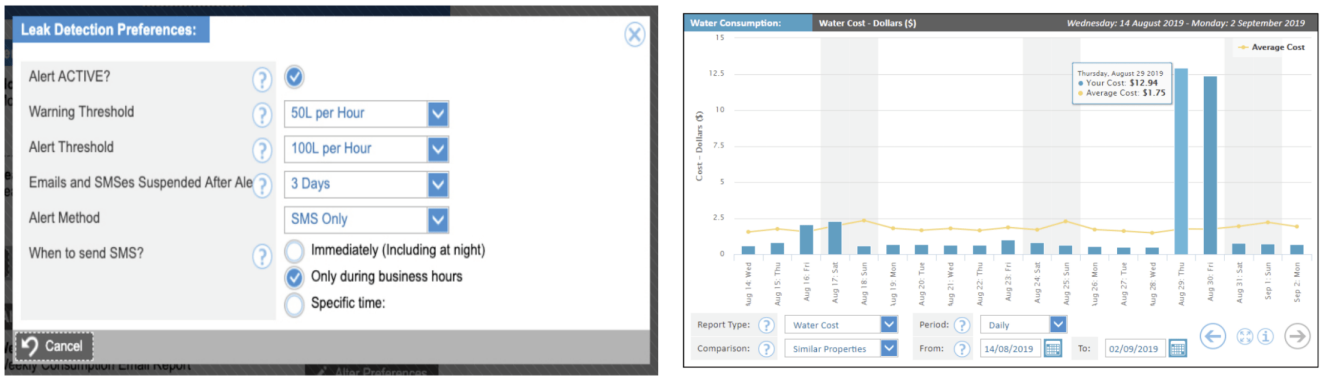
The modernised smart metering system will provide long-term benefits, which will be required to develop Council's climate resilience, protect the Murray-Darling Basin and ensure the safe and secure delivery of drinking water to the growing local communities.

3.2. Benefits to industry

Griffith is renowned for its agricultural and food processing industries. Griffith is a major wine-producing region in Australia and is home to many citrus and stone fruit farms, critical to Griffith's economy. GCC supplies drinking water to these wineries and citrus juice processing industries, as well as industrial precincts and several other commercial operations. Approximately 25% of Council's total volume of billed water is provided to commercial operations. These commercial operations can include water for drinking, but also water for food preparation, cafes, breweries and can be used as process water if required by larger industries such as wineries. Water is an integral part of Griffith's vibrant food culture. Hence, larger industries as well as local business, such as restaurants, cafes, stores and places to stay, will significantly benefit from this project.

The smart metering system will provide all industries and commercial properties that use drinking water with real-time insights into their water usage and alert them about any unusual water usage patterns to detect leaks or other equipment failures early. Once a leak is detected by the system, it will prompt the customer to repair the leak. While GCC has limited abilities to enforce customers to repair leaks on their properties, customers will be motivated to repair leaks as it can save them money. The online portal will illustrate to the customer how much the leak is costing them, therefore how much money they can save by repairing it. This illustration will also emphasise to the customer that valuable water is being lost through the leak. The significance of these water losses will be explained to customers as part of the community engagement involved in this project. Customers will need to consider that if left unrepaired, the leak may pose a safety risk and result in much more significant costs in damages. By having the ability to identify leaks in their own pipework early, bill-shock will also be avoided.

Figure 3. Customer online portal



Industries will also be able to easily access detailed reports about their water consumption via the online portal, allowing industries to make more informed business decisions and optimise their water usage. The smart metering system will also provide more accurate water readings, ensuring industries only pay for the water they genuinely use. Industries will have transparent access to their water usage data, empowering them to change their water consumption behaviours and benefit from lower and fairer billing.

The smart metering system will also highlight the corporate social responsibilities that industries hold. By optimising their drinking water usage, industries will be able to demonstrate responsible water consumption and their commitment to conserving local water resources. Water is a precious commodity in the area surrounding Griffith, such that the community expects industries to be responsible and use water efficiently. The smart metering system will enable industries to meet this expectation, as through the

online portal, the illustrations and reports provided will be able to highlight times and areas of high-water consumption for the industry.

The project will also involve the engagement of specialised contractors, including suppliers, installers, project managers and software analysts, testers and trainers. The onsite support required from these contractors will support local businesses through accommodation, restaurants, cafes, shopping and other activities.

