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Water Metering And Servicing Guidelines

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Definitions

Backflow	Backflow is the reverse flow of a liquid within a piped plumbing system. It may be caused from back-siphonage, back-pressure or a combination of both. It can result in contaminants being drawn back into the Westernport Water supply system through a cross-connection. All general water connections to the water supply system must provide for an appropriate containment backflow prevention device at the outlet of the main water meter, in accordance with the relevant Australian Standard.
Class A Recycled Water	Class A recycled water is the highest quality of recycled water and is achieved after a tertiary treatment process combined with pathogen removal. The Department of Health and Human Services (DHHS) (www2.health.vic.gov.au) has classified Class A recycled water as safe for use on irrigation of food crops – including those eaten raw. DHHS requires an extensive verification process to ensure Class A water can be guaranteed. Environment Protection Authority Victoria (EPA Victoria) (www.epa.vic.gov.au) also supports its use.
Conditions of Connection	A list of conditions that Westernport Water issues as part of its consent to carry out plumbing work for water and sewerage works. Provided for under Section 145 of the *Water Act 1989*.
Drinking Water	The highest quality water, also know as potable water.
Dry Tapping	A dry tapping is generally 20mm in diameter (nominal Ø), 25mm poly minimum and installed by the developer at the time water mains are laid within residential estates. A dry tapping includes a connection and service pipe which terminates within each parcel of land (lot) within the estate. This is installed by the Plumber and Westernport Water only provides the stop tap meter tails and water meter.
Dwelling (Residential)	A building that is used, or is intended, adapted or designed for use, as a separate residence, (including kitchen, bathroom and sanitary facilities) for an occupier who has a right to the exclusive use of the dwelling but does not include: (a) a building that is attached to a shop, office, warehouse or factory and is used, or is intended, adapted or designed for use, as a residence for an occupier or caretaker of the shop, office, warehouse or factory; or (b) any part of a motel, residential club or residential hotel or residential part of licensed premises under the Liquor Control Reform Act 1998. *Source: Based on the definition of "dwelling" in S. 46H of the Planning and Environment Act (Vic) 1987.*
Extended Private Water Supply Works	Where a parcel of land is not fronted by a Westernport Water main, however is connected via a private water service (owned and maintaining by the property owner(s)) located generally in the road reserve to the Westernport Water's water main some distance away, it is connected with the consent of Westernport Water under Section 145 of the *Water Act 1989*. ***Please note:*** *Section 145 of the Act provides that Westernport Water may consent to a person's works being connected to the works of Westernport Water and that consent may be subject to any reasonable terms and conditions Westernport Water thinks fit.*
Main Water Meter	A main water meter is Westernport Water's approved water meter, connected directly from the water main located inside the property, as close as possible to a property's title boundary on any water service (drinking water, recycled water and fire service).
Plug Off/Plugging	Is when an existing tapping up to 50mm Ø is required to be removed. The plumber is responsible to excavate and expose the tapping band/ferrule and a Westernport Water representative will seal the service. Plug offs done in conjunction with new wet tappings are to be carried out on the same day.

Private Fire Service	Part of any works from the water main of Westernport Water to an outlet on a serviced property, where the outlet is designed to supply water to the property for the principal purpose of combating an outbreak of fire on the property, whether or not that part of the works is also connected to another outlet used for purposes other than combating an outbreak of fire.
Private Water Supply Works (Internal property pipework)	The property service pipe (including any backflow prevention device and any other fixtures or fittings other than a water meter) from the outlet of any fixtures installed on the serviced property to the property service works, but does not include any extended private water supply works.
Property Service Pipe	A water supply pipe connecting the water main of Westernport Water to the outlet of any fixtures installed on a serviced property.
Remote Reading Water Meter	A remote water meter may consist of a conventional water meter with a remote reading device attached or an integrated unit. A remote reading device electronically records the volume of water flowing through the water meter and transmits the reading by radio or similar technology when activated by the meter reader. The benefits of remote water meters are that Westernport Water reads the water meter outside of the property thereby ensuring security and privacy for the customer. (Only installed with Westernport Water approval.)
Reticulated Water/Sewer Supply System	A network of water/sewer mains, pump stations etc owned and operated by Westernport Water to provide for the community's water and sewerage needs.
SCDAT	A single check detector assembly testable is a testable device for use in "low hazard" conditions in private fire services only, to prevent backflow caused by back-siphonage or back pressure. It is intended for use in private fire service lines under continuous pressure and to allow billing of small draw-offs of water by incorporating a metered bypass line (minimum 25mm diameter), bridging from upstream of the non-return valve to downstream of the non-return valve.
Self-Contained Occupancy Commercial/Industrial	Has the same meaning as used by Council Valuers for producing valuations to determine municipal rates. The definition of the term has been developed as Commercial/ Industrial by both Common Law and legislation, in accordance with the *Valuation of Land Industrial Act 1960 and Local Government Act 1989*. For the purpose of determining the appropriateness of water metering/provisioning for metering, a self-contained occupancy shall contain a tea/kitchen sink, toilet and basin as a minimum. The occupants are not required to utilise common facilities outside the individual occupancy. All parent property general water connections are required to be metered in accordance with the requirements documented in these guidelines.
Single Check Detector Valve (SCVT)	A single check detector valve is designed to prevent the unwanted reversal of flow from the private fire service into Westernport Water's water supply system. Assists in the proactive management of water supply systems. It is designed for use in "low hazard" conditions in private fire services to prevent backflow caused by back-siphonage or back pressure. It is intended for use under continuous pressure conditions.
Stop Valve (Isolation)	A flow control fitting capable of regulating and shutting off the flow in a water main or property service pipe, and includes any fitting of a stop tap type, gate valve, ball valve or ferrule tap type.
Check Meter	Water meter connected after a main water meter to register water used by individual multi-dwelling/occupancy developments on a parcel of land. Westernport Water do not read check meters for billing purposes.
Tapper	A Westernport Water representative authorised to carry out water tapping activities.
Tapping	Is the activity carried out to connect a new service to the water main.

Tee Insertion	Is similar to a wet tapping, however, a tee insertion applies to a connection greater than 50mm Ø diameter where a tapping cannot be achieved under pressure, or due to site conditions, a divide valve being installed or a hydrant service upsized in the same location. The plumber is responsible for excavating to expose the water main. The main is required to be shut off by Westernport Water and therefore existing customers connected to the main must be notified prior to the work taking place. Westernport Water requires five (5) working days notice for a planned shut down. The relevant Westernport Water representative will cut a section of main out and insert the tee piece or in some cases plug and seal the service. Tee removals done in conjunction with new wet tappings are to be carried out on the same day.
Tee Removal	Is when an existing connection greater than 50mm Ø is required to be removed. The plumber is responsible for excavating and exposing the tee/tapping band. The main may be required to be shut off and therefore existing customers connected to the main must be notified prior to the work taking place. Westernport Water requires five (5) working days notice for a planned shut down. The relevant Westernport Water representative will cut the tee piece out or in some cases seal the service. Tee removals done in conjunction with new wet tappings are to be carried out on the same day.
Westernport Water	Refers to Westernport Region Water Authority who are licensed to provide drinking water, sewerage services and recycled water to properties in their supply district.
Water Mains (Drinking and Recycled)	A water main owned and operated by Westernport Water, including any stop valve and any fittings located at the connection between a water main and a property service pipe.
Wet Tapping	A wet tapping is a type of connection which is made into the reticulated water supply main under pressure. A wet tapping may be for any size from 20mm Ø and greater. ***Please note:*** *The service pipe work and water meter assembly must be in place prior to the connection being made.*

Abbreviations

Ø	Nominal Internal Pipe Diameter
AS	Australian Standard
CSMP	Customer Site Management Plan
DELWP	Department of Environment, Land, Water and Planning
DHHS	Department of Health and Human Services
DPU	Dependent Persons Unit
EPA Victoria	Environment Protection Authority Victoria
GWIP	Galvanised Wrought Iron Pipe
RW	Recycled Water (Class A)
VBA	Victorian Building Authority
Westernport Water	Westernport Region Water Authority

Relevant Documents, Standards, Acts and Codes

- AS 1851: 2005 Maintenance of Fire Protection Systems and Equipment
- AS 3565 Meters for Water Supply
- AS/NZS 3500.1 – Water Services
- Backflow Prevention Standards AS/NZS 2845
- Essential Services Commission – Water Industry New Customer Contributions – Guideline
- Fire System Design Standards – AS 2419, 2441, 2118.1-6
- Land Development Policies and Pricing Manual
- Melbourne Retail Water Agencies Edition (MRWA) of the Water Supply Code of Australia
- *National Measurement Act 1960*
- *National Measurements Regulations 1999*
- Plumbing Code of Australia
- Plumbing Regulations 2008 or subsequent versions
- Residential/Home Fire Sprinkler Services designed under the AS 2118.4 or AS 2118.5
- Water (Estimation, Supply and Sewerage) Regulations 2014
- *Water Act 1989 (VIC)*
- Westernport Water's Customer Charter
- Westernport Water's Customer Contract

1. Introduction

1.1 Water Metering and Servicing Guide

This document contains Westernport Water's guidelines for the connection to, and management of, all meter installation requirements to Westernport Water's assets and applies to drinking water and non-drinking water services and trade waste connections.

The Water Metering and Servicing Guidelines provide consistency across the Westernport Water service area.

The guidelines have been developed to assist developers, plumbers, designers, builders, plumbing specialists, property owners and Westernport Water staff. Guidelines contained within this document aim to build understanding around water metering and plumbing work(s) at the interface with Westernport Water's assets.

1.2 Changes to this policy document

Westernport Water may change or replace any part of these Water Metering and Servicing Guidelines at any time. The latest version of this document can be obtained from Westernport Water by downloading a copy from our website *www.westernportwater.com.au.*

Any changes to these Water Metering and Servicing Guidelines will operate prospectively and not retrospectively.

1.3 Legal and regulatory framework

Westernport Region Water Corporation (Westernport Water) is a statutory authority with water supply and sewerage responsibilities conferred on it by the *Water Act 1989 (VIC)*, including by Parts 7 - General Powers, 8 - Water Supply and 14 - Enforcement of the Act.

Section 160 of the *Water Act 1989 (VIC)* empowers the Authority to make by-laws in respect to the management, protection and use of all lands, waterways and works under its management and control, including penalties and enforcement procedures for non-compliances.

A person who fails to comply with or do anything required to be done under the *Water Act 1989 (VIC)*, Regulation or By-Law, is guilty of an offence and risks prosecution by the Authority.

1.4 Objectives

These guidelines document necessary water metering and water servicing conditions required by Westernport Water for new developments, alterations to existing developments and existing water metering arrangements. Illustrations in this document should be used as a guide only.

For detailed technical information refer to the Plumbing Code of Australia incorporating AS/NZS 3500 National Plumbing and Drainage Code or Water Services Association of Australia (WSAA). Where possible, conditions have been standardised to assist industry/customers. Water metering guidelines refer to standard development projects and apply to the majority of development proposals. Where these policies are inappropriate for a particular development, Westernport Water will determine the necessary requirements on a case-by-case basis.

These guidelines are to be read in conjunction with Westernport Water's Conditions of Connection in accordance with Section 145 of the *Water Act 1989 (VIC)* and the Water (Estimation, Supply and Sewerage) Regulations 2014.

1.5 Development Agreement, Fees and Charges

To apply for formal conditions and fees applicable for a development, the owner/developer or consultant is required to submit a completed Application for Development Agreement as outlined in the Land Development Manual.

2. Water Service Metering General

2.1 Meter Standards

Westernport Water requires the installation of an approved water meter (known as a main water meter) to measure the volume of water supplied through property service works to a parcel of land.

Water meters will be provided by Westernport Water at the owner's cost. The water meter will be appropriate to the type of development, intended purpose and required flow rates. Westernport Water will maintain and change the meters periodically at no cost to the owner except where owner or third party damage has been established.

"All meters and products supplied to Westernport Water conform to the NMI R49-1, Australian Standard AS/NZS 3565 and AS/NZS 3855, including the "Standards Mark" and compliant with the requirements of the National Measurement Act".

The selection of size and type of water meter will be dependent on the required flow rates nominated by the applicants and intended use of the development. All water meters used by Westernport Water for billing purposes are to be of an approved type supplied by Westernport Water.

2.2 Minimum sizing of service pipes supplying water to developments

Pipe sizing shall be determined by using the "flow rates and loading unit table" and "probable instantaneous demand table" set out in AS/NZ 3500 Section 3 – Sizing of Water Services.

Note: *Pipe size calculations are based on a DN copper service and shall be not less than the sizes stipulated in Table 1 (below) and does not include the hydraulic limitations of the water service. Normally this size meter will provide adequate pressure and flow, unless the plumber can demonstrate by using calculations that a larger size is required.*

Applications for a property service pipe over 50mm needs to be assessed by Westernport Water's Engineering and Construction Team.

Table 1: Recommended service and meter size

Property Type	Recommended Pipe Size (main to meter pipe internal diameter)
Single House / Factory Unit	– 20mm
Dual Occupancy / Factory Unit with separate driveway	2 × 20mm
Dual Occupancy / Factory Unit with shared driveway	25mm
3 Multi-Units / Factory Units	3 × 20mm or 1 × 25mm
4-5 Multi-Units / Factory Units	32mm
6-9 Multi-Units / Factory Units	40mm. Based on an inferential type water meter with a nominal flow of 2.08 L/s.
More than 10 Multi-Units / Factory Units	To be advised by Westernport Water

2.3 Water Meter Ownership

Westernport Water retains ownership of all meters and will operate them in accordance with the *Water Act 1989 (VIC)* for the purpose of measuring volume usage as described in Section 142 as follows:

1. An Authority may

a. provide or install, and maintain, a meter on any land to measure the amount of water delivered to the land by the Authority in the exercise of its water supply or delivery functions; and

b. position the meter on the land, as it considers appropriate.

2. If an Authority believes that a meter on any land connected to its system is functioning inaccurately, the Authority may compute the quantity of water delivered to the land in the exercise of its water supply or delivery functions during a specific period

a. by having regard to the quantity of water delivered to the land in any previous or subsequent period or periods, or the quantity of water delivered to any similar property during the period concerned; or

b. in any other way that is prescribed.

3. A meter provided or installed by Westernport Water remains the property of Westernport Water.

2.4 Custody of Meters

1. Any licensed plumber to whom Westernport Water supplies a meter for installation upon a particular property, shall be responsible for the safe custody thereof and if the meter is damaged while in the licensed plumber's custody or is lost or installed on the wrong property, the licensed plumber responsible shall pay to Westernport Water the cost of its repair, replacement or retrieval and proper installation.

2. The occupier or owner of any property upon which any Westernport Water meter is installed shall be responsible for the safe custody of the meter and if it is stolen, damaged or is not readily accessible for reading, replacement or maintenance purposes the occupier or owner shall pay to Westernport Water the cost of its replacement, repair or proper installation.

3. On the termination of any metered water service the licensed plumber responsible for the work shall forthwith return the meter to Westernport Water, and shall be responsible for the safe custody of the meter and if the meter is lost or damaged while in the licensed plumber's custody the licensed plumber shall pay to Westernport Water the cost of its retrieval replacement or repair.

4. A police report is required for any reported stolen meters.

2.5 Removal or Relocation of Meters

No person shall remove a meter or alter its position unless the person has first obtained permission in writing from Westernport Water to do so.

2.6 Disconnection of Water services

Westernport Water requires that a formal application to disconnect from its water assets be filed along with the application fee. The plumber will be required to disconnect the water service by means of cutting off the service pipe at the main ferrule and sealing the ferrule with a brass plug. Alternatively the service may be converted to what is termed a dry tapping arrangement.

Where an existing water service is no longer required the water service must be cut and sealed at the main ferrule and the water meter must be returned to Westernport Water within five (5) working days.

The removal of the water or fire service from the first sluice valve to the property is the property owner's responsibility.

Where a property has a service connection larger than 50mm, which is no longer required, it must be removed. Removal of a large tapping, which is called a "Tee-Removal", is only to be undertaken by Westernport Water or its nominated Contractor.

All works associated with the "Tee-Removal" will be at the property owner's cost.

3. Water Service Connections (Tappings)

3.1 General requirements

A completed Water Tapping Application must be submitted in person or alternatively lodged electronically with Westernport Water. Applicable fees must be paid and consent issued prior to any works being carried out.

Generally the maximum length of property service pipe is 30m. If a longer connection is required, an extension of the water reticulation main will be necessary.

Tappings across dual lane roads with median strips are at Westernport Water's discretion and may require an extension of the water reticulation main.

Where the existing main does not have the capacity to service the proposed development, as determined by Westernport Water, the water main will need to be upsized prior to any new tappings.

A water service tapping shall not be placed under a driveway.

Any development that has an existing tapping servicing the property and where the design of the development impacts the tapping or meter location, the tapping shall be relocated to avoid the main ferrule or service being located under a driveway and/or the meter being subject to damage.

Prior to the commencement of any works, the contractor/licensed plumber is required to obtain the location of all services from Dial Before You Dig (DBYD) by telephoning 1100.

The water service pipe and water meter assembly, including isolating valve and appropriate backflow prevention device, must be installed prior to the tapping taking place. All pipes and fittings must meet Australian Standards and the Australian Drinking Water Guidelines.

Main to meter property service shall be via Polyethylene pipes (PE 100 PN12.5) as a minimum as per AZ/NZ3500. PE pipe is not part of the water meter assembly. It is the developer and/or owner's responsibility to ensure that property service pipes be laid having regard to the applicable road owner's requirements.

The contractor/licensed plumber must be on-site at the time of the tapping and take all necessary precautions for safety in the vicinity of the excavation, including traffic management and the protection of pedestrians.

Prior to commencing any works in the vicinity of existing operational or abandoned water mains, the material type of the water main must be identified. In the event Asbestos Cement (AC) water mains are present, precautions as detailed in the WorkSafe Compliance Code "Removing asbestos in workplaces" must be followed for the removal and disposal of the non-friable asbestos material.

The contractor/licensed plumber must ensure any excavation for water tapping or water service must comply with current safety regulations and standards.

Loose polyethylene sleeving (Greensleeve) is used to protect steel mains and fittings against corrosion. The sleeving is essential to prolong the life of the reticulation system and care should be taken when exposing the main to protect this sleeving from damage.

All relocation works shall be at the property owner's cost.

3.2 Wet tappings

The responsible Westernport Water representative performs the tapping of the existing reticulated water main. Plumbers or developer contractors ARE NOT permitted to carry out this work. However, the plumber is responsible for exposing the water main by means of excavation. Not all water mains/aqueducts are capable of having a property service connection. The selection of water main used for this purpose is at the discretion of Westernport Water.

Unless previously advised, the licensed plumber should confirm the tapping/plugging time by telephoning Westernport Water or its nominated agent on the working day prior to the tapping/plugging.

Excavation must be dug by 8.00am on the day of the tapping and for public safety appropriate safety barricading is required. Failure to provide an excavation as specified, including the correct meter and service installation, will result in a tapping cancellation.

The contractor/licensed plumber is required to have the water main exposed with adequate clearance and free of all ground water when the tapper arrives. Allow half an hour each side of the tapping time to allow for any unexpected time delays or changes.

The minimum excavation size required for the tapper to do the work is specified in Figure 1 (right).

If these conditions are not met, the plumber will be required to rectify the problem and to re-book the tapping for the next available tapping day.

Some large water meters may take longer to be supplied and therefore customers should allow a minimum of 10 days lead time when arranging the water connection.

Typical wet tapping arrangements are specified in Figure 2 (on Page 12).

ALL WORKS TO COMPLY WITH OHS REGULATIONS 2017

Excavation Requirements

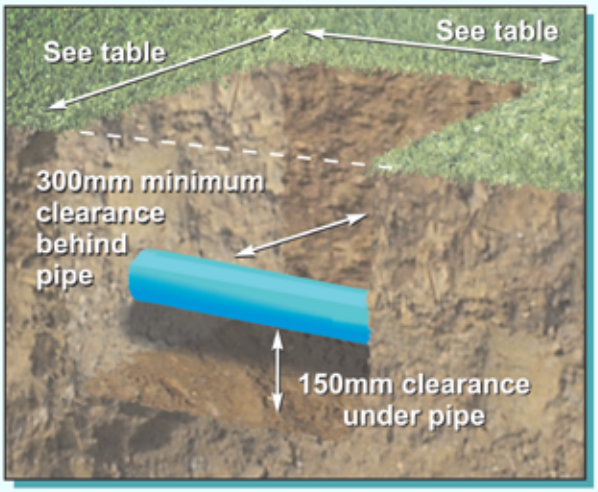
Maximum length from the main to the end of the valve is 450mm.

