



LATE ITEMS WATER COMMITTEE MEETING

AGENDA

1 OCTOBER 2014

Your attendance is required at a meeting of the Water Committee to be held in the Council Chambers, 232 Bolsover Street, Rockhampton on 1 October 2014 commencing at 12.30pm for transaction of the enclosed business.

A handwritten signature in black ink, appearing to be "C. R.", written in a cursive style.

CHIEF EXECUTIVE OFFICER
25 September 2014

Next Meeting Date: 05.11.14

Please note:

In accordance with the *Local Government Regulation 2012*, please be advised that all discussion held during the meeting is recorded for the purpose of verifying the minutes. This will include any discussion involving a Councillor, staff member or a member of the public.

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8 OFFICERS' REPORTS

8.1 REQUIREMENT TO CONNECT TO SEWERAGE INFRASTRUCTURE POLICY - POLICY REVISION

File No:	5254
Attachments:	1. Requirement to Connect to Sewerage Infrastructure Policy
Authorising Officer:	Evan Pardon - Chief Executive Officer
Author:	Robert Holmes - General Manager Regional Services

SUMMARY

A review of the Requirement to Connect to Sewerage Infrastructure Policy has been conducted following community approaches to Councillors as a result of the extension to the Mount Morgan Sewerage Scheme. The Council's endorsement of the reviewed policy is now sought.

OFFICER'S RECOMMENDATION

THAT the policy *Requirement to Connect to Sewerage Infrastructure Policy*, as presented, be adopted.

BACKGROUND

A policy was developed previously to provide parameters for identification of extension of sewerage scheme areas and for connection requirements, repayment of costs associated with the construction of new sewerage works and application of rates and charges within established populated areas of Rockhampton Regional Council. The policy does not cover new development/rezoning applications.

COMMENTARY

In conjunction with the extension of the Mount Morgan Sewerage Scheme, it was requested that the connection parameters and cost application be reviewed. The policy amendments have been made to assist in identifying when a public sewerage scheme is required and the application of costs, rates and charges on the relevant property owners in existing urban areas of the Rockhampton Regional Council region.

ISSUES

Public Health and Environment Issue

Public health and environmental issues are technical matters and it is a requirement that Council be satisfied that the thresholds for such considerations have been met before:

- Requiring a public sewer system to be installed; and
- Setting mandatory timeframes for individual properties to be connected.

Timing

Under s168 of the Water Supply (Safety and Reliability) Act 2008, the Council as the water service provider may, by notice require a property owner to connect to the relevant infrastructure within a sewerage scheme area with a minimum notice of 20 days following declaration of the water supply or sewerage scheme service area. It is envisaged that the 20 day minimum may not be practical as property owners need to engage tradespersons to undertake the required works. Under this policy connections are required within 12 months from the date of ability to connect to the water and/or sewerage network.

Cost Attribution

The following cost attribution methods will be considered under this policy:

- The majority of a directly affected community request connection to a public sewerage system – **full charge for local infrastructure and relevant infrastructure charges.**
- The property owner's disposal system is not appropriate (fully or partially) and there is no real public benefit (health or environmental) in having that property connected to the sewer - **full charge for local infrastructure and relevant infrastructure charges.**
- The property owner's disposal system is not working properly (fully or partially) and there is a real public benefit (health or environmental) in having that property connected to the sewer - **full charge for local infrastructure and relevant infrastructure charges discounted to recognise the potential remaining life of the existing on-site sewerage disposal system.**
- The property owner's disposal system is working but there is a greater public benefit (health or environmental) in having that property connected to the sewer - **full charge for local infrastructure and relevant infrastructure charges discounted to recognise the potential remaining life of the existing on-site sewerage disposal system.**

Two basic approaches are applicable in relation to payment options, and those are:

- No Council assistance; or
- Council assistance (including hardship recognition).

