

POLICY NAME: PRESSURE SEWER

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OBJECTIVE

To provide a framework for the provision of pressure sewer systems and detail the responsibilities of Council, developers and individual property owners with respect to the construction, maintenance and operation of pressure sewer systems within Ballina Shire.

POLICY

Design and Construction of Pressure Sewer Systems

As a general principle, gravity sewer systems are preferred to pressure sewer systems in Ballina Shire Council.

The installation of pressure sewer systems to provide sewerage services will be permitted where gravity sewer systems cannot be effectively or economically used, or where pressure sewer systems have particular environmental, social or economic benefits.

Factors determining the choice of whether pressure or gravity sewer systems are preferred for a given area or development include:

- Technical feasibility of complying with the technical specifications of the Northern Rivers Development Design Guidelines (D12)
- The overall lifecycle cost to Council of the alternate options
- Particular circumstances which makes the use of pressure sewer preferred e.g. where conventional gravity systems are considered to present a high risk of future infiltration.

Pressure Sewer System for a New Development

Developer Responsibilities

Any proposal will require justification as to why the provision of conventional gravity sewer systems is unfeasible or why the provision of pressure sewer systems is preferable. The process in relation to how a pressure sewer application may apply to a new development is shown diagrammatically in Figure A2 in Attachment 1.

In all such developments the Developer is responsible for the provision of the whole pressure sewer system as detailed in this policy. This will include the developer carrying out the following:

- The design for the reticulation sewers and its submission to Council before proceeding. Only experienced pressure sewer designers are to be used.
- The construction of all necessary pressure sewer reticulation infrastructure including the property boundary assembly.
- Certification of Compliance from the pressure sewer designer confirming their review of the Work as Executed documentation and confirmation of compliance with their design.
- Ensuring any real estate agents associated with the sale of the land have basic information on what a pressure sewer system is, and what it will mean for the prospective buyer.

Council Responsibilities

Council will in respect to any pressure sewer development application, initially advise the developer as to whether pressure sewer will be allowed for their particular development. Subject to the pressure sewer system being allowed, Council will further be responsible for:

- Ensuring that the design is adequate to what Council sees as the minimum requirements for a pressure sewer system.
- Providing the minimum technical standards for the consistent construction of any pressure sewer application in the Ballina Shire.
- Ongoing maintenance of the whole pressure sewer system, if applicable (see below).

Commercial/Industrial Pumping Arrangements

Council will not assume ownership and maintenance responsibility for private pumping arrangements on commercial or industrial properties except where the property water consumption is less than 450 litres of water per day (based on the average residential consumption adjusted for typical commercial/industrial discharge factors). For these properties, Council will assume ownership and maintenance responsibilities for the property boundary assembly and pressure sewer lateral only. The boundary assembly must be kept clear and accessible by the property owner.

Even though pressure sewer may, in some locations, be a lower cost technology, this will not necessarily mandate its use. Accordingly Developers proposing to use pressure sewer will need to justify why Council should permit these systems in their particular application. 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 install is higher.

Replacing a Conventional Gravity System with Pressure Sewer

When investigating network renewals and/or upgrades, Council may consider replacing an existing conventional gravity system with a pressure sewer system. Any business case proposing the use of pressure sewer shall be required to address the same factors detailed in the section above.

Connecting to Wastewater Reticulation with a Pressure Sewer Unit

Unconnected Property (Vacant Land) in a New Pressure Sewer Development

Individual property owners must lodge a development application to construct on the property and application for Section 68 approval and will be provided with the names of accredited installers of pressure sewer systems. Thereafter the property owner will be required to organise with one of these accredited installers to carry out the installation on the property. Only installations that are carried out by an accredited installer using approved technology will be accepted by Council.

The individual property owner is responsible for all on property costs as well as any additional installation requirements they may have for their unique installation.

Unsewered Property in an Existing Reticulated Area

The Owner/s of an unsewered property located in a sewer area may apply to Council to be connected to that reticulated system using a pressure sewer unit.