The Diagrams below show the minimum requirements. If the area is obstructed and prevents an excavation of this size, please contact the relevant Water Corporation, as they may still be able to work around the obstruction.

The excavation is to be dry and de-watered by the contractor.

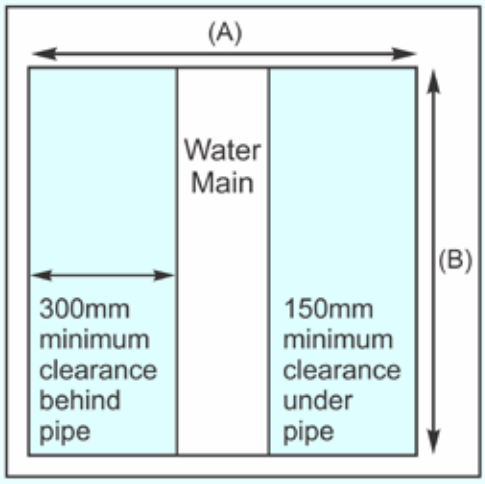
Any other requirements that are directed to beon site, i.e. Tripods etc.

The contractor is to check 800mm from the centre of the excavation to ensure that there are no pipe collars or any other tappings.



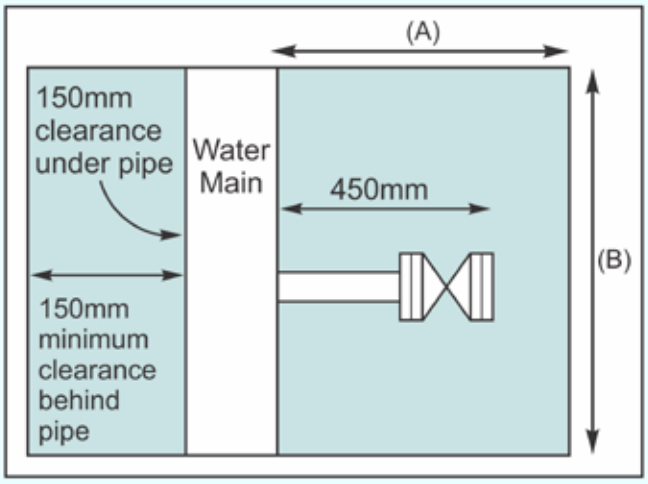
20mm to 50mm Tappings

Technical Specifications



20mm to 50mm Tappings

Main Size = All	Depth to top of main
(A) 1000mm (B) 1000mm	Less than 750mm
(A) 1200mm (B) 1200mm	Between 750-1500mm
(A) 1500mm (B) 1500mm	Over 1500mm



Larger than 50mm Tappings

Main Size		
80 - 150mm	(A) 1200mm	(B) 1000mm
200 - 250mm	(A) 1500mm	(B) 1000mm
300 - 450mm	(A) 2500mm	(B) 1500mm

"Excavations exceeding 1.5 metres in depth require trench shoring; including benching out and/or shields to ensure worker's safety. Trenches must have temporary fencing to ensure public safety."

Figure 1 – Minimum Size of Excavation for Water Tappings and Pluggings

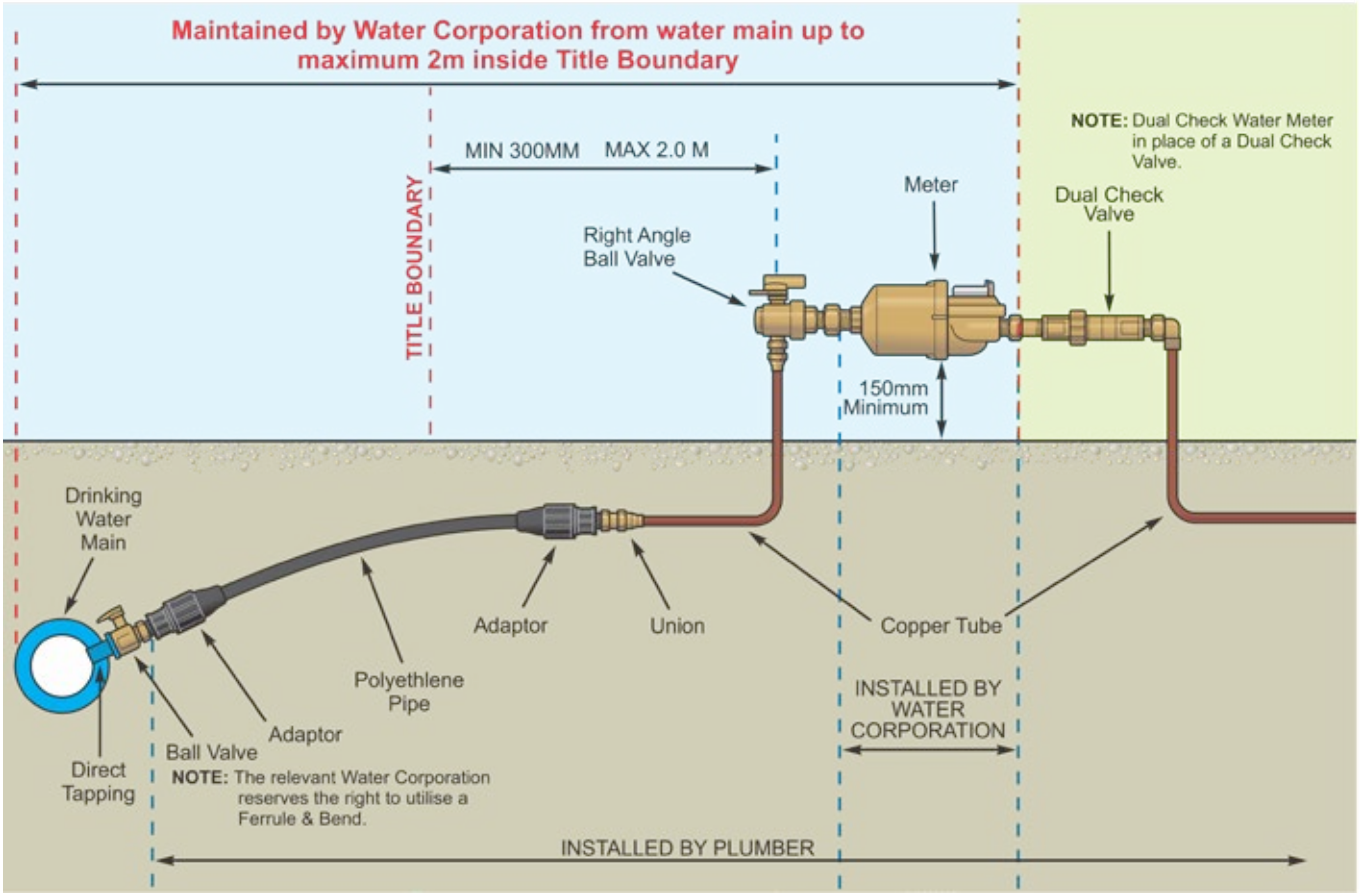


Figure 2 – Drinking Water Wet Tapping

3.3 Dry tappings Drinking Water (Residential only)

Dry tappings are constructed as a part of the development by the developer at the time of construction of the new water main within the residential development.

The location of the dry tapping can be obtained from Westernport Water.

A connection point is provided within 300mm inside the property boundary, on the outlet side of the water meter assembly for the plumber to connect the internal water service pipe.

A fully completed Water Service Connection Application must be submitted to Westernport Water with applicable fees paid and consent issued prior to any works being carried out.

The water meter assembly for 20mm Ø dry tappings must be installed by a Licensed Plumber at the owner's expense.

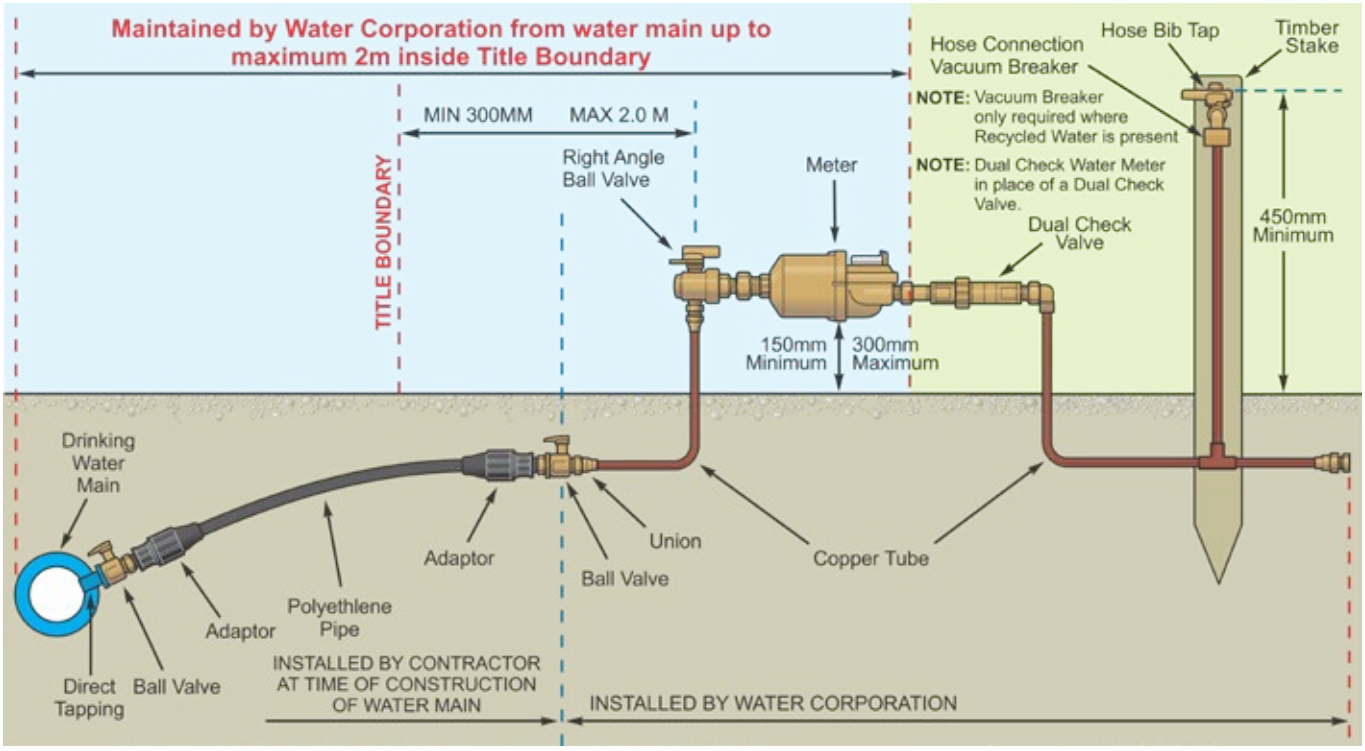


Figure 3 – Drinking Water Dry Tapping

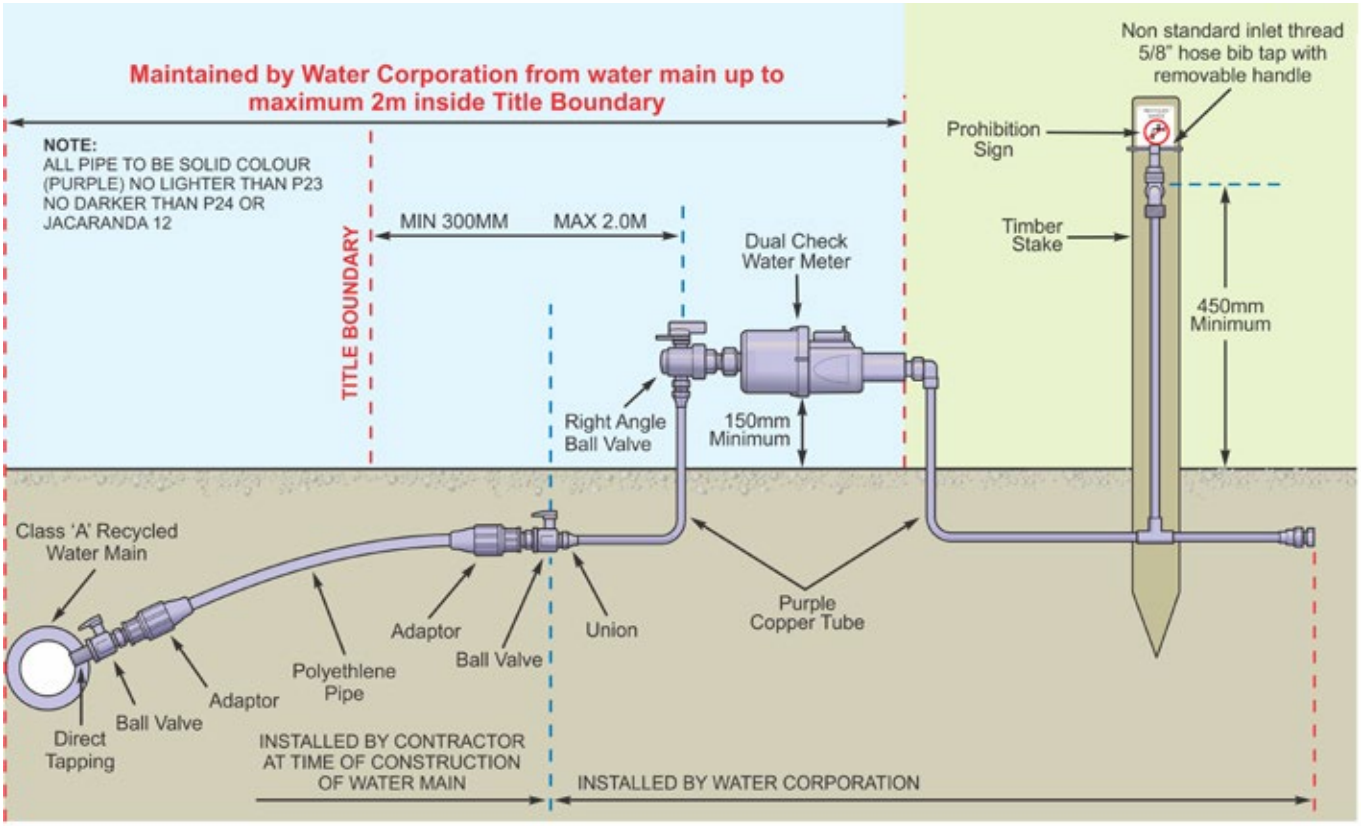


Figure 4 – Non-Drinking Water Dry Tapping (Residential Only)

4. Meter – Installation

4.1 General

Only licensed plumbers or persons authorised by Westernport Water shall carry out any works for the installation of any meter.

The cost of installing a meter will be the responsibility of the property owner/developer or the party requesting the installation.

Plumbers who fail to install meters in accordance to Westernport Water's requirements will be required to rectify the non-compliance at their own expense.

4.2 Meter Assembly setup

Meters are to be assembled as required by AS/NZ 3500.

Meters must be fully supported with minimum ground clearance of 150mm, and should not be greater than 300mm from the finished ground level to the base of the water meter assembly.

Where a Reduced Pressure Zone (RPZD) is installed as part of the meter assembly, a minimum height above the natural ground for the RPZD relief shall be 300mm.

4.2.1 Meter Location in General

Unless otherwise approved in writing, Westernport Water requires water meters to be within the property and accessible, within two (2) metres of the title boundary that abuts the water main, minimum 300mm inside from title boundary:

1. Directly opposite to the connection (tapping) and right angle to the reticulation water main.
2. Unless otherwise approved in writing, Westernport Water requires meters for domestic, commercial developments and shops to be positioned within the property boundary, not inside the building or gated properties, and accessible and clear of obstruction.
3. The meter assembly shall be located and protected to avoid damage and vandalism. Meters and pipe work are not to be imbedded in or under brick fences or pillars or encased in concrete.
4. Must be readily accessible for reading, maintenance and replacement.
5. Subject to Westernport Water approval, can be installed in utility rooms or meter cabinets located within common access areas and must be readily accessible.
6. Must not be located within garages, roof cavities, ceiling spaces or inside pits.

Typical residential drinking water and recycled water meter location and assembly are shown in Figures 5, 6, and 7 (below and right):

Recycled water meters are to be positioned to the left of the drinking water meter assembly, maintaining 300mm separation from the drinking water meter.

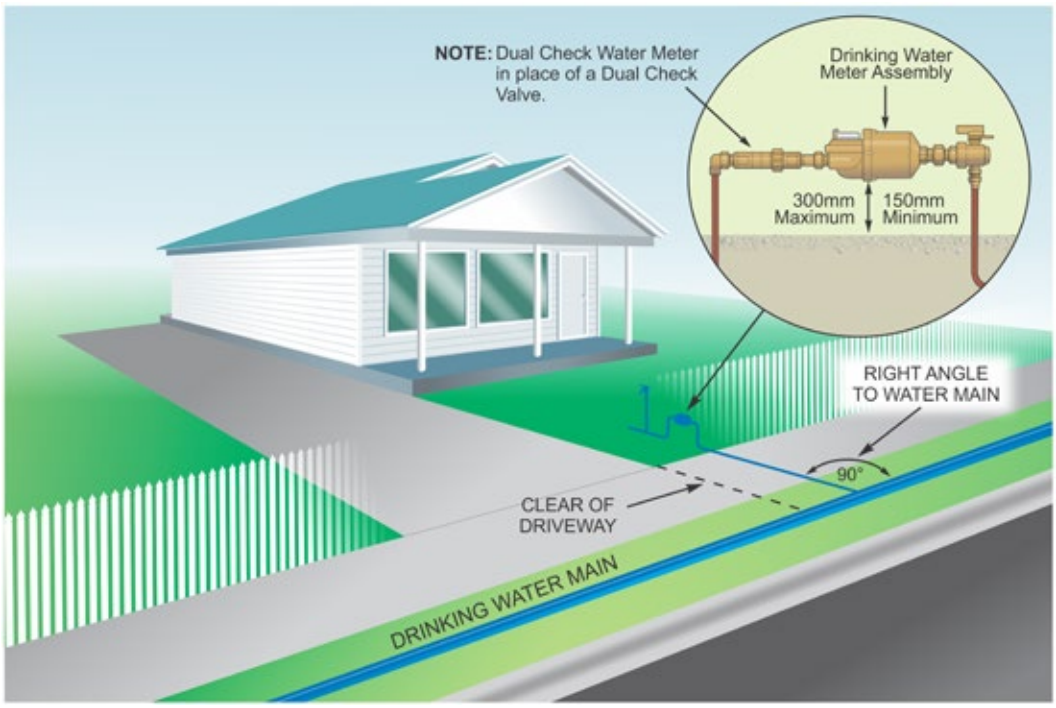


Figure 5 – Drinking Water Only

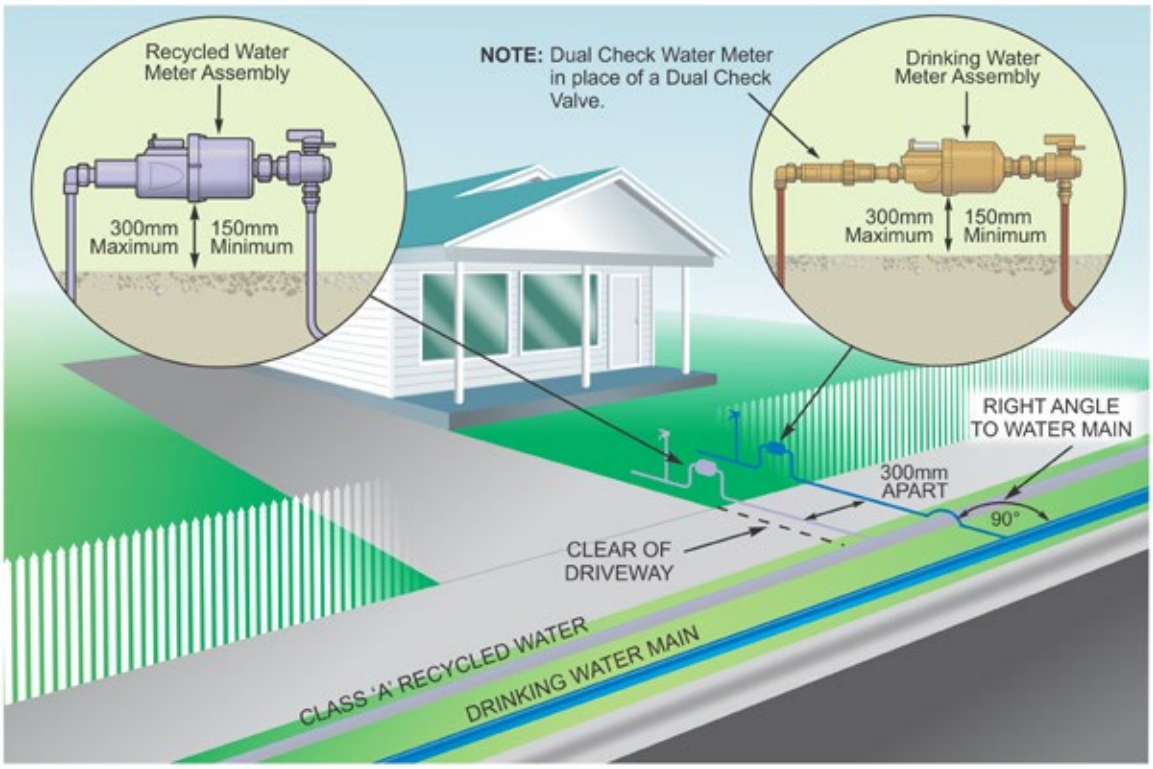


Figure 6 – Drinking Water and Class A Recycled Water (Dual Pipe Schemes)

