

PART 5 SECTION 2 – PRESSURE WASTEWATER COLLECTION (PWC) RETICULATION AND PWC SYSTEMS**529 GENERAL**

The Developer or Council will be responsible for the construction of the PWC reticulation whereas the installation of a PWC system on the property is the responsibility of the home owner. The PWC reticulation begins at [and includes], the boundary kit which is the point of connection with the householder's PWC system.

The installation of the "*on property*" works is as set out in the Rodney District Council Code of Practice for PWC Reticulation and PWC Systems and will involve:

- Only Council Approved PWC Products (pumping units and fittings) being installed on the properties
- Only Approved PWC Installers being allowed to carry out this work on the property.

The **Code of Practice** for PWC Reticulation and PWC Systems is included here as Section 2.1; the requirements for the **PWC Reticulation** are set out in Section 2.2 of this part of the wastewater standard.

PART 5: SECTION 2.1- CODE OF PRACTICE FOR PWC RETICULATION AND PWC SYSTEMS**529.1 INTRODUCTION**

Rodney District Council will permit the use of PWC systems to provide wastewater services to some properties within its district in accordance with this Code of Practice. In so doing Council recognises that its current wastewater policies and practices were developed on more conventional wastewater technologies and these will not always be applicable to pressure wastewater applications. Therefore it has developed this specific PWC Code of Practice to provide a clear guide as to where and how PWC systems can be used in its district.

529.1.1 What is a PWC Reticulation and a PWC System

A PWC reticulation as covered in this Code of Practice is defined as:

- A network specifically designed for pressure wastewater applications, and capable of supporting a number of PWC systems to transport the wastewater to the system discharge point.

A PWC system (also refer to as PWC) as covered in this Code of Practice is defined as comprising:

- a pumping unit (including tank), specifically designed for pressure wastewater applications, installed on each property to drain that individual property. These pumping units will only be those PWC products that have been approved by Council specifically for that purpose.
 - a grinder unit incorporated in the pumping unit to permit the use of smaller diameter pipes in both the PWC reticulation and on the particular property.
 - the private pressure main of these pumping units to Council's PWC reticulation, via a specially designed Boundary Kit.
 - a control panel and alarm system built within the pumping unit to warn residents that the pump is no longer working and to allow maintenance to occur within an acceptable time frame.
-

In these systems household (or other) wastewater drains by gravity into the pumping unit. From the pumping unit, flows are then moved via the collective pressure generated by the pumps in the property to the designated PWC reticulation discharge point. Typically these PWC reticulations are also based on pipelines that are laid at minimum depth and do not contain manholes or lampholes, or other conventional wastewater system technology.

For the terms of PWC reticulation and PWC systems including definitions, refer to Rodney District Council General Bylaw 1998-Chapter 20- Wastewater Drainage.

529.1.2 Overview of how the PWC System is meant to work in Rodney District

The PWC system on the property is the responsibility of the property owner to provide whilst the PWC reticulation connecting the properties will be provided by others, as set out below. The PWC reticulation will be handed over to Council, which will thereafter maintain it

Council will charge the property owners a wastewater rate to cover the operation and replacement of the PWC reticulation as well as the operation and replacement of the wastewater treatment plant.

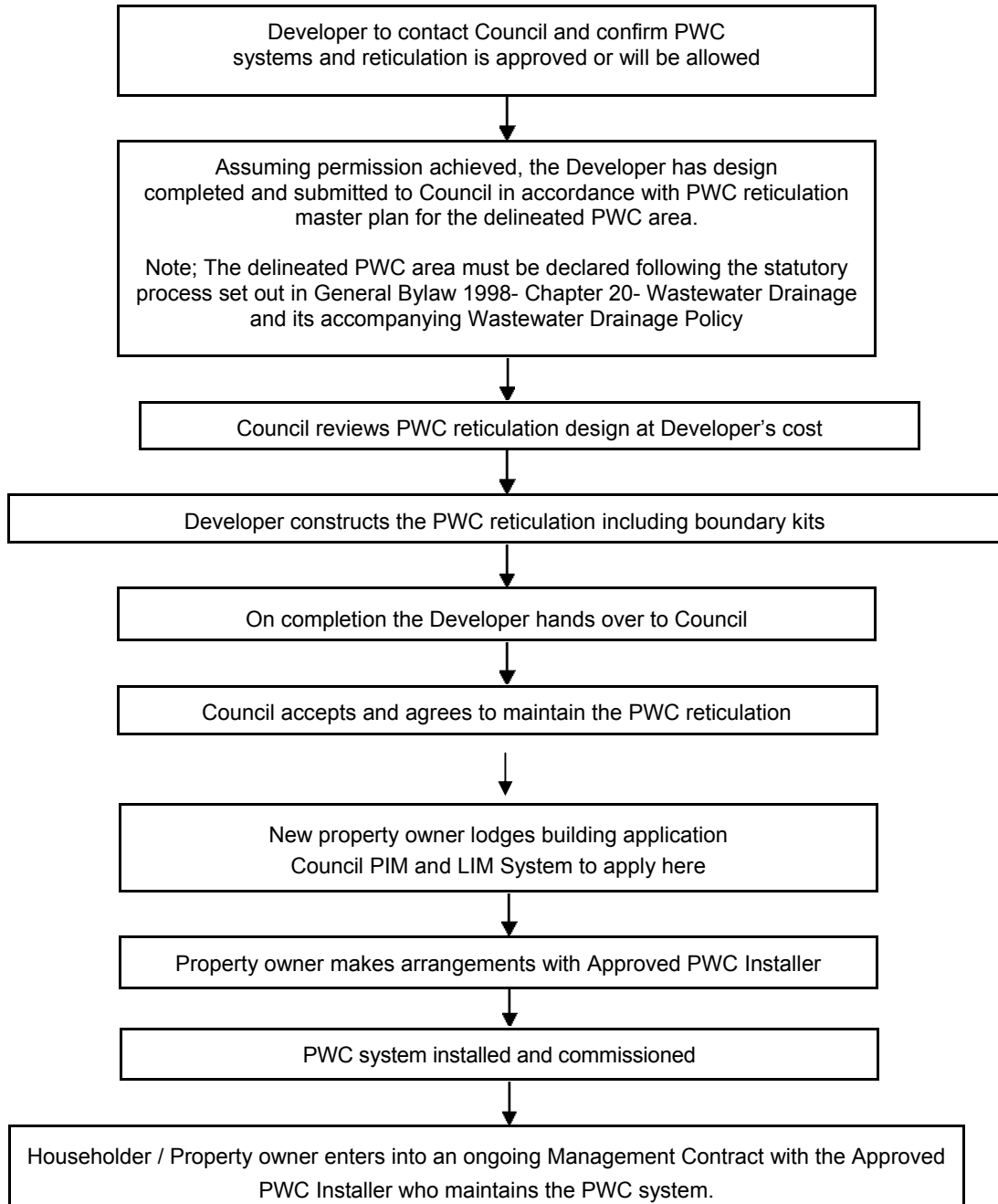
The property owner is responsible for the procurement and maintenance of the pumping unit on the property. To ensure that this service is available, Council will assist in the following:

- establishing a supply and installation regime for property owners by approving pressure wastewater technologies for use in the District and provide a list of Approved PWC Products and Approved PWC Installers.
- establishing a maintenance regime with the Approved PWC Installers whereby licensed repair agents of the Approved PWC Installers will maintain the units at the property owner's cost.
- establishing set levels of service for these Approved PWC Installers and then monitoring their performance against these standards. (refer 529.6.1).
- supporting this through the use of an emergency call centre of the Approved PWC Installers to facilitate an easy contact arrangement for residents when alarms may have activated.
- providing a home owner's manual to householders, which sets out what the householder is to do should the alarm activate.

The process for a new subdivision is shown diagrammatically in Chart 1. It involves the PWC reticulation being provided by the Developer including the boundary kits to the PWC system to each property within the subdivision. The Consent Notice for the properties being sold will indicate that the property has PWC reticulation and general information as to the implications of this to all potential property buyers.

When the property is purchased, the owner will engage an Approved PWC Installer to supply and install the pumping unit on the property. The Installer will test the pumping unit and complete a Producer Statement for the PWC System before making the unit operational and handing it over to the householder for ongoing operation. The householder will be required to enter into an ongoing Management Contract with the Approved PWC Installer and will be protected by warranty arrangements applicable to the pumping unit.

Chart One:

Diagrammatic Representation of Process for PWC Reticulation and PWC Systems for a New Development

- *The Developer will determine through feasibility analysis the best methods of providing wastewater services to that development. The Developer will then contact Council to determine if PWC systems and PWC reticulation can be used in the new development.*
- *The Developer is to have a full pressure wastewater detailed design carried out and submitted to Council. This will include all relevant data and will be in the prescribed format as outlined in 529.3.1.6.*
- *Council will maintain a list of Approved PWC Products and Approved PWC Installers for the information of Developers and Home Owners.*
- *The home owner will be provided with a list of Approved PWC Installers when they lodge their building applications.*
- *The PWC Installer will supply, install and commission the pumping unit, briefing the owner on how to operate the unit.*
- *The home owners/householders will operate the units meeting the power costs and will call the Emergency Call Centre of the Approved PWC Installer if an alarm eventuates or the unit breaks down. They will familiarise themselves with the Home Owner's Manual.*
- *In response to any breakdown/alarm activation the owner/householder will call the Emergency Call Centre of that PWC installation which will then send a repair agency. They will directly bill the householder for any subsequent repairs.*

529.1.3 Other Applications of Pressure Wastewater in Rodney District

Most PWC applications within the District will be in new developments but there are other potential applications that may be encountered and the basic procedures in relation to these are as set out below.

529.1.3.1 PWC Reticulation Areas

Properties will be delineated through the process of amendment to Chapter 20- Wastewater Drainage as required by the Local Government Act 2002 and subsequently identified in council's database.

This information will be provided on request, to the applicants for Land Information Memorandum (LIM's) or Property Information Memorandum (PIM's).

529.1.3.2 To Overcome Problems with Existing Onsite Wastewater Treatment System

Where an on-site wastewater treatment system is not performing and is considered too difficult to fix, Council may for health reasons require the property owner to connect to the public wastewater system where this is possible. Where such a connection (either to a public gravity or PWC reticulation) requires a PWC system the Council will provide the householder with the contact list of Approved PWC Installers. The provisions related to PWC systems will then apply (whether or not the system connects to PWC reticulation).

In these instances the property owners will meet all costs involved with this changeover and connection to the wastewater network, including the payment of other wastewater charges if applicable.

529.1.3.3 Extension of a Wastewater Network Area

Council will not as a general principal extend the existing wastewater network area beyond the boundaries of the designated urban area of service.

Insofar as the use of PWC reticulation, where a wastewater network area is to be extended or introduced the Council's Wastewater Drainage Policy [General Bylaw 1998-Chapter 20] Schedule1- section 13.6 states:

'pressure wastewater reticulation' means that part of the network designed to receive and convey wastewater through a pressurised system of pumps and infrastructure. These areas are generally shown on Pressure Wastewater reticulation Area Plans attached as Schedule 12 and which may be amended from time to time by the Council by resolution and publicly notified, as geographical areas become serviced by pressure wastewater reticulation.

Decisions on which areas are to be provided with wastewater services and the type of reticulation to receive and convey wastewater [pressure or gravity] are made by Council in accordance with the decision making provisions of the Act [LGA 2002] and will comply with its statutory consultation requirements.

As a consequence of the foregoing once a decision on PWC servicing has been made the Council will timetable the provision of service and resolve to update the Plans and Schedule 12 inclusive of the Bylaw'.

529.1.3.4 To Replace Existing Pump Ups

Any existing property that discharges into a public wastewater network through a private pumping arrangement (pump up) may continue to operate this system. These private pumping arrangements are not covered by this policy if they do not fall within the definition of a PWC System and are not of the PWC technology as approved by Council.

Property owners may contact an Approved PWC Installer to convert their existing private installation to a Council Approved PWC Product and take advantage of the maintenance arrangement that is attached to that system. Property owners will meet all cost associated with this changeover, and submit an application in the prescribed format:

Chart Two:

Diagrammatic Representation of the Process for a PWC Reticulation and PWC System for an Extension of the Existing Wastewater Service:

1. House holder approaches Council.
2. Council investigates.
3. Prelim design letter to resident.
4. Consultation with Householder/owner.
5. Design and construct PWC reticulation outside and to existing wastewater network.
6. Householder contacts Approved PWC Installer and arranges system installation.
7. Householder meets all costs.
8. Approved Installer installs and commissions PWC system.
9. Householder maintains unit at own cost.