In the first option the property owner pays the charge at the time of connection. In the second option, Council may choose to apply a special sewerage charge to the benefited area to recoup the costs over a number of years (variable depending on the cost of the scheme and as Council directs; i.e. the payment period may be longer for hardship cases; e.g. pensioners). Payment periods will be decided by Council for each individual area.

Rates

The appropriate sewerage charge is applied upon the connection of the property to the sewerage system, or upon the expiry of the 12 month connection period, whichever is earlier. Charges will be in accordance with Council's current Revenue Statement.

Plumbing Works

All plumbing fixtures on the premises, including water closet (toilet), bathroom, laundry and kitchen, are required to be connected to the sewer. This does not include swimming pool water or backwash, which may only be discharged to Council's sewer with the express consent of Council.

Septic Tank Works

Any existing septic tank must be pumped out by a licensed tanker/operator. The septic tank must be broken up at the top to finish at least 250 millimetres below ground level. A free draining hole is to be provided at the base of the tank, and then the whole septic chamber is to be filled in with sand/soil.

Extensions of Time for Connection or Payment

Any application for an extension of the 12 month period for connection or the application of the applicable rates and charges must be submitted in writing to Council. The General Manager Regional Services will assess each application and notify the property owner of the outcome. Should the General Manager Regional Services determine that the application should be refused it will be referred to Council through the Water Committee prior to a final determination.

LEGISLATIVE CONTEXT

The provisions of the *Water Supply (Safety and Reliability) Act 2008* apply to this policy as does the Rockhampton Regional Council Revenue Statement adopted from time to time.

CONCLUSION

It is considered that the policy addresses the issues identified previously and the Committee's endorsement is sought.

**REQUIREMENT TO CONNECT TO
SEWERAGE INFRASTRUCTURE
POLICY - POLICY REVISION**

**Requirement to Connect to Sewerage
Infrastructure Policy**

Meeting Date: 1 October 2014

Attachment No: 1



**REQUIREMENT TO CONNECT TO SEWERAGE
INFRASTRUCTURE POLICY
COMMUNITY POLICY**

1 Scope:

This policy provides parameters for identification of extension of sewerage scheme areas and for connection requirements, repayment of costs associated with the construction of new sewerage works and application of rates and charges within established populated areas of Rockhampton Regional Council. This policy does not cover new development/rezoning applications.

2 Purpose:

To assist in identifying when a public sewerage scheme is required and the application of costs, rates and charges on the relevant property owners in existing urban areas of the Rockhampton Regional Council region.

3 Related Documents:

Primary
Nil

Secondary
Water Supply (Safety and Reliability) Act 2008
Rockhampton Regional Council Revenue Statement

4 Definitions:

To assist in interpretation, the following definitions apply:

Council	Rockhampton Regional Council
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5 Policy Statement:

5.1 Public Health and Environment Issue

Where either the public health or environmental non-viability of individual septic or on-site treatment systems (now or as the population density/numbers increase in an area) becomes a problem for the community, a public sewerage system becomes essential. Where new development/rezoning is undertaken, the decision is in accordance with existing planning and environmental laws and policy. However, even in such situations there are issues around timing and need but these are manageable with short, medium and long term arrangements agreed before a development is approved and are not covered by this policy.

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Public health and environmental issues are technical matters and it is a requirement that Council be satisfied that the threshold for such considerations have been met before:

- requiring a public sewer system to be installed; and
- setting mandatory timeframes for individual properties to be connected.

5.2 Timing

Under s168 of the *Water Supply (Safety and Reliability) Act 2008*, the Council as the water service provider may, by notice require a property owner to connect to the relevant infrastructure within a sewerage scheme area with a minimum notice of 20 days following declaration of the water supply or sewerage scheme service area. It is envisaged that the 20 day minimum may not be practical as property owners need to engage tradespersons to undertake the required works. Under this policy connections are required within 12 months from the date of ability to connect to the water and/or sewerage network.

