

Pressure sewerage

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1. Policy Statement

Clarence Valley Council will permit the installation of pressure sewerage systems to provide sewerage services where other forms of sewerage cannot be effectively or economically used, or where pressure systems have particular environmental, economic or social benefits. While pressure systems are an internationally recognised sewerage system, they are sufficiently different to gravity reticulation systems to require a separate policy statement.

2. Definitions and Glossary

Accredited Installer – an installer accredited by the Period Supply Contractor for undertaking on-property works in accordance with Section 11.4 of this policy

Actual Pump Head – This is the actual static head plus the frictional losses that the pump has to meet in discharging the collection tank's contents. The final or actual pump head is determined from field measurement, to confirm previous design calculations of the pump head.

Alarm Volume – This is the volume that is stored in the on-property collection tank, before the collection tank alarm activities.

As constructed drawings – see work as executed drawings

Backlog area - existing residential areas that do not currently have a centralised (or reticulated) sewerage system

Boundary kit – see Property Boundary Assembly

Collection/Pump unit – a collection tank and associated pumping equipment including grinder pump, level switches, pipework and valves

Collection/Pump unit supplier – a company that supplies collection/pump units, technology (primarily Grinder pumps) and knowledge and guarantees the performance of the individual items within the collection/pumping unit

Collection Tank – that part of a collection/pump unit which collects and stores flows from sanitary drains

Control/Alarm Panel – The power and control panel which controls operation of the Grinder pump and which contains audible and visual alarm components. The panel also contains a dedicated circuit breaker for power disconnection.

Council – This term should be interpreted to mean Clarence Valley Council and its successors.

Designer – This is the individual responsible for the design of either the pressure sewerage reticulation system or the on-property works (or both).

D&C – Design and Construction Tender/ Contract.

Eligible to Connect to Sewer – Council's *Sewer and Water Connection* policy defines whether a property is eligible to connect to sewer.

Emergency Volume- This is the volume which is stored in the pressure sewerage collection tank from just above the alarm activation level to just before the overflow relief gully begins to discharge.

Flushing Point – This is a formal point in the reticulation to which a large supply of water can be connected under pressure to flush out the reticulation pipelines, or alternatively to remove sewage from the reticulation system.

Grinder Pump - a mechanical device designed to pump liquid and in the process reduce the size of solids contained in the sewage

High Level Alarm – This is both an audio and visual alarm system activated when the level of the sewage in the on-property pressure sewer collection tank reaches the alarm volume level.

Home Owners Manual – a manual informing resident of what they can and cannot do in relation to the pressure sewerage system on their property, as well as what to do if their system should fail.

Installer – This is the company/ individual responsible for carrying out all of the on-property works. Council will only permit accredited installers to undertake works.

Low Pressure Sewerage Scheme – This is a different name also often used to describe pressure sewerage schemes.

On-property Works – These are the total works undertaken on a property, including any excavation, installation, compaction and restoration associated with the Collection/Pump unit, Property discharge line/s, Control/Alarm panel, Property boundary assembly, Pump control/power cable and a one (1) metre stub of gravity sanitary drain extending outside the pressure sewerage collection tank.

Overflow Relief Gully – This is a control overflow device to prevent overflows occurring inside the dwellings on the property, by ensuring that as such overflows occur outside of the dwelling. Its arrangements and dimensions are contained in the NSW Plumbing Code.

Construction Contractor – This is the company/ individuals responsible for constructing the off property works, such as the reticulation system and the property boundary assemblies. This company/ individuals might also be the Installer.

Period Supply Contract – This is a Contract Council enters into for supply of Goods and Services for a set period. Tender 13/005 for Supply of Pressure Sewer Units for a period of five years was awarded to a panel of suppliers (Environment One Corporation and Xylem Water Solutions Australia Ltd) in September 2013.

Pressure Sewerage Lateral– This is the continuation of the property discharge line from the property boundary assembly to the reticulation system pipeline and includes any road crossings (where applicable).

Pressure Sewerage Reticulation System – the series of pipelines laid in the streets connecting the properties to either a treatment plant or some designated discharge point in an existing sewerage system, and includes the property boundary assemblies.

Pressure Sewerage Systems – This is a specialist system wherein all of the property sewage is connected to an on-property pumping station (or series of pumping steps). This dedicated pumping unit incorporates a grinder to reduce solids in the sewage to watery slurry. The pumping station then discharges through small diameter pipelines laid minimum depth.

