



Low Pressure Sewer System Servicing Town of Seventeen Seventy

**Prepared by Engineering Services
July 2017**



TABLE OF CONTENTS

1.	Introduction	3
2.	What is a Low Pressure Sewerage System	3
3.	History of the 1770 Low Pressure Sewerage System.....	3
4.	Council Consultation regarding the Installation of Pumping Units on Private Property.....	4
5.	Current Status of the Low Pressure Sewerage System.....	5
6.	Identifying Owner Responsibilities when Purchasing Properties.....	5



1. Introduction

The purpose of this report is to provide a historical summary of development of the Town of Seventeen Seventy (1770) Low Pressure Sewerage System, responsibilities of Council and landowners in installing, operating and maintaining the system. In addition provide details on how landowner responsibilities can be identified during the purchase of properties.

2. What is a Low Pressure Sewerage System

Where possible sewerage systems are operated under gravity, whereby sewage from a house flows downhill towards a sewer main, which in turn runs downhill towards a low point, which can either be a treatment plant or a pump station, which will pump the sewage to a treatment plant.

In some areas, particularly developed areas which are looking to install a sewerage system, a gravity sewerage system is not viable, as the depth with which the sewers need to be installed are too deep in order for the sewage to flow by gravity from the house to the Council owned main. In these cases alternate sewerage systems are required including low pressure sewerage systems.

A low pressure sewerage system typically comprises of:

- A small pumping unit consisting of a storage well and grinder or macerating pump located within the property boundary. These pumping units have an alarm system which will notify the residents of any pump failures. The pumps themselves are connected to the homeowner's switchboard.
- Connection of the individual pumping units to the Council's sewerage main via a specifically designed boundary kit.
- A specifically design reticulation system (Council owned mains) to transport the sewage to the system discharge point.

In the case of 1770, the Council owned mains deliver sewage from 1770 to the Agnes Water gravity system, where it is pumped across to the treatment plant.

3. History of the 1770 Low Pressure Sewerage System

In 2005, the then Miriam Vale Shire Council (MVSC) commissioned GHD Pty Ltd to investigate and recommend options to provide the residents of 1770 with a reticulated sewerage system. GHD Report titled 'Report for 1770 Sewerage Scheme, Pressure Sewerage System, December 2005' provided as Attachment 1.

Options investigated included:

- Conventional gravity sewer;
- Common Effluent Drainage System (CED);
- Vacuum sewerage system; and
- Low pressure sewerage system.

GHD advised that CED and vacuum sewerage systems did not meet community and Council identified concerns, and as such were not considered in subsequent financial comparisons. The Net Present Value (NPV), including capital and operational costs, of a low-pressure sewerage system was determined to be approximately \$1,200,000 less than a conventional gravity sewerage system. The community also held concerns over the impact that a conventional gravity system would have on their properties.



MVSC subsequently resolved to proceed with a low-pressure sewerage system.

United Utilities Australia Pty Ltd was engaged by MVSC to construct the sewage conveyance mains in the street and provide a connection to service each allotment. The installation of each low pressure station and connection to the house drainage system was excluded from the contract. These works were to be completed by Council.

Following amalgamation, the then Director Infrastructure Services presented a report to Council on 16 September 2008 relating to the Agnes Water Integrated Water Strategy. The strategy was initially developed by the then Miriam Vale Shire Council. The strategy:

- defined the Water and Sewerage area of Seventy Seventeen; and
- noted that the new sewerage scheme would be a "No Option" system with each property within the defined area required to connect to the system.

The report also discussed the issues of ownership and maintenance of the system. The former Miriam Vale Shire Council had given a commitment to residents that there would be no cost to owners for the installation of the low pressure sewer systems.

The officers recommended that Gladstone Regional Council meet the upfront installation costs and ownership of the onsite units would then be transferred to property owner. The property owner would be responsible for electricity costs associated with running each on-site unit, along with on-going maintenance and replacement.

In response to a query about responding to breakdowns out of hours, the then Director of Infrastructure Services advised that Council would offer a service to respond to callouts associated with the on-site units.

It was also noted that as licenced contractors, the electricians connecting the on-site units would not be able to connect units to switchboards which did not comply with current standards. Council would therefore need to offer loans to assist the property owners to complete the necessary switchboard upgrades.

Council resolved on 16 September 2008 (vie 08/542):

"That Council:

- 1. Define the whole Town of Seventeen Seventy as a declared water and sewerage area; and*
- 2. Council authorise the Chief Executive Officer to draft and execute appropriate agreements with owners for the installation of the low-pressure sewerage pump units on private property after which they become the owner of the unit and responsible for its replacement;*
- 3. Council offer property owners who are required to upgrade the electrical wiring of their premises the option of a loan at the current interest rate, repayable over 5 years to undertake this work."*

Construction of the low pressure sewer system commenced in August 2010, with installation of the on-site pumping units commencing in June 2012.

4. Council Consultation regarding the Installation of Pumping Units on Private Property

In August 2010, 1770 residents were advised that works had commenced to install the low pressure reticulation system (Council owned part). Residents were advised that the works would take approximately



four months to complete. On completion of the reticulation works, Council crews would commence the process of connecting individual property to the sewerage system.

In July 2010 a Fact Sheet was produced titled 'Agnes Water/Seventeen Seventy Integrated Water Project – Seventeen Seventy Water and Sewerage Reticulation' – Refer Attachment 2.

Consultation occurred with a number of property owners between June 2012 and October 2012 arranging for the connection of individual properties. At that time they were advised that the pump units would be installed at Council's cost and that the property owner would be responsible for ongoing maintenance and operational costs.

In November 2012, a letter was issued to all property owners advising:

- That discharge into the sewerage system was required under the Plumbing and Drainage Act 2002 as 1770 had been declared a Sewered Area.
- Entry would be required to their property to install the pressure system (if a developed block) or provide a connection point (if a vacant block).
- Cost to install the pumping units would be met by Council, but fees would apply to any associated works (ie replace defective pipework or tanks).
- Property owners would be responsible for the ongoing ownership, operation and maintenance of the pump system.

An information sheet was also provided to each property. The information sheet:

- referred to requiring property owners agreement and commitment to meet operation and upkeep costs associated with the pumping units;
- Provided information on warranty details; and
- Covered how callouts are managed.

5. Current Status of the Low Pressure Sewerage System

To date, individual pumping units have been installed on 58 properties. Water Services is currently in the process of purchasing and installing an additional 19 units. Once installed the current 77 developed properties will be connected to the sewerage network.

The remaining 22 vacant lots will be connected (at the property owners cost) when developed.

Landowners in 1770 are charged under the same rating structure as Agnes Water. It is recognised that the residents are responsible for the electricity costs associated with operating the pumping units as well as maintenance and replacement costs for the pumps. However the cost per connection to provide a gravity sewer system, which would avoid the need for a pump out system, would be approximately an additional \$910 per year in water and sewer charges. This estimate has been based on the additional capital costs identified with the GHD report for a gravity sewer network, depreciation costs and borrowing costs.

6. Identifying Owner Responsibilities when Purchasing Properties

A note can be placed on each property file, which will be discovered during standard conveyancing activities undertaken by a purchaser. This will ensure that future buyers of properties will be made aware of the presence of a low pressure pumping unit on the property during the conveyancing process.

The information sheet will be updated and made available on Council's website.



7. Attachments

1. GHD Report - Report for 1770 Sewerage Scheme, Pressure Sewerage System, December 2005
2. Fact Sheet - Agnes Water/Seventeen Seventy Integrated Water Project – Seventeen Seventy Water and Sewerage Reticulation