5.3 Cost Attribution

The following cost attribution methods will be considered under this policy:

5.3.1 The majority of a directly affected community request connection to a public sewerage system – **full charge for local infrastructure and relevant infrastructure charges.**

5.3.2 The property owner's disposal system is not appropriate (fully or partially) and there is no real public benefit (health or environmental) in having that property connected to the sewer - **full charge for local infrastructure and relevant infrastructure charges.**

5.3.3 The property owner's disposal system is not working properly (fully or partially) and there is a real public benefit (health or environmental) in having that property connected to the sewer - **full charge for local infrastructure and relevant infrastructure charges discounted to recognise the potential remaining life of the existing on-site sewerage disposal system.**

5.3.4 The property owner's disposal system is working but there is a greater public benefit (health or environmental) in having that property connected to the sewer - **full charge for local infrastructure and relevant infrastructure charges discounted to recognise the potential remaining life of the existing on-site sewerage disposal system.**

It is important to note that the effect of any discount given to property owners will be required to be collected across the rest of the properties serviced by the total sewerage scheme.

5.4 Payment Methods

Two basic approaches are applicable in relation to payment options, and those are:

5.4.1 No Council assistance; or

5.4.2 Council assistance (including hardship recognition).

In the first option the property owner pays the charge at the time of connection. In the second option, Council may choose to apply a special sewerage charge to the benefited area to recoup the costs over a number of years (variable depending on the cost of the scheme and as Council directs; i.e. the payment period may be longer for hardship cases; e.g. pensioners). Payment periods will be decided by Council for each individual area.

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5.5 Rates

The appropriate sewerage charge is applied upon the connection of the property to the sewerage system, or upon the expiry of the 12 month connection period, whichever is earlier. Charges will be in accordance with Council's current Revenue Statement.

5.6 Plumbing Works

All plumbing fixtures on the premises, including water closet (toilet), bathroom, laundry and kitchen, are required to be connected to the sewer. This does not include swimming pool water or backwash, which may only be discharged to Council's sewer with the express consent of Council.

5.7 Septic Tank Works

Any existing septic tank must be pumped out by a licensed tanker/operator. The septic tank must be broken up at the top to finish at least 250 millimetres below ground level. A free draining hole is to be provided at the base of the tank, and then the whole septic chamber is to be filled in with sand/soil.

5.8 Extensions of Time for Connection or Payment

Any application for an extension of the 12 month period for connection or the application of the applicable rates and charges must be submitted in writing to Council. The General Manager Regional Services will assess each application and notify the property owner of the outcome. Should the General Manager Regional Services determines that the application should be refused it will be referred to Council through the Water Committee prior to a final determination.

6 Review Timelines:

This policy will be reviewed when any of the following occur:

- 6.1** The related information is amended or replaced; or
- 6.2** Other circumstances as determined from time to time by the Council.

7 Responsibilities:

Sponsor	Chief Executive Officer
Business Owner	General Manager Regional Services
Policy Owner	Manager Fitzroy River Water
Policy Quality Control	Corporate Improvement and Strategy

EVAN PARDON
CHIEF EXECUTIVE OFFICER

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8.2 MOUNT MORGAN WATER SUPPLY

File No:	2830
Attachments:	Nil
Authorising Officer:	Evan Pardon - Chief Executive Officer
Author:	Robert Holmes - General Manager Regional Services

SUMMARY

Mount Morgan's overall water supply cannot be considered reliable in the longer term, and investigations were undertaken in 2008 and up to 2010 to ensure a reliable potable water supply is available at the best value. The Council's endorsement is sought to prioritise this project should funding opportunities become available.

OFFICER'S RECOMMENDATION

THAT the Mount Morgan Water Pipeline be identified as a priority project should funding opportunities become available.

BACKGROUND

The Mount Morgan water supply is not sufficiently reliable to ensure supply without alternative supplies to service the town during periods of prolonged low rainfall even with severe usage restrictions. Any alternative supply needs to be mindful of the financial impacts of any such solution. Usage in the town is already very conservative by regional standards.