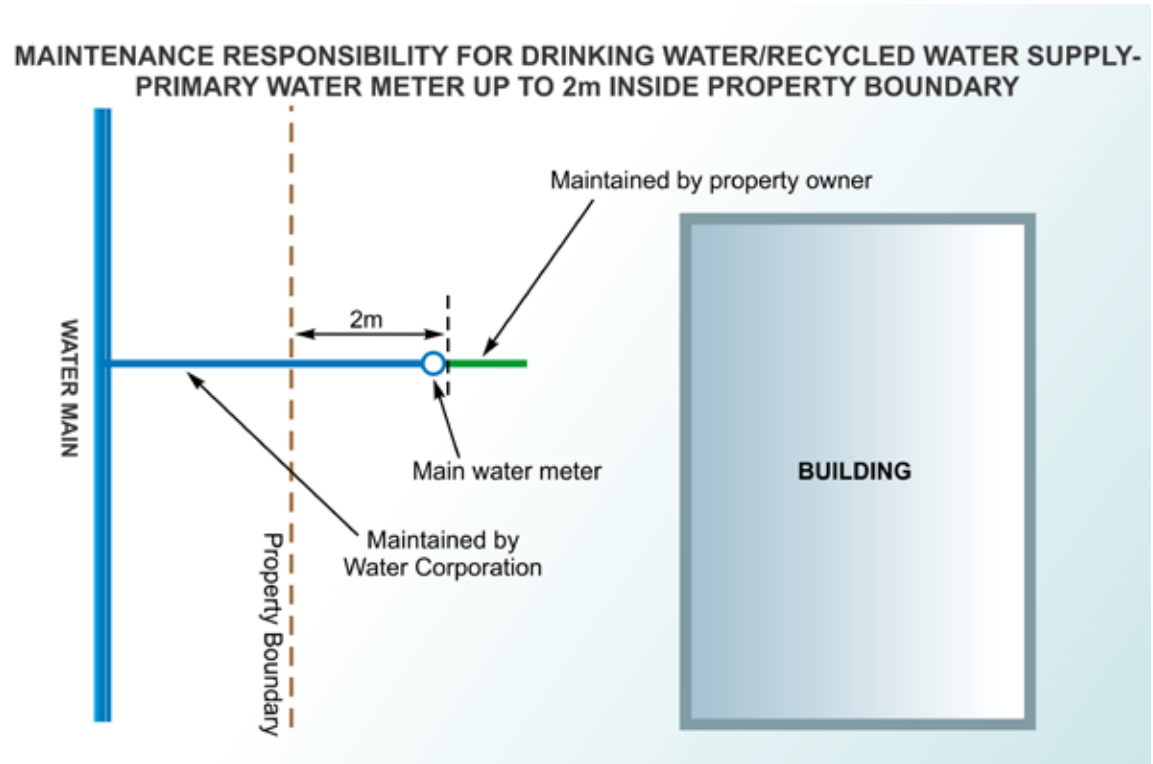


Figure 7 - Drinking Water and Class A Recycled Water Meters' Assembly

4.2.2 Responsibilities

The following drawings have been created in line with the Water (Estimation Supply and Sewerage) Regulations 2014 SR No 87-2014 to assist in defining the responsibility of customers and Westernport Water:

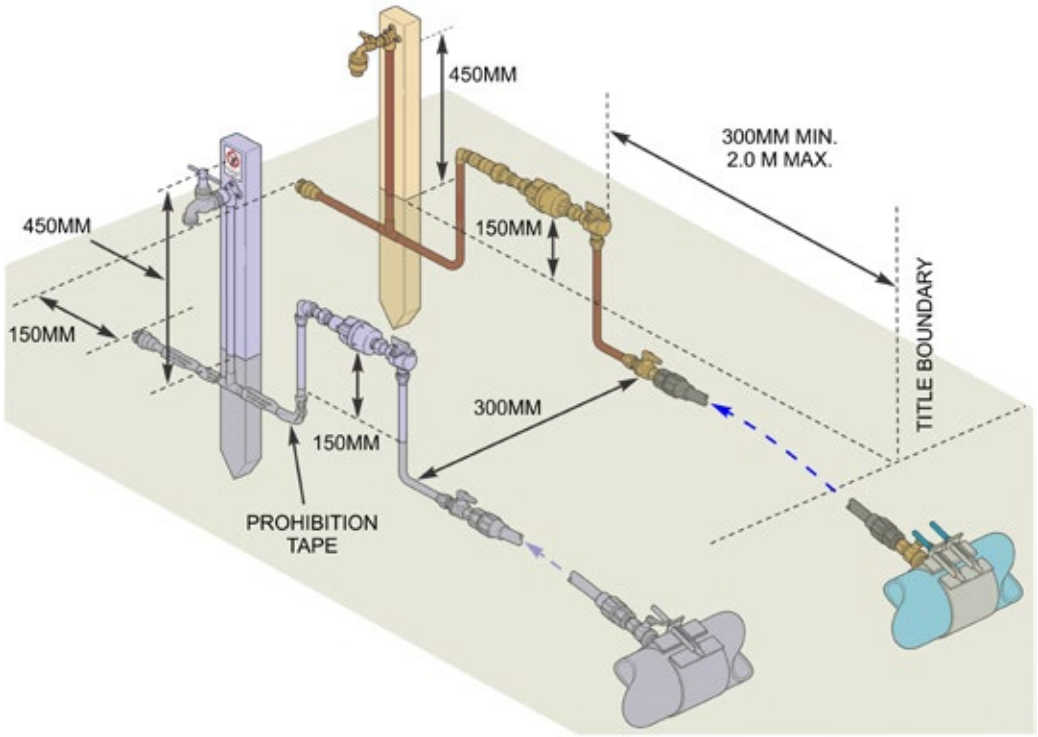


Figure 8 – Main Meter up to 2m Inside Property

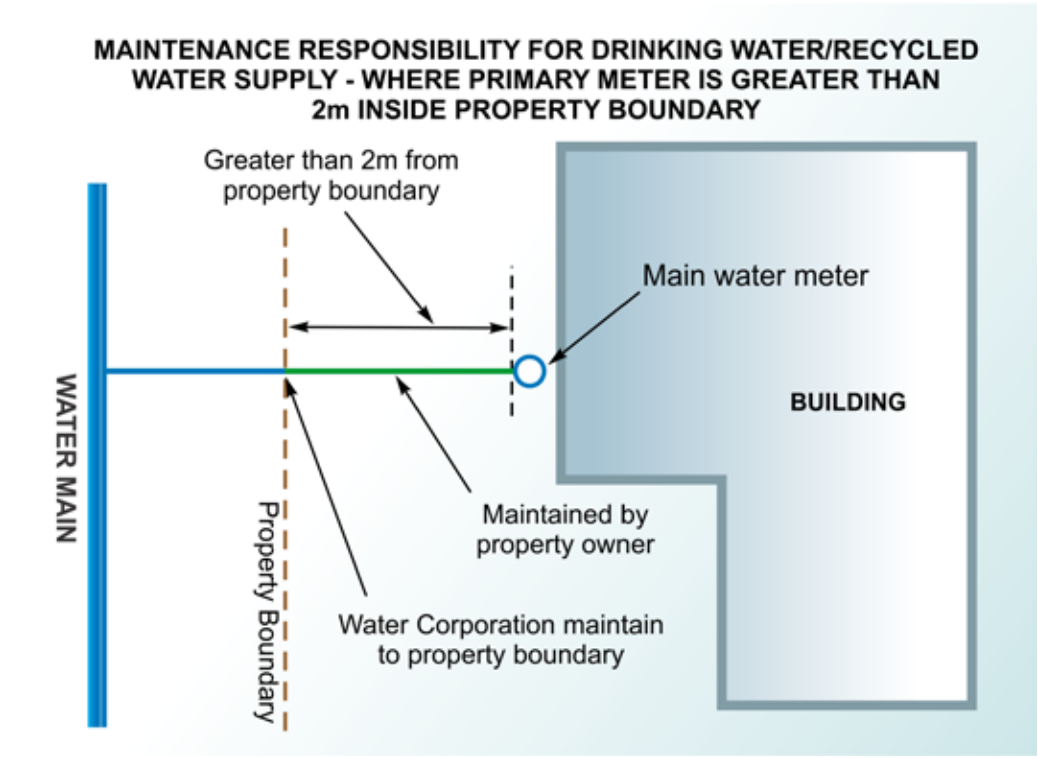


Figure 9 – Main Meter Located Greater than 2m Inside Property

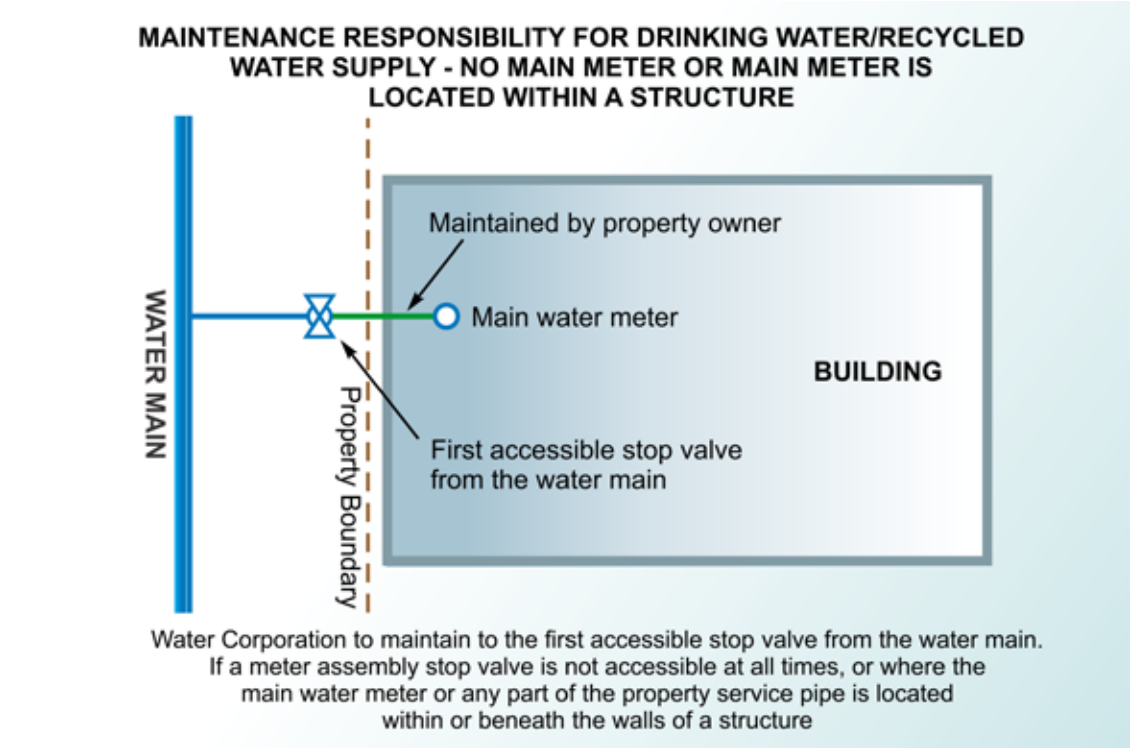


Figure 10 – No Main Meter or Main Meter located within a Structure

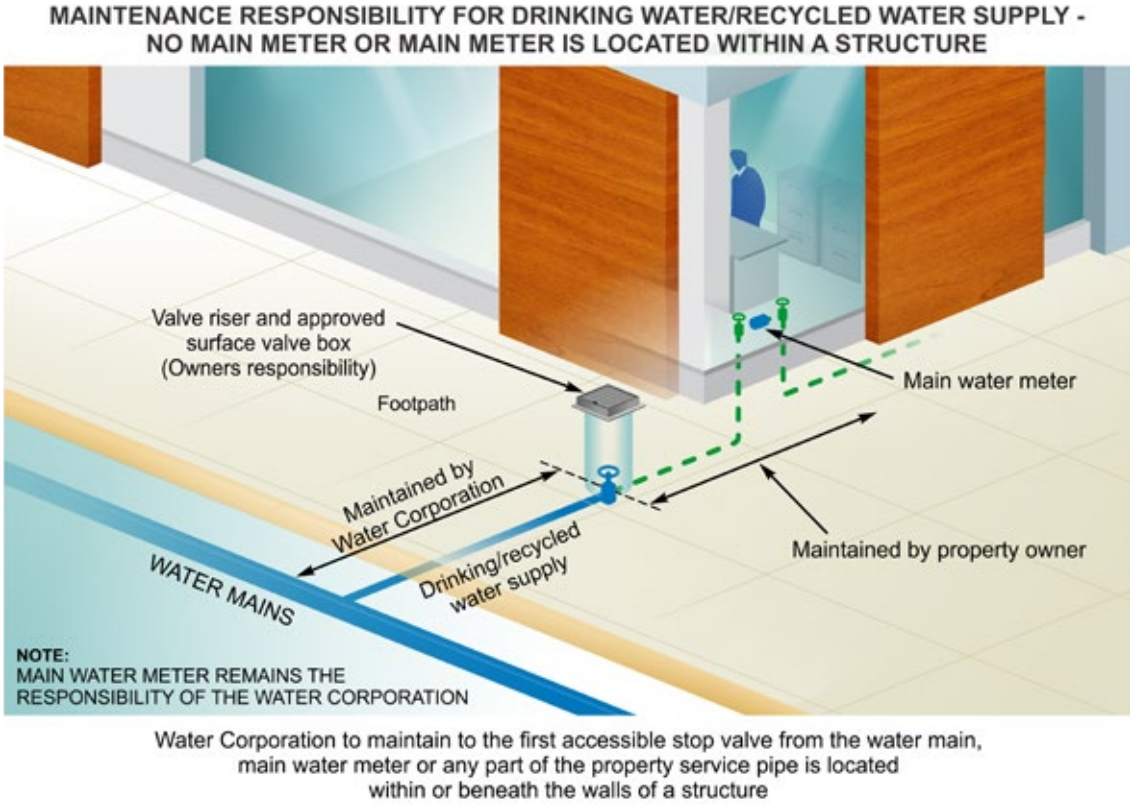


Figure 11 – No Main Meter or Main Meter located within a Structure (Cross Section – Shop)

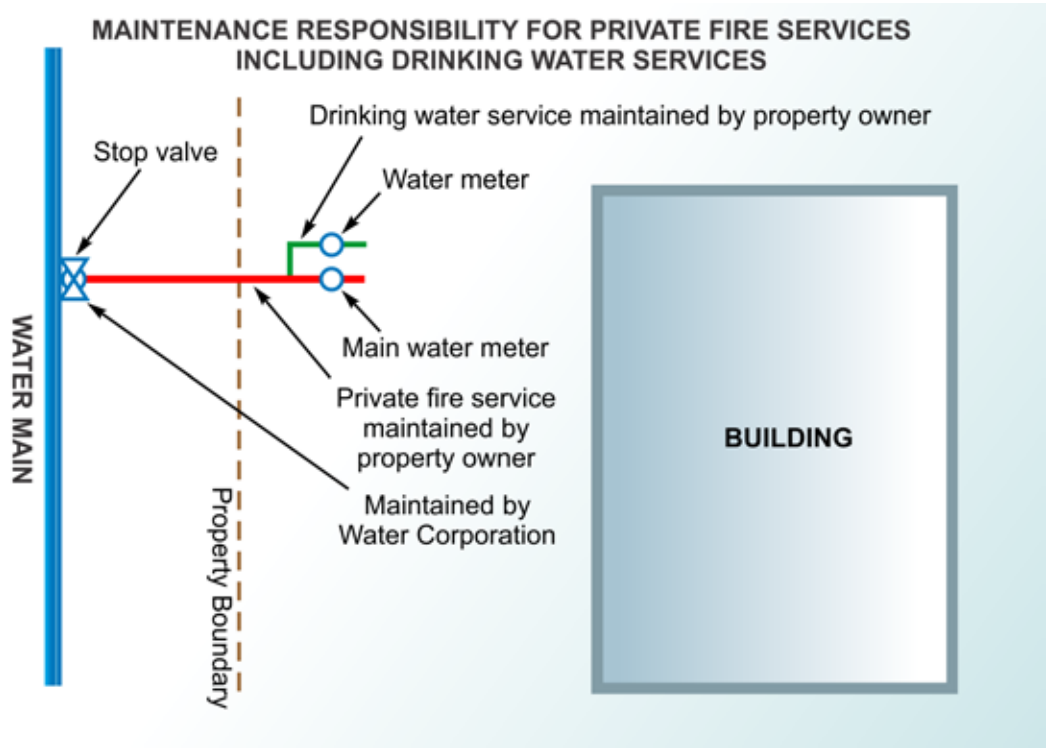


Figure 12 – Private Fire Service including Drinking Water Service

5. Water Metering and Servicing

5.1 Residential metering and servicing

Water metering and servicing requirements for residential developments are detailed in this section to assist in determining the applicable servicing guidelines related to the proposed development.

5.1.1 Single Dwelling Residential Development

Definition of Single Dwelling

- House
- Terrace House/ Town house
- Strata unit where there is no common land and all units are to be serviced via separate tappings

A main water meter is mandatory on the drinking water supply and also on the recycled water supply where available.

Water meters must be installed as per Section 4 of this document and be readily accessible for reading and replacement.

Servicing

For single dwelling residential developments, a 20mm diameter tapping is required as per the Section 3 of this document. Upsizing the property service pipe must be approved following an assessment based on the required flow rate.

5.1.2 New Dual Dwelling Residential Development Where Both Dwellings Have Water Main Frontage

Definition

Two (2) dwellings on a residential parcel of land where both Dwellings have Water Main Frontage.

Servicing

For each dwelling, a new water meter is required on the drinking water and also on recycled water supply where available as per Section 4 of this document.

Separate 20mm diameter tappings are required to each dwelling. An existing 20mm tapping may be retained for one (1) property if approved by Westernport Water.