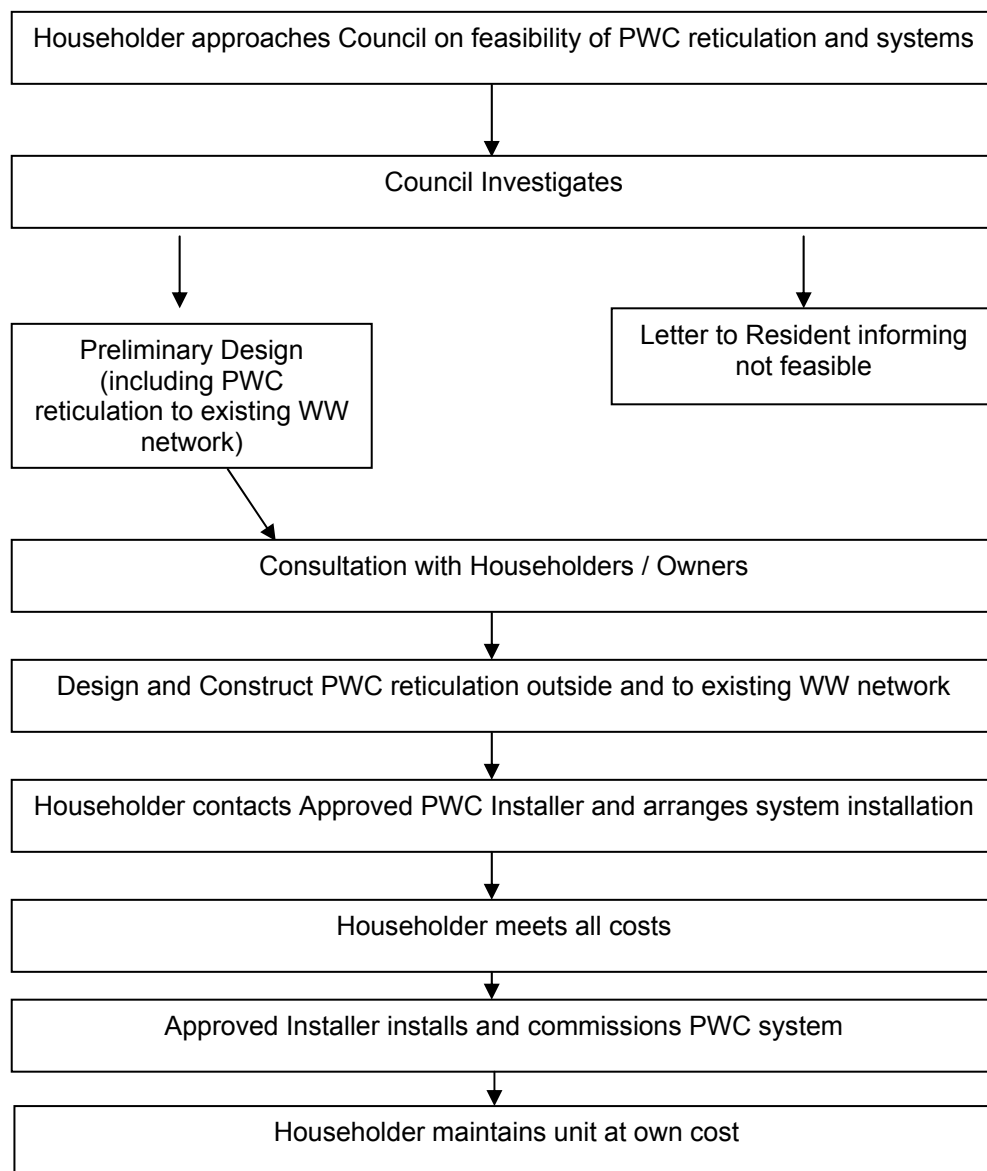
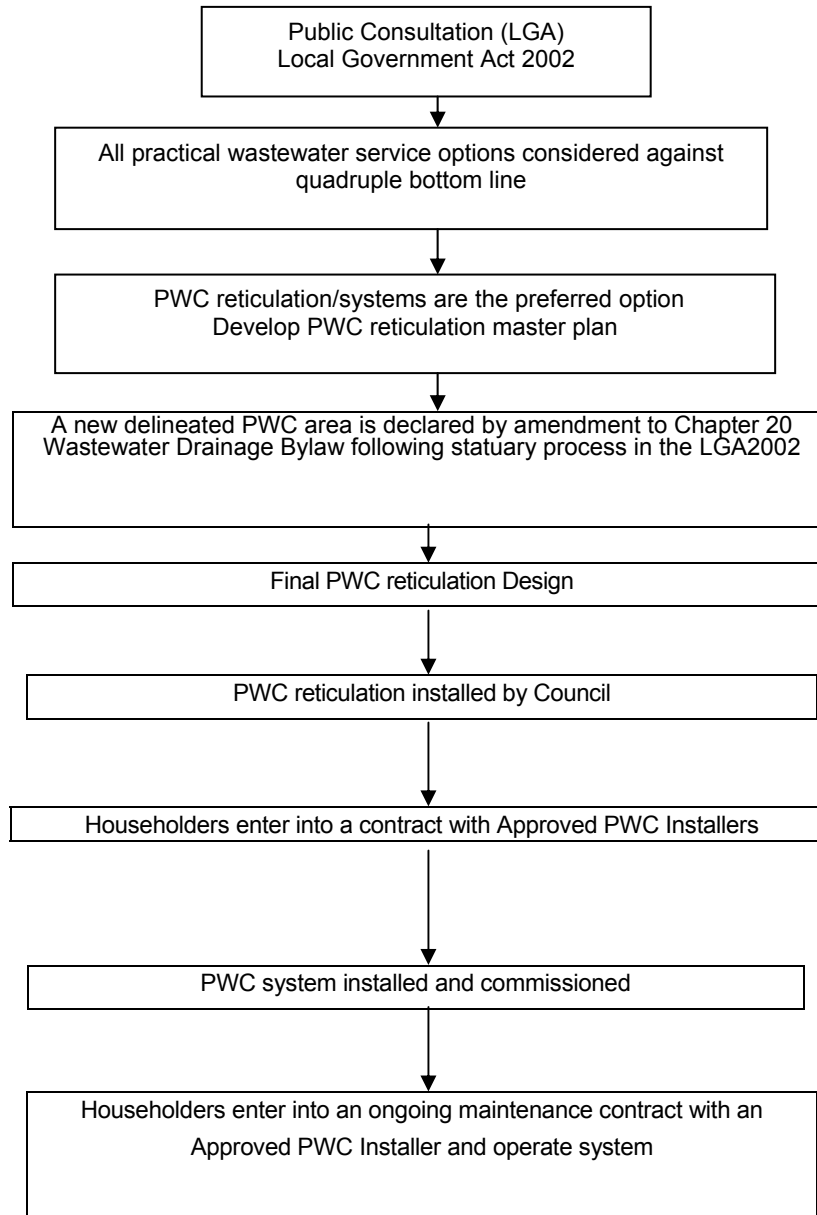


Chart Three:

Diagrammatic Representation of the Introduction of PWC Reticulation and PWC Systems into areas not served by the wastewater network:



529.1.3 To Service areas not served by the wastewater network

In existing developments that are not served by a wastewater network and where it is determined that adoption of PWC systems and PWC reticulation is viable and appropriate, Council will after completing the public consultation process required by the LGA 2002 and Chapter 20, Wastewater Drainage Bylaw proceed with the PWC reticulation of the area.