Where the property owner has been paying a wastewater *Not Connected Access Charge* and is therefore entitled to be connected to the sewer system, Council will provide the sewerage system up to and including the pump well at no cost to the property owner. The property owner

shall be responsible for meeting the costs to connect to the pump well and must engage an accredited installer to carry out these works.

Where the property owner has not been paying sewer rates, they will be required to meet all costs to carry out the design, installation and certification including the extension of any reticulated sewer mains and any connection fees as per Council's Fees and Charges. This includes the case of brownfield subdivisions. The property owner shall be responsible for arranging all works including connecting the on property works to the Council specified discharge point. An accredited installer shall be engaged to carry out these works using Council approved technology.

Pressure sewer will only be approved where it is impossible or impractical to install a gravity system.

The process for applying to service an unsewered property with a pressure sewer system, is shown diagrammatically in figure A1 in Attachment 1.

Transfer of Ownership of a Private, Residential Pressure Sewer System

Any existing property that discharges into a reticulated main through a private pumping arrangement may continue to operate their private system and is not compelled to change to a Council owned and maintained pressure sewer system. These private systems are not covered by this policy and all operation and maintenance remain the responsibility of the property owner and resident.

Residential property owners may apply to convert their existing private system to a Council approved pump station that will be owned and maintained by Council. If approved, property owners will be responsible for all costs associated with the changeover including the on property works and any reticulation mains extension or upgrade (if required).

Once installed to Council's satisfaction, Council will assume responsibility for the ongoing maintenance up to and including the pump station.

Due to the nature of their installation, some private, residential "pump up" systems will be deemed unsuitable for council to accept ownership & maintenance of, and Council reserves its right to make this decision on a case-by-case basis.

Extension of the Existing Reticulated System

Council will not extend the reticulated sewer system beyond the boundaries of the designated urban area except where there are specific and unique reasons such as public health or environmental benefits.

Should such an extension be approved the property owner shall be required to meet the costs of the design, construction and certification of the extension of the reticulation system to their property the on property works and any connection fees as per Council's Fees and Charges (including Section 64 Sewer Charges).

The property owner shall be responsible for arranging all works and must engage an accredited installer to carry out these works using Council approved technology.

Installation of on Property Works - All Instances

The property owner is required, in all instances other than where the property owner has been paying a wastewater *Not Connected Access Charge*, to arrange for the installation of the on property works. These must be carried out by an installer who has been formally accredited by the technology supplier so that all the warranties and guarantees attached to the pump station remain valid. Council will maintain a list of these "accredited" installers and make it available to property owners upon request.

Where the pump station is being installed on a property with an existing dwelling the accredited installer is also required to carry out a home audit before a connection can be made to the existing building. The audit is critical to ensuring the safe connection of the pump station and its ongoing operation.

The property owner is required to meet the costs of connecting the sewage to the house/dwelling on the property as well as any costs associated with any upgrade to their points of attachment or the general household drainage systems determined from the home audit (if required). This is in addition to meeting the costs for the on property works where specified.

Handover of On Property Works

Where the on property or other connection works are carried out by an accredited installer, the following must be undertaken before Council will accept handover of the works:

- Provide to Council the commissioning certificate including results of a draw down test and warranties for the pump station
- Submit to Council the NSW Fair Trading Final Compliance Certification completed by the accredited installer.
- Inspection by a Council Wastewater Officer and payment of the inspection fee (per Council's Fees and Charges)
- Provide Works as Executed plans showing location of all on property works and reticulation extension (where applicable).
- Signed maintenance agreement, if applicable.

Operation of Residential Pressure Sewer Infrastructure

The responsibility for the operation, maintenance and possible replacement of pressure sewer infrastructure, following its installation, is a joint responsibility shared between Council, individual property owners and residents where these differ from the property owners.

This excludes all private pressure sewer systems both residential and commercial/industrial that have not previously entered into a signed maintenance agreement with Council.

In the case of infrastructure provided by developers, the developers also share the responsibility for a limited time following its installation up until its eventual handover to Council.