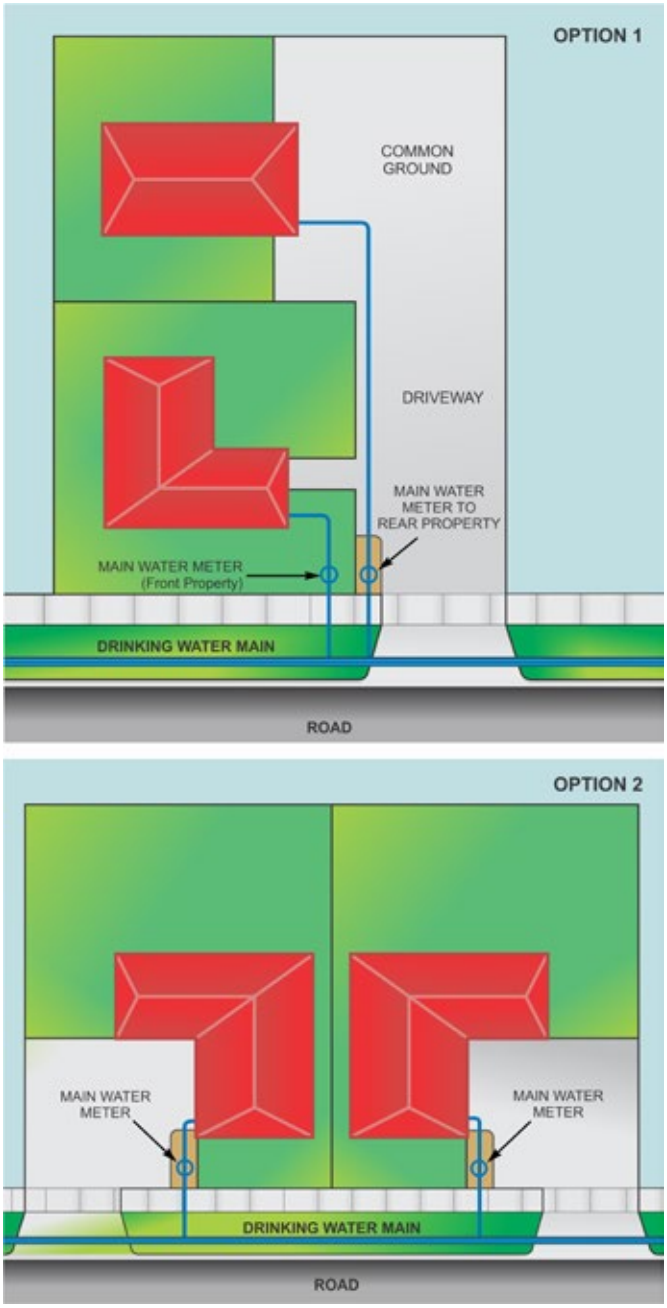


Figure 13 – Typical Dual Occupancy Residential Development where both Dwellings have Water Main Frontage

5.1.3 Dual Occupancy Residential Development

Definition

Two (2) dwellings are on a single residential parcel(s) of land where only one (1) dwelling has water main frontage.

Metering and Servicing - Option 1

A separate 20mm diameter tapping is required for each dwelling. The existing 20mm diameter tapping and water meter is to be retained for one (1) dwelling with a new 20mm tapping and water meter to be provided for the second dwelling.

Metering and Servicing - Option 2

The existing 20mm diameter tapping is to be plugged. A new 25mm diameter tapping and 25mm main water meter is required on the drinking water and also on recycled water supply (where applicable) as per Section 4 of this document. Sub-check meters to be installed to each dwelling, however, Westernport Water reads only the main meter and does not read sub-check meters on each dwelling.

Metering and Servicing - Option 3

Depending on the main pressure, the existing 20mm diameter tapping is to be retained and the existing 20mm diameter meter to be retained in place. Sub-check meters to be installed to each dwelling however, Westernport Water reads only the main meter and does not read sub-check meters on each dwelling.

Note: *If the current or future demand for the water supply affects the performance of the 20mm main water meter, Option 3 will not be acceptable. Westernport Water will determine the sizing requirement and permission required from all property owners.*

5.2 Dependent Persons Units (DPU) / Granny Flat metering and servicing

Definition

Source: Based on the definition of "dwelling" in section 46H of the *Planning and Environment Act (Vic) 1987.*

- Dependent Persons Unit (DPU) is a self-contained building erected on the land of the property owner, used or intended to be used as a separate residence from the main residence. The dwelling must contain a kitchen, bathroom and sanitary facilities.
- The occupier of the dwelling has the right to exclusive use, but does not need to have paid or contributed to the purchase price of the dwelling.
- Evidence is required that the person(s) residing or intending to reside in the dwelling is/are a dependant relative.

5.2.1 Private Granny Flat

Private DPU/Granny Flats are NOT maintained/monitored by a Relevant Government Authority having potential to be retained on a permanent basis and occupied by a person(s) other than a dependant relative. Therefore Westernport Water treats these applications as per dual occupancy developments.

New Customer Contribution (NCCs)

Where the proposed development satisfies the definition of "dwelling" under the provisions of the Planning and Environment Act 1987, or the applicant requests separate water meters, new customer contributions will apply.

For Westernport Water to consider deferring dual occupancy financial and servicing conditions, a completed Dependant Relative Accommodation - Declaration Form should be submitted with the application requesting Westernport Water consent to connect. An application fee is still applicable.

To obtain a copy of the declaration form from Westernport Water contact the Engineering and Construction Team via email westport@westernportwater.com.au.

5.2.2 Moveable Residential Units (DHHS "Granny Flats")

Provided by DHHS and deemed by Section 15 of the *Housing Act 1983* as owned by DHHS, in the occupations or hirer, and is not a permanent fixture on the property. DHHS approval letter and approved plan are required to be provided to Westernport Water.

Individual metering of dwelling is optional.

Water metering and servicing – Option 1

Separate tappings and main meters for each dwelling. Westernport Water reads both meters and invoices dwellings separately. NCCs are payable.

Water metering and servicing – Option 2

Single tapping or use of existing tapping to service both dwellings. One (1) main meter and Westernport Water reads the main meter and does not read sub-check meters.

Water metering and servicing – Option 3

The existing property service and main meter will be retained to service both properties. All DHHS approved "Granny Flats" will come under Option 3.

Where the probable simultaneous water demand, for the private DPU/Granny Flat and existing single residential building exceeds 0.69L/sec, Westernport will request the existing water service be upsized.

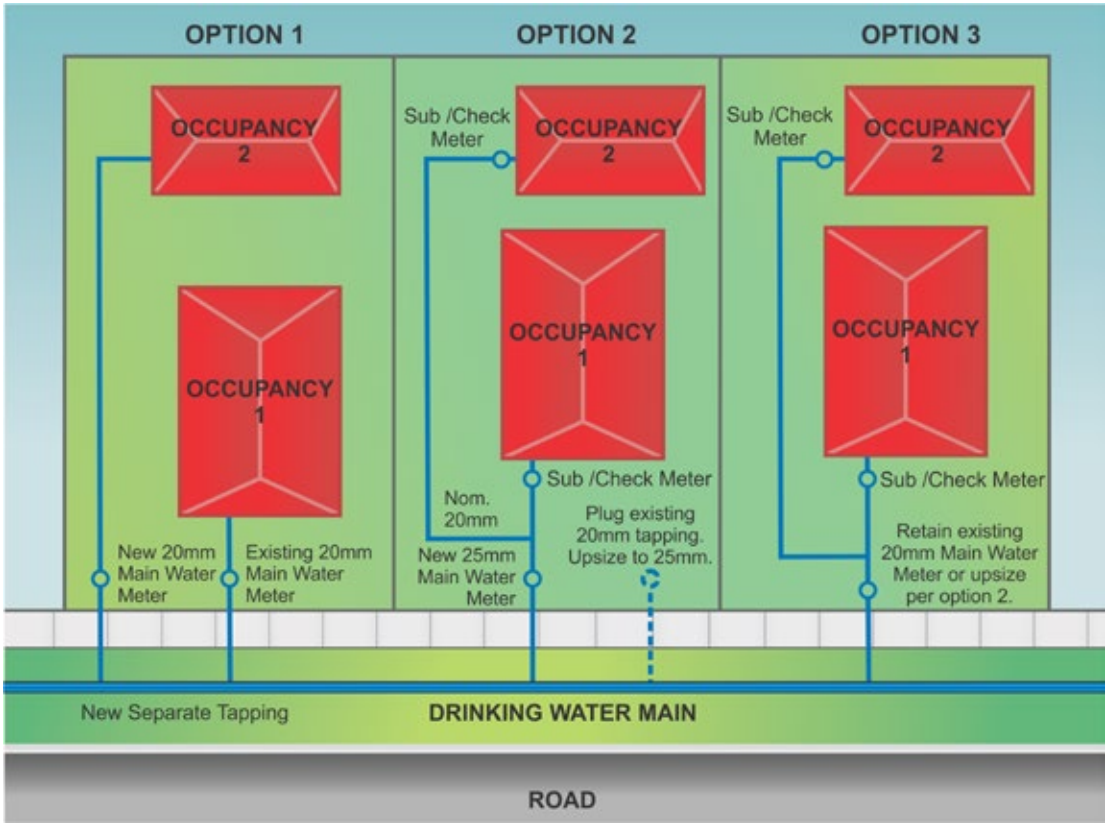


Figure 14 – Existing Dual Occupancy Developments with a Main Meter Only

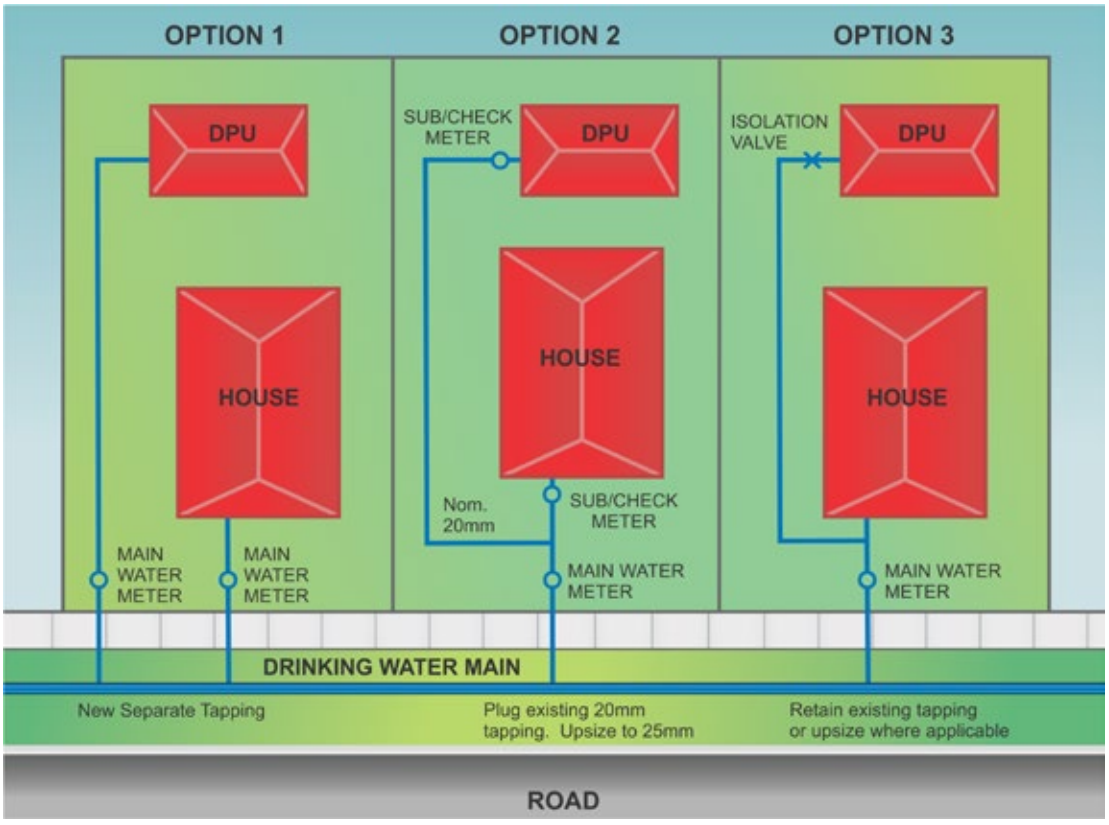


Figure 15 – Dependant Persons Unit (DPU/Granny Flats)

5.3 Multi-dwelling residential developments (greater than two (2) units) - metering and servicing

These guidelines apply to both drinking and non-drinking water servicing and metering.

Multi-dwelling residential developments are flats, units, apartments on a single title or Owners Corporation.

5.3.1 Internal water service design plans and schematic drawings

A full set of hydraulic and schematic drawings must be submitted to Westernport Water for assessment as part of the application process.

The drawings shall:

1. Include a plan showing the design and layout of the water service within the development and location of the master and sub-meters for each proposed occupancy.
2. Where the water service provider is required to approve a sub-meter to be installed on common property (eg pool area, common gardens etc), the plan shall
    a. show the proposed location of the sub-meter on the plan; and
    b. ensure all communal water fixtures in the common area are metered.
3. The developer shall not proceed with construction of the internal water service until the hydraulic assessment has been completed and the schematic drawings of sub-meter locations and any other design requirements have been approved by Westernport Water.

5.3.2 Individually metered multi-dwellings

Depending on the number of units/dwellings, size of the tapping will be estimated according to Table 1 in Section 2.

A manifold arrangement is to be provided according to the typical arrangement as outlined in Figure 17 or 18.

For each dwelling a separate 20mm diameter main water meter is required on drinking water supply and also on the recycled water supply (where applicable), to be taken from the manifold.

A common area main meter is to be incorporated into the manifold system. Where a common area meter is installed all common usage for the development is to be serviced through the one (1) common area main meter.

On Owners' Corporation developments which are individually metered and have bulk water supplied for hot water purposes, swimming pools and other common uses, bulk water usage will be determined to be the balance of water supplied between the sub-check meters and the main water meter. Bulk water usage will be billed to the Owners' Corporation.

Meters installed off the manifold cannot exceed the size of the tapping/manifold.

The developer is responsible for any costs associated with re-designing the water service locations to be compliant with this document.

Westernport Water requires that all individual meters including common property meters be positioned within two (2) meters of the property boundary being directly opposite to the connection and right angles to the reticulation water main as per Section 3 of this document.

All water meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote meters will be required to be fitted at the owner's/developer's cost.

Figures 16 to 19 show different configurations of tapping and meter installation (next page).

