



**Low Pressure Sewer Systems**

Business Unit: Water & Sewer  
Responsible Position: Manager of Water and Sewerage  
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## 1 DOCUMENT VERSION HISTORY AND CONTROL

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1.0	23/11/2011	Policy adopted	10.02/11
2.0	06/09/2013	Policy readoption following election.	08.026/13
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## 2 PURPOSE

Council has developed this policy statement to provide a clear guide as to where and how pressure sewerage can be used in the Bellinghen Shire.

## 3 SCOPE

Bellinghen Shire Council has a clear preference for its sewers to be conventional gravity systems but it also recognises that this is not always possible and therefore will permit the limited use of Pressure Sewerage Systems within the Shire, where conventional sewerage schemes are not environmentally or physically feasible.

## 4 DEFINITIONS

**Boundary Kit:** Valve at the property boundary incorporating isolation valve, non-return valve and inspection tee piece.

**Council:** Bellingen Shire Council

**Control Panel:** The box incorporating the electrical controls and high level alarms and switches for pumps.

**Equivalent Tenement (ET):** An equivalent Tenement (ET) is the basic unit of measure used to quantify the demand or loading on water supply or sewerage services respectively. As previously stated, one ET represents the equivalent demand or loading from a standard residential household.

**Pump Unit:** Comprises of grinder pump, storage vessel control panel pressure switches and ancillary equipment.

**Emergency Storage:** That capacity in the storage vessel above the high level alarm point.

**Lateral Spur:** Line from the reticulation main to the property kit.

**Property delivery line:** Pipeline connecting the property boundary kit to pump unit.

**Standard connection:** Single dwelling equivalent to 1 ET.

## 5 POLICY STATEMENT

The purpose of this policy is to define where and when low pressure sewer systems will be allowed within the Council boundary, whose responsibility the installation and maintenance is and what systems will be permissible.

## 6 ROLES AND RESPONSIBILITIES

The Manager of Water and Sewerage will be responsible for approving all new pressure sewer installations.

The Manager of Water and Sewerage will be responsible for investigating if a land owner/tenant has inadvertently through introducing banned substances as set out in the home owner's manual or wilfully damaged a pressure system and for determining whether the land owner/tenant will be billed for the repairs to the unit and the relevant cost.

## 7 RELATED PROCEDURES

- Development Application Process
- Change of Ownership Process

## 8 LEGAL PARAMETERS

- NSW Local Government Act 1993, Chapter 7
  - esp. Sections 68, 68A, 124, 164, 165, 166, 167

- NSW Local Government Act 1993, Sections 191A and 635
- NSW Local Government (General) Regulations, Part 2
- NSW Environmental Planning and Assessment Act 1979, Section 149
- Conveyancing Act 1919, Section 88B

## **9 ASSOCIATED DOCUMENTS**

- WSA – 007 Wastewater Services Association Pressure Sewerage Code
- Home owners pressure sewer manual
- Service Agreement between Council and the Property Owner/s
- Water and Sewer Development Servicing Plan
- Accredited Sewer Package Pump Station Installers