Decision to proceed will be subject to sufficient funds being available in the LTCCP.

Council will in these instances meet the supply and installation costs of the PWC reticulation up to and including the boundary kit. The householder will be responsible for the specific on site PWC system costs.

Householders will be informed and have to agree to all costs to be incurred before the commencement of the scheme. This process is shown in Chart Three.

529.1.4 Where can PWC Systems and PWC reticulation be used in the District?

Use of PWC systems and PWC reticulation will occur only where so designated by Council, but as a general guide as follows:

1. Typically this technology will be used in new subdivisions where these systems are demonstrated to have significantly lower 30 year life cycle costs than other forms of wastewater service provision, for the particular application.
2. There may be specific problems in a specific area such as high stormwater inflow and infiltration compromising the performance of the existing wastewater reticulation and treatment system.
3. There may be specific problems in a specific area that the adoption of this technology overcomes such as the need to install the wastewater system by directional drilling.
4. The area is already serviced by PWC systems and PWC reticulation in the case of latter extensions of the wastewater system.
5. To service an existing urban development that is not economically viable to service by the use of other wastewater technologies.
6. To overcome problems with on site wastewater systems, where PWC effectively represents the only economically viable option.
7. To service properties that are at the periphery of the current wastewater zones where it is economically feasible to do so and the owner is prepared to meet the costs of that extension.
8. They are not precluded by Council's Wastewater Planning.

Because PWC systems and PWC reticulation may, in some locations, be a lower cost technology, this will not necessarily mandate its use, as other factors may mitigate against such usage. Proponents of this technology will need to demonstrate how this technology meets the above requirements as well as the specific objectives set out in 529.1.5.

529.1.5 Objectives sought by Council in the adoption of PWC technology

In allowing the use of PWC systems and PWC reticulation Council is seeking to achieve the following objectives:

- all urban property owners have a wastewater service that is affordable and reliable and appropriate to the application. PWC technology is another tool to make that overarching goal achievable. It may be the most economically viable option in some conditions.
- to overcome specific environmental problems that may eventuate in parts of the district, such as stormwater inflow and infiltration problems and the need to avoid damaging trees in the construction phases.
- to minimise annual wastewater rates to householders and the costs of extensive asset replacement to the wider rate base in the use of wastewater assets.
- to minimise environmental events arising from the wastewater systems such as spills or overflows.
- to continue to explore new technologies that assist Council to evolve to more sustainable solutions in its wastewater drainage service provision.

529.2 Roles and Responsibilities

Whilst PWC systems and PWC reticulation do not effectively require more effort than the more traditional wastewater technologies, they are still new to New Zealand and are quite different to the more traditional wastewater technologies. Therefore it is imperative that all parties involved with the installation and ongoing operation of those systems have a clear understanding of what is required of them before commitment.

529.2.1 The Householder

Householders may be different to the property owner, and it is those that are resident on the property who will be responsible for the ongoing operation and maintenance of the PWC system. This section deals only with those components attached to the operation and maintenance of these units and hence a distinction is drawn here between the householder and the property owner, although clearly the two could be the same.

The PWC pumping storage unit has sufficient storage capacity to allow for timely repairs, even if the pumping unit totally fails, or if there is an extensive power outage. Similarly the boundary kit contains a check valve that means the only persons that can cause the system to overflow onto the property are the householders. It is expected that householders will minimise the possibility of a system overflow happening and facilitate the quick repair of the pumping unit. This can be achieved by:

- rapidly reporting any alarms or overflows if they occur on the property.
- minimising wastewater generation until the unit is repaired.
- not discharging into the system any of the substances indicated in the Home Owner's Manual as being inappropriate for PWC systems.
- reading and understanding the contents of the Home Owner's Manual as this sets out step by step what to do to operate these systems, and what to do if the alarm activates.
- ensuring that the Approved PWC Installer has good access to the pumping unit on the property. Requirements are set out in the Home Owner's manual.
- meet the costs of the power for the operation of the pumping unit.

Householders must follow the Home Owner's Manual and when in doubt contact the Emergency Call Centre before taking any action. Where the property is rented the resident is to provide the Approved PWC Installer with the contact details of the property owner, and if there is any doubt then contact the Emergency Call Centre before taking any action.

529.2.2 The Property Owner

This section covers the role that the property owner must comply with it covers:

- installation of the PWC system on the property;
- meeting the costs of any repairs required;
- modifications to the existing wastewater systems after consents approval has been gained.

The property owner must contact Council for the list of Approved PWC Products and Approved PWC Installers.

The property owner/householder is initially to contact one of the Approved PWC Installers and make arrangements for the installation of the PWC system on their property. This should happen as soon as building plans are lodged with Council. This will give the Approved PWC Installer time to ensure a pumping unit is available when required.

The owner will subsequently be responsible for the cost of any repairs and this will also be the case for those owners not resident on the property. ***The on property pumping units must be repaired immediately and there can be no delays on the basis of insufficient funds for repairs at the time.***

The non residential property owner is to also ensure that the householder has a copy of the Home Owner's Manual so that they are fully versed in how to operate the system. The home owner should also ensure that the persons renting the property have a basic understanding of the PWC system and what to do if an alarm activates. The home owner's property inspections should include the PWC system and any obvious concerns that may have arisen from their inspection should be reported to the Approved PWC Installer.

529.2.3 The Approved PWC Installer

Approved PWC Installers have been approved by Council to install Approved PWC Products on the properties in the District.

Council will provide a list of Approved PWC Products and Approved PWC Installers and arrangements for the actual installations are to be made by the property owner. It expects the following arrangements as a minimum of the Approved PWC Products and Approved PWC Installers in relation to the PWC system:

- the Approved PWC Installer will provide a quote to the home owner to carry out the works, including the supply of the unit.
- the Approved PWC Installer will work with the property owner in designing the pumping unit and house piping system. Thereafter a drawing will be provided to the home owner and the unit will be installed in accordance with that drawing.