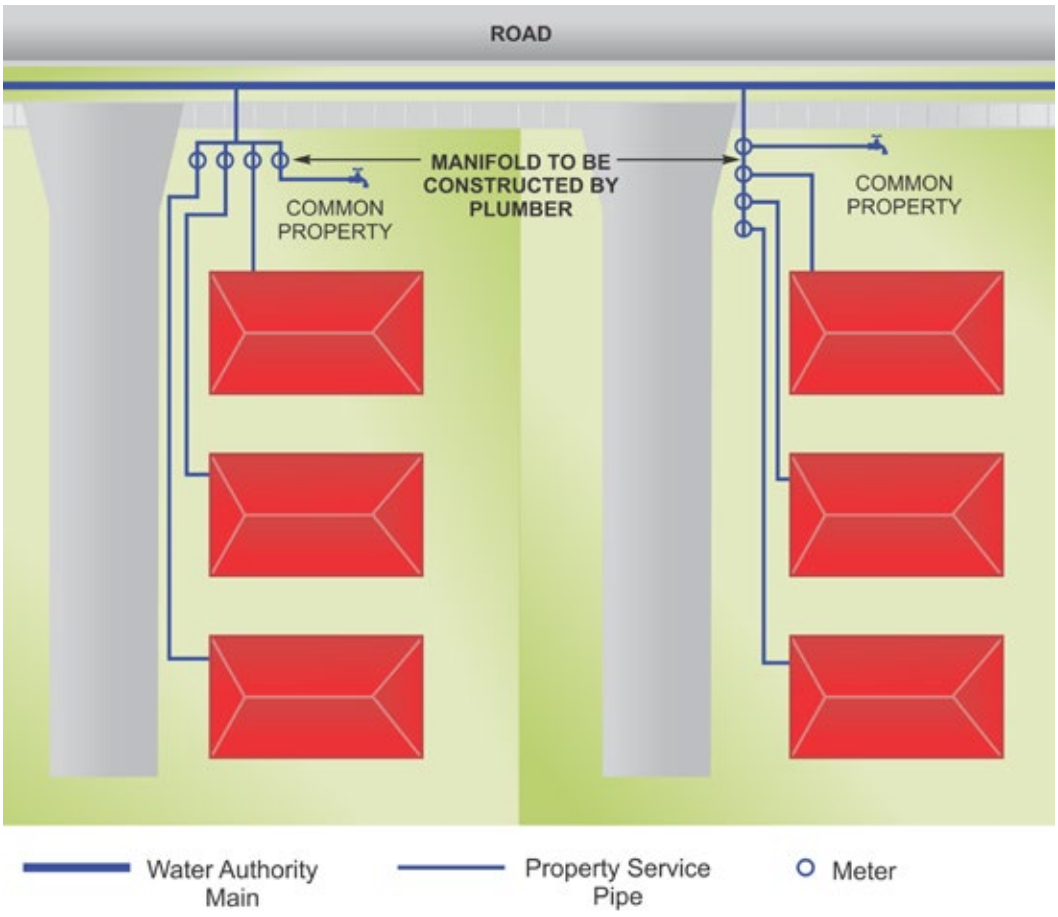


Figure 16 – Typical Multi-Dwelling Residential Development with Manifold

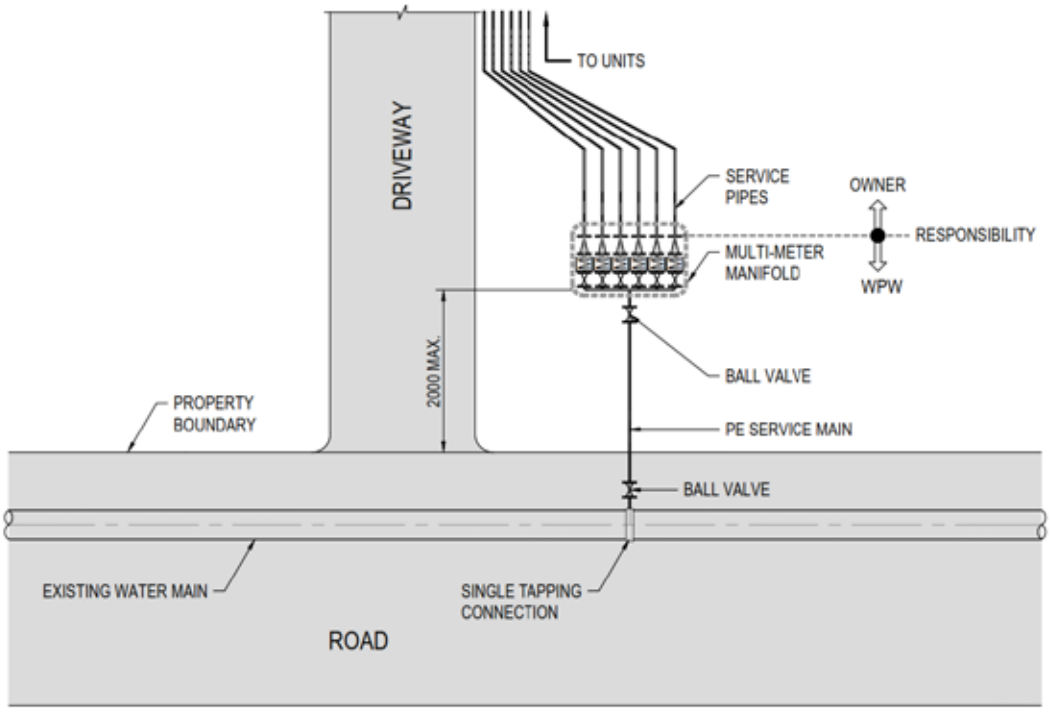


Figure 17 – Multi-Meter Manifold Installations "T" Arrangements

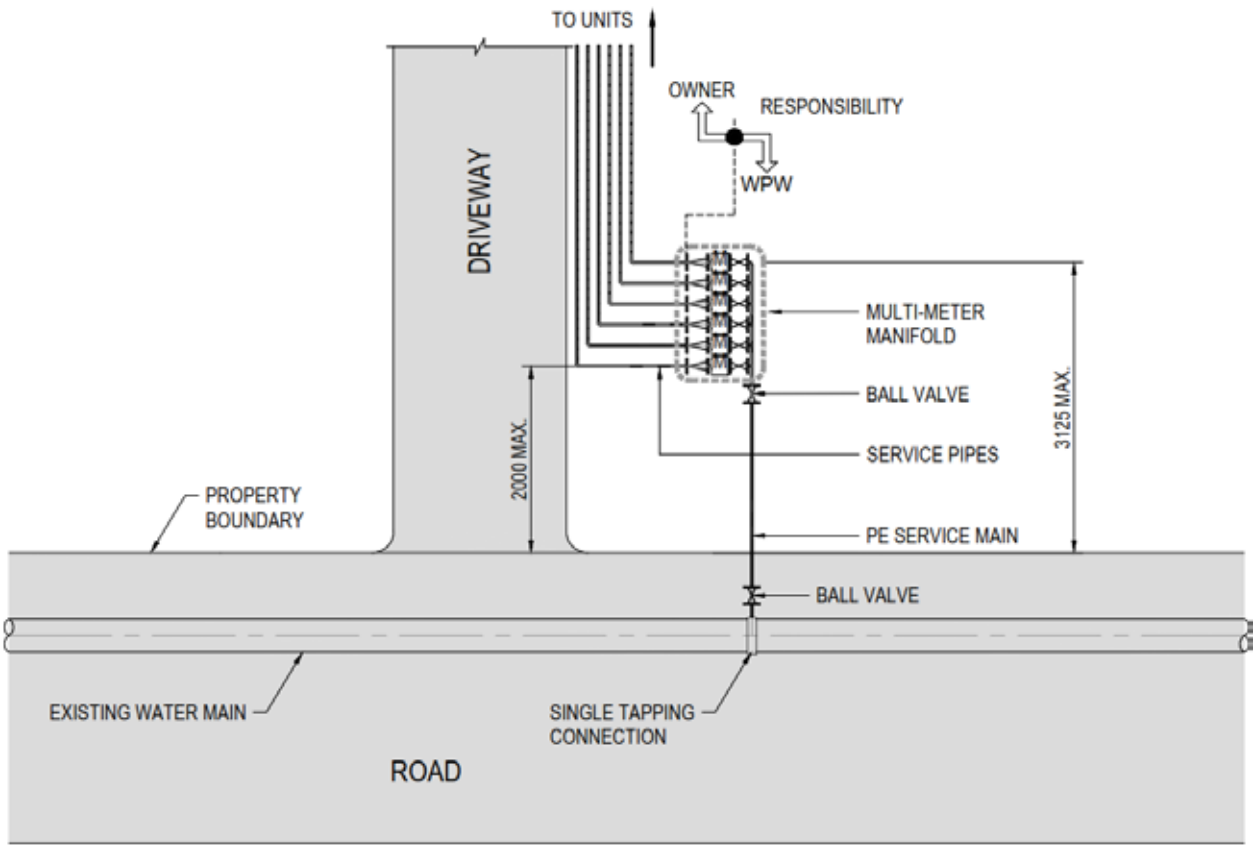


Figure 18 – Multi-Meter Manifold Installations Straight Arrangements

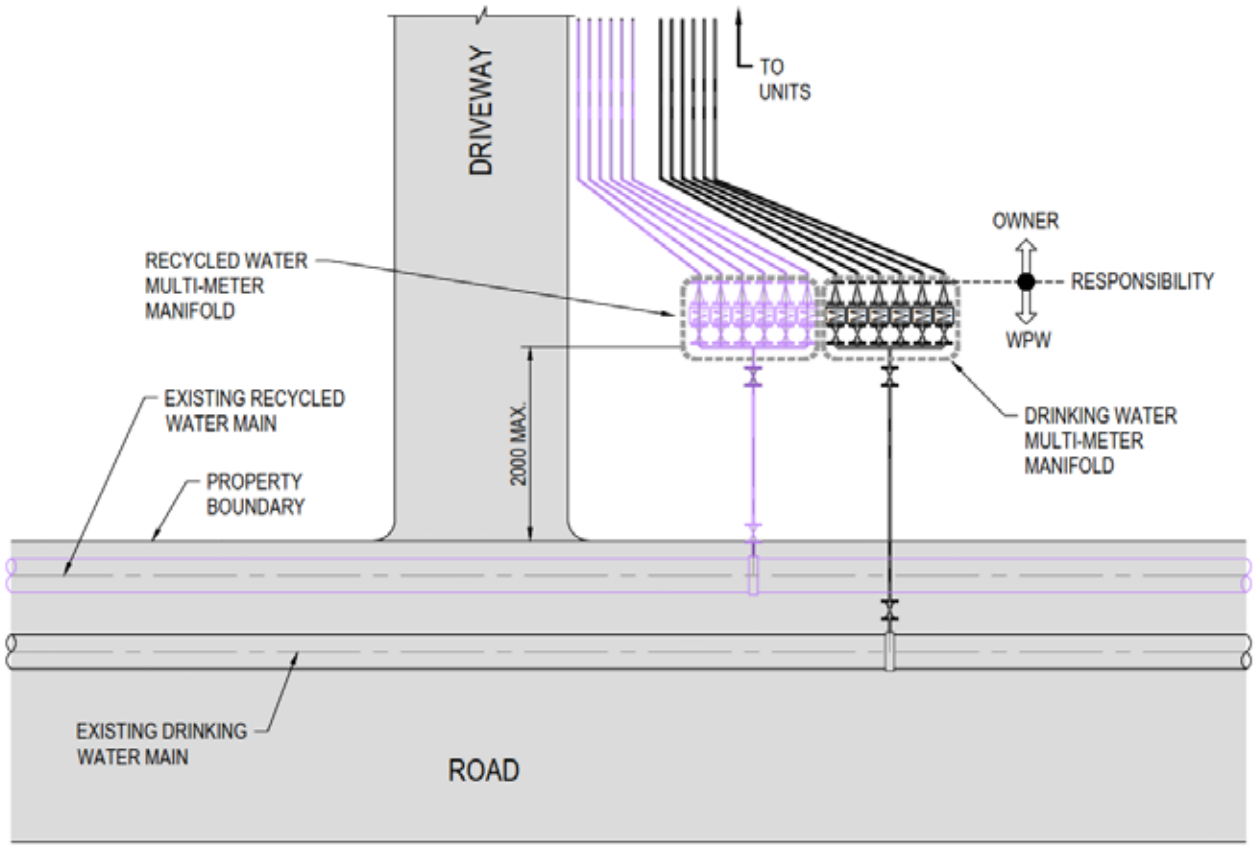


Figure 19 – Multi-Meter Manifold Installations Drinking and Recycled Water Arrangements

5.3.3 *Single metered multi-dwellings*

A single tapping will be provided to service the total development. Depending on the number of units/dwellings, size of the tapping will be estimated according to Table 1 in Section 2. A main water meter is required on the drinking water supply and also on the recycled water supply (where applicable) service for all units/dwellings. Owners may install sub-check meters for individual units/dwellings. Westernport Water reads the main meter but does not read the sub-check meters.

With many existing developments (generally constructed prior to 1997) only a main water meter was provided with the water usage divided among the owners/occupants of the individual dwellings. In these cases some customers request to install individual water meters to allow them to monitor their own water usage.

Existing dwellings/occupancies are permitted to be individually metered, however, in the case where one (1) occupancy owner requires a separate water meter but cannot reach agreement with the other owners to install sub-check water meters to all dwellings/occupancies, the following applies:

- A letter from the Owners' Corporation authorising the installation of the water meter(s). The letter must also state that they are aware that any common water usage will be split over the dwellings/occupancies that remain unmetered; or
- The signatures of all of the dwelling/occupancy owners consenting to the partial water metering of the development. A letter must state that they are aware that any common water usage will be split over the dwellings/occupancies that remain unmetered; or
- Meter location will be determined by Westernport Water.

5.3.4 *Additional Units or Factories added to Existing Developments*

Where additional units or factories are added to existing developments that are not individually metered; these types of developments will be treated on a case by case basis.

The existing service can be utilised if the tapping/meter has capacity to service the additional units or factories. Otherwise the service may need to be upsized or a second tapping provided.

If it is not possible nor can an agreement be reached to meter the existing units, then a separate tapping may be required to service the new units or factories with new meters. Westernport Water reads the main meter but does not read sub-check meters.

Consideration is also required that the existing service complies with the current firefighting standards. Each development will be treated on a case by case basis.

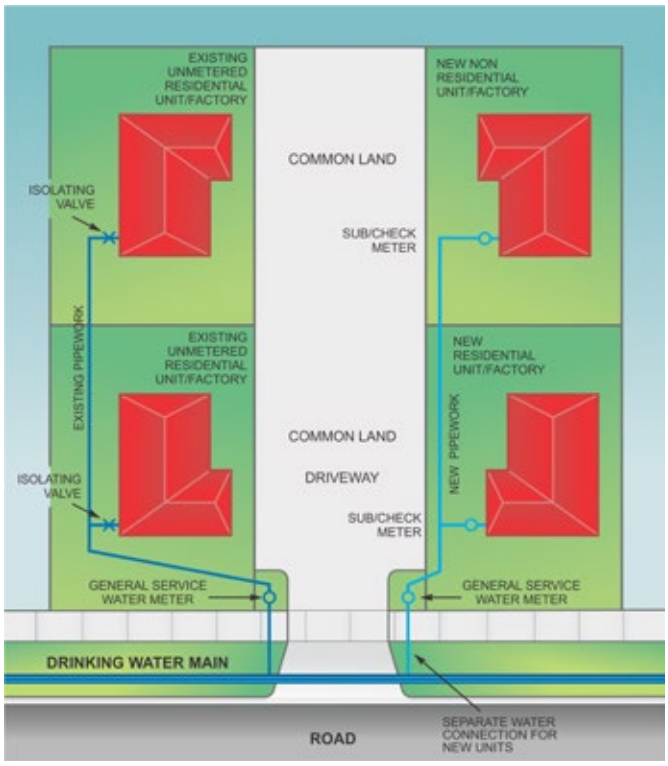


Figure 20 – Additional Units or Factories added to Existing Developments where Existing Unit Owners Do Not Wish to be Individually Metered

5.3.5 *Secured Sites*

To ensure unfettered access by Westernport Water to a secured development with restricted access (eg high rise/vertical developments, gated community etc):

1. Provide a secured location (purpose designed utility room/compound) for all meters with walk up ground floor access from the street.
2. Ensure that the secured meter room would be in a separate common area outside of the secured occupancies.
3. Allow meters to be manually read by meter readers with direct walk up access to the meter compound from the street.
4. Not allow the room/compound to be accessible by persons other than the building manager, building maintenance staff and water service provider

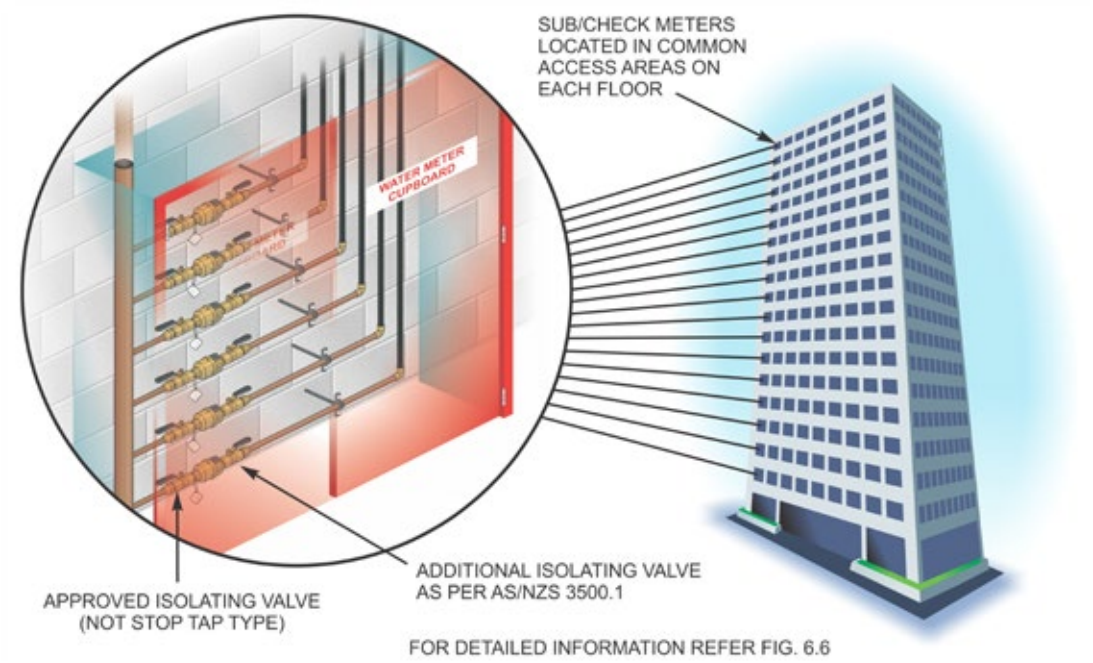


Figure 21 – Meter Cupboard Located in Common Access Area

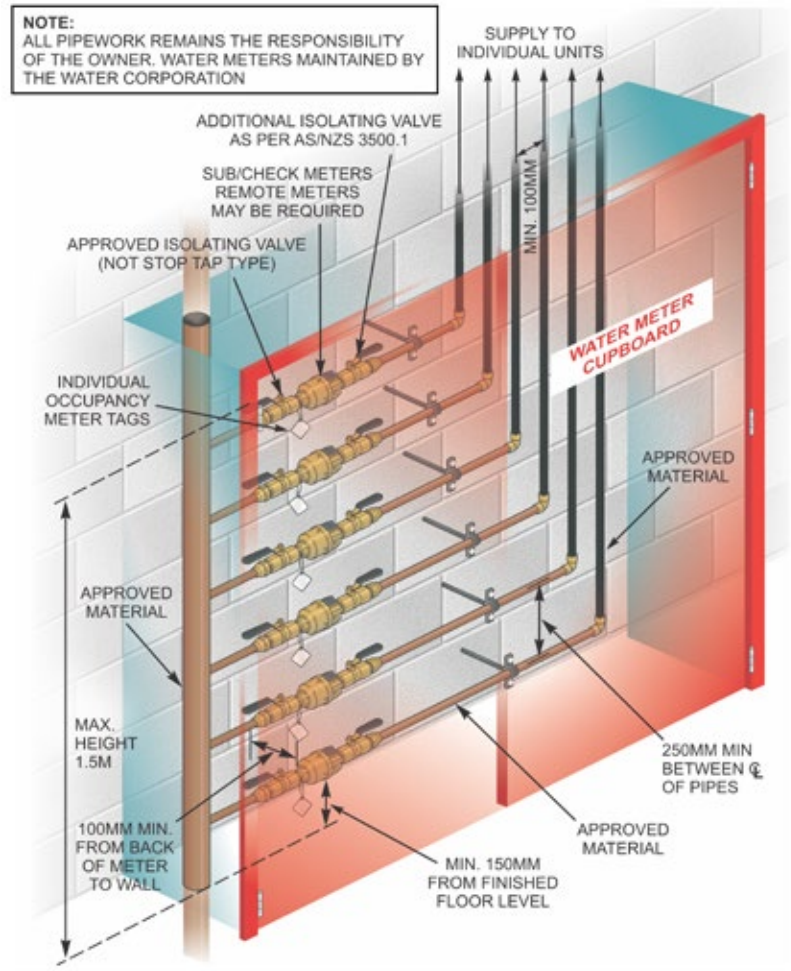


Figure 22 – High Rise Sub/Check Meter Typical Arrangement

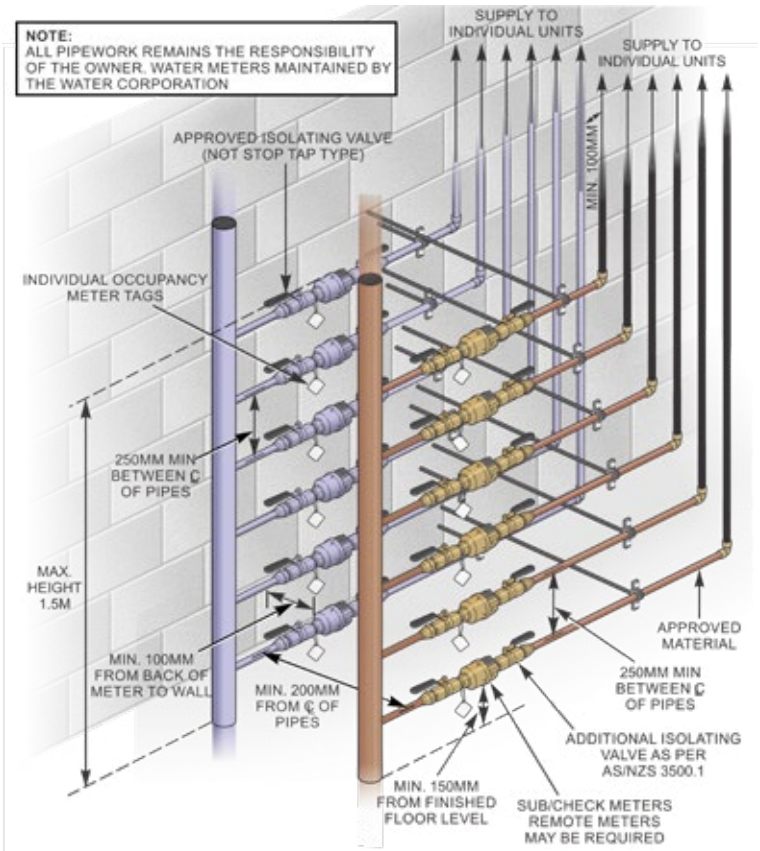


Figure 23 – High Rise Sub/Check Meter Typical Arrangement Option 1 (Drinking/Recycled Water)

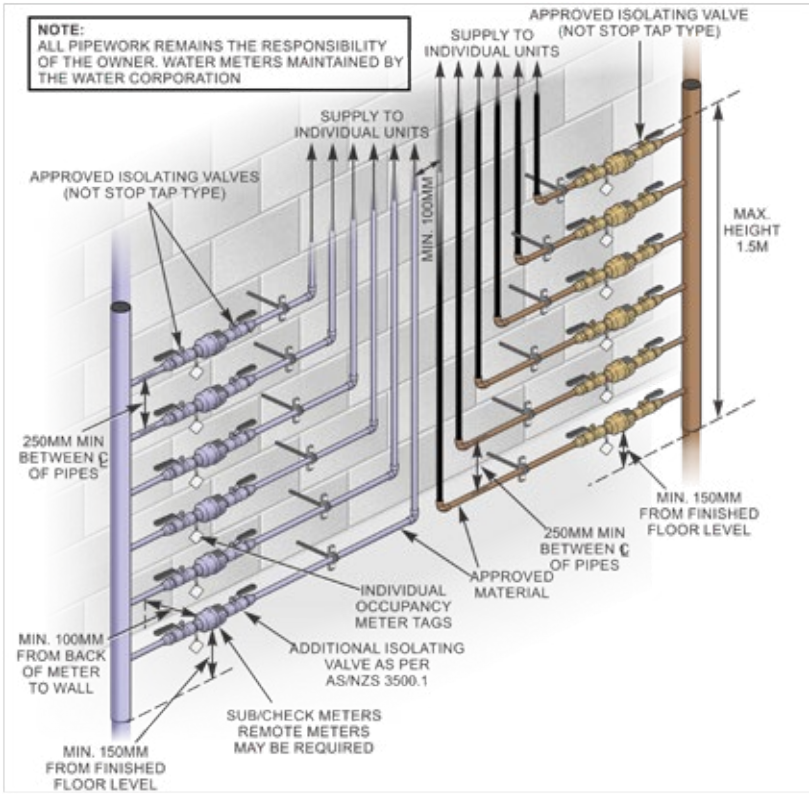


Figure 24 – High Rise Sub/Check Meter Typical Arrangement Option 2 (Drinking/Recycled Water)

5.4 Non-residential (commercial and industrial) water metering and servicing)

Water metering and servicing requirements for non-residential occupancies within Westernport Water's service area are detailed in this section to assist in determining the applicable servicing guidelines related to the proposed development. Parcel of land or development where all of the "occupancies" located on the parcel of land are used for non-residential purposes.

All properties not classified as either residential or mixed developments are non-residential:

- Factories
- Hospitals and medical clinics
- Nursing homes
- Aged case facilities
- Warehouses
- Large shopping complexes
- Offices
- Schools
- Hospitals
- Sporting facilities
- Childcare facilities
- Council buildings
- Irrigation systems

Metering and Servicing options

A single tapping will be provided to service the total development with a main water meter on the drinking water supply and also on the recycled water (where applicable) supply.

A manifold arrangement is to be provided for the General Service.

Where a Private Fire Service is applicable to the development, the General Service is to be taken from the Fire Service, by way of a manifold.

For each dwelling, a main water meter is required on the drinking water supply and also on the recycled water supply (where applicable) to be taken from the manifold.

A common area main meter may be incorporated into the manifold system. Where a common area main meter is installed all common usage for the development is to be serviced through the one (1) common area main meter.

Meters installed off the manifold cannot exceed the size of the tapping/manifold.

Water meters must be installed within two (2) metres of the property boundary.

Water meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote water meters will be required to be fitted.