Council's pressure main reticulation systems rely on the pressure generated by all the "on property" pumps in the system to move sewage from the pumping unit to the treatment plant or the set discharge point in a gravity reticulation network.

Pressure Zone – This is a collection of properties, that are capable of being isolated from upstream and downstream areas during the construction phase and are clearly marked as such on the reticulation drawings. The zones are used to allow one area to become operational whilst the upstream areas are still being constructed.

Property Boundary Assembly - This is a valve box at the property boundary incorporating an isolating valve, flow directional valve and an inspection tee piece.

Property Diagram – A drawings showing the "on property" works.

Property discharge Line – The pipeline that connects the on-property pumping station to the property boundary assembly.

Pumping Units (or Station) – this includes the pumps, collection tank, alarm system, pump pressure switches, etc. and is installed on the property.

Sanitary Drains – pipelines installed by licenced plumbers which convey sewage from buildings to a connection point (also called house drains, house sewer or house service line).

Work as Executed (WAE) Drawings – These are the Work as Executed or as Constructed Drawings.

3. Introduction

3.1 What are Pressure Sewerage Systems

A pressure sewerage system is a complete system where raw sewage is conveyed under pressure generated by pumping units contained on each property to a nominated discharge point. The system comprises three components:

- a) Pressure Sewer reticulation, which is a network of pressure mains (including pressure sewer laterals and property boundary assemblies) which transports sewage from properties to a nominated discharge point.
- b) "On Property" works, which includes a collection/pumping unit located on and draining individual properties, a Control/Alarm panel and associated electrical connections, and a property discharge line which connects the collection/pumping unit(s) to the property boundary assembly, and
- c) Property Sanitary drains, which are pipelines installed by licenced plumbers which convey sewage from buildings to a connection point (also called house drains, house sewer or house service line).

The sanitary drains flow by gravity into the collection/pumping unit. From the collection/pumping unit, flows are then moved to the designated system discharge point via the collective pressure generated by pumps located in each unit. The pump will also contain a grinder to minimise blockages in the pipe systems, and an alarm system to warn the resident that the unit is not operating within preset parameters.

Typically, pressure sewer systems require much smaller pipelines than conventional gravity sewerage systems, and are also laid shallower (generally following the contours of the land). Pressure sewer systems do not contain manholes or lamp holes as these facilities are not needed or suitable.

3.2 Application of Policy

This policy applies to pressure sewerage systems as defined in Section 2.1. An individual pumping unit which pumps sewage to Council's gravity reticulation is not classified as a pressure sewerage system and is therefore not covered by this policy. However, approval for any new individual pump-out arrangements may require that the collection/pumping unit meet the technical requirements of this policy.

3.3 Supporting Documentation

This policy is supported by the following documents which provide the "how to" detail in respect of pressure sewerage systems:

- A Technical Specification covering the supply and installation of the pressure sewerage pumping units in detail (WSAA 07), and
- A home owner's manual to inform the resident of what they can and cannot do in relation to the pressure sewerage system on their property, as well as what to do if their system should fail.

Council will review these documents periodically and update them as required.

4. Use of Pressure Sewerage Systems in Clarence Valley

Pressure sewerage systems may be permitted where they represent a more appropriate or cost effective method of sewerage than conventional gravity systems. Their adoption should not be assumed in any application.

4.1 Where Can Pressure Sewerage Systems be used in Clarence Valley?

As a general principle, pressure sewerage systems may be permitted either:

- a) In sewerage catchments where Council has resolved that pressure sewerage is to be the method of providing reticulated sewerage,
- b) Within developments where pressure sewerage is demonstrated to be a significantly lower overall life cycle cost option for Council than gravity sewerage.

In considering whether pressure sewerage may be permitted, Council will consider the following issues:

- a) Whether there are particular circumstances which makes the use of pressure sewerage preferred (e.g. where conventional gravity systems are considered to present a high risk of future infiltration).
- b) Whether other means of sewerage reticulation are currently provided or proposed for the subject area. For example, without other justification pressure sewerage is unlikely to be supported in areas where gravity reticulation is already installed. Developers proposing to use pressure sewerage are advised to checking with Council's Development Engineering section.
- c) Whether pressure sewerage is specified as the preferred reticulation proposed in a sewerage strategy or Environmental Impact Statement approved by Council for a particular area.