Normal Operation of the Pump Station

The pump station operates automatically and does not require any specific input from the resident. The collection tank is sufficiently sized to cater for power outages that might be experienced as part of normal operation.

A Pressure Sewer Manual will be provided by Council to all home owners to outline the operation and maintenance requirements of the pump station. The Manual includes:

- Emergency contact numbers What to do if the alarm sounds.
- What to do in the case of a power failure.
- Ensuring access to the unit for operation.
- What can be safely discharged into the sewerage system.

The Resident is expected to familiarise themselves with this document and use it when required. It will be supported by further detail on pressure sewer systems contained on Council's website.

Property Owner's Responsibilities

The property owner shall be responsible for the following activities in respect to pressure sewer systems, which are further detailed in the manual:

- Maintaining an electrical connection to the electrical control cabinet of the pump station located on the property.
- Connecting internal plumbing to the pump station.
- Maintaining the gravity plumbing on the property, up to the inlet of the pumping unit.
- Entering into a maintenance agreement with Council to provide Council with access to their property for the purpose of maintenance or replacement of pressure sewer infrastructure located on their property. The agreement also outlines responsibilities with respect to the continued operation and maintenance of pressure sewer infrastructure located on the property.
- Informing real estate agents, or prospective purchasers, of the nature of the pressure sewer system located on their property and the need to enter into an agreement with Council for the continued maintenance and operation of this infrastructure.
- Where the property owner does not reside on the property, communicating the Resident's Responsibilities to the tenant and ensuring a copy of the pressure sewer manual is available to the tenant at the time of occupancy.
- Payment of the annual sewer charges, applicable from the time the connection to the sewer is made.

Resident's Responsibilities

Recognising that the resident will not always be the property owner, those resident on the property will be responsible for the following activities:

- Provision of electrical power to the pump station, including payment of associated power costs.
- Providing Council access to the property, for the purpose of operation, maintenance or replacement of pressure sewer infrastructure located on their property.
- Notifying Council immediately if any alarms are generated within the electrical control cabinet of the pump station, or of any other problems with the performance of the pressure sewer system.
- Ensuring no deleterious material is discharged to the sewer
- Undertaking any other requirements as set out in the Pressure Sewer Manual and Agreement for Provision of Pressure Sewer Service.

All on-property works covered by this section of the policy are owned by Council and will be maintained by Council as part of its normal sewerage maintenance. Residents interfering with on property works 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 the pumping unit and/or damage to that unit and/or any costs associated with unauthorised works.

Special Requirements for Swimming Pools, Spas or other High Discharge Water Applications

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

Council may impose special requirements on properties which are proposing the installation of spas or swimming pools which will be dealt with on a case-by-case basis. The same provisions shall apply to persons wanting to drain their existing swimming pools or spas.

Any costs incurred as a result of these requirements shall be the responsibility of the property owner.

Maintenance and Replacement of the Pump Station and Pressure Sewer System

Council Responsibilities

Council shall own and be responsible for the operation and maintenance of the following items of infrastructure after handover by the property owner, defined by the completion of a signed maintenance agreement.

- Individual Sewage Pump Station on each property, including the pump well, pump, electrical control cabinet and associated fittings.
- All pressurised sewer mains and associated fittings, including the property boundary assembly and boundary assembly box.
- Ongoing flushing of the pressure sewer mains.
- The discharge point.

Council shall be responsible for the replacement of these items as part of the resident's ongoing maintenance agreement with Council. Council will note the need for that maintenance agreement to be entered into between Council and the Property Owner on any Section 10.7 Certificate issued for the property.

Developer's Responsibilities

Until handover of the reticulation system is affected, the developer will be responsible for all of the above responsibilities attributed to Council. This will particularly include the ongoing flushing of the mains until sufficient development has occurred. After handover, Council shall assume these responsibilities.

For new developments, the developer will be required to register a positive covenant on each property title to identify a pressure sewer system is required for that lot. All costs associated with the creation of covenants shall be borne by the developer.

Levels of Service that apply to Pressure Sewer

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

- 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 pumping unit.
- Immediate response to any emergency situation with the potential for an overflow.