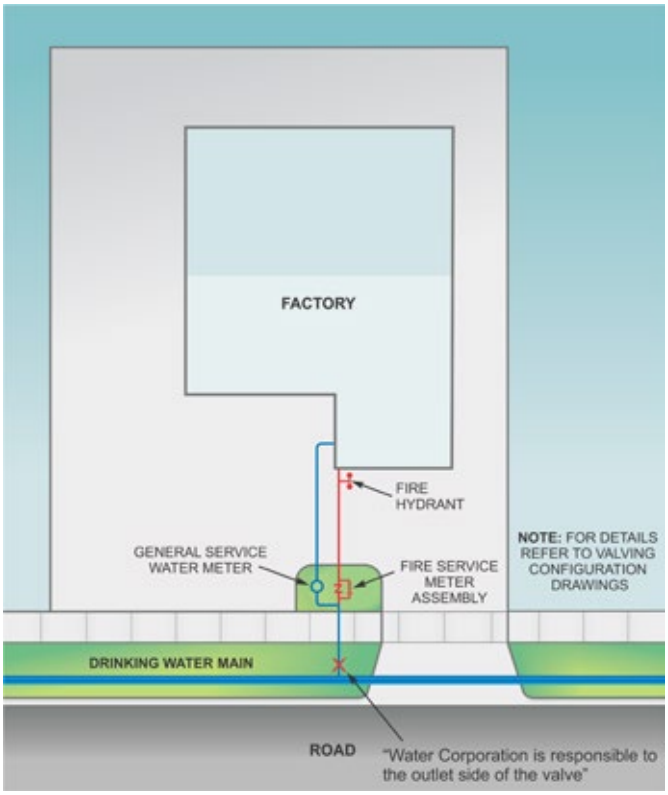


Figure 25 – Single Occupancy Non-Residential Development

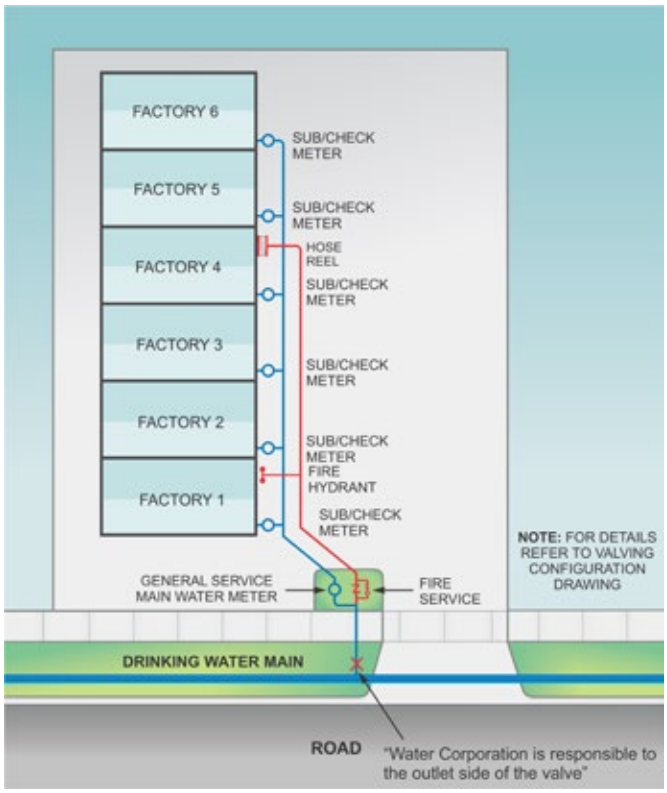


Figure 26 – Multiple Occupancy Non-Residential Development with Single Service Meter

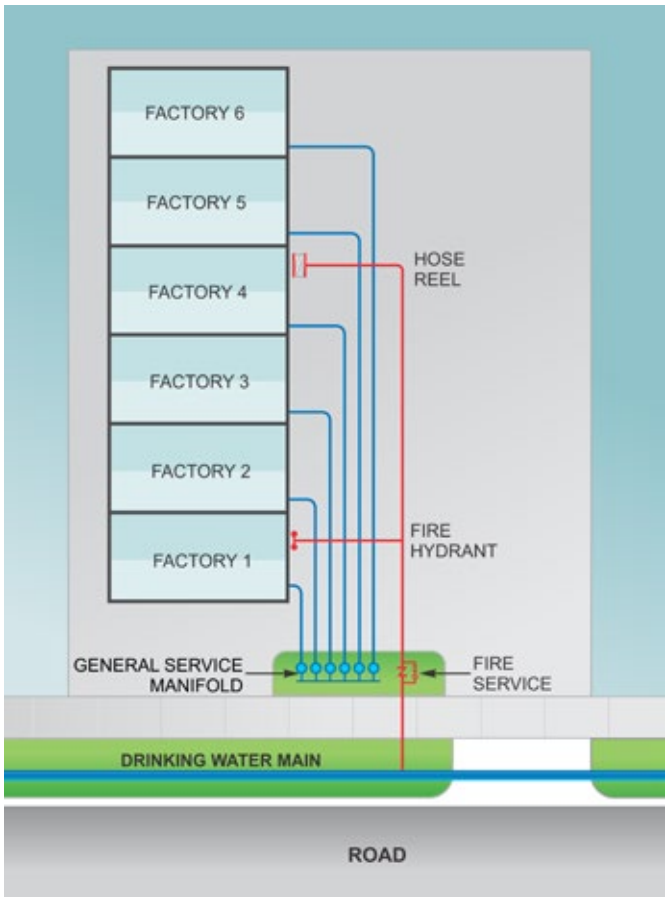


Figure 27 – Typical Multi-Occupancy Non-Residential Development with a Fire Service and Manifold arrangement General Service

5.5 Mixed Development

Parcel of land of development that has within their title boundary "dwellings/occupancies" used for both residential and non-residential purposes.

A single tapping is to be provided to service the total development.

A main water meter is required on the drinking water and also on the recycled water (where applicable) supply.

Private fire service will be required.

Westernport Water reads the main meter but does not read the sub-check meters.

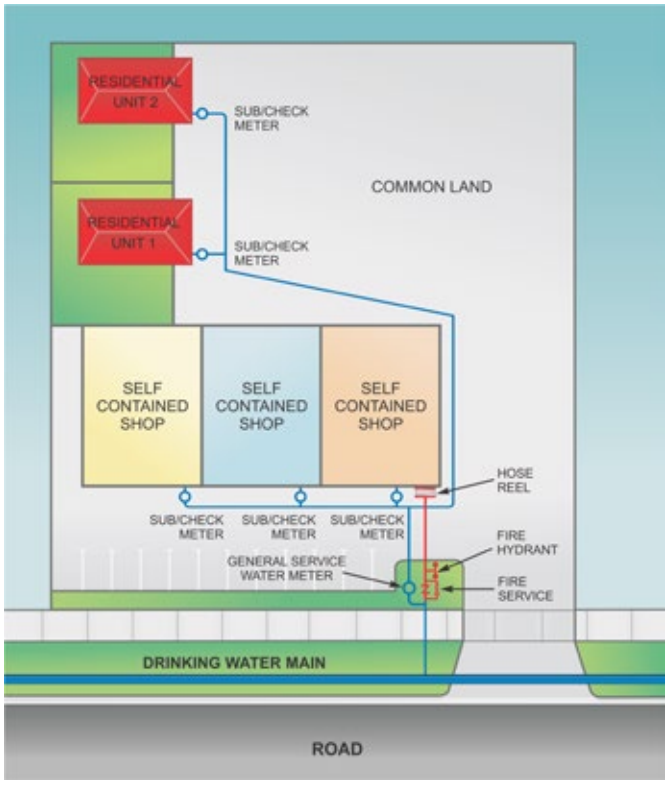


Figure 28– Typical Mixed Development

5.6 Properties serviced by extended water supply works

A private water supply service external to the property is installed by the owner's contractor at owner's cost where a reticulated water main is not required to be extended to service:

- Houses;
- Farms;
- Factories.

Private water supply services will only be allowed upon application and at Westernport Water's discretion.

Private water services are temporary and may be disconnected by Westernport Water at its discretion.

Private water supply services will only be permitted in cases where Westernport Water determines that a property is too remote from existing reticulated water infrastructure. This will be assessed having regard to potential future development and the distance from existing infrastructure.

Private water services must be removed from the service when a reticulated water supply main is installed in future. All costs are to be borne by the property owner(s).

All private water supply services must be metered at a point as close as practicable to the connection to the reticulated water main. The water meter must be located in a position that prevents damage and provides ease of reading and maintenance within a lockable cage fitted over the water assembly to prevent tempering.

Where multiple properties are to utilise the private water main, Westernport Water will require a letter nominating either the owner of the private main or a property owner responsible to manage payment of the water consumption through the main water meter.

Each individual tapping point off the private service must be metered. For each property connected, a water meter is required on the drinking water supply, at the property boundary.

A design plan of the proposed private water service is required to be submitted to Westernport Water for approval prior to commencement of works. The service is provided with no guarantee of quality, pressure, flow and continuity of supply.

Private water supply services are not intended to be provided for firefighting purposes.

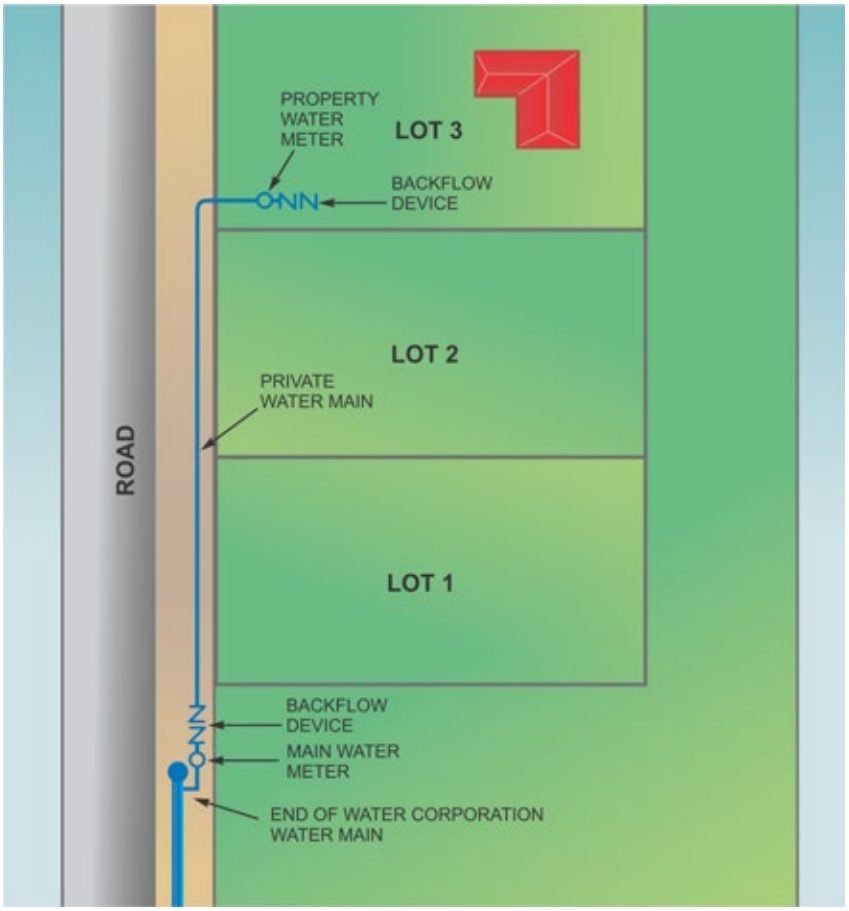


Figure 29 – Extended Private Water Supply Remote from Reticulation Supply

6. Relocation of Existing Main Water Meters and Service

6.1 Relocation of existing main water meters

Offsets in property services (water main to meter pipe work) will NOT be permitted

A completed Plumbing Application must be submitted/ lodged for Westernport Water's approval prior to any relocation or alteration of meter assembly.

The water meter(s) may be deviated left or right of the alignment of the isolation valve on the water main up to a maximum of 600mm. This work is to be completed by a licensed plumber and all costs associated with the deviation of existing water meter(s) to be borne by the owner/ applicant. *Refer to Figures 30 & 31.*

The relocation of the meter assembly* greater than 600mm will require the service to be plugged and re-tapped at the water main at the owner's cost. If an existing water meter is removed from the assembly for any purpose, its accuracy may be affected; therefore, it is necessary to replace it with a new Westernport Water meter at the owner's cost.

Where relocation of any Class A recycled water (where applicable) property service pipe is required, it is to be carried out by Westernport Water. Both (drinking water and Class A Recycled water) assemblies will be relocated at the owner's cost. The assemblies shall remain 300mm apart with the drinking water meter assembly located to the right hand side of the recycled water meter assembly, when facing the property.

If the water meter is moved greater than 600mm, an isolation valve shall be installed at the change of direction. This valve now becomes the owner's responsibility and Westernport Water is only responsible up to the downstream of the first valve.

The main water meter(s) is to be installed in accordance with Section 6.1:

- The property service pipe and connecting valve is to be located clear of any driveway crossing. (If not, a plug and re-tap will be required.)
- The water meter(s) must be located within two (2) metres of the title boundary that abuts the water main.
- Main to water meter* work is to be carried out by owner's licensed plumber in accordance with Clause 6.1, at owner's cost, where no recycled water is present.

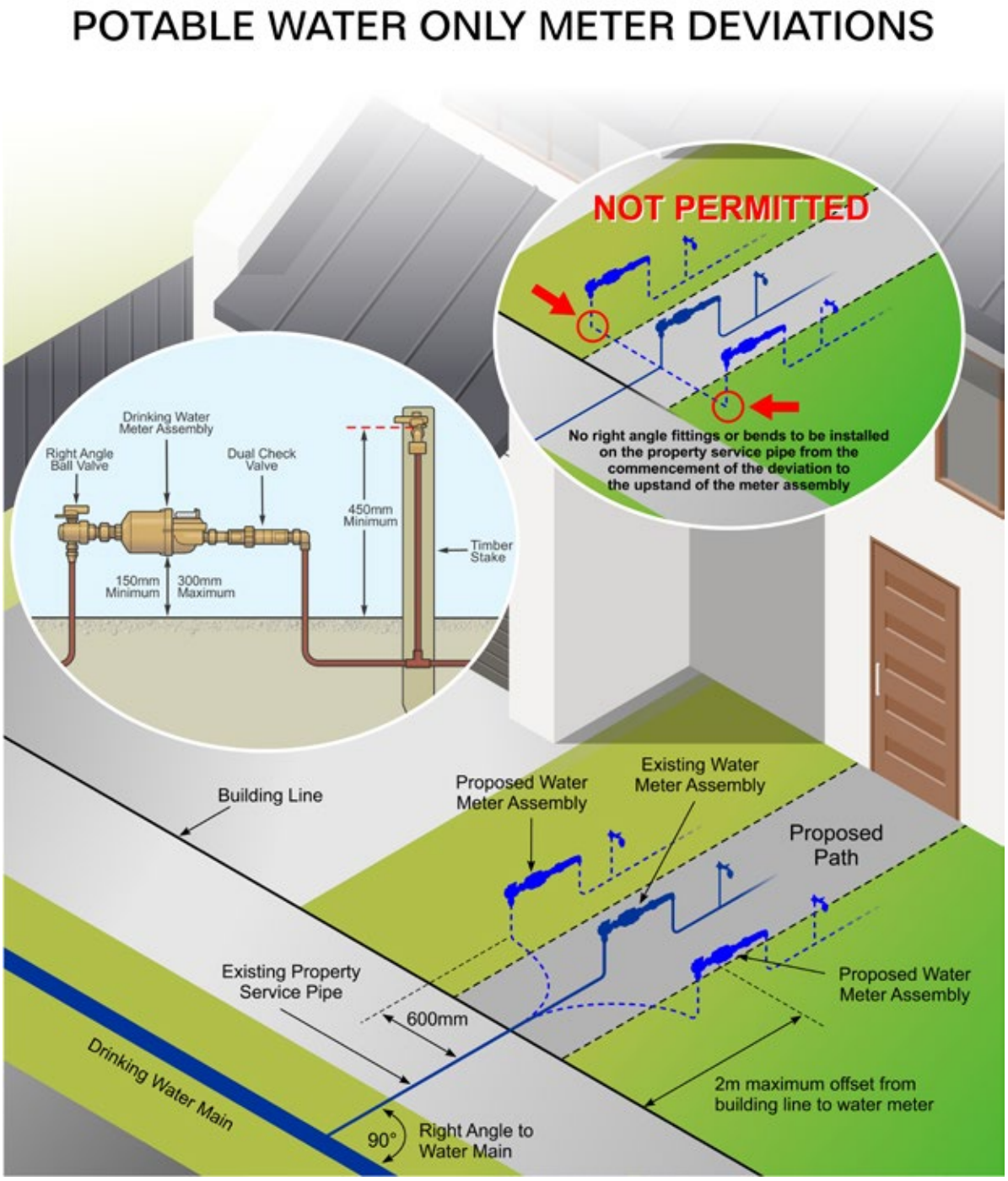


Figure 30 - Deviation of Existing Main General Water Meters (Short Side)

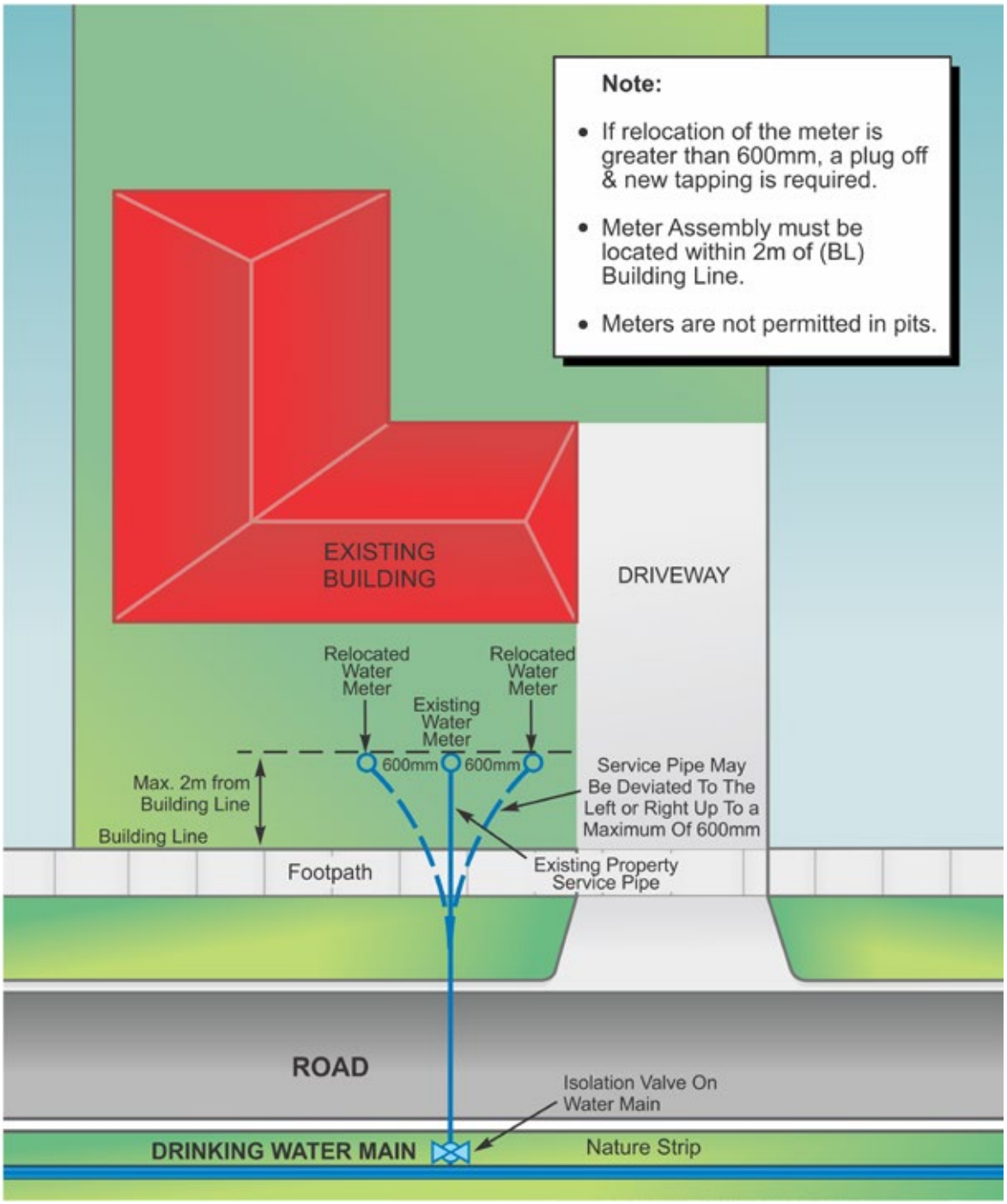


Figure 31 – Deviation of Existing Main General Water Meters (Long Side)

6.2 Plug and Re-Tap at the Water Main

For Relocating Meters greater than 600mm, New Developments and Redevelopments

An application (with applicable fee) must be lodged with Westernport Water if an existing drinking water service tapping is to be plugged and re-tapped.