- if the property to be served has an existing dwelling that is to be serviced by the PWC system then the Approved PWC Installer will carry out a full audit of the electrical and drainage conditions and will advise the home owner what (if any) works may need to be done to bring these connection points up to standard, for connection to the pumping unit.
- the PWC installation should be carried out with the minimum disruption to the property that can be practically achieved.
- the unit will be tested and a Producer Statement will be completed to ensure that it is working satisfactorily before the Approved PWC Installer leaves the property.

- the Approved PWC Installer will provide basic instruction to the property resident in the operation of the system and provide a copy of the Home Owner's Manual. Council will provide the Installer with copies of the Home Owner's Manual as required.
- the Approved PWC Installer will invoice the property owner for the works carried out in accordance with their quote.
- the Approved PWC Installer is expected to promptly carry out repairs to the unit in response to any notification from the owner.

All installations will be in accordance with the Manufacture's Instructions, this Code of Practice and Council's Standards for Engineering Design and Construction.

Council will monitor the performance of the Approved PWC Products and the Approved PWC Installers through the register at the Emergency Call Centre and spot inspections of the work.

Where Council believes the Approved PWC Installer's work is not up to the standards set in this Code of Practice and the Standards for Engineering Design and Construction, it will contact the PWC Installer and request an audit of the work and review the status of the arrangements with the same.

Council may then choose to remove the Approved PWC Product and/or the Approved PWC Installer from the register of approved products/installers following proven poor performance.

529.2.4 The Approved PWC Products

Council will make its needs clearly known to the PWC product suppliers both in terms of the units it wants supplied and what it is looking for in the installation and maintenance arrangements. Thus for any PWC product supplier to be considered they need to provide this full suite of services as required in this Code of Practice and the Council's Standards for Engineering Design and Construction, as well as the Expression of Interest Specification.

In some applications one or more technologies may be inappropriate to a specific design and as a result some of the technologies approved by Council may be precluded from that particular subdivision. Council will advise the suppliers of Approved PWC Products and the Approved PWC Installers of any such constraints.

529.2.5 The Developer

The Developer will be the proponent for new subdivisions and will be required to carry out the following in relation to a PWC reticulation for the new area:

- ascertain whether PWC systems and PWC reticulation will be permitted in the area they are seeking to develop, and determine from Council the appropriate discharge point.
- have the reticulation system designed according to 529.3 including any carrier mains required to transport the wastewater to that designated discharge point.

- have all of the design information required of the designer (529.3), available for Council at the appropriate time in the review cycle.
- determine the location on each property for the Boundary Kit.
- submit the design report and plans as prescribed in 529.3.1.6 to Council for review.
- meet any capital contributions required by Council.
- ensure that all prospective property owners have good information available on what PWC systems are, the costs associated with them and what they will involve for them as prospective owners of the property ensure that only Council approved flushing points, valves and Boundary Kits are installed.

When the PWC reticulation is completed, the Developer will seek to hand these over to Council in accordance with the handover conditions laid out in Council's Engineering Standards. If the PWC reticulation is not found to be of sufficient standard for handover then the **Developer** will rectify all faults as advised by Council at his/her own costs. No sale of the properties will be allowed until the services have been handed over and accepted by Council.

529.2.6 Council

Council will assist the installation of PWC systems and PWC reticulation within the District by the following actions:

- define what is and isn't acceptable PWC technology in Rodney, and may limit what can be used in some subdivisions if that design is not compatible with Council's PWC reticulation.
- maintain and make publicly available the list of Approved PWC Products and Approved PWC Installers for householders.
- randomly audit work being carried out by the Approved PWC Installers, as a means of protecting the property owners.
- have detailed Engineering Design and Construction Standards specific to PWC systems and PWC reticulation, providing the technical details required for the installation of these systems in the District
- have and maintain a Home Owner's Manual other than the Approved PWC Installers.
- be the repository for household asbuilts.
- provide general information on PWC systems to members of the community needing that advice.

529.3 DESIGN OF PWC RETICULATION AND PWC SYSTEM

The design of a PWC reticulation involves the design of the PWC pipework and fittings that joins the different properties to a common discharge point. The design of a PWC system involves the design of the on property works and remains the responsibility of the home owner.

These two design components need to work together to deliver a total design that meets the needs of both PWC system and PWC reticulation.

529.3.1 The PWC Reticulation**529.3.1.1 The PWC Reticulation Designer**

All PWC reticulation designs are to be carried out by an experienced designer to achieve an optimised solution between:

- Scouring velocities;
- Critical numbers of pumping units connected;
- Retention time in mains;
- Air management;
- Odour management;
- The likely pump heads to be generated;
- The ability to isolate mains for repairs if required;
- Staging of connections;
- Overall master planning objectives.

These designs need to accommodate all the above considerations as well as all others set out in Council's Standards for Engineering Design and Construction. Details of the designer's general experience with PWC systems and in designing PWC reticulation needs to be separately detailed in any submission to Council.

Any design needs to be set out clearly, as it will become Council's asbuilt drawings. Design specific drawing requirements are detailed in Council's Engineering Standards. The designer is also expected to provide a clear guide as to which pump technology their design is based upon and the other PWC technologies that can be successfully used in that design.

The design of "on property" works shall be undertaken by Approved PWC Installers and must accommodate the property owner's reasonable needs in the "on property" layout design.

529.3.1.2 Pipe Materials and Pipe laying

Only those materials as set out in Council's Engineering Standards may be used in installing a PWC reticulation in the District. These Standards will be periodically reviewed to ensure they remain current to Council's and the Community's needs.

All pipes are to be laid, backfilled, marked and joined as set out in Council's Engineering Standards. These Standards are to be used where there is any variation between pipe laying codes.

529.3.1.3 Fittings

Pipe fittings must be as in 529.3.1.2 above.

In the case of more specialized fittings below these must be selected from Council's list of acceptable fittings as set out in the Standards.

- Boundary Kit
- Flushing Points
- Isolating Valves
- Check Valves
- Air Valves

529.3.1.4 Termination of the PWC Reticulation.

The termination points for the PWC reticulation will be taken as:

- the inlet to the boundary kit on each and every property to be served within the PWC reticulation.
- the designated discharge point into a Council wastewater manhole, pumping station or treatment plant for the PWC reticulation serving the particular development. Council will nominate the discharge point for the PWC reticulation to which the proposed development must be connected.