Although pressure sewerage may, in some locations, have a lower construction cost, this will not necessarily mandate its use. Accordingly Developers proposing to use pressure sewerage will need to justify why Council should permit these systems in their particular application.

4.2 Likely General Applications of the Pressure Sewerage Systems

The most common applications for pressure sewerage in the Clarence Valley area are likely to be:

- Areas where Council has resolved that pressure sewerage will provide the centralised reticulation. This currently includes Lawrence, Iluka, and the West Yamba, Gulmarrad and James Creek urban release areas,
- New subdivisions that can be more economically serviced with a pressure sewerage system than gravity sewerage systems,
- For individual homes (or small clusters of homes) that are currently in close proximity to or are part of a sewered urban area but have not been serviced by that area's current sewerage scheme and connection would involve one or more pump stations and/or site conditions are such that construction of a gravity sewerage system would compromise sensitive environmental areas. This also includes existing vacant urban blocks of land under the same circumstances. These properties will be subject to an application for connection to the sewerage system and subsequent investigation that confirms that this connection is possible and viable.

4.3 Ownership of "On-Property" Works

Conditions of connection to Council's pressure sewerage systems under Clause 18(1) of the Local Government (General) Regulation 2005 are that:

- a) Ownership of "On Property" works, which include the following components (as defined in WSA 05) shall reside with Council:
 - Collection/Pump unit
 - Property discharge line/s from the pump to the property boundary assembly
 - Control/Alarm panel
 - Property boundary assembly
 - Pump control/power cable
 - A one (1) metre stub of sanitary drain extending outside the pressure sewerage collection tank.
- b) Collection/pumping units installed within the system shall be compatible with the collection/pumping units supplied under Council's period supply contract.

Pressure sewerage systems do not have any resident serviceable parts, and under Section 635 of the Local Government Act it is an offence to wilfully or negligently remove, damage, destroy or interfere with a sewer system. Property owners should note that the property discharge line is also defined as part of the system. In particular, property owners/residents should locate the property discharge line before commencing any excavation works which may damage the line. Council may attempt to recover costs for any wilful or negligent damage to pressure sewerage systems.

4.3.1 Requirements for Easements over On Property Works

Easements will generally **not** be required over any part of the "on property" works, so as to enable property owners to subsequently relocate on property works (normally the property discharge line) as required to accommodate future property modifications etc. However, an easement **will** be required if the property discharge line is required to pass through a neighbouring property.

Council reserves the right to create an easement (if required) on a particular property, so as to ensure the safe ongoing operation of the system, the minimisation of any health concerns or the protection of any Council Property.

4.4 Power for the Pumping Unit

Pumping units shall be connected to a property's switchboard as part of the "on property" installation, and a separate circuit shall be added to the property switchboard so as not to interfere with the normal electrical operation of the house. However, while this installation will be undertaken as part of the "on property" works, the property owner will be responsible for any maintenance of the electrical cable between the property switchboard and the control/alarm panel and the property switchboard.

The pumping unit will not be metered separately as this would increase operational costs (reading meter, sending out bills and other general administration by the energy supplier). Residents will meet the individual power costs as part of their electricity bill, and the cost of power is likely to be offset by an overall cheaper system in terms of capital and operational costs. Council may resolve to offer a rebate on sewerage rates to offset the cost of power consumption.

4.5 Number of Pump Units per Residential Property

Generally, only a single pumping unit shall be permitted for each residential property. For multiple dwellings on the same property, a single unit (if of sufficient capacity) may be approved to serve more than one dwelling; however this unit may have more than one pump.

However, Council may consider approving more than one pumping unit on a property if the general property layout or the layout of the different dwellings on the property requires more than one unit. **In these cases, each pumping unit will attract a sewer assessment charge.**

4.6 Non-Residential Properties

Where pressure sewerage systems are to be provided to non-residential properties such as schools, hotels, caravan parks, industrial etc, owners will need to satisfy Council's Water Cycle staff regarding the adequacy of any "on property" designs, including the adequacy of the property discharge lines. All pumping units shall be installed as per the plans submitted to and approved by Council.

Council's Period Supply Contractor may offer assistance to non-residential property owners with designing and sizing units for their sewerage system.