Previous investigations have been undertaken to assess options for alternative supplies and a range of options have been identified. Longer term the preferred option would be for a pipeline from Gracemere to Mount Morgan and the Council's endorsement of that as a priority project is sought.

COMMENTARY

The current water supply for Mount Morgan is drawn from two major locations near the Mount Morgan Township with water source infrastructure consisting of:

1. Mount Morgan No 7 Dam which was originally constructed by the Mount Morgan Gold Mine Company in 1900 and later raised by 4.5 metres to its current form in 1999. The dam has a storage capacity of 2,800 megalitres. This is the main water supply for Mount Morgan.
2. Fletcher Creek Weir was originally built in 1966 and later upgraded to a three row steel sheet piling weir in 1984. It has a storage capacity of 340 megalitres above ground which augments an additional 300 megalitres groundwater supply available in the Creek.

The population of Mount Morgan is approximately 3000 and currently the average water usage for this population is 1ML/day or 360 ML/year. An assumed 2% population growth over the next 20 years would see a future population of 4200 and a water demand of 1.82 ML/day or 664 ML/year.

Based on the population forecast and the projected water demand per capita of total water demand, the following water demand projections were developed based on 2010 actuals.

YEAR	2010 (Actual)	2016	2020	2030	2046	2056
Population Projection	3000	3500	3678	4200	5116	5667
Projected Total Water Demand per Capita (L/c/d)	310	430	435	433	430	430

Water Demand Forecast (ML/yr)	340	550	584	664	803	889
Av. Daily Water Demand (ML/d)	0.93	1.51	1.6	1.82	2.2	2.44

Applying a daily demand of 1.0ML/day and 1.6ML/day to the existing dam performance models and assuming there is zero inflow into the storages, the existing water supplies (Dam full) will last 3.0 years and 2.5 years respectively.

When the water supplies at Mount Morgan reach this stage, there is no back up supply and, in the past, water has had to be transported to Mount Morgan in tankers, which is an expensive exercise.

Based on historical data, the 99.9% reliable supply from the No 7 Dam is 1.6ML/day.

The above reliability is based on historical data and with future climate change or variability there is no guarantee that this reliability will be maintained. An alternative supplementary supply needs to be sourced for potential periods of prolonged low rainfall.

Once the demand reaches 1.6ML/day (584ML/year) from No 7 Dam, the licensed allocation of water from this Dam is fully committed and an alternative source of water will need to be used. Although Fletcher Creek Weir has been granted an allocation of 700ML/annum, it is doubtful that this quantity can be obtained annually.

The water reliability situation at Mount Morgan has been investigated to determine what alternative supplies or back up supplies could be made available and at what cost.

POSSIBLE ALTERNATIVE WATER SUPPLIES

Four possible options to improve the water reliability situation in Mount Morgan were investigated in the past and they were:

1. New dam site upstream of Fletcher Creek Weir (Nine Mile Creek.);
2. Pipeline from Gracemere to Mount Morgan;
3. Reverse osmosis treatment of mine water at Mount Morgan (*discontinued due to DERM objective of removing water from mine by early to mid 20s*); and
4. Excavate to enlarge the existing Fletcher Creek Weir storage volume.

New Dam Site on Nine Mile Creek

An excellent dam site was found at AMTD 2.5 km on Nine Mile Creek which is immediately upstream of and within the catchment of Fletcher Creek Weir.

An appraisal study of this proposed storage site was undertaken and it was determined that the yield would be between 140 ML/annum to 372 ML/annum for storage sizes between 2,000 ML to 4,000 ML. A conventional concrete dam with an earth fill saddle dam was considered the most appropriate dam arrangement for the site (similar to No 7 Dam).

It was anticipated that the project cost for a dam at this site for the storage sizes considered would be between \$40 million and \$50 million.