529.3.1.5 PWC Reticulation Design Principles

The design will make due allowance for:

- Masterplan areas in accordance with Council requirements.
- All technical requirements as set out in Council's Engineering Standards for PWC and as follows:-
 - Peak and average day wastewater discharge to downstream connection point.
 - Design parameters selected.
 - Materials selected.
 - Maximum mains operating pressures.
 - Wastewater discharge profile (quality and quantity) and non residential loading.
 - Electricity outage issues and flows.
 - Air management.
 - Odour management.
 - Wet weather allowances if any.
 - Hydraulic performance of the system.
 - Project staging.
 - System limitations.
 - The nature of the road/ footpath area to be serviced.
 - Where directional drilling will be best used.
 - All road opening approvals that may be required.
 - Approved PWC Products required operating criteria.
 - Any other authority approvals that may be required
 - Property connection methodology.
 - Traffic management.
 - Safety of workers.
 - General availability of materials
 - The protection of the environment.
 - PWC reticulation commissioning plans.

529.3.1.6 New Sub Divisions / New Developments in PWC Reticulation Areas

With the submission of any design for wastewater services in a PWC reticulation area, the following information should be provided to the Council in an accompanying design report. (Data in electronic format as *.pdf-files and not larger than 4,5Mb each)

1. Detail design report which includes details of:
 - a. Design parameters
 - b. Number of lots
 - c. Type of lots
 - d. Discharge profile
 - e. Odour management strategy
 - f. Operating strategy including reticulation flushing
 - g. PWC system to be used
 - h. Expected build-out rate
 - i. After power outage flow rate and duration
 - j. Air management strategy
 - k. Trade waste strategy
 - l. Site specific information such as ground conditions
 - m. Proposed materials
 - n. Construction specification for street mains and on-property works.
2. Hydraulic analysis output tables complete including peak flow rates, average day flow rates, pipe sizes, flow velocities, total dynamic heads, retention time, etc.
3. PWC reticulation co-ordinated design drawings including construction details.
 - a. Reduced drawings from A1 size format in scale 1:500, reduced into A4 size pdf-files, each pipe marked and referenced to the hydraulic analyses output table. Set of drawings with index sheet and referenced sheets.

529.3.1.7 Design Changes

If during some latter stage of the project a change is proposed to the PWC reticulation design, this change must be formally signed off by the reticulation designer on the design drawings (and subsequent as built drawings). If Council discovers any altered boundary kit connection points, pipe size and type or specification, or amendments to the design that have occurred without this formal sign off by the reticulation designer, this will be sufficient basis for a refusal to accept handover of the entire development.

Any design changes need to be accompanied with detailed notes from the designer that verify:

- That the changes will not make a significant difference to (or have a negative impact on) the reticulation performance originally determined by the designer for in this application (or the accumulative effect of more than one change).
- The details of the new pump pressures to be expected if the changes are significant.
- How these changes sit with the overall master planning

The on property PWC system

The on property design will in most instances be based around the installation of a basic pumping unit in an agreed location and in accordance with set design rules governing such installations. It then is about the subsequent connection of that pumping unit to:

- The Boundary Kit
- The household wastewater drainage pipelines
- The integration of the on property system with the overall master planning for the development.

Note: Refer to Appendix P for further information

529.3.2.1 PWC System Designer

For standard residential dwellings and simple non residential dwellings, the Approved PWC Installers will be sufficiently trained to do this design for the Approved PWC Products. For large body corporate housing units or commercial installations, these designs will be carried out by experienced designers and experienced Approved PWC Installers of that "specific" technology. As these designs may also require a departure from the standard pumping unit being used in the District area this design will involve:

- Sizing the pumping units for the hydraulic requirements.
- Layout of the on property systems, which may involve more than one pumping unit.
- Larger than standard boundary kit.

The property owner must provide the designer with details of the expected flows the pumping unit is likely to encounter.

529.3.2.2 Units per Property (Residential)

The PWC systems are to be designed on the basis of one pumping unit per property. The pumping units are not to be shared between properties. For multiple dwellings on the same property, a single unit (if of sufficient capacity) may be used to serve more than one dwelling, however this unit may have more than one pump, and more specialized design will be required for this application.

529.3.2.3 Non-Residential Properties

Where PWC systems are to be provided to non-residential properties such as schools, hotels, caravan parks, retail, commercial, industry etc, the property owners constructing these particular on property dwellings will need to determine:

- The size and nature of the pumping units to be used.
- The location of the different pumping units if multiple applications are required.
- If multiple pump units are required.

All units are to be installed according to the plans submitted to Council. Council will retain the right to use expert designers to provide advice on the adequacy of designs at the cost of the developer.

For existing non-residential properties, the design for the system will be on the basis of the existing development and the flows it is contributing to the wastewater drainage system. If property owners wish to upgrade the system to meet an increased demand or changed function, then this will be at the property owner's cost and will need to first gain appropriate consents approval.

529.3.2.4 Consultation Requirements

The designer and Approved PWC Installer are expected to work in consultation with the property owner in designing the on property system. This is the basis of the Council's approval for the use of PWC systems. This consultation is a matter between the above parties, and as a guide the consultation program may comprise:

- A site meeting between the designer and the property owner.
- Production of a drawing showing the proposed "on property" layout, for the owner to sign off.
- Any agreed modifications (if required).

The need for a consultation process is to ensure that the property owner's reasonable needs and potential plans for the development for the property are accommodated in the initial design. However it is not intended as a wish list on the part of the property owner and the design should be restricted to reasonable needs.

The owner should not have to attend the site meeting if they do not wish to but should be strongly encouraged to. It will be hard to argue the inappropriateness of a design if the owner was not there to indicate their needs in the first instance. Alternatively the property owner can send an agent to act on their behalf.

529.4 AVAILABILITY OF THE PWC PUMPING UNITS

An Approved PWC Installer will provide a 24 hours / 7 day service to all PWC system installations in the District. Apart from the Emergency Call Centre, his support arrangements will include the supply of spare pumps and spare parts. Spare units will be those units to be inserted whilst the owner's unit being repaired.

The list of Approved PWC Products is available from Council and will be periodically reviewed. Council will limit the list to those products with a proven PWC system record.

529.4.1 Warranties

The pumping unit will be provided with a warranty that meets the Consumer Guarantee Equity requirements as set down in New Zealand legislation. This warranty will cover all parts, labour and the replacement arrangements and should cover all circumstances except vandalism or inappropriate operation by the resident.