The owner is to engage, at their cost, a licensed plumber to do the necessary work, with the exception of an actual tapping or plugging of the water main, which will be carried out by Westernport Water, also at the owner's cost.

All excavation works are to be carried out by the owner's licensed plumber.

Any plug-off required is to be carried out at the time the new tapping is being installed.

The main water meter is to be installed in accordance with Section 4.

If the existing water meter is removed from the assembly for any reason, unless agreed, Westernport Water may request the meter to be replaced with a new meter at the owner's cost.

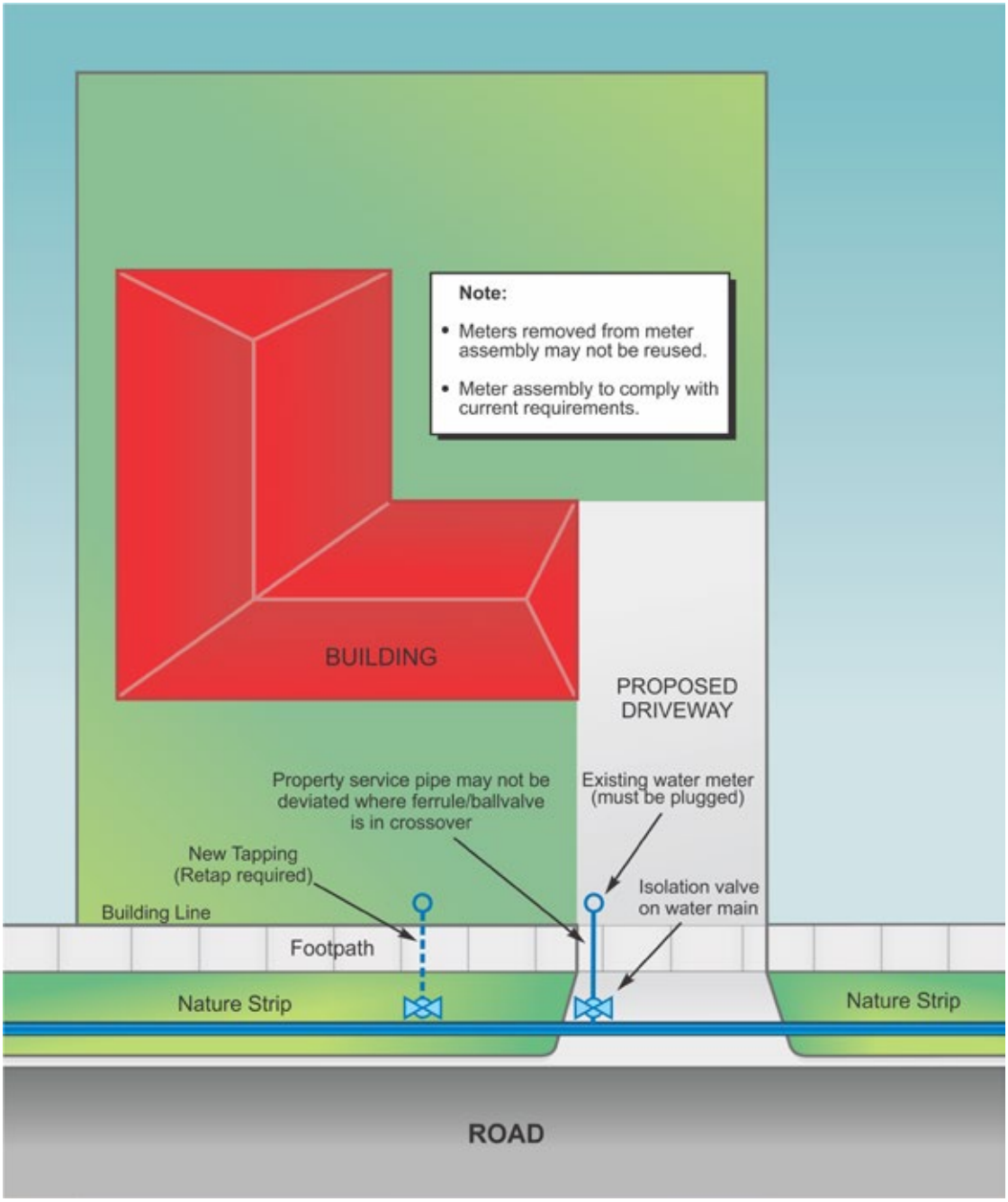


Figure 32 – Plug and Re-tap Typical Arrangement

6.3 Re-Use of Existing Tappings

New developments and redevelopments

Existing water tapping and existing property service pipes may be retained where:

- The existing water service is of approved material and is in sound condition (not GWIP).
- The new water meter is provided at owner's expense.
- The tapping is sized appropriately for new development in accordance with AS/NZS 3500.

If it can be demonstrated that the development's water supply demand does not impact on the performance of the water meter, the following applies:

- Where existing pressures and flows are found to be adequate to service the proposed development (to be substantiated in writing by a hydraulic consultant or licensed plumber), the existing property service pipe and water meter may be retained to service the new development.

6.4 Water Meter Pits

Where conditions in Section 4 "Water Meter Positioning" cannot be met, main and/or sub-check meters may be permitted to be installed in a pit, at Westernport Water's discretion. However, it must be demonstrated that all listed options to install the water meter above ground have been adequately explored to the satisfaction of Westernport Water. In such cases, the pit must conform to the following requirements:

- Be constructed of an impervious material and be of a standard adequate to the location it is to be installed.
- Have a lid which can be safely and easily removed by one (1) person.
- In trafficable areas must provide for a cover adequate to the loads experienced as well as access for reading (ie trap door).
- Provide adequate space around the water meter (within the pit) for maintenance and replacement.
- Where a testable (double-check valve) backflow prevention device is installed, the pit provides for ease of maintenance of the device and assembly components.
- Be drained to prevent the pit retaining water (ie connected to the stormwater system).
- The owner of the pit is responsible for maintaining the pit in good order, conforming to the above requirements at all times and is also responsible for any applicable costs.
- A pit located outside the title boundary and/or on council property requires the property owner to gain appropriate council approval prior to the installation of the pit.
- Remote read meters should be considered where pit lids are utilised.

Notes:

- *Aesthetics are not considered a valid reason to locate a water meter in a pit.*
- *Reduced Pressure Zone devices must not be installed in pits.*

6.5 Protection of Water Meters

In order to provide protection for water meters, Westernport Water may require the installation of a water meter cage.

In such cases the cages must conform to the following requirements:

- Must have a gate which can be safely and easily opened by one person. If lockable, it must suit a standard industry key (003).
- Provide adequate space around the water meter (within the cage) for maintenance and/or substitution of the water meter.
- The property owner is the owner of the cage and is responsible for the maintenance and safekeeping of the cage.
- Cages servicing meters to private property located on council property require the property owner to gain appropriate council approval prior to the installation of the cage(s).
- Safety bollards may be applicable in some cases. Concrete pits in cattle paddocks are currently being used, however, if backflow prevention is required pits must not be used as the backflow device needs to be able to vent.

6.6 Selection of Water Meters

The selection of the size and type of water meter will be dependent on the required flow rates nominated by the applicant and the intended use of the development. All water meters used by Westernport Water for billing purposes are to be of an approved type supplied by Westernport Water.

7. Other Related Guidelines

7.1 Containment Backflow Prevention

Westernport Water requires all new connections and re-developments to have an appropriate backflow prevention device fitted at the outlet of the main water meter (Containment Protection) in accordance with plumbing regulations incorporating the Plumbing Code of Australia.

Westernport Water exercise their right under the Water (Estimation, Supply and Sewerage) Regulations 2014 to stipulate the minimum required backflow prevention device at the outlet of the main water meter as part of the assessment of applications for new, re-developed and/or refurbished developments.

All new fire services require a single check valve testable as a minimum.

An agreement is required to be executed between Westernport Water and the property owner at the application stage when a testable backflow containment device is installed.

If the risk category of a non-residential development is unknown at the time of application, Westernport Water will require the installation of a high hazard backflow prevention device.

For single residential properties, generally a low hazard dual check valve is required to be installed at the outlet of the water meter.

Notes:

- *Where rainwater tanks are installed to provide toilet flushing, and it is intended to interconnect the reticulated drinking water supply system, an appropriate containment backflow prevention device may be required at the outlet of the main water meter to the property. In such cases, as a minimum, the device is to be a WaterMark approved dual check valve. As per AS3500.1:2015 rainwater tanks above ground are a low hazard for toilet flushing Clause 16.4 of the plumbing regulations.*
- *If rainwater tanks are buried or partially buried, then a testable backflow prevention device may be required.*
- *Where the installation of an appropriate zone or individual hazard backflow prevention device is necessary in accordance with the provisions of AS/NZS 3500, Westernport Water will require, as a minimum, the same level of protection installed as a containment backflow prevention device at the outlet of the property main water meter.*
- *For residential properties within Westernport Water's operating area, a dual check water meter (up to 25mm Ø diameter) is used.*

7.2 Trade Waste

The discharge from premises as a result of development (ground water), trade, industrial, medical, dental and commercial practise. Premises are required to discharge trade waste to comply with terms and conditions set out in Westernport Water's Trade Waste Agreement.

Flow metering of trade waste effluent is required if requested by Westernport Water. Water metering is required to monitor water usage associated with trade waste discharge, in accordance with these requirements.

Trade waste flow meters are owned, maintained and installed by the owner at the request of Westernport Water. It is the responsibility of the owner to ensure that the flow meter

- is installed, operated and maintained in good working order;
- continually records the rate of flow of trade waste;
- incorporates a totaliser, calibrated to record in kilolitres, which cannot be reset to zero;
- is capable of activating an automatic sampler;
- is calibrated annually by an accredited company.

The owner must also give Westernport Water a copy of each calibration certificate, within two (2) weeks of receipt.

For additional information refer to Westernport Water's Trade Waste Policy at www.westernportwater.com.au.

7.3 Use of a Data Logger

Data loggers are not permitted to be fitted to Westernport Water meters without prior written consent, which includes a list of conditions which must be met. For details please contact Westernport Water.

7.4 Pressure Limiting Valve

When the maximum static pressure at any outlet (private fire services excepted) within a building exceeds 500Kpa, a pressure limiting valve may be required at the owner's cost.

7.5 Hot Water Meters

Westernport Water do not supply water meters for heated water or for the individual billing of heated water.

7.6 General Water Supply – In-line Pumping

In-line Booster Pumping is not permitted without written approval from Westernport Water. A written request for the approval of variable speed in-line pumps must be lodged with Westernport Water, as part of the application for conditions of connection, and should include details of the pump, ie pump make, module, duty points and curves.

Note: *The maximum pump flow should not result in the minimum residual pressure allowable of the street main being exceeded under peak demand conditions.*

This must be checked and approved by Westernport Water.

8. Private Fire Service

To be read in conjunction with typical arrangement/standard drawings.

8.1 Private Fire Services

All private fire services must be metered. Refer to Section 4 for positioning of private fire services.

The type of meter used is dependent on the type of private fire service being installed and the applicable design standard to each installation. Westernport Water will supply the meter(s) at the owner's cost.

Where the private fire service is greater than 50mm Ø the general service shall be connected off the private fire service prior to the private fire service water meter and must be separately metered.

The metering of hydrant fire services with in-line water meters requires prior approval from the applicable fire authority.

8.2 Non-Compliant Installations

Where an installation is found to be non-compliant, it is the owner's/applicant's responsibility to rectify the installation in accordance with these guidelines and applicable standards within a nominated timeframe given by Westernport Water. Failure to do so may result in the disconnection of the main supply or rectification works will be carried out by Westernport Water at owner's/applicant's cost.

8.3 Redevelopments/Major Augmentation of Private Fire Services

In cases of redevelopments and/or changes to a private fire service, eg changes to sprinklers and/or hydrants, the private fire service metering and containment backflow may need to be upgraded to meet current requirements. This will be at the discretion of Westernport Water.

8.4 Recycled Water (where applicable) for Private Fire Services

Westernport Water may grant approval for recycled water to be used for fire fighting purposes subject to availability of supply and the type of fire system to be installed.

Where recycled water/alternative water is intended to be utilised for fire fighting purposes, the appropriate hazard level of containment backflow prevention is to be based on the degree of risk of containment to the Westernport Water's water supply system.

Fire sprinkler systems may not utilise Class A Recycled water.

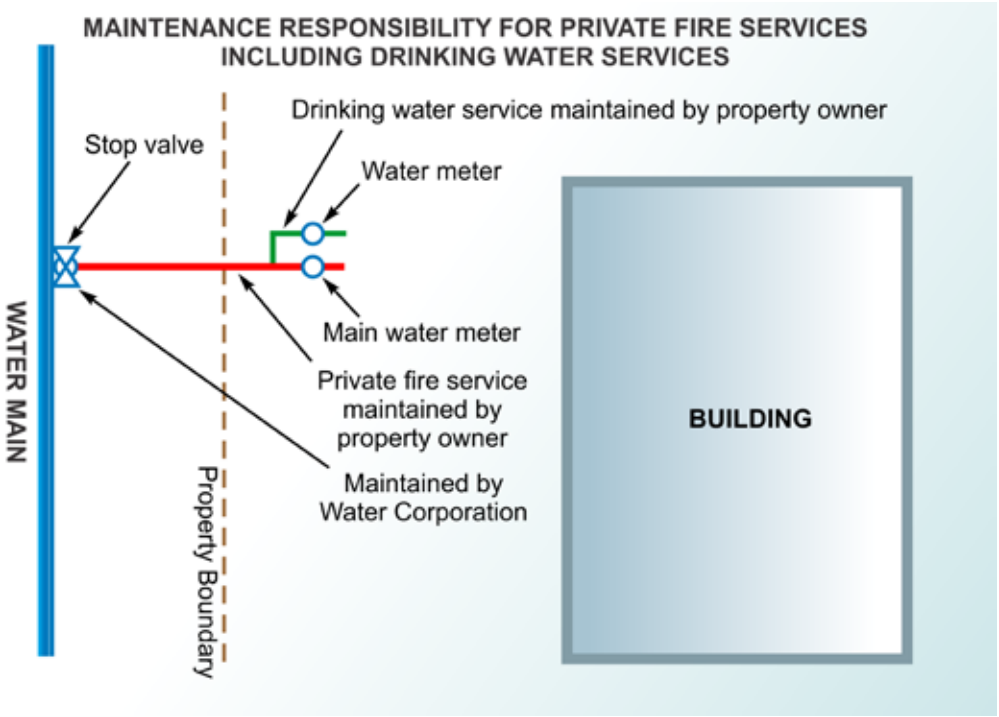


Figure 33 – Private Fire Service including Drinking Water Service

8.5 Private Fire Service Metering Guide

Type of Fire System	Australian Standard	Single or Combination Standard	Inline Booster Pumps	Metering Requirement	Water Saving Measures
Fire Hydrant 80mm diameter	AS 2419.1	Single	No	SCDAT	No
or larger	AS 2419.1	Single	Yes	Mag meter	Yes
Fire Hydrant 80mm diameter or larger and general service combined	AS 2419.1	Single	No	Mag meter	No
Automatic Fire Sprinkler	AS 2118.1	Single	No	Mag meter	No
greater than 50mm diameter	AS 2118.1	Single	Yes	Mag meter	Yes
Automatic Fire Sprinkler/	AS 2118.6	Combined	No	Mag meter	No
or larger	AS 2118.6	Combined	Yes	Mag meter	Yes
Automatic Fire Sprinkler Designed under Commercial and Residential Standards, ie carpark under one standard/units under another	AS 2118.1 AS 2118.4	Combined	No	SCDAT	No
	AS 2118.1 AS 2118.4	Combined	Yes	Mag meter	Yes
Automatic Fire Sprinkler up to 50mm diameter	AS 2118.4	Single	No	Mechanical meter	No
Automatic Fire Sprinkler greater than 50mm diameter	AS 2118.4	Single	No	SCDAT	No
Automatic Fire Sprinkler up to 50mm diameter	AS 2118.5	Single	No	Mechanical meter	No
Automatic Fire Sprinkler, Drenchers up to 50mm diameter	AS 2118.2	Single	No	Mechanical meter	No
Automatic Fire Sprinkler, Drenchers greater than 80mm diameter	AS 2118.2	Single	Yes	Mag meter	Yes
	AS 2118.2	Single	No	SCDAT	No
Automatic Fire Sprinkler, Deluge up to 50mm diameter	AS 2118.3	Single	No	Mechanical meter	No
	AS 2118.3	Single	Yes	Mechanical meter	Yes
Automatic Fire Sprinkler, Deluge 80mm diameter or	AS 2118.3	Single	No	SCDAT	No
larger	AS 2118.3	Single	Yes	Mag meter	Yes

8.6 Fire Service Backflow Prevention

Fire services 80mm and larger require as a minimum a Single Check Testable Device. For a hydrant/hose reel service, a Single Check Detector Assembly is required with a by-pass meter assembly.

Note: *The device must be commissioned and retested annually. Copies of commissioning details and yearly test results must be forwarded to Westernport Water as a condition of supply.*

8.7 Private Fire Service Pumping

The use of in-line pumps to boost supply directly from the local reticulation system may be permitted, subject to approval of Westernport Water.

A written request for the approval of in-line boosting must be lodged with Westernport Water, as part of the application for conditions of connection, and should include details of pump curves and the pump design specifications to be used.

Notes:

- *The maximum pump flow should not result in the minimum allowable residual pressure in the street main being exceeded under peak demand conditions. This must be checked and approved by Westernport Water.*
- *Variable speed pumps in accordance with AS 2941 are preferred, however consideration will be given for the use of direct drive pump sets. In some cases, consideration may also have to be given to installing a break pressure tank to provide added protection to the Westernport Water water supply infrastructure assets.*

8.8 Disconnection of Fire Service Pumping

In addition to the procedure applicable to general water service disconnections, an owner who requests the fire service be disconnected and retain the general service must submit a report from a Building Surveyor or Fire Engineer that the building no longer requires the fire service in accordance with the Building Regulations. This report is not required where the site is being redeveloped, as a new building occupancy permit will be required.

Fees

A disconnection/plugging fee and new tapping fee are applied for this work.

Applicable fire service charges remain until the removal of the fire service connection at the water main, where applied by Westernport Water. Removal of fire service fixtures within the property do not warrant the fire service charge being removed.

Note: *A plumber must be acting for the owner and not the tenant.*

9. Developments With Recycled Water Services (where applicable)

In addition to the tapping and service requirements, in order to ensure safe delivery of recycled water to the community Westernport Water will assume responsibility for recycled water plumbing inspections throughout the property development.

I. The owner/applicant must ensure that the installation of the connecting works for recycled water is inspected in accordance with Westernport Water's Conditions of Connection, at the owner's/applicant's cost.

II. Plumbers must install recycled water pipes that comply with the plumbing standard [AS3500] and the Victoria Building Authority (VBA). The Recycled Water Plumbing Guide is available via the VBA website.

III. All plumbers nominated on an Application to Connect to Recycled Water are required to understand all regulations pertaining to recycled water.

IV. 100% mandatory inspections of property service pipes and water meter assembly, up to the last pressurised valve, is required as per the Westernport Water Plumbing Inspection Guide.

V. As a minimum, developments will be inspected at the following stages:

Step 1

Application to Connect is lodged

Following the approval of the application to connect to recycled water services, Westernport Water will issue (the plumber) with a VBA number, and the 'As Constructed Drawings Template' along with information including the Conditions of Connection.

The specific Conditions of Connection include the conditions under which we would supply sewer services, drinking water and recycled water to a property.

It is the plumber's responsibility to read, understand, and comply with all these conditions.

Step 2

Installation of the Dual-Pipe

Inspection Process

Plumbers are responsible for booking in three (3) inspections at the specified stages with the VBA. The cost of these inspections is included in the tapping fee.