Additional works would include a pump station at the dam and pipeline to connect into the existing Fletcher Creek pipeline to deliver the raw water to the treatment plant in town. The existing pipeline has some maintenance issues and its condition would need to be further investigated to determine its potential life.

Excavate the Existing Fletcher Creek Weir Storage

Excavation of the bed of Fletcher Creek storage has been proposed as an opportunity to increase the volume of water that can be collected and stored.

An estimated 22,000 m² of storage area could be excavated. Assuming the excavation was 5 metres deep this would increase the storage volume by 110 ML at an estimated cost of \$2million. There will also be environmental issues with this project.

This extra storage volume will be dependent upon rainfall to fill and it will also suffer levels of evaporation losses. This option does not appear to be as reliable as other options even though it has a far lower implementation cost.

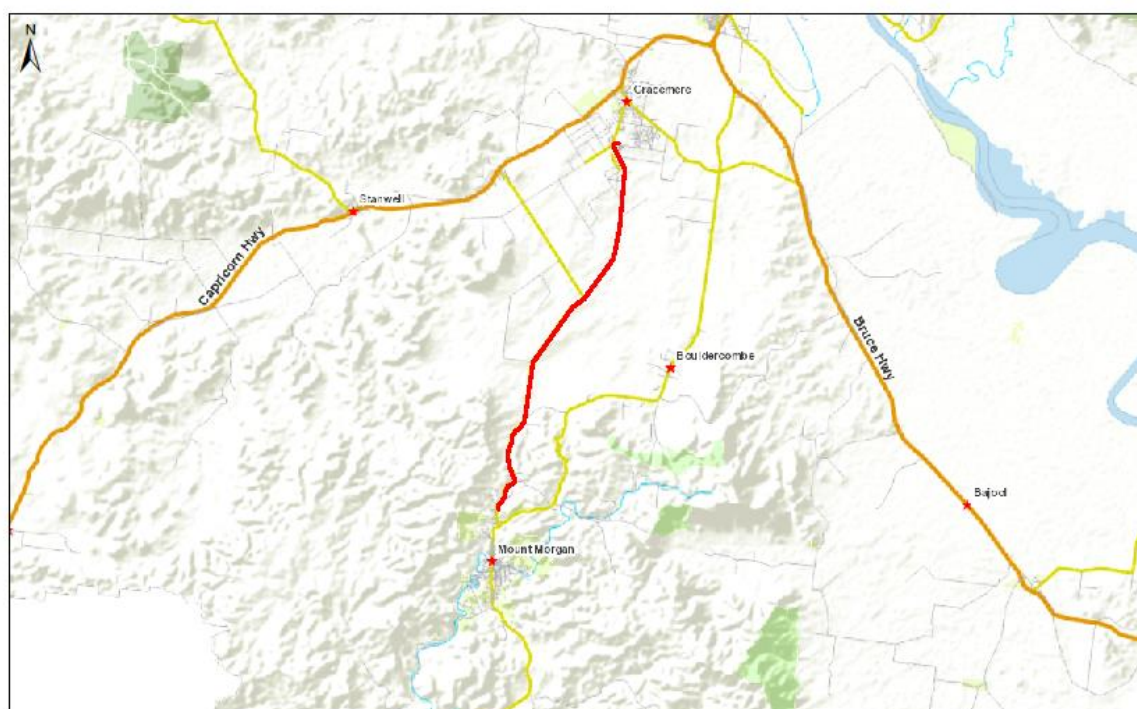
Pipeline from Gracemere to Mount Morgan

A pipeline from Gracemere would transport potable water, treated in Rockhampton, to Mount Morgan to be distributed through the town water supply reticulation system.

This project consists of 25.8 km of pressure pipeline, 2 pump stations re-lifting the water 250 metres to a proposed reservoir at the top of the range in the Baree area.