4.7 Property owners required to connect to Pressure Sewerage

Once Council has formally determined that pressure sewerage systems are applicable to an area, all properties serviced by the system (and/or within the distance specified in the regulation) will be required to connect to Council's system by pressure sewerage.

4.8 Discovering the Property has a Pressure Sewerage System

The property's drainage diagram 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.

5. Period Supply Contract for Pressure Sewerage Collection/ Pumping Units

Council will enter into a five year period supply contract for the supply of pressure sewerage collection/pumping units. The supply arrangement includes the collection tank, collection/pump unit, control/alarm panel and property boundary assembly.

6. Design and Construction of Pressure Sewerage Systems

6.1 Design and Construction of Pressure Sewerage Reticulation System

6.1.1 New developments

For new developments, a design and analysis for pressure sewerage reticulation must be completed prior to construction of reticulation commencing. Where pressure sewerage systems are approved for new developments, design shall be undertaken in accordance with Section 9.3 of this policy.

Construction contractors must be approved by Council. Construction will be from acceptable pipe materials generally laid at the minimal depths as defined in Council's Technical Specification. Reticulation shall generally be laid in the road reserve (footpath) in a fixed allocation as defined in Council's Technical Specification. Pressure sewerage reticulation pipes will also be adequately identified to enable location of the main at a later date, and to prevent cross connections. Pipes shall be laid to the appropriate standards and subsequently tested in accordance with these same standards.

General construction requirements are:

- Sealed roads shall be directional drilled rather than excavated.
- The area disturbed by construction shall be minimised and any disturbed area shall be restored back to a condition as close to that which existed prior to the disturbance, as can be practically achieved.
- Appropriate, well maintained plant is to be used at all times.
- Minimal amounts of trench shall be left open at any time.
- All road permits and other formal approvals are to be obtained prior to the commencement of any construction and all approval requirements observed during the construction phase.
- A property boundary assembly shall be provided for each property.

6.2 Installation of On-Property Works

6.2.1 New Developments

The period supply Contractor may accredit contractors for design of on-property works and installation of collection/pumping units on individual properties. As an alternative, Council's fees and charges include a charge for Council staff to undertake installation of on-property works.

As a general principle in "on property" design, the pipelines should parallel property boundaries so as to minimise the impacts of the sewerage system on the property. However this principle may need to be changed to meet specific onsite needs. The pumping units should be located in close proximity to the "on property" dwelling so as to further maximise flexibility. The power supply to the units is to be installed in accordance with the requirements of the local energy supplier.

6.2.2 Pumping Unit to be Fully Tested before Commissioning

The final connection to the sewer main will also only be made after the pumping unit has been tested as per Council's Technical Specification and found to be suitable for formal commissioning.

6.3 Connection of property sanitary drains to Pressure Sewerage Collection/Pumping Unit

The property sanitary drains upstream of the pressure sewerage collection tank must incorporate an overflow relief gully, with all such plumbing to be in accordance with the NSW Plumbing Code. In particular, the relief gully must not permit ingress of stormwater to the pressure sewer unit.

Connection of property sanitary drains to the stub extending from the collection/pumping unit may only be undertaken by licenced plumbers.

In backlog areas, Council shall nominate a timeframe within which properties must connect to the sewerage system.

7. Operation and Maintenance of Pressure Sewerage Systems

Council's intent is that residents with pressure sewerage systems should not be required to carry out significantly more operational input than for other sewerage systems. The infrequent reporting of an alarm is not seen as a significant impost and is offset by other advantages offered by pressure sewerage.

Council will achieve these goals by:

- Being responsible for the maintenance and repair of the collection/pumping units, which will be funded through the annual sewerage charges.
- Providing a 24 hour emergency response line.
- Providing residents with a Home Owner's Manual to guide them in the operation of the pumping unit and tell them what to do when the unit requires maintenance.

7.1 Normal Operation of the Collection/Pumping Unit

The collection/pumping units operate automatically and do not require any specific input from the resident. The collection tank is sized to provide sufficient storage to cater for power outages that might be experienced as part of normal operation. The resident Home Owners Manual sets out how the units operate and what resident should do if an alarm occurs.

7.2 Power Operation

Residents are not permitted to interfere with the electrical operation of the collection/pumping units. To facilitate this, Council requires the collection/pumping units to be wired into the household switchboard in such a manner so as not to interfere with the normal electrical operation of the property, nor be accessible by the residents.