## 10 POLICY DETAIL

### 10.1 Table of Contents

10.1	Table of Contents .....	4
10.2	Pressure Sewer Systems .....	5
10.2.1	What is a Pressure Sewerage System.....	5
10.2.2	Where can Pressure Sewerage Systems be Used .....	5
10.2.3	Limited Pressure Sewerage Pump Technologies .....	5
10.2.4	Supporting Documentation.....	5
10.3	General Responsibilities .....	6
10.3.1	Ownership of the Residential Pumping Units .....	6
10.3.2	Maintenance of the Residential Pumping Unit .....	6
10.3.3	Power for the Pumping Unit .....	7
10.3.4	Discovering the Property has a Pressure Sewerage System.....	7
10.4	Installing Pressure Sewerage – General .....	7
10.4.1	Design Services .....	7
10.4.2	Number of Pump Units per Property/Non Standard Connection.....	7
10.5	Installation on the Property .....	8
10.6	Installation of the Reticulation Mains .....	8
10.7	Application of the Technology.....	9
10.7.1	Existing On-Site Systems and Private “Pump Ups” .....	9
10.7.2	New Subdivisions – Multiple lots.....	9
10.7.3	New Subdivisions – Single lot .....	10
10.8	Operation and Maintenance of the Pressure Sewerage System .....	10
10.8.1	Levels of Service.....	10
10.8.2	Council Responsibilities .....	10
10.8.3	Resident Responsibilities .....	10
10.8.4	Property Owner Responsibilities .....	10
10.8.5	Access for Council Maintenance Officers.....	11
10.8.6	Identification of Maintenance Employees and Contractors .....	11
10.9	Modifications or Household Additions.....	11
10.10	Change of Ownership.....	11
10.11	Administration.....	12
10.11.1	Operation Records.....	12
10.11.2	Property Diagrams .....	12
10.11.3	Spares.....	12

## 10.2 Pressure Sewer Systems

### 10.2.1 WHAT IS A PRESSURE SEWERAGE SYSTEM

A pressure sewer system is broadly defined as a system where macerated sewerage is conveyed under pressure generated by a pump unit located on each property to another sewer system or treatment plant.

A pressure sewerage system as covered in this Policy is defined as comprising of:

- a) A pumping unit containing a grinder pump, specifically designed for pressure sewerage applications, installed on each property to drain that individual property. These pumping units will only be those that have been approved by NSW Government regulatory bodies for that purpose;
- b) Connections of these pumping units to Council's pressure sewerage reticulation system, via a specially designed Boundary Kit;
- c) A reticulation system specifically designed for pressure sewerage applications, and capable of supporting a number of such individual pumping units to transport the sewerage to the system discharge point. An alarm system built within the overall pumping unit to warn residents, who in turn will be required to contact Council either during work hours or after hours, that the pump is no longer working and to allow maintenance to occur within an acceptable timeframe.

### 10.2.2 WHERE CAN PRESSURE SEWERAGE SYSTEMS BE USED

Use of pressure sewerage systems will occur where designated by Council, but as a general guide this will be where:

- a) These systems are demonstrated to have significantly lower 30 year life cycle costs to Council than other forms of sewerage service provision, for the particular application, however even if a gravity system is more expensive it may still be the chosen option;
- b) There are particular circumstances, requiring the use of this technology;
- c) They are being used to overcome problems with on-site systems, where pressure sewerage effectively represents the only viable option;
- d) Council sewerage planning does not preclude them. It is stressed that just because pressure sewerage may, in some locations, be a lower cost technology, this will not necessarily mandate its use, as other factors may mitigate against such usage.

### 10.2.3 LIMITED PRESSURE SEWERAGE PUMP TECHNOLOGIES

Council will advise the type of pressure sewer system to be used in the shire.

### 10.2.4 SUPPORTING DOCUMENTATION

Council will, in support of this Policy Statement, have the following supporting documentation:

- a) WSA – 007 Wastewater Services Association Pressure Sewerage Code to potentially deal with applications not covered by the Council specific documentation.
- b) A Technical Specification to regulate the nature of all pressure sewerage pumping units purchased as well detail the manner in which they are to be installed and maintained.
- c) A Home Owner’s Manual to inform the resident what is expected of them and what they can and cannot do in relation to the pressure sewerage system on their property. It will also contain instructions on what to do if their system should fail.
- d) A Service Agreement between Council and the Property Owner/s to ensure appropriate access to maintain the pumping units.

### **10.3 General Responsibilities**

#### **10.3.1 OWNERSHIP OF THE RESIDENTIAL PUMPING UNITS**

The basic configuration for most pressure applications will be a separate single pumping unit provided for each separate property and this will be based on a uniform sized tank. The ownership of the pumping unit, in this standard configuration, will reside with Council and includes the following:

- a) Pump;
- b) Storage vessel;
- c) Control panel and ancillary fittings;
- d) Property delivery lines;
- e) Boundary Kit.