The Pressure Sewer manual details what a resident should do in response to any emergency (or alarm) situation.

Ownership, Maintenance & Replacement of Private Pressure Sewer Systems

For all cases where council has approved the installation of a pressure sewer system, discharging into council's sewer reticulation network and no maintenance agreement has been entered into between the property owner and Council, the system will be considered a private pressure sewer system.

The property owner is responsible for the operation and maintenance of this system, by engaging a suitably qualified person when required, to ensure the health & safety of the public and the surrounding environment.

Any modifications to the system from the original design will require approval from council in the form of a Section 68 approval. Council also reserves the right to inspect the pressure sewer system to ensure its correct and appropriate operation.

BACKGROUND

Pressure sewer refers to a system of providing sewer services to developed areas, which involves the installation of separate, small sewage pump stations to each property or dwelling. These pump stations are interconnected by a network of small diameter, pressurised pipelines which transfer sewage to a nominated discharge point, usually to a point in Council's existing gravity sewer system. A more detailed explanation of what constitutes a formal pressure sewer system is detailed in the definitions below.

Pressure sewer systems provide an alternative to conventional gravity sewer systems. Gravity sewer systems service properties by a network of large diameter gravity pipelines. This network of gravity pipelines usually discharges to a larger, centralised sewage pump station, serving a large number of properties, which transfers sewage further within the overall sewer system.

As a general rule, gravity sewer systems are preferred to pressure sewer systems in Ballina Shire. However, pressure sewer systems have considerable merit in providing opportunity to sewer areas in which the provision of conventional gravity sewer systems is technically, or economically not feasible.

The use of pressure sewer systems raises several unique issues not normally associated with the operation of conventional sewer schemes. Of prime importance is the need to define responsibilities for the maintenance and operation of the infrastructure installed on individual private properties.

DEFINITIONS

On Property Works

The pump station, property boundary assembly and property discharge line. Excludes the property connection to the pump well and all upstream plumbing (sanitary drainage).

Pressure Sewer Lateral

The continuation of the property discharge line from the property boundary assembly to the reticulation system pipeline including any road crossings (where applicable).

Pressure Sewer System

In pressure sewer systems the household (or other) sewer drains flow by gravity into the pump station. From the pump station flows are then moved to the designated system discharge point via the collective pressure generated by the pumps in the property pump stations. The pump

will also contain a grinder to prevent blockages happening in the pipe systems, and an alarm system to warn the resident that the pump station is not operating within pre-set parameters. Typically these systems are based on much smaller pipelines, laid at minimum depth with no requirement for grade, which do not contain manholes, lampholes, or other conventional sewer system fixtures and fittings.

A pressure sewer system comprises the following elements:

- A discharge point nominated by Council.
- A reticulation or common pipe collection system that comprises the pipe network that links this discharge point to the properties served and includes the connection of the individual properties to these reticulation pipelines. Thus the termination point on the property for the reticulation system will be the property boundary assembly (including the same).
- The on property works that includes the installation of the pump station and all of the connections required to make it operational but not including the connection of the existing property sewer system to the pump station.

Property Boundary Assembly

Valving that allows the property to be isolated from the system and also provides flow protection, preventing flow from other properties entering into the individual system under pressure.

Property Discharge line

The pipeline that connects the sewage pump station to the property boundary assembly.

Sewage Pump Station

An individual sewer pumping unit usually located on each property and draining the individual property. A pump station consists of a collection tank, pump, electrical control cabinet, alarm control panel and associated fittings.

SCOPE OF POLICY

This policy applies to:

- Council employees
- Developers/Builders
- Individual Property Owners.

RELATED DOCUMENTATION

Related legislation, policies and documents:

- Environmental Planning and Assessment Act 1979.
- Local Government Act 1993
- The Wastewater Services Association Pressure Sewer Code (WSA – 007)
- Ballina Shire Council Pressure Sewer Manual for Property Owners/Occupiers

REVIEW

This policy is to be reviewed every four years.