7.3 Maintenance of the Pumping Unit

Council will maintain collection/pumping units within the system as part of its normal sewerage maintenance. As the "on-property" works are owned by Council, it is necessary for Council staff or agents to access properties for maintenance purposes. Section 191A of the Local Government Act, 1993, gives Council authority to enter private property to undertake maintenance of works on its sewerage systems.

7.4 Levels of Services

In general Council will endeavour to provide the same level of service as provided in gravity sewerage systems, particularly during business hours. For after hours service, Council will specifically provide the following additional services:

- Next day repairs or replacement of the pumps for after-hours responses to high level alarms. This is to minimise inconvenience to the resident by utilising the emergency storage in the collection tank.
- Immediate response to any emergency situation with the potential for an overflow.

The Home Owner's Manual will detail Service Standards between Council and the Property owner, as well as what the home owner should do in response to any emergency (or alarm) situation.

7.5 Home Owner's Manual

Council will supply (and keep up to date) a Home Owner's Manual to all owners of properties where pressure systems are installed. The Manual will outline operation and maintenance requirements of the pumping units. The Manual will include:

- Details on the operation of pressure sewerage systems including appropriate contact numbers and/or web site details for further enquires.
- Emergency contact phone numbers.
- What to do if the alarm sounds?
- What to do in the case of a power failure?
- How to minimise waste generation in the case of emergencies.
- How to install and operate swimming pools, spas etc in pressure sewerage areas, and detail requirements for design and installation of any new pools or spas.
- What can be safely discharged into the sewerage system?

7.6 Identification of Maintenance Employees and Contractors

Council or its agents will normally respond to a property request for maintenance, and any Council employee entering private property will have photographic identification and appropriate authorisation to enter the land. Staff shall show their identification on entering the property. Where there is, or is a reasonable likelihood of being, a serious risk to health, Council employees are authorised to enter properties under Section 193(3) of the Local Government Act when residents are not present.

Where Council uses external agencies, Council will issue those individuals with appropriate photographic identification as proof that they have been engaged by Council to carry out the pressure sewerage work. In addition these agencies will carry Council's authorisation for the specific work to be undertaken by them, eg their identification will state if they are the Contractor engaged either on installation work or maintenance work. These external agencies will also be required to return all authorisations and identification to Council at the completion of the period of engagement, and this will be checked.

If any person endeavours to enter property without appropriate identification and authorisation, Council encourages residents to refuse access and call both the Police and Council to report this incident.

7.7 Maintaining the Overflow Relief Gully

The property sanitary drain shall be connected to a controlled overflow mechanism such as an overflow relief gully trap. These will be identified as overflow relief gully traps on the property plan.

Properties are not permitted, under any circumstances, to block any overflow relief gullies such that they are unable to perform their normal operation. Properties blocking overflow gully traps may be charged the full costs of damage and repairs to the pressurised sewerage system, both inside and outside the property.

In flood prone areas special arrangements are required in relation to overflow relief gully traps in order to prevent the intrusion of floodwater and damage to the system. Gully trap arrangements for these circumstances are detailed in the Pressure Sewerage Technical Specification.

7.8 Special Requirement for Spas and Swimming Pools

While Pressure Sewerage Systems do not prohibit high discharge applications such as spas and swimming pools, appropriate provisions need to be made to accommodate these discharges.

7.8.1 Spas

Sudden discharges from Spas could either trigger the pumping unit high level alarm or, in a worse case scenario, result in an overflow at the residential overflow relief gully. Council may therefore impose special requirements on properties which are proposing the installation of spas, which may include time delays on alarms, provision of a non-standard collection/pumping unit with additional storage in the collection tank or a buffering tank.

The special requirements for spas will be determined on a case by case basis. Spa owners within pressure sewerage areas need to contact Council's Water Cycle section, who will advise on the correct way to discharge the spa into the collection tank. Formal approval will also need to be given to any agreed format of discharge and further approval will be required to vary this at any future stage.

7.8.2 Swimming Pools

Council requires that any property owner within a pressure sewerage system area currently owning a swimming pool (or installing a swimming pool in the future) regulate their pool backwash volumes and rates so as not to exceed the capacity of the pumping unit and to avoid alarms being needlessly generated. The same provisions shall apply to persons wanting to drain their swimming pools.