The hydraulic termination point for Council ownership of the pressure sewerage system will be the first flexible joint on the inlet side to the pressure sewerage storage vessel. The point for electrical termination will be the connection to the dwelling’s power board where a separate circuit is to be used. Residents are reminded that under Section 635 of the Local Government Act it is an offence to wilfully or negligently remove, damage, destroy or interfere with a pressure sewer system.

In general Council will not seek to take out an easement over any part of the “on-property” installation of the pressure sewerage system. However, Council reserves the right to create an easement if required so as to ensure the safe ongoing operation of the system, the minimisation of any health concerns, or the protection of any Council property.

For non-standard connection (larger than 1ET), i.e. commercial connection, see section 10.3.2.

#### **10.3.2 MAINTENANCE OF THE RESIDENTIAL PUMPING UNIT**

Council will provide all residents with a propriety pumping unit that to-date, has a proven track record in so far as reliability and performance is concerned. Based on relevant past experience, these units do not require preventative maintenance,

however if repairs are required, Council will maintain the unit on behalf of the resident with the cost being covered by the annual sewerage availability charge. However, if the unit is damaged by misuse or negligence by the householder the cost of repairs will be billed to the landowner.

It will be a condition of being connected to Council's reticulation system that the residents enter into a service agreement with Council. This agreement will define what is expected of both parties in the operation and maintenance of the pressure sewer system.

#### 10.3.3 POWER FOR THE PUMPING UNIT

The pumping unit's power connection will not be metered separately, and the residents will meet the power costs for the pressure sewerage pumping unit. The pumping unit will be installed on a separate electrical circuit breaker system. The point for electrical termination will be the connection to the dwelling's power board where a separate circuit is to be used.

#### 10.3.4 DISCOVERING THE PROPERTY HAS A PRESSURE SEWERAGE SYSTEM

The property's 149 Certificate, and in some areas the Section 88B Instrument (depending upon the nature of the property) will be marked to indicate that the property is served by a pressure sewerage system. This is specifically to allow the prospective land purchaser to discover prior to their purchase that the property is serviced by a pressure sewerage unit.

In addition to this notification, a positive covenant (or signed service agreement) reinforcing Council's right of access to the property to service the units will also be required as a condition of consent for new subdivisions.

### **10.4 Installing Pressure Sewerage – General**

#### 10.4.1 DESIGN SERVICES

The design of pressure sewerage reticulation shall be undertaken by persons with proven experience with such technology. Design of "on property" works shall be undertaken by accredited installers and designers and they are to endeavour to accommodate the property owner's reasonable needs in a Council agreed consultation process, in the "on property" layout design.

For new systems or developments, design shall be checked by Council's nominated supplier of Low Pressure Sewer Systems pump units.

#### 10.4.2 NUMBER OF PUMP UNITS PER PROPERTY/NON STANDARD CONNECTION

Developments for commercial or industrial properties or residential properties which are greater than 1ET are classified as NON-STANDARD connections.

Any internal sewerage system within the property boundary of the non-standard connection will be the responsibility of the property owner and will require Council approval. The sizing of the pumping units and the overall design of these non-residential systems needs to be carried out by an experienced designer, based

upon the actual anticipated sewerage output and the capacity of the receiving sewers.

The ownership of these systems including design, installation, replacement and payment will be the responsibility of the owner. Council will maintain the units, at its cost, subject to the unit not being wilfully or inadvertently abused, as a result of the improper introduction of a damaging substance into the unit, by the user.

### **10.5 Installation on the Property**

Council will supply the pressure sewer system components to all relevant single dwelling properties at cost. Council or their representative will discuss the requirements of the property with the property owners.

The units will be installed by an accredited installer of pressure sewer system to ensure warranty. The “on property” layout will be shown to the owner/representative five days prior to construction. The owner/representative will be required to sign the layout at this time to confirm agreement to the final layout. The “on-property” design will generally involve pipelines parallel to the property boundary to minimise the impact on the property. In some cases, specific on site needs or constraints may lead to variations of this principle.