529.4.2 Availability of the Pumping Units

In the adoption of PWC systems, there will be no unreasonable delays to the occupancy of a new home or business as a result of the unavailability of the basic pumping unit. Specialist units may take longer to procure but they will be dealt with through the owner contacting the Approved PWC Installer as soon as a development/ building application is lodged and the size of the unit is known.

The Approved PWC Product/ Approved PWC Installer relationship must address this issue, as well as for repairs purposes and will be a further evaluation criterion for Council when considering continuation or approval of PWC technologies.

529.4.3 Availability of Fittings

The Developer will be required to obtain all approved fittings before commencing any construction works. Council will show approved fittings in the detail drawings in the Engineering Standards for use on PWC schemes. The developer must allow appropriate delivery time for these fittings and the pipe materials themselves.

529.4.4 Locking of the Pumping Units

All pumping units that are to be installed on public or private property are to have lids secured by some form of locking device generally based around non standard bolting.

529.4.5 Locking of the Alarm Control Cabinets

Alarm panels are to be locked through a series of different locks and the keys are to be supplied to the householder with different locks on adjoining properties. Master keys are to be retained by the Approved PWC Installers to open all panels when repairs are required.

529.4.6 Unapproved PWC Technology

If Council (or one of the Approved PWC Installers) discovers a property where PWC technology that is not on Council's list of approved technologies has been installed, it will be immediately removed and replaced with technology that is approved. This replacement will be at the cost of the property owner.

529.4.7 Council as a Customer

Council will provide any pumping units that may be required for public applications and as such will be treated as another customer. The Approved PWC Installer will be expected to carry out the property design with similar invoicing arrangements to all other property owners in the PWC reticulation area.

529.5 CONSTRUCTION/ INSTALLATION**529.5.1 Construction of the PWC reticulation and PWC system**

Construction of the PWC reticulation will be in accordance with:

- The design plans submitted
- Council's standards for the construction of PWC systems and PWC reticulation
- The zone order set out on the design plans if it is a large development that is being reticulated over a period of time.

529.5.2 Construction Handover

At the completion of the construction phase there will be a formal handover of the reticulation assets. For this to occur, the works need to be sufficiently complete, and comply with that state as designated in Council's Standards as being applicable for handover. If the works are not completed to the standards required by Council then handover will be refused on this occasion and subsequent re-inspection will be required.

A minimum of 5 working days notice will be provided to Council before a handover inspection occurs. All inspections will be on an aid basis.

Council will not operate the reticulation without formal handover and will not permit any wastewater to be discharged into the designated discharge point until the handover is complete. Council will also not release any of the individual properties for final sale by the Developer without this handover

529.5.3 Maintenance Liability

Refer Part 1 clause 104 Maintenance.

529.5.4 As Built Drawings, Maintenance Manuals etc

It will be a condition of handover that the as built drawings be complete and available to Council in the format stipulated in the Council's Engineering Standards. This will include any maintenance manuals, flushing programs etc as required.

529.5.5 Installation of the PWC System (Pumping Units)

Installation will be in accordance with:

- The Manufacturer's instructions
- All Council's Standards applicable to the installation of the pumping units
- Any specific requirement of the local energy supplier

Where this installation is to occur on an existing property that is serviced by an on-site treatment system, then that existing onsite system must be rendered safe in accordance with Council's separate guidelines for that application.

In general the installation should be:

- Done with the minimum possible disturbance to the property owner (or the resident in the case of an existing property)
- The property owner's reasonable needs should be accommodated as these will be at their cost.

529.5.6 Timing of the Installation

Installation of the pumping unit should be carried out immediately prior to the occupancy of the house but after the significant civil construction works are completed on the property. This is to avoid damage to the pumping unit.

The installer is to ensure any test specific to new homes is carried out before connecting the new pumping unit to the building.

529.5.7 "Asbuilt" Information for the PWC System

After the pumping unit has been formally commissioned the Approved PWC Installer is to provide to Council all of the asbuilt information required in the Council standards for PWC applications. This must be done within seven working days. Failure to do so may generate a complaint from Council to the Approved PWC Installer or in the case of repeated offences; Council may review the ongoing relationship with the Approved PWC Installer. Council may itself invoke a suspension of the installations construction rights to install the units in the District, if it deems the matter serious enough or if the Approved PWC Installer fails to rectify the problems in a satisfactory time frame.

Ultimately failure to address this issue may see the approved product removed from Council's list of approved technologies.

529.5.8 Home Audit for Existing Dwelling

Where a PWC system is to be installed to service an existing dwelling the Approved PWC Installer will undertake a full audit of the existing dwelling power board and hydraulic connections, and then advise the property owner what work, if any, needs to be undertaken to upgrade these connections to allow a pumping unit to be installed. The costs associated with these upgrades will be met by the property owner and must be carried out before the pumping unit will be installed on the property.

529.6 OPERATION AND MAINTENANCE OF THE PUMPING UNIT**529.6.1 Levels of Service to be provided by the Approved PWC Installers**

The resident will be responsible for the operation of the pumping unit with maintenance to occur through the Approved PWC Installer, the sections below stipulate the rules governing these arrangements.

The maintenance arrangement will mirror the maintenance services provided for Council's more traditional wastewater collection services, particularly during business hours. Typically where contacted by a resident during the working day the Approved PWC Installer will be expected to have that work carried out on that day.

For after hour's service, the Approved PWC Installer will specifically provide the following additional services:

- Next day repairs or replacement of the pumps for alarm activations with the repairs to occur before midday on the next day.
- Immediate response to any overflow situation.

Council's requirement is that the Approved PWC Installer will be in a relationship with a supplier of an Approved PWC Product, and that the repair service be available 24 hours per day, 7 days per week throughout the year.

529.6.2 Billing the Property Owner

After receiving a call through its Emergency Call Centre, and proper logging of the maintenance request, the Approved PWC Installer will carry out the repairs and will invoice the property owner.

529.6.3 Resident/ Owner Complaints

Council will refer all service complaints to the Approved PWC Installer and demand a comprehensive explanation. If the levels of complaint become high the Approved PWC Installer will need to address all issues arising.. Continuing high levels of complaint will not be tolerated.

If the complaint is in reference to the technology itself then the Approved PWC Installer will show cause why the Approved PWC Product should not be removed from Council's list of approved PWC technologies.

