



POLICY NO:

POLICY: PRESSURE SEWERAGE AT TACOMA SOUTH



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A. POLICY SUMMARY

- A1** This policy is designed to outline information and requirements in respect of the installation, operation and maintenance of the Tacoma South pressure sewerage system. The provisions of this policy apply to Tacoma South only and not to any other pressure sewerage systems within the Central Coast Council Local Government Area.

B. POLICY BACKGROUND

- B1** The policy objectives are as follows:

To provide a transparent policy for the implementation of a Low Pressure Sewerage scheme within Tacoma South.

- B2** 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:

- Pressure sewerage reticulation, which is a network of pressure mains (including pressure sewer laterals and property boundary assemblies) which transport sewage from properties to a nominated discharge point.
- "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
- Property sanitary drains, which are pipelines installed by licensed 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 pumps also contain a grinder to minimise blockages in the pipe systems, and a notification/alarm mechanisms to alert Council if the unit is not operating within pre-set parameters.

Works at Tacoma South involve the decommissioning of the existing vacuum sewerage scheme and the installation of a pressure sewerage scheme.

C. DEFINITIONS

- C1** **Accredited Installer** - an installer accredited by Council's Equipment Supply Contractor for undertaking On – Property Works in accordance with section F6 of this policy
- C2** **Actual Pump Head** - 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.

- C3 Alarm Volume** - the volume that is stored in the on-property collection tank, before the collection tank alarm activates.
- C4 As constructed drawings** - see work as executed drawings.
- C5 Boundary kit** – see Property Boundary Assembly.
- C6 Collection/Pump unit** – a collection tank and associated pumping equipment including grinder pump, level switches, pipework and valves.
- C7 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.
- C8 Collection Tank** - that part of a collection/pump unit which collects and stores flows from sanitary drains.
- C9 Control/Alarm Panel** - the power and control panel which controls operation of the Grinder pump and level sensor and which contains audible and visual alarm components and telemetry connections. The panel also contains a dedicated circuit breaker for power disconnection.
- C10 Council** - Central Coast Council
- C11 Designer** - the person responsible for the design of either the pressure sewerage reticulation system or the on-property works (or both).
- C12 D&C** – Design and Construct.
- C13 Emergency Volume** - the volume available in the pressure sewerage collection tank from just above the alarm activation level to just before the overflow relief gully begins to discharge.
- C14 Equipment Supply Contract** - a contract Council enters into supply of Goods and Services for a set period.
- C15 Flushing Point** - 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.
- C16 Grinder Pump** – a mechanical device designed to pump liquid and in the process reduce the size of solids contained in the sewage.
- C17 High Level Alarm** - a remote alarm on SCADA activated when the level of the sewage in the on- property pressure sewer collection tank reaches the alarm volume level.
- C18 Home Owner’s Manual** - a manual informing residents 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.
- C19 Low Pressure Sewerage System** – see Pressure Sewerage Systems C24.

- C20 On-Property Works** - 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 riser is attached to the lowest inlet point and extended above the surface outside the pressure sewerage collection tank which allows for plumber to locate and connect property discharge on that riser.
- C21 Overflow Relief Gully** - a control overflow device to prevent overflows occurring inside the dwellings on the property, by ensuring that overflows occur outside of the dwelling. Its arrangements and dimensions are contained in the NSW Plumbing Code.
- C22 Pressure Sewerage Lateral** - the continuation of the property discharge line from the property boundary assembly to the reticulation system pipeline and includes any road crossings (where applicable).
- C23 Pressure Sewerage Reticulation System** – the series of pipelines laid in the streets connecting the properties to either a treatment plant or pumping station or some designated discharge point in an existing sewerage system, and includes the property boundary assemblies.
- C24 Pressure Sewerage Systems** - a system wherein all of the property sewage is connected to an on –property pumping station. This dedicated pumping unit incorporates a grinder to reduce solids in the sewage to a watery slurry. The pumping station then discharges through small diameter pipelines laid at minimum depth.
- Council's pressure main reticulation system relies on the pressure generated by all the On-Property pumps in the system to move sewage from the pumping unit to the system discharge point.
- C25 Property Boundary Assembly** - a valve box at the property boundary incorporating an isolating valve, flow directional valve and an inspection tee piece.
- C26 Property Diagram** – a drawing showing the “on property ”works.
- C27 Property Discharge Line** - the pipeline that connects the on-property pumping station to the property boundary assembly.
- C28 Pressure Sewer Unit (PSU or pumping unit)** – a unit comprising pump, storage or collection tank, control panel, pressure switch and other ancillary equipment.
- C29 Rotables** – a servicing method in which an already-repaired equipment/new is exchanged for failed equipment, which in turn is repaired and kept for another exchange.
- C30 Sanitary Drains** – pipelines installed by licenced plumbers which convey sewage from buildings to a Council connection point (also called house drains, house sewer or house service line).
- C31 Work as Executed (WAE) Drawings** –the Work as Executed or As Constructed Drawings showing the details of what work is actually constructed.