There are a number of ways to drain or backwashing pools without causing an alarm, and in general these will be dealt with on a case by case basis. For any proposed pools, the agreed format of discharge will be covered by a condition of consent for the dwelling or pool.

For existing pools in backlog areas, a format of discharge will be agreed with the property owner as part of the "on property" installation works. Pool owners requiring further information should contact Council's Water Cycle section.

7.8.3 Cost of special modifications for spas and swimming pools

The costs for any additional equipment over and above the basic collection/pumping unit that is required to be installed to accommodate large sudden discharges from spas and/or swimming pools shall be met by the property owner. Owners proposing new spas or swimming pools are advised to contact Council prior to installation, to ensure that the rate of discharge will not cause any problems with the operation of the pressure sewerage systems.

8. Modifications to/on-Property Works

An advantage of pressure sewerage systems is that they allow property owners flexibility in terms of property modifications. For example, the property discharge line can be quickly re-laid downstream of the pumping unit at relatively minimal costs, thereby eliminating problems of constructing structures over the sewer.

8.1 Relocating Collection/Pumping Units and Property discharge Lines

If a property owner wishes to relocate the "on property" pipelines or the collection/pumping unit, Council may allow such relocations subject to:

- The hydraulics on the property allowing the unit to be moved.
- The associated costs with the relocation being met by the owner.
- The works being undertaken only be accredited installers in accordance with Section 11.4 of this policy, or Council,
- Any other technical requirements as specified in Council's Technical Specification.

Any relocation of the pumping unit or property discharge line shall be at the property owner's expense. Property owners proposing to relocate the pumping unit or the property discharge line are required to contact Council's Water Cycle section, and officers will advise the property owner of Council's requirements. If an accredited installer is used for relocation works then written Council approval must be obtained prior to work commencing. The "on property" works remain Council's property.

Full details of the as constructed works (Work as Executed information dates of construction etc) shall be provided to Council, including a modified property layout drawing showing the new location of the delivery line and unit, and the Homeowner's Manual updated.

Residents interfering with delivery lines or pumping units without Council's approval may be subject to action under Section 635 of the Local Government Act 1993. This is in addition to meeting any costs arising from the loss of warranty on that pumping unit, and/or damage to that unit and/or, any costs associated with such unauthorised works.

9. New Developments/ Subdivisions

The following sections indicate Council's general conditions which will apply to provision of pressure sewerage in new developments.

9.1 General Requirements

Where specifically requested at the Development Application stage, Council will assess whether a pressure sewerage system would be applicable and approved for a particular development. Specific conditions may be applied in the development consent. Such conditions would in general terms require the Developer (but not necessarily be limited) to:

- a) Meet all costs associated with the design and construction of the pressure sewer reticulation system, including any changes required to the existing sewerage system.
- b) Design, supply and install, at their own cost, "on-property" works. "On property" works may only be commenced after the issue of a construction certificate for building works on each allotment, and shall be completed prior to the issue of the occupation certificate for the building works.
- c) The "on property" works, while subject to point (b) above, shall be completed prior to the issue of the linen plan for a subdivision certificate. Council may accept either a bond for the developer to undertake these works, or payment of the rate set out in Council's fees and charges for Council to undertake this work on behalf of the developer.
- d) Council may utilise the bond to install the "on property" works in order to enable the issue of an occupation certificate for the related building works.
- e) Payment of applicable Sewerage Developer Contribution.
- f) When procuring units from Council under its Period Supply Contract arrangements outlined in Section 9.2 of this Policy, provide sufficient notice to Council (**minimum 8 weeks**).
- g) Landowners (of the individual subdivided lots) are to make an application to Council with submission of a development application for a dwelling for installation of the collection tanks.
- h) Provide to Council "work as executed drawings" in a format acceptable to Council
- i) Provide Council with all "on property" designs where these occurred during the development phase.

9.2 Collection/Pumping Units

As outlined in Clause 4.3, a condition of connection to Council's pressure sewerage system is that collection/pumping units installed within the system shall be compatible with the collection/pumping units supplied under Council's period supply contract.

To assist with cost effective supply of pressure sewerage collection/pumping units, developers may purchase the requisite number of collection/pumping units, control/alarm panels and property boundary assemblies at cost from Council through its Period Supply Contract,

Council's annual fees and charges also contain a charge for Council to undertake supply and installation of "on property" works in accordance with Section 9.5.2. For developers choosing to use this service, as part of the charge Council will supply the developer with property boundary assemblies.