These inspections can be booked through the VBA's e-toolbox via: https://practitioner.etoolbox.pic.vic.gov.au/

The three (3) inspections are required to meet EPA and DHHS requirements and to avoid cross-connections between the drinking water and recycled water systems.

Inspection – Stage 1 (R1)

Meter to Dwelling

The service pipes exposed below ground between meter assembly at or near the property boundary and the house. VBA inspection is required during this stage.

Inspection – Stage 2 (R2)

Rough In

Pipe work to fixtures within the home prior to plaster installation. A second VBA inspection is required during this stage.

Inspection – Stage 3 (R3)

Commissioning

Correct commissioning of the recycled water system is required to verify that no cross-connection between the drinking water and recycled water has taken place.

The commissioning procedure is outlined in the VBA's Plumbing Guide.

A third VBA inspection is required during this stage, after which the lock on the recycled water meter will be removed.

9.1 Recycled water pipes fittings specification

Recycled water pipe lines must comply with the following specifications:

- Piping must meet Australian Standards and be Purple in colour.
- Separation of services below ground must maintain a minimum of 300mm horizontal gap between the drinking water and recycled water supplies.
- Underground pipes must be covered with a standard identification tape that is attached every three (3) metres. This distinctive tape has 'Recycled Water – Do Not Drink' printed on it.
- Above ground services must be separated by a minimum of 100mm, except for a reasonable cross over situation.

Recycled water hose bib taps must be installed in the front and rear gardens of the property and comply with the following specifications:

- 5/8 inch BSB inlet thread ensures no interchange between drinking water and recycled water taps.
- Are Purple in colour.
- Have a removable tap handle to prevent inappropriate use.
- Prohibition sign that states "Recycled Water – Do Not Drink".
- Taps and Signs should be fixed to a 90mm x 90mm H4 treated pine post.

9.2 Alteration to Internal Class A Recycled Water Supply

Written approval is required from Westernport Water prior to the installation of any fittings and/or alteration of pipework. A fully completed plumbing application must be submitted to Westernport Water with applicable fees paid and consent given prior to any works being carried out. Class A Recycled water alterations must comply with Westernport Water's Conditions of Connection.

10. Non-Residential Open Spaces

Non residential irrigation systems/council open spaces drinking water supply/recycled water

Irrigation Systems typically found in Council reserves, nature strips, median strips and school reserves.

A water meter is required on irrigation systems not supplied through an existing main meter for the property or where there is no other connection available.

Water meters are to be:

- Installed above ground in accordance with Section 4.
- Protected from damage and have regard to all Occupational Health and Safety requirements for public areas.
- For nature strips, as close as practicable and adjacent to the water main connection in accordance with the relevant land owners requirements. It may be necessary to provide protection for the water meter in accordance with Section 6.6. This is at Westernport Water's discretion.
- Water meters are to be supplied by Westernport Water at the owner's cost.
- Where the irrigation system installation is not of a temporary nature, the water service pipes shall not exceed 30 metres in length between the water main and the water meter. A water main extension will be required where this cannot be achieved.
- The licensed plumber* engaged by the owner/applicant is required to obtain a road opening permit from the relevant authority before commencing any excavation work within a road reserve. The licensed plumber engaged by the owner/applicant must also comply with every traffic management requirement contained in that permit.

  - Pump Irrigation Systems

    The use of in-line pumps may be permitted subject to:

    - Installation of soft start pumps;
    - Installation of variable speed pumps; and
    - Installation of a low pressure cut-out.

A dole valve or orifice plate may be required to be installed in accordance with the maximum flow rate approved by Westernport Water and is required to be tagged and sealed by Westernport Water to prevent tampering or adjustment.

- Storage Tanks

  The use of Storage Tanks may be permitted subject to approval from Westernport Water.

  - Containment Backflow Prevention
  - For non-residential properties a Testable Double Check valve is required as a minimum to be installed at the outlet of the boundary water meter. Depending on the hazard rating RPZD may be required.
  - Additional zone and individual Backflow Prevention devices may be required in accordance with the provisions of the Plumbing Code of Australia incorporating AS/NZS 3500.
- The design of the irrigation service is the responsibility of the applicant.
- All work must be maintained in accordance with Westernport Water's Customer Charter.
- Where applicable Westernport Water will audit the site to check that the recycled water is being used in accordance with the EIP.

Environmental Requirements

- Development of an Environment Improvement Plan (EIP) may be required.
- Customers will need to prepare an EIP in accordance with requirements of the current EPA Guidelines for Environmental Management – Use of Reclaimed Water (2003).
- The Guidelines set out management requirements to ensure long term sustainable use of recycled water without risk to the environment and also human and animal health. Westernport Water will provide an EIP template and assist the customer in preparing an EIP for their site. The EIP must be prepared and submitted to the relevant Westernport Water for execution, prior to commencing construction of the irrigation system. If the customer fails to prepare or comply with an EIP, Westernport Water will not permit the flow of recycled water.
- The recycled water meter inlet ball valve will be closed and fitted with a locking device by the Westernport Water at the time of connection to the property.
- The locking device is only to be removed by either Westernport Water, or its authorised agent for the purpose of conducting the commissioning "Water Check" of internal Class A recycled water plumbing. Penalties apply for the unauthorised removal of the locking device.
- A purple Class A recycled water 5/8" inlet thread tap having a removable handle and sign reading "Recycled Water. Do Not Drink" must be installed to service any rear external area of each allotment.
- A recycled water prohibition sign with the words "Recycled Water. Do Not Drink" and complying with AS 1319 is to be installed above each recycled water tap outlet.
- Any pipe, tap or other fitting used or intended to be used to supply recycled water must be of an approved type and colour in accordance with AS/NZS 3500.
- All pipes must never be painted any other colour.
- Where rainwater is to be used for flushing of toilets via a rainwater tank, backup supply is only to be provided via an automatic change over device connected to the Class A recycled water supply. Pipework from the changeover device must default to approved purple pipe. Potable Water can be used with the appropriate backflow prevention.
  - Alteration to Internal Class A Recycled Water Supply
  - Written approval is required from Westernport Water prior to the installation of any fittings and/or alteration of pipework. A fully completed plumbing application must be submitted to the relevant Westernport Water with applicable fees paid and consent given prior to any works being carried out.
  - Class A Recycled water alterations must comply with Westernport Water's Conditions of Connection.
  - If any existing drinking and/or recycled water service to the property is to be disconnected, the owner/applicant must engage a licensed plumber to expose the existing property service connection water main(s) (as the case requires) at the owner's/applicant's cost, to allow Westernport Water or its contractor to disconnect and plug the existing property service. The licensed plumber engaged by the owner/applicant must disconnect the relevant water meter and return it to Westernport Water or its contractor.

11. Water Metering in Special Cases

Multi-Occupancy (> 25 lots) Residential and Non-Residential Development (Shut-off Block)

Definition

The water reticulation network is divided into shut-off areas defined by stop valves that limit the number of property service interruptions when a water main failure occurs.

Westernport Water requires that the number of property services connected in a “shut-off” area shall be no greater than 25.

This requirement is applicable to residential developments and non-residential developments servicing critical customers.

Where new development increases the number of services connected between existing valves on the water reticulation network as defined above, additional valves shall be provided to maintain the number of services connected to no greater than 25.

Where a single water service is to be provided for multi-unit developments hosting greater than 25 dwellings or critical customers, a valving arrangement for two-directional supply shall be provided. The creation of the 10 dwelling multi-unit development has resulted in a shut-off area with greater than 25 service connections. Valve “A” is required to create shut-off areas with less than 25 service connections. Hydrant “B” may be required dependent on Westernport Water or Council requirements.

Where the multi-unit development services critical customers or contains more than 25 service connections, a dual supply tapping arrangement is required. In this scenario, this may be achieved by installing valve “C” and additional tapping “T2”, instead of valve “A”.

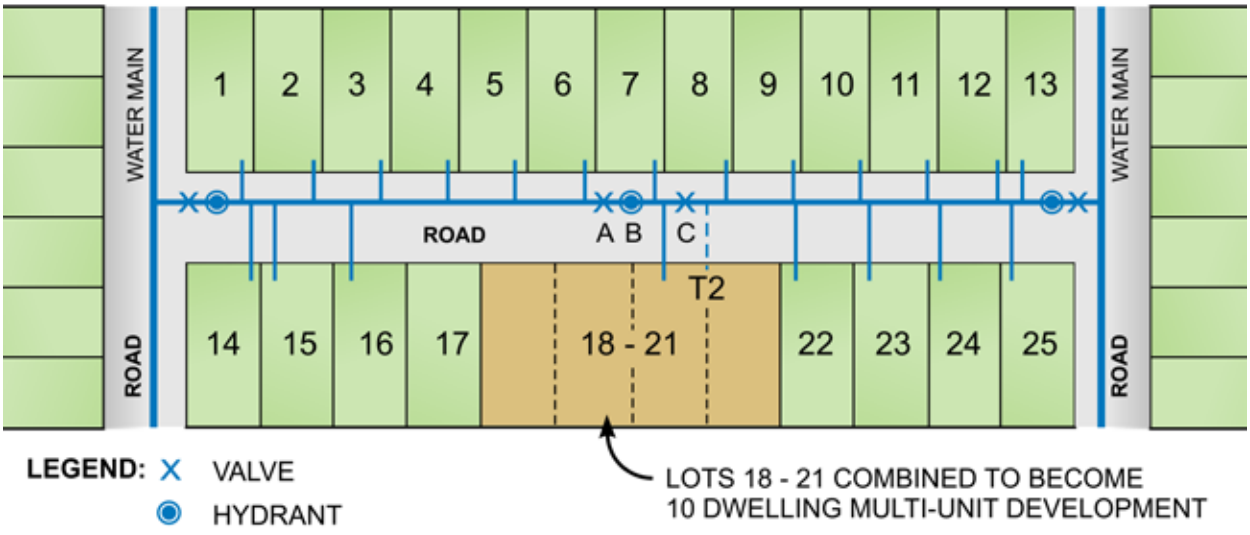


Figure 34 – Shut-off Block

12. Main to Meter Installations Process

As of 1 July 2019, Westernport Water will engage their meter services contractor to install all main to meter connections for all sized drinking and recycled water services. This includes:

- Installation of the Westernport Water approved meter(s).
- The installation of the main to meter pipework, where required, (Westernport Water asset) in the nature strip/roadway into the property boundary, inclusive of excavation and reinstatement.
- Tapping of Westernport Water drinking/recycled water main(s).
- Plugging of a redundant drinking/recycled water service.

Specific details and all applicable costs will be included on the plumbing application and/or the applicable development offer. Westernport Water believes this process improvement will standardise the installation of all related works, as well as protect plumbers and the community due to the ongoing changes and requirements associated with:

- Traffic management laws
- Working on asbestos mains
- OHS requirements with excavation works
- Meeting relevant Australian and WSAA standards
- Water meter manufacturer installation requirements

As a value added service, we will also offer the customer the option to have the installation and testing of the required backflow device on the drinking water service (containment only) during the main to meter connection. This would be at an additional cost to the described works above and there will be an option on the plumbing application for customers to select this option. The customer may still request their own plumber to install any required backflow device(s).

For any further enquiries, please contact Westernport Water directly.

13. Drawings (Typical Water Services Assembly Arrangements)

General Installation Notes

Water Assembly Dimension and Spatial Requests

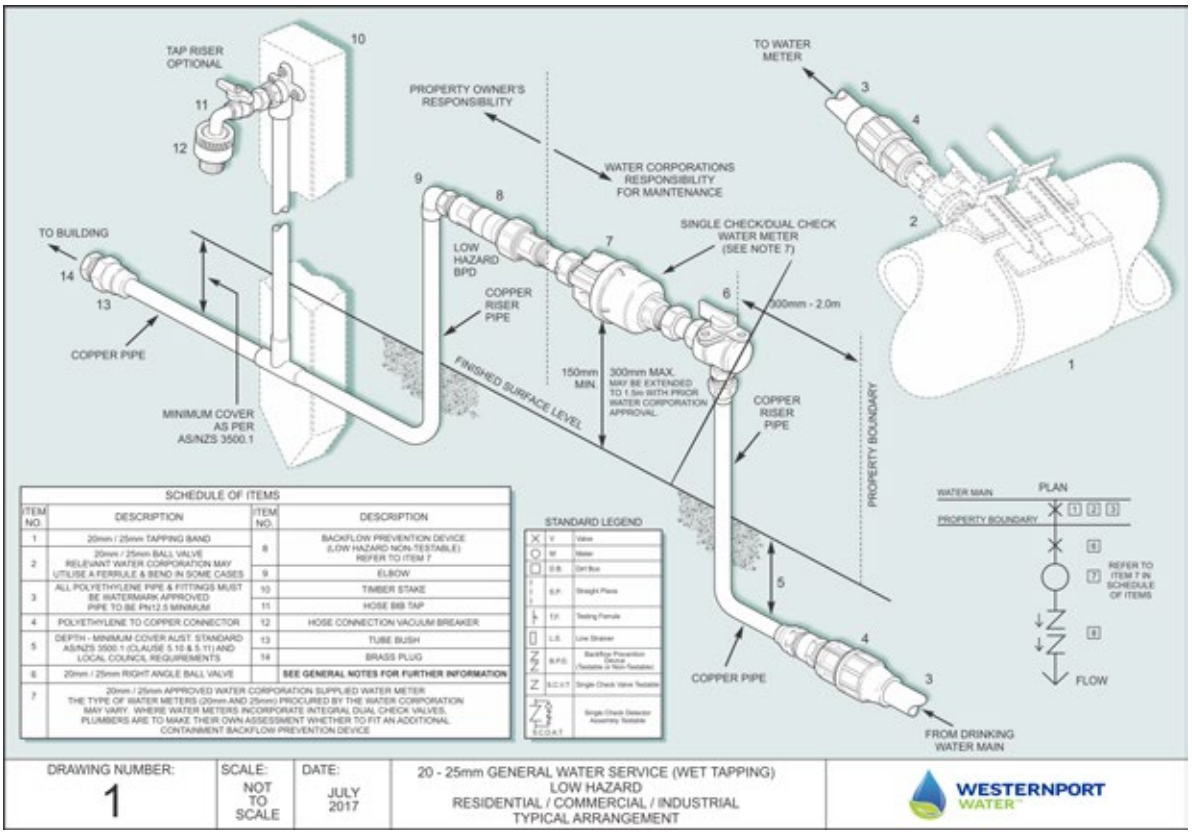
1	20 - 25mm General Water Service (Wet Tapping) Low Hazard Residential/Commercial/Industrial
1a	20mm Drinking Water (Dry Tapping) Low Hazard Residential (Installed By Relevant Westernport Water)
1b	20mm Recycled Water Residential (Dry Tapping) Low Hazard Residential (Installed By Relevant Westernport Water)
2	20 - 25mm General Water Service Medium Hazard Residential/Commercial/Industrial
3	20 - 25mm General Water Service High Hazard Residential/Commercial/Industrial
4	32 - 50 mm General Water Service Low Hazard Residential/Commercial/Industrial
5	32 - 50 mm General Water Service Medium/High Hazard Residential/Commercial/Industrial
6	80mm + General Water Service Low Hazard Residential/Commercial/Industrial
7	80mm+ General Water Service Medium/High Hazard Residential/Commercial/Industrial
8	25 – 50mm Hose Reel/Sprinkler and General Service
9	80mm + Fire Hydrant/Hose Reel with Single Check Detector Assembly Testable
10	80mm+ Fire Hydrant/Hose Reel with Double Check Detector Assembly Testable
11	80mm+ Fire and General Service Combined Residential/Commercial/Industrial
12	80mm+ Fire Sprinkler and Hydrant Service Meter Configuration
12a	80mm+ Fire Sprinkler and Hydrant Service Single Detector Assembly (Testable) (No Booster Pumps)
12b	Interconnected Fire Sprinkler/Hydrant and General Services Same Water Main Connection
13	Booster Connection Around Meter Fire Sprinkler Supply
14	Booster Connection Around Meter Fire Hydrant Supply
15	Interconnected Fire and General Services Single Water Main Supply From Both Directions
15a	Interconnection Supply to Feed Hydrant Outlet - Relating to Drawings 15 and 16
16	Interconnected Fire Sprinkler/Hydrant and General Services Different Water Mains Connection
17	Private Fire Service Tapping Configurations
18	Drinking/Recycled Water Tapping Configurations
19	Requirements for Class “A” Recycled Water for use with washing machines
20	Minimum Clearances for Meter Assemblies in Areas of Restricted Space

Note: *Testing ferrules cannot be used for a temporary or permanent connection.*

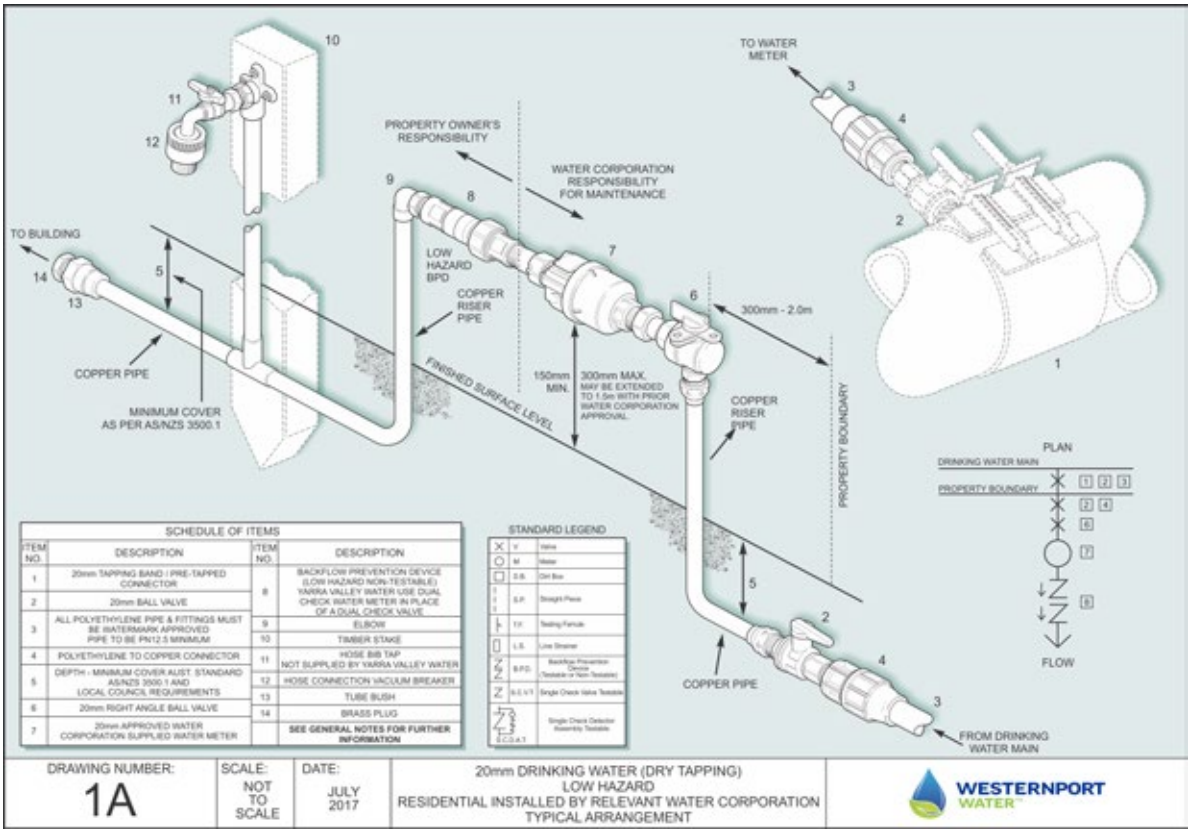
Water Assembly Dimension and Spatial Requirements

Meter Size (mm)	Meter Assembly Type	1 Meter Type	2 Up Stream Meter Assembly Elbow / Bend Length (mm)	3 Upstream Isolating Valve Length (mm)	4 Dirt Box Yes/ No	5 Minimum Length of Pipe Down Stream of Meter (mm) = 5 x dia of pipe	6 Meter Length (mm) Including dirt box where applicable for meters up to 50mm	7 Minimum Length of Pipe Upstream of Meter (mm) = 3 x dia of pipe	8 Testing Ferrule Length (mm)	9 Meter Down Stream Isolating Valve Length (mm)	10 Line Strainer Length (mm)	11 Typical Backflow Prevention Device Length (mm)	12 Isolating Valve Down Stream of Backflow Device	13 Down Stream Meter Assembly Elbow / Bend Length