529.6.4 Access for Repair Agencies

The resident is required to ensure the Approved PWC Installer or his repair agency has good access at all times and the requirements in respect to access will be set out in the Home Owner's Manual. Failure to provide this access could see the resident liable for any additional costs incurred by the repair agency and may include costs for an additional service call, even when the repair agency is unable to gain access. At minimum poor access will be grounds for the levels of service not being met.

529.6.5 Review of Performance of the System

Council will periodically host a meeting of the suppliers of Approved PWC Products and Approved PWC Installers to review the performance of the PWC systems in the District. It will thereafter look to amend this document and or its Engineering Standards and or the Home Owner's Manual based upon the findings that result from that meeting.

Council will keep a record of performance of both the Approved PWC Products and the Approved PWC Installers as an input into this review process.

529.6.6 Safety Rules and Access to the PWC System

The householder will not touch the valves attached to either the boundary kit or the pumping unit. Residents may not enter the pumping unit for any reason as this is a confined spaces environment and may be harmful to the resident. Householders may gain entry to the alarm control panel including switching off the power to the pumping units, which will be on a separate circuit. The householder may not alter any of the settings of the system.

529.6.7 Service Calls

The Approved PWC Installer shall provide an emergency call centre for all residents to contact if their alarm activates. The Approved PWC Installer shall fix a sticker providing this Emergency Call Centre Number and the make of the PWC unit to all of the alarm panels. This information will also be included in the Home Owner's Manual. Home owners should call the number of the Emergency Call Centre for all service issues.

529.6.8 Identification of Approved Installer's Employee or Agent

Any Approved PWC Installer employee (or repair agent) entering private property must have photographic identification and appropriate authorisation from the Council to enter the property. This must be readily visible at all times.

529.7 MODIFICATIONS TO HOMES**529.7.1 General Modifications to the Building/ Home**

Building over the PWC system will not be allowed. However Council will allow some relocation of the "on property" pipeline or the pumping unit to enable subsequent building modifications subject to:

- the hydraulics on the property allowing the pumping unit to be moved.
- there being a suitable alternative route/s for the property delivery pipeline.
- the associated costs for the relocation works being met by the property owner.
- all technical requirements, as set out in Council's Engineering Standards for Pressure Wastewater Collection, being met.
- full details of the "as built" works being provided to Council.
- any modifications being carried out by an Approved PWC Installer.
- appropriate Consent's approval is sought

Property owners wishing to modify their property must first seek Council permission to do this as part of their building consent application and thereafter must seek an Approved PWC Installer to carry out these works. Any system found to be modified without appropriate approval may be the basis of legal action by Council against the home owner and the Approved Installer.

529.7.2 Installation of Spas and Swimming Pools

Council will permit the installation of swimming pools, spas and other high water use appliance into the PWC system providing they meet the requirements set out in Council's Engineering Standards for these appliances. The home owner should discuss these matters with Council prior to acting as they may require some modifications to the PWC system.

529.8 SUPPORTING DOCUMENTATION

In support of this Code of Practice, there is the following supporting documentation that further describes PWC systems:

- WSA 07- 2007. Pressure Sewerage Code of Australia. Code to address applications not covered by Rodney District Council documentation and the referenced Standards in WSA 07 - 2007.
- WSA 01-2004 Water Service Association Polyethylene Pipeline Code.
- AS2033 – Installation of polyethylene pipe systems.
- AS/NZS 3500 (1998) - Plumbing and Drainage Standards.
- AS/NZS 3000 - Wiring rules.
- AS/NZS 2566 (1998) - Buried Flexible Pipelines Code.
- NZS1546:1 - Standards for Tank Integrity.
- Council's Standards for Engineering Design and Construction.
- General Bylaw 1998-Chapter 20- Wastewater Drainage.
- PWC Home Owner's Manual.
- General Information on PWC explaining what a PWC system is.

529.9 DEFINITIONS

Set out below is a series of commonly used terms in relation to PWC systems to ensure a consistency in the interpretation of this document and other Council documents on PWC systems. If there are any other terms that require further interpretation then this will be provided by the Council:

- Alarm/Control Panel – Small box that houses either or both the electrical controls for the PWC pumping unit and the alarm control system for the pumping unit. Composition of what this box includes can vary between Approved Products and Approved Installers.
- Approved PWC Product - PWC system which meets the performance standards and has the guarantees set out in Schedule 13 to Chapter 20 - Wastewater Drainage Bylaw of Rodney District Council, latest edition.

- Approved PWC Installer - A suitably qualified PWC installer and maintenance technician approved by the Council under Section 10 of Chapter 20 Wastewater Drainage Bylaw of General Bylaw 1998
- Backlog area - existing residential areas that do not currently have a public wastewater network
- Boundary Kit – This is a valve box at the property boundary connecting the PWC system to the PWC reticulation, incorporating an isolating valve, flow directional valve and an inspection tee piece
- Council – the Rodney District Council and its successors
- Designer – This is the individual responsible for the design of either the PWC reticulation or the PWC system (or both)
- Flushing Point – This is a formal point in the PWC reticulation to which a large supply of water can be connected under pressure to flush out the PWC pipelines, or alternatively to remove wastewater from the PWC reticulation
- Overflow Relief Gully – This is a control overflow device on the property to prevent overflows occurring inside the dwellings, by ensuring that overflows occur outside of the dwelling. Its arrangements and dimensions are contained in the AS/NZ 3500 (1998) Plumbing and Drainage Standards
- Pump Head – This is the actual static head plus the frictional losses that the pump has to meet in discharging the storage vessel's contents. The final or actual pump head is determined from field measurement to confirm previous design calculation of the pump head
- PWC system – These are the total works to be carried out on the residential / commercial/ industrial property and include any excavation, installation, compaction and the following:
 - the pumping unit;
 - the property delivery pressure line;
 - wiring of the pumping unit to the property power board;
 - connection of existing property wastewater drainage to the pumping unit;
- PWC - means an approved pressure wastewater collection and disposal system using grinder pumps, for the purpose of delivering domestic wastewater from individual properties to the wastewater network
- PWC reticulation - means that part of the wastewater network designed to receive and convey wastewater through a pressurized system of pumps and infrastructure. These areas are generally shown on Pressure Wastewater reticulation maps attached as Schedule 12 [to the Wastewater Drainage Bylaw-Chapter 20] and which may be amended from time to time by the Council by resolution publicly notified as geographical areas become identified for pressure wastewater reticulation [see Wastewater Drainage Bylaw-Chapter 20 - Schedule 1 Wastewater Drainage Policy]

- Pumping Units – this includes the pumps, storage vessel, alarm system and control board, pump pressure switches, etc and is installed on the property
- Reticulation 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