9.3 Design of Pressure Sewerage Reticulation System

Council will only approve designs submitted by persons with appropriate skills and experience in pressure sewerage system design. Any such designs may be verified by Council's contracted technical supplier.

Whilst the Developer will be responsible for the Design of the proposed pressure sewerage reticulation service, the design will be subject to formal approval by Council's Development Engineering section. Council may require that the Developer also undertake analysis of the receiving sewers to ensure that the additional subdivision will not subsequently require an augmentation of existing receiving sewers. Council may alternatively advise the Developer of an appropriate connection point based upon its own analysis of its own system.

The need for appropriate design is critical to the success of the individual units, the overall pressure sewerage system and its functioning as part of the Council reticulation system.

9.4 Pressure Sewerage Reticulation Construction

The Developer will be required to undertake the following works during the construction phase:

- Construction of the pressure sewerage reticulation lines including all lines and laterals, valves, flushing points and a property boundary assembly for each property. This will include some flushing of the lines. It will also include the provision to Council of "work as executed" information/drawings and the provision of an as constructed information package as detailed in Council's Pressure Sewerage Technical Specification.
- Construct any changes to Council's existing reticulation system which are required by the development.
- Construction of a rising main from the new subdivision into Council's reticulation system. This includes the provision to Council of "work as executed" information/drawings and the provision of an as constructed information package also as required by Council's Pressure Sewerage Technical Specification.
- Demonstrate to Council that the valves provided are as recommended by the pressure sewerage supplier.
- Formally hand over the reticulation mains to Council for maintenance of the lines as per Council's Technical Specification on pressure sewerage system. Also provide Council with a 12-month defects liability period for the pipelines.

Council may be prepared to undertake construction of pressure sewerage systems at commercial rates.

9.5 “On-Property” Works

On property works shall only be undertaken by accredited installers, as outlined in Section 11.4 of this policy, or Council staff.

Developers will be responsible for the installation of all “On-Property works”. Installation of on-property works will not be permitted prior to the issue of a construction certificate for building works on the property because:

- a) The location of buildings will influence the location of the pumping unit, and
- b) The warranty on the pumping units commences when the unit is installed.
- c) There is a need to avoid damage to the collection/pumping unit as a result of construction activities as well as ensuring that the property sanitary drains are clean before connecting the pumping unit to these lines.

9.5.1 Requirements

Developers installing units on properties (in lieu of paying a fee to Council for future installation – see Section 9.5.2) will be required to undertake the following works:

- Procurement of collection/pumping units shall be in accordance with Section 9.2 of this policy, The developer shall purchase, supply and store for use all pumping units for “on property” installation.
- Installation of the pumping units on each property, including a formal household design, installation of the unit and delivery line from the property boundary assembly to the pumping unit, installation of a one (1) metre stub of sanitary drain and provision of a set information package for Council.
- Fully test the units and certify they are fully operational. Replace any units that fail during the warranty period.
- Fully test the reticulation design as per the Council technical specification.
- Formally have the pumping units commissioned by the Period Contract supplier, handing over the commissioning certificates to Council as well as the warranties for the pumps, which will have been transferred into Council’s name.

Installation and testing of units and service lines shall be completed prior to issue of an occupation certificate for building works. Principal Certifying Authorities should note that sewerage works may not be commissioned or used until they have been inspected and certified by Council, or a person authorised by Council to undertake such inspection and certification, in accordance with Section 21(a)(i) of the Local Government (General) Regulation, 2005.

Where a Developer wishes to engage a third party to undertake on property works on their behalf, an appropriate bond will be required as a guarantee that the works will occur.

9.5.2 Council installation of “On Property” works

Developers may pay the fee outlined in Council’s annual fees and charges for Council to undertake installation of “on property” works. The installation fee covers supply and installation of the pumping unit with a one metre stub extending from the collection tank, alarm panel, electrical connection of the unit and installation of the property discharge line.

If this option is selected, the fee shall be paid to Council before the linen plan is released, or the construction certificate is issued. Where developers utilise this option Council will, upon request from a property owner following issue of a construction certificate, arrange for installation of the on-

property works at no cost to the property owner. Council will require a minimum of **eight weeks** notice for installation of on property works.

9.6 Connection of Sanitary Drains

The property owner shall be responsible for engaging a plumber to connect the property sanitary drain to the one metre stub extending from the collection tank.