The units are to be installed to the requirements of the electricity supplier and the plumbing code of Australia.

Where a pressure unit is to be installed, to service an existing dwelling the accredited installer will first undertake a full audit of the existing dwelling power board and hydraulic connections. The installer will then advise the property owner what needs to be done to upgrade these connections if necessary to allow a pumping unit to be installed. The property owner will meet the costs associated with these upgrades.

### **10.6 Installation of the Reticulation Mains**

Prior to construction of the reticulation system, the design of pressure sewerage systems shall be undertaken on behalf of Council or the proponent, by an appropriately qualified individual or company (thereby becoming the System Designer).

Construction will then be in accordance with these design plans and will be from acceptable pipe materials, generally laid at the minimal depths as defined in Council’s Technical Specification. Any civil contractor wanting to deviate from the design, as shown on the drawings, will require that Council formally sign off on any changes.

The main will be extended from the street mains to just inside of the property boundaries. A valve arrangement known as the Boundary Kit will be placed at this termination point, to allow the connection of the property at a later date. The valving arrangement within the boundary kit should allow for the isolation of the property.



## **10.7 Application of the Technology**

### **10.7.1 EXISTING ON-SITE SYSTEMS AND PRIVATE “PUMP UPS”**

Owners of properties that have existing on site systems or private pump up systems on the fringe of a sewerage system area are NOT covered in this policy.

Any existing property that discharges into a reticulated main through a private pumping arrangement (pump up) may continue to operate their private system. They remain the responsibility of the property owner and resident. The owners of these schemes will not be able to apply to Council to take over the operation of these schemes.

If, for reasons of public or environmental health, it is determined that a property needs to be connected to Council’s sewerage system, then Council will act in an advisory capacity only. The owner will meet all costs associated with the supply and installation of the system.

### **10.7.2 NEW SUBDIVISIONS – MULTIPLE LOTS**

Where specifically requested at the Development Application stage, an assessment will be undertaken by developer and Council as to whether a pressure sewerage system would be applicable and approved for a particular development. For Council to assess the application, Council will require a 30 year whole of life cost between conventional and pressure sewer systems based on the following criteria within this section.

Under the definition of pressure sewerage systems, the developer will be responsible for the cost of design, supply and installation of the pumping unit, the delivery line to the boundary kit and the reticulation system. The number of pumping units will be the number of properties plus 2.5% additional for spare purposes.

The costs associated with the maintenance of both the individual on site system (this is deemed to be \$116 per property per annum in 2017 dollars + CPI) for the first 20 years will be the responsibility of the developer. Further to this the developer will be responsible for the cost of flushing protocols required for the initial start up period until there is 30% of the entire system connected.

If the developer wishes to cease their involvement at the property boundary kit, then they will be required to pay a fee equivalent to the full cost to Council for it to ensure the “on-property” works are carried out, including the additional spares requirement.

All mains and boundary kits for the specific stage of the development must be installed and tested prior to connection to Council’s existing sewerage system. This will be a pre-condition for release of final plan of subdivision for any stage of the development

Notwithstanding the above fees, developers will be required to pay full section 64 head works charges prior to release of final plans of proposed subdivision in accordance with Council’s Water and Sewer Development Servicing Plan. The preferred option will always be to install a gravity sewer system in all cases where gravity sewer is able to be installed, even where the cost to do so is higher.

### 10.7.3 NEW SUBDIVISIONS – SINGLE LOT

Where allowed under Councils Local Environmental Plan, installation of a low pressure unit to service the new lots will be allowed. However the installation, running costs and maintenance will be the responsibility of the land owner. Council will not accept the asset or carry out and repairs or maintenance.

Developers will be required to pay full section 64 head works charges prior to release of final plans of proposed subdivision in accordance with Council's Development Servicing Plan policy.

## 10.8 Operation and Maintenance of the Pressure Sewerage System

### 10.8.1 LEVELS OF SERVICE

In general Council will endeavour to mirror the maintenance services provided for its more traditional sewerage services, particularly during business hours. For after-hours service, Council will specifically provide the following additional services:

- a) Next day repairs or replacement of the pumps for after-hours alarms.
- b) Response to any overflow situation as soon as practicable.