As there are existing water supplies in Mount Morgan, the recommended pipeline option provides a supplementary supply in times of need. This option provides a substantial and guaranteed proportion of Mount Morgan water demand and provides flexibility in response to uncertainties in future demand and could minimise pumping costs.

The cost of the recommended pipeline option is approximately \$15million.



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Gracemere - Mt Morgan Proposed Water Line

13/10/2010

1:192,933

@A4

0 1.5 3 6 Km



Reverse Osmosis Treatment of Mine Water

This proposal offered a reverse osmosis process to deliver a robust and cost effective solution to treat limed pit water to provide drinking water for Mount Morgan. This system would also be a supplementary system to back up the existing No 7 Dam water supplies during periods of diminished supply.

The capacity of the Mount Morgan mine pit is 12,000 ML at maximum water level and has average inflows of approximately 1,600 ML/year. The State Government is currently treating this water and returning it to the river system to reduce the volume stored and the associated risk of the pit overflowing into the environment. The State Government has an objective to address the mine water issue by the mid 2020s so this option has not been progressed any further.

FUTURE STRATEGIES FOR ADDITIONAL SUPPLIES

Based on the above investigations there are 3 options for future strategies for securing the water supply to Mount Morgan.

Option 1

Retain No 7 Dam and construct new dam on Nine Mile Creek.

Council will need to obtain Government approvals and finalise final designs prior to construction. This proposal is extremely costly for the yield produced and is not recommended.

Option 2

There is no guarantee this proposal increases reliability as it could be expected that, if there had been no rainfall to produce runoff into No 7 Dam, the neighbouring catchment which supports Fletchers Creek Weir would also have received no rainfall.

The existing pipeline from Fletcher Creek Pump Station to Mount Morgan Township has some maintenance issues. The pipeline is a 250mm dia steel concrete lined pipe with the initial 1.4km installed in copper rich terrain. This has resulted in the pipe being weakened and pipe failures are not uncommon when operating under pressure. This section of the pipe requires replacement should supplies from Fletcher Creek Weir need to be utilised on a regular basis. The estimated cost to replace this section of pipeline is \$630,000 (\$450/m). The remainder of the 15km high pressure pipeline would also have to be investigated to determine its probable remaining life.

This strategy involves minimum cost; however, does not increase the reliability of the water supply to the township and water may still not be available even with the refurbished pipe and therefore this option is not recommended.

Option 3

Retain No 7 Dam and construct pipeline from Lucas Street Reservoir at Gracemere to new reservoir near Baree at Mount Morgan.

Existing water allocation from the Fitzroy River would be utilised and no new yield would be produced.

This project will require acquisition of land, environmental assessments, final designs, material orders and construction contracts to be undertaken and a 3 to 4 year period would be anticipated.

The construction of a 300mm dia pipe and 3 pump stations as proposed for a supplementary supply of 1.0.6 ML/day.

This proposal does provide a reliable long term solution to the water supply situation in Mount Morgan and also a safeguard against infrastructure failure.

With No7 Dam now at capacity there is 2.5 to 3 years supply without recharge runoff. Should we get runoff rainfall in the meantime then the supply life would be extended out even further.

Should the water demand for the town develop and exceed the available 1.6ML/day, the pipeline would provide a practical and sustainable option.

With this reliable source of water available, Fletcher Creek Weir will no longer be required and can be abandoned or sold off to adjacent landowners, subject to DERM approval with the allocation. This will result in considerable cost savings from the operation and maintenances of the weir, pump station and pipeline.

It is the recommended option for further investigation and development.

CONCLUSION

The No 7 Dam is capable, along with supplementary supplies from Fletcher Creek Weir, to supply the Mount Morgan Township with a water supply for most years. However, there is the chance that there could be water shortages in periods of prolonged low rainfall. To secure water supplies for these periods of prolonged low rainfall, the reliability of the water supply needs to be improved by obtaining new alternative supplies and the Gracemere to Mount Morgan Pipeline provides that reliability.