3.3. Benefits to community

The communities in and around Griffith rely on water for drinking, cooking, cleaning, gardening, personal hygiene and other household activities. These water intensive activities are inextricably linked to the physical, mental and social wellbeing of members of the community. GCC strive to ensure the community will always have a safe and uninterrupted supply of water, and with the implementation of a smart metering system, the community's confidence in this will be bolstered.

The smart metering system will provide members of the community with real-time insights into their water usage and alert them about any unusual water usage patterns. These insights will empower households to manage their water use more effectively and detect leaks in their own pipework early. The online system provided to members of the community will be the same as the system provided to industry. Hence similarly, once a leak is detected by the system, it will prompt the customer to repair the leak by illustrating to them how much water is being lost through the leak, how much it is costing them and how much money they can save by repairing it (refer to Section 3.2 for an illustration). The significance of these water losses will be explained to customers as part of the community engagement involved in this project. Customers will be informed that if left unrepaired, the leak may pose a safety risk and result in much more significant costs in damages. By having the ability to identify leaks in their own pipework early, bill-shock will also be avoided.

The community will also benefit from the convenience of being able to easily access these valuable insights via the online portal anytime. Households will no longer require Council to enter their property to manually read their water meter. The smart metering system will also provide more accurate water readings, ensuring households only pay for the water they genuinely use. The community will have transparent access to their water usage data, empowering them to change their water consumption behaviours and benefit from lower and fairer billing. Encouraging responsible water consumption will also help to encourage the community to support other green initiatives and to work and live more sustainably.

3.4. Environmental benefits

The project will provide environmental benefits by significantly reducing water losses and returning water to the environment. The project will result in 414 ML retained in the Murray-Darling Basin, with 207 ML allocated to the environment and the other 207 ML allocated to Council but no longer needing to be drawn upon as a result of the improved water efficiencies that the smart metering system will deliver. Giving water back to the environment will help to improve the health of the Murrumbidgee catchment (Murray-Darling Basin) and protect plants, animals, food supplies and drinking water supplies. Over-extraction of water from the catchment is not sustainable.

Water and energy are inextricably linked in a way that the environmental benefits of the water savings will be compounded by the environmental benefits of energy savings. Reducing water extraction from the Murray-Darling Basin will mean that 207 ML of water will no longer need to be pumped, treated and transported across GCC's water distribution networks per year. Of the Griffith Water Treatment Plant (WTP), Griffith Water Reclamation Plant (WRP), Griffith Pump Stations (PS) and Yenda Water Reclamation Plant, the Griffith WTP accounted for 52% of Council's electricity bill in 2022. As the majority of Council's electricity for water supply is consumed by the WTP, treating less water will dramatically lower the region's energy consumption, resulting in significantly fewer greenhouse gas emissions.

3.5. Supporting the Murray-Darling Basin Plan and the Murrumbidgee Regional and NSW Water Strategies

The project supports the healthy working basin objectives of the Murray-Darling Basin Plan and aligns with the Murrumbidgee Water Resource Plan. This project supports the plan's triple bottom line of environment, productivity and socio-economic outcomes by creating a modern opportunity for the community to save and manage water more efficiently, resulting in significant water returns to the Murray-Darling Basin. Giving water back to the environment will help to improve the health of the Basin, protect plants, animals and food supplies, and drinking water supplies. The investment in water dependent regional communities also mitigates some of the impacts of reduced water availability resulting from the Basin Plan.

The project supports the Murrumbidgee Draft Regional Water Strategy and the vision for delivering healthy, reliable and resilient water resources for the Murrumbidgee region. This project aligns with priority 1 through its provision of evidence-based water usage data, allowing for the continual improvement of water resource management strategies to respond to current and future conditions, ever-evolving. This project also aligns with priority 2 through the significant water returns it results in, improving the Murrumbidgee catchment's health. Priority 3 is also aligned with this project through the improvement of public access to water usage data, essential to supporting the resilience of industries and communities in and around Griffith.