Attachment 1 – Diagrammatic Representations of the Pressure Sewer Process

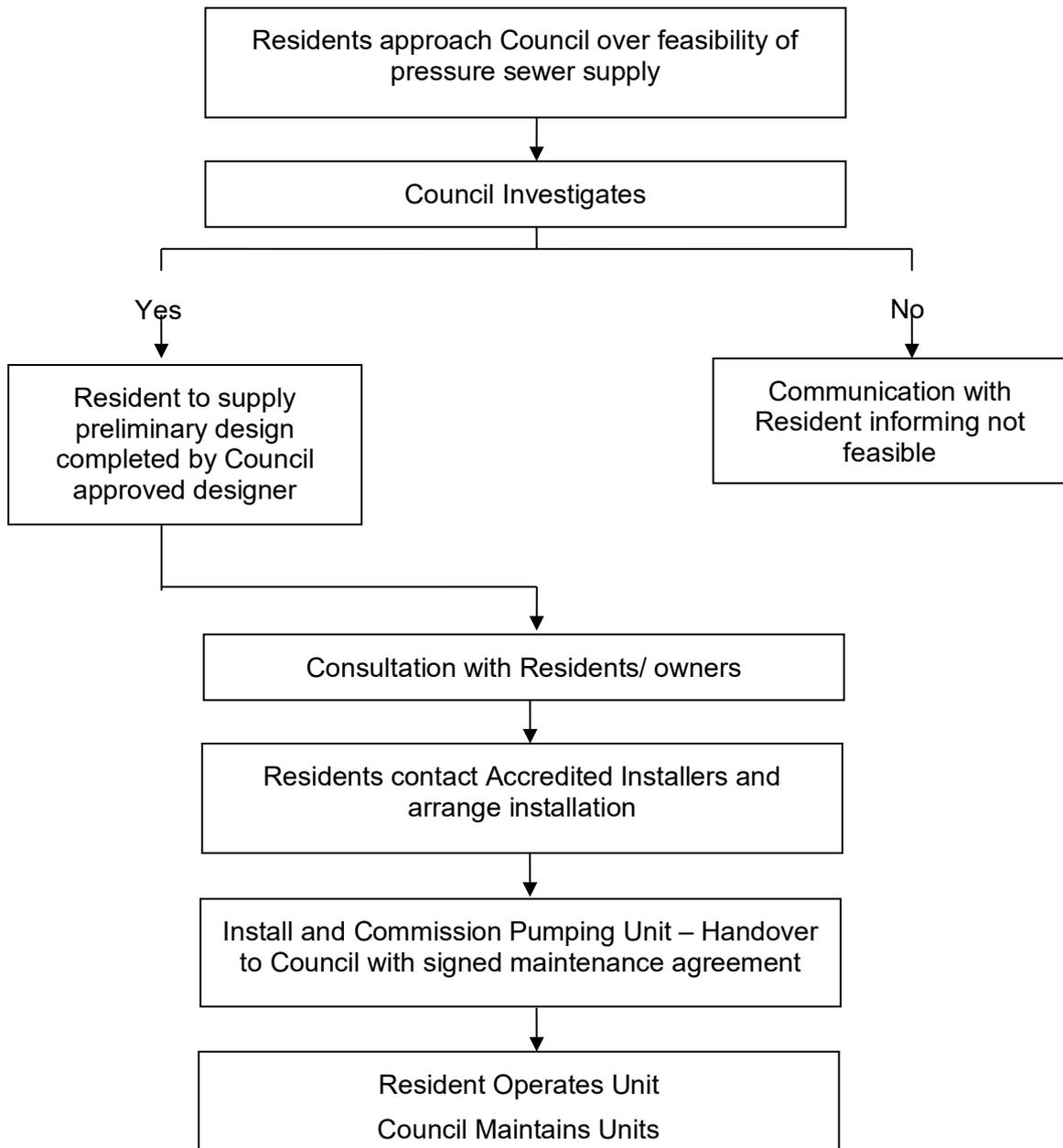


Figure A1. Diagrammatic Representation of the Pressure Sewer Process for an Extension of the Existing Sewer Service