### 10.8.2 COUNCIL RESPONSIBILITIES

Council will be responsible for the maintenance and repair of the pumping units and will maintain a quantity of replacement pumps (and other spare components) for these purposes. It will also be responsible for:

- a) Supporting this maintenance regime with a 24 hour a day call centre;
- b) Providing the resident with a Home Owner's Manual and Property Service Diagram.

### 10.8.3 RESIDENT RESPONSIBILITIES

The Resident's primary role is to notify Council if their system's alarm sounds or the system overflows. They are also required to:

- a) Avoid discharging into the pumping unit any of those substances identified in the Home Owner's Manual as inappropriate for pressure sewerage;
- b) Comply with the other requirements set out in the Home Owner's Manual;
- c) Not interfere with the electrical operation of the pumps in accordance with what is detailed in the Home Owner's Manual.

### 10.8.4 PROPERTY OWNER RESPONSIBILITIES

The property owner is to ensure that the resident (if different from the property owner), understands that the property is serviced by a pressure sewerage system and that they have a copy of the Home Owner's Manual. Property owners will be required to sign a user agreement confirming that they have read and agree to the terms set out in this policy and the Home Owners Pressure Sewer Manual.

#### 10.8.5 ACCESS FOR COUNCIL MAINTENANCE OFFICERS

It will be a condition of being connected to the Council pressure sewerage reticulation system that the property owner's consent will be given to allow Council or its agents to enter the property and undertake any repairs to the pumping unit. This is reinforced by Section 191A of the Local Government Act, 1993, which also gives Council the ability to enter the property to undertake the necessary works.

Details of the Council access requirements will be set out in the Home Owner's Manual but where the resident has not provided reasonable access, or fails to secure pets, etc. Council may refuse to provide the service call. In these instances the property owner/resident may be charged the additional costs incurred by Council.

#### 10.8.6 IDENTIFICATION OF MAINTENANCE EMPLOYEES AND CONTRACTORS

Any Council employee (or contractor) entering private property must have photographic identification and appropriate authorisation to enter the property.

### **10.9 Modifications or Household Additions**

Building over the pressure sewerage system will not generally be allowed but Council will allow some relocation of the "on-property" pipeline or the pumping unit subject to:

- a) The hydraulics on the property allowing the pumping unit to be moved;
- b) There being a suitable alternative route/s for the property delivery pipeline;
- c) The associated costs for the relocation works being met by the property owner;
- d) All technical requirements, as set out in Council's Pressure Sewerage Technical Specification, being met;
- e) Full details of the "as constructed" works being provided to Council;
- f) Any modifications being carried out by an accredited installer.

Residents wanting to relocate the pumping unit or property delivery line are required to contact Council for advice on what will be required.

Residents interfering with delivery lines or pumping units without Council's approval may be subject to relevant fines under the Local Government Act 1993. Residents will also be required to meet any costs arising from the loss of warranty on that pumping unit, and/or damage to that unit and/or, any other costs associated with such unauthorised works.

### **10.10 Change of Ownership**

Properties in pressure sewer areas will be required to enter into an agreement for maintenance of the "on property" pumping system to be specified on Section 149 Certificates or 88b Certificates.

## **10.11 Administration**

The following is to be undertaken by Bellingen Shire Council to support the supply, operation and maintenance of pressure sewer system.

### **10.11.1 OPERATION RECORDS**

Council will maintain records of the operation of the pressure sewer systems including each pumping unit to build a history of performance.

### **10.11.2 PROPERTY DIAGRAMS**

Council will, on behalf of the residents, maintain a copy of all house service details for their records and copies may be obtained from Council's main office during office hours.

During construction/installation phase Council will also require that a package of information be supplied with the drawings such as date of installation, commissioning, serial numbers of pump unit etc.

### **10.11.3 SPARES**

Replacement pumps and other spare components will be purchased and stored ready by Council, for emergency maintenance.