D. POLICY IMPLEMENTATION – GENERAL

D1 Application of Policy

This policy applies to the Tacoma South pressure sewerage systems only as defined in section A1.

D2 Supporting Documents

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),
- Council’s Technical Specifications for Pressure Sewer Unit,
- 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; and
- Scheme boundary drawing.

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

D3 Ownership of “On-Property” Works- Installation and maintenance of sewerage service

Conditions of connection to Council’s pressure sewerage systems under clause 138(1) of the Water Management (General Regulation) 2011 are that

- a) Ownership of “On Property” works, which include the following components (as defined in WSAA 07-2007) shall reside with Council:
 - Collection Tank/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 vertical riser attached to the lowest inlet point and which is extended above the surface to allow for connection to property discharge.
- b) Collection/pumping units installed within the system must be compatible with the collection/pumping units supplied under Council’s equipment supply contract.

Pressure sewerage systems do not have any resident serviceable parts, and under Section 297 of the Water Management Act 2000 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 and conduits for pump control/power cabling are also defined as part of the system. In particular, property owners/residents should locate the property discharge line and conduits before commencing any excavation work which may damage the lines. Council may attempt to recover costs for any wilful or negligent damage to the pressure sewerage system.

- D4 Requirements for Easement 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 has a right to enter land under S. 296 and 297 of the Water Management Act 2000

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.

- D5 Electrical Supply/Power for the Pumping Unit** - Pumping units must be connected to a property’s switchboard as part of the “on property” installation, and a separate circuit will be added to the property switchboard so as not to interfere with the normal electrical operation of the house.

The pumping unit will not be metered separately as this is not practical.

The expected electricity costs will be offset via a rebate/reduced annual sewerage charge.

- D6 Number of Pump Units per Residential Property** – Generally, only a single pressure sewer unit (PSU) will be permitted for each residential property. For multiple dwellings on the same property, a single PSU (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 PSU on a property if the general property layout or the layout of the different dwellings on the property requires more than one unit. In all cases sewerage service charges will be determined in accordance with Council’s Revenue Policy. The cost of any additional pressure sewer units following the initial construction of the scheme will be borne by the relevant property owner.

- D7 Property owners are required to connect to Pressure Sewerage** - All properties within Tacoma South will be required to connect to the pressure sewer scheme prior to the decommissioning of the existing vacuum scheme.

- D8 Change of Ownership-** Properties in a pressure sewer area will be required to be specified in Section 149 Part 5 Certificates. 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.

When applying for a sewer diagram (a conveyancing requirement) an initial copy of the plan and a homeowner’s manual will be provided at no cost to the resident.

- D9 Special Requirement for Spas and Swimming Pools**

While Pressure Sewerage Systems do not prohibit high discharge application such as spas and swimming pools, appropriate provisions need to be made to accommodate these discharges. Sudden discharges from Spas and Swimming Pool could either trigger the pumping unit high level alarm or, in a worst 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 additional spas or swimming pools. These requirements may include

provision of a non-standard collection/pumping unit with additional storage in the collection tank, a buffering tank or the use of a cartridge filter system. The agreed format of discharge will be covered by a condition of consent for the dwelling or pool. The cost for any additional equipment/work required to be installed to accommodate large sudden discharges from spas or swimming pools will be met by the property owner.