The project aligns with the NSW Water Strategy in supporting sustainable water resources for thriving people, places and ecosystems, both now and for future generations. This project aligns with priority 1 by improving community engagement, transparency and accountability surrounding the collective responsibility that Council and the community have in working together to reduce water losses and return water to the environment. This project also aligns with priority 2 in strengthening the role of the Wiradjuri people in water planning and management by improving their water awareness and accessibility to water insights, alongside all customers of GCC. Priority 3 is also aligned with this project through the project's state-wide focus on improving the health of the greater Murray-Darling Basin.

3.6. Cultural impacts and benefits

Griffith, Yenda and surrounding towns are located on the land of the Wiradjuri people. GCC acknowledges the Wiradjuri people as the traditional owners and custodians of the land and waters, and their deep knowledge embedded within the Aboriginal community. The smart metering system will utilise areas of existing infrastructure involving the replacement of existing water meters, resulting in a very low risk of impacting cultural artifacts.

The project will result in valuable water returns to the Murray-Darling Basin, improving the health of the Basin and surrounding places that are culturally important to First Nations. With a strong spiritual connection to the land and waters, the health of the Basin holds important cultural significance. The project will also strengthen First Nations peoples' right to use and manage water by improving their water awareness and accessibility to water insights, alongside all customers of GCC. This is paramount as the care for water is an integral part of their culture. In these ways, the project will provide tangible cultural benefits for the Wiradjuri people in Griffith.

Griffith is home to an array of communities of differing cultural backgrounds, with over 18% of the community born overseas. GCC strives to engender a socially inclusive environment, one where everyone benefits from this project and works together to conserve local water resources.

3.7. Community support and engagement

The project will involve the support and engagement of the community.

To date, Councillors have been engaged and provided their support for this project through a Griffith City Council Workshop, which involved a presentation of the smart meter project by the GCC Director Utilities to Griffith City Councillors. During this workshop, the feedback received from the vast majority of Councillors was highly supportive.

Councillors are elected representatives of the communities within and around Griffith. They are leaders, delegates and trustees for their communities and provide the input of community attitudes to Council. Hence, the support of the Councillors has been regarded as a form of public support for this project. Councillor support is also of particular importance as Councillor approval will be required to return the water entitlements.

Throughout the delivery of this project, communication streams will be maintained between Council, the Councillors and the public directly. Communication streams will include open dialogue on the project's progression, potential disruptions and any mitigation measures, with room for feedback from the community.

As particular examples, at the onset of this project, communication streams will be utilised to help community members understand the impacts of water losses, how they will benefit from the smart metering system, for example from lower water bills, and encourage the collective responsibility that Council and the community have in working together to return water to the environment. Acknowledgment of the cultural significance a healthy Basin has for First Nations people will be included. This communication will also help to ensure public support for the project. As the project is being implemented, the community will be notified when their water meter will be replaced, as their water supply will need to be turned off for a limited amount of time. Maintaining GCC's positive relationship with the community will be paramount to the successful implementation of the smart metering system.

If funding for this project is approved, a formal Council resolution will be required and will include an opportunity for public dialogue before Council agrees to a formal resolution to enter into a funding agreement with NSW DCCEEW.

3.8. Positive Economic Outcomes

3.8.1. Management of future lifecycle costs

The smart metering system will be operated and maintained by GCC. Operational costs will be lower than the current operational costs as the system will allow for remote monitoring, meaning manual meter readings will no longer be required. Manual water meter readings cost Council $240,000 per year, which will be directly saved on the completion of this project. This includes the manual transfer and collation of these manual meter readings, such that remote monitoring would save an estimated 10 weeks of labour per year in this regard. The system will allow for consumers to track their water usage anytime, such that the costs associated with correcting billing errors and settling billing disputes is also expected to be lower. These lower operating costs will allow for the redirecting of staff time to other tasks and for the saved funds to be used to benefit the community through lower rates or other community assets. Maintenance costs will remain the same as current costs as the mechanical part of the meter will remain unchanged. The ongoing IT costs required to support the smart meter network will be met by GCC. The lifespan of the smart meters has also been considered, and Council have budgeted for a suitable replacement age of 10-15 years.