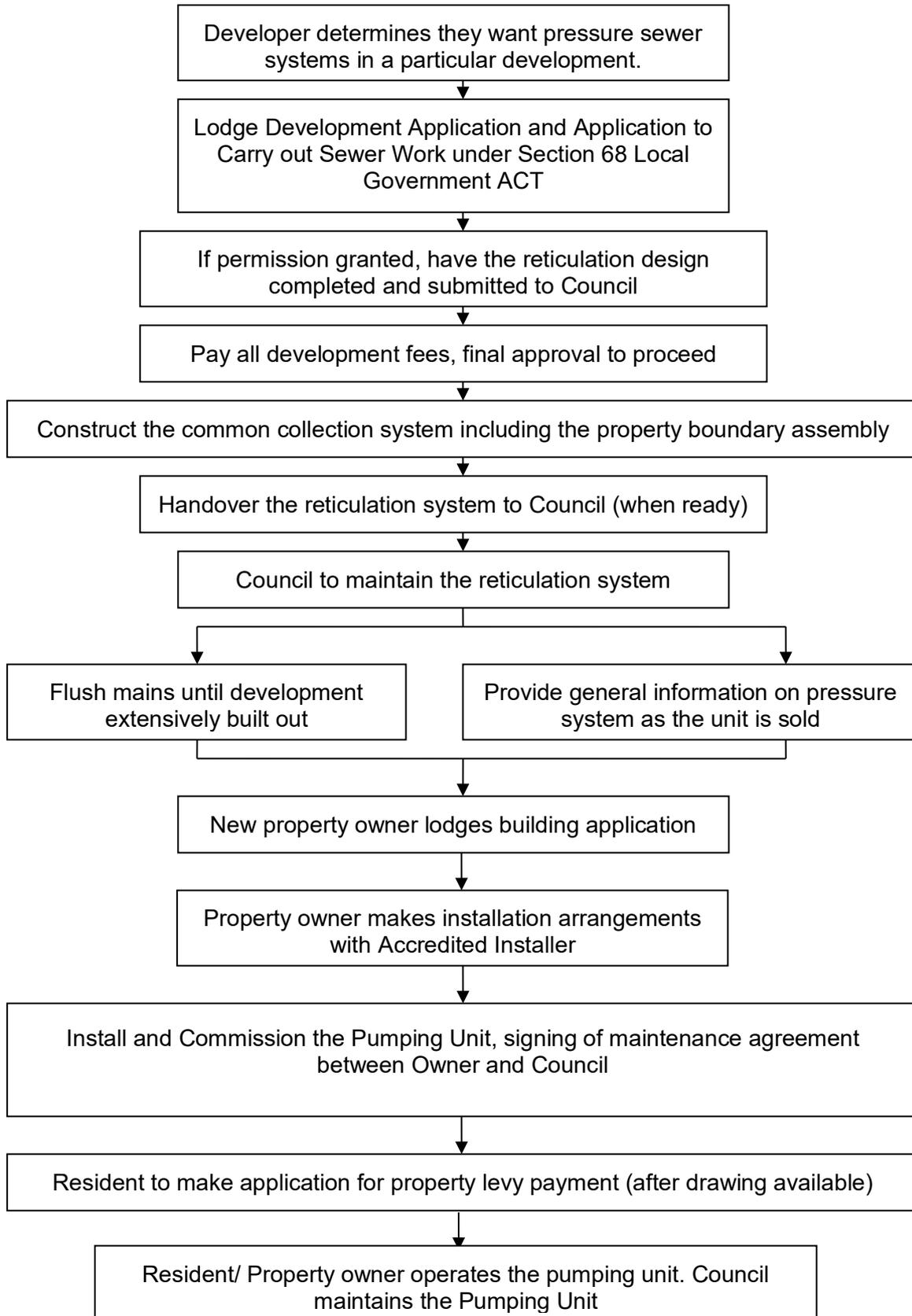


Figure A2. Diagrammatic Representation of Residential Pressure Sewer Systems for a New Development, to be owned and maintained by Council.