10. Special Provisions for Pressure Sewerage in Close Proximity to Existing Gravity Reticulation Areas

This section covers properties (or small groups of properties) which are not currently connected to Council's reticulated sewerage, nor likely to be as part of a dedicated backlog program, but which are near to (or even surrounded by) a current centrally reticulated area. Typically it has been determined that these properties cannot be economically serviced with reticulated sewerage, and pressure sewerage may potentially make connection to reticulated sewerage viable.

10.1 Provision of reticulated sewerage

Unsewered property owners in close proximity to existing reticulation areas where the property is eligible to connect to sewer may request consideration for connection to existing reticulated sewerage systems using pressure sewerage. Where Council receives such requests, it will undertake an initial determination as to whether a pressure sewerage system can be utilised. Applications will thus be examined on a case by case basis.

Council will, where such a connection is considered feasible, provide a preliminary estimate as to the costs for properties to be connected to the reticulation system. Should the property owner(s) indicate they wish to proceed Council will organise for such a connection to be made and will also undertake to provide the following additional items.

- A timetable of when such a connection can be made;
- A preliminary property design (in conjunction with the property owner/s).
- Initial contact with any nearby neighbours who might also wish to take advantage of such a scheme and who might share any reticulation main costs

Appropriate sewer connection fees for properties outside existing sewer catchments, as outlined in the annual fees and charges, shall apply in addition to the construction costs.

10.2 Existing Private Pump-out Systems

A number of existing properties have approved private pumping arrangements. The owners of these schemes will not be able to apply to Council to take over the operation of these schemes, unless they can demonstrate their systems comply with Council's standard specification for pressure sewerage systems. However owners of these schemes can make a new and separate application to have their systems converted to a standard Clarence Valley Council pressure sewerage system that will be operated by Council.

The advent of pressure sewerage systems to Clarence Valley however will not require owners of existing pumped systems to convert to the new systems where they can demonstrate that their existing systems are performing satisfactorily. All new pressure schemes will need to be in accordance with the new Council based schemes and this Policy Statement.

11. Pressure Sewerage for vacant properties in Iluka and Lawrence

For existing vacant properties at Lawrence and Iluka which were paying a sewer investigation charge as at 28 June 2005, Council will install all “On-property” works for a single collection/pumping unit at no expense to the property owner. The arrangements which will apply are as outlined in Section 9.5.2 of this policy.

12. Administration

This section outlines how Council will support the operation, maintenance and supply of pressure sewer systems in the Clarence Valley area.

12.1 Sewer Charges and Repairs

Operation and maintenance of pressure sewerage systems, including “on property” works will be undertaken by Council and funded through its sewer assessment charges.

As outlined in Section 4.3 of this policy, there are no resident serviceable components in a pressure sewer system. In cases of neglect, failure to undertake the requirements set out in the Home Owner’s Manual or where the pumping unit or service line is deliberately damaged, Council may seek costs from the property owner and this may be done before effecting repairs.

12.2 Property Diagrams

As part of the initial installation of “on property” works a property layout drawing will be produced, and modified to reflect the final “as constructed” drawings. Council will maintain a copy of this house service drawing, which can be obtained from Council during normal office hours. Costs associated with obtaining copies of these diagrams will be included in Council’s annual fees and charges.

During the construction/installation phase Council will require that a package of information be compiled together with Work as Executed drawings. Such things as the date of installation, commissioning date etc are required and that information will also be available upon request.

12.3 Spare Pumps

Council will maintain a quantity of replacement pumps and other spare components for emergency maintenance purposes. No resident should be without their service for a period that will unduly affect the amenity of their property.

12.4 Accredited Installers

Design and installation of “on property” works shall only be undertaken by installers accredited by Council’s Period Supply Contractor. Accreditation will be available to local plumbers and contractors.

Council will maintain an up to date list of accredited installers, and will make the list available to property owners and their builders, on request.

12.5 Home Owners Manual

Council will monitor and keep up to date the home owner manual so that residents who lose the manual can obtain another copy from Council. Residents will be able to purchase additional copies of this manual at any time.

Council will maintain an abbreviation version of the home owners manual so that a copy can be given out by real estate agents to persons renting a property or on taking up holiday occupants.

12.6 General Information

Council will prepare a series of general information brochures regarding pressure sewerage technologies.