The smart metering system will also provide long-term savings for GCC. The system will enable Council to accurately monitor their water network, enhance leak detection, identify high water users, detect inaccuracies or unauthorised consumption and provide consumers with the ability to manage their water use more effectively. Reducing these water losses will save valuable water and prevent the costly damages that undetected leaks or other supply issues can cause. The system will also allow for all leaks to be detected, not just those that can be seen from the surface, but also through data monitoring procedures Council will develop during the delivery of the project. Council will track the repair of leaks identified in a water activity report, which will then be provided in Council's LWU reporting on the water supply

interruptions indicator. The valuable water saved from these outcomes will also mean that this water will no longer need to be pumped, treated and transported across GCC's water distribution networks per year. The Griffith Water Treatment Plant accounted for 52% of Council's electricity for water supply in 2022, amounting to $618,036.90 for 2021/2022. Treating less water will dramatically lower the region's energy consumption, resulting in significantly reduced energy costs. The system will also enable Council to make more informed decisions in water resource planning and identify where funding needs to be prioritised. This project will assist Council in meeting future maintenance and asset management costs, ensuring the long-term financial sustainability of GCC.

The assets within the smart metering system will be incorporated into Council's current asset management plan to ensure that the costs required to operate, maintain and improve the assets can be met.

3.8.2. No impacts to the water market

The project will provide water savings by reducing water losses across Griffith and Yenda's water supply systems. The water losses can include leakage, high water usage, meter or data inaccuracies, or unauthorised consumption. The project will not reduce the amount of water available for consumptive use and the net water balance will be increased by the water savings. This ensures that there are no negative impacts to the current water market.

3.8.3. Supporting regional communities economically

The communities of Griffith, Yenda and surrounding towns will be economically supported through this project. The smart metering system will provide the opportunity for community members to lower their water bills by more effectively managing their water usage and identifying leaks in their own pipework early. This will avoid bill-shock and prevent the costly damages an undetected leak can cause. The smart metering system will also provide economic equity to the community, ensuring community members are not overcharged because of meter inaccuracies but billed fairly. This project highlights the needs of low-income households within the community and GCC's responsibility in protecting vulnerable groups.

The project will involve the engagement of specialised contractors, including suppliers, installers, project managers and software analysts, testers and trainers. The onsite support required from these contractors will provide economic stimulus to the local community through accommodation, restaurants, cafes, shopping and other activities.

3.8.4. No negative third-party impacts

The project will not result in any negative third-party impacts.

3.9. Water savings shared between the environment and water users

The project will result in a total water savings of 414 ML/year, reducing water losses by 57% (current total water losses are 726 ML/year but will be reduced to 312 ML/year with the implementation of smart meters). Half of the total water savings (207 ML) will be returned to the Commonwealth.

3.10. Overall value for money

The overall value for money expected on completion of the project is determined by the environmental, social and economic benefits of this project.

The project will result in a total water savings of 414 ML/year, with 207 ML returned to the environment. The water entitlement type to be returned to the environment will be Murrumbidgee high security water (category 3). This category of water gives GCC a higher priority to access water, which means during times

of water scarcity, GCC's water allocation is only minimally reduced to secure their access to water. Due to the high reliability of High Security water, this water return represents significant environmental value. This project will result in 207 ML returned to the environment, even under drought conditions. The water returns will provide significant value in helping to improve the health of the Murrumbidgee catchment and the greater Murray-Darling Basin, protecting plants, animals, and food supplies, and drinking water supplies

3.11. Water savings

Data from Griffith City Council's water allocations and usage summary was used to calculate the water savings. The averages of the water produced and billed consumption for a long-term period were used in the calculation methodology.

<table>
<tr><td rowspan="10">Water produced</td><td rowspan="4">Water consumed</td><td rowspan="2">Billed consumption</td><td>Billed metered consumption (including water exported)</td><td rowspan="2">Revenue water</td></tr>
<tr><td>Billed unmetered consumption</td></tr>
<tr><td rowspan="2">Unbilled consumption</td><td>Unbilled metered consumption</td><td rowspan="7">Non-revenue water</td></tr>
<tr><td>Unbilled unmetered consumption</td></tr>
<tr><td rowspan="6">Water losses</td><td rowspan="3">Apparent losses</td><td>Unauthorised consumption</td></tr>
<tr><td>Customer meter inaccuracies</td></tr>
<tr><td>Data inaccuracies</td></tr>
<tr><td rowspan="3">Real losses (or leakage)</td><td>Leakage on transmission and distribution mains</td></tr>
<tr><td>Leakage and overflows at storage reservoirs</td></tr>
<tr><td>Leakage on service connections up to the point of customer metering</td></tr>
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