Previous property inspections identified some properties needing a buffer tank solution.

D10 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 by Accredited Installers in accordance with Section F6 of this policy.
- The proposed relocation does not place an unreasonable access or maintenance burden on Council Operations Staff

Any relocation of the pumping unit or property discharge line will 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, and Council's 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.) must 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.

D11 Design and Construction of Pressure Sewerage Reticulation – Council will engage suitably experienced contractors to undertake design and construction.

D12 On-Property Works-

For all properties, Council will undertake as part of the Council funded works, design and installation of all On-Property Works to be owned by Council, for a single collection/pumping unit on each property.

The Council funded works will include electrical works as outlined in Section D5 of this policy.

Any future costs associated with the relocation of existing PSUs or the provision of additional PSUs will be borne by the relevant property owner.

D13 Vacant Lots

Following completion of the initial pressure sewerage system construction contract, for existing vacant lots within Tacoma South within the scheme boundary, Council will install all “on-property” works for a single collection unit at no expense to the property owner. Property owners will, however, be responsible for the connection of household sanitary drains to the vertical riser extending from the pressure sewer pumping unit to the surface.

Council will supply, install and commission the remaining mechanical and electrical items following the future construction of the houses on these vacant lots.

E. OPERATION AND MAINTENANCE OF PRESSURE SEWERAGE SYSTEM

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. Council will achieve these goals by:

- Being responsible for the maintenance and repair of the collection/pumping units.
- Monitoring of alarms.
- Providing residents with a Home Owner’s Manual to guide them in the operation of the pumping unit.

E1 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.

E2 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.

E3 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 296 of the Water Management Act 2000, gives Council authority to enter private property to undertake maintenance of works on its sewerage systems.

For new properties, Council may require as a condition of consent that a positive covenant be placed on the property title to enforce the needs for:

- Council access to the collection/pumping unit, including suitable access to enable a new pump to be carried onto the site to replace the existing pump

- The resident's role as defined in the Home Owner's Manual

E4 Level of Services

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:

- 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.
- Response to any overflow situation as soon as practicable.

E5 Home Owner's Manual

Council will supply (and keep up to date) a Home Owner's Manual to all owners of properties where pressure sewerage 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.
- Information on 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.
- Information on what can be safely discharged into the sewerage system.

E6 Maintaining the Overflow Relief Gully

The property sanitary drain must 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.

Each existing overflow relief gully within Tacoma South will be upgraded by Council to a one way fixture to mitigate flood water ingress as part of the installation of the Tacoma South Pressure Sewerage Scheme. This fixture is a standard requirement for new developments where site constraints prevent the overflow relief gully from being installed above the relevant flood level.

F ADMINISTRATION

This section outlines how Council will support the operation, maintenance and supply of the pressure sewerage system at Tacoma South.

F1 Implementation

Central Coast Council is responsible for the implementation of this policy.

F2 Review

In accordance with S 165 (4) of the Local Government Act 1993, this policy will be reviewed within one year of the election of every new Council.

F3 Sewer Charges and Repairs

Operation and maintenance of pressure sewerage systems, including "on property" works will be undertaken by Council.

As outlined in Section D3 of this policy, there are no resident serviceable components in Council's pressure sewerage schemes. 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 to recover costs from the property owner.

F4 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.

Internal Drainage Diagrams which describe private plumbing assets contained within each property and Licence details of the licenced installer will also be updated as part of the construction phase and held in Council's record system for future reference.

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.

F5 Spares and Rotables

Council will maintain a quantity of spares and rotables (eg pump, control unit) for maintenance purposes.

F6 Accredited Installers

Installation and commissioning of On-Property Works is only permitted to be undertaken by installers accredited by Council's Equipment Supply Contractor.

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

F7 Home Owner's Manual

Council will monitor and keep up to date the Home Owner's Manual which will also be available at free of cost on Council's website.

F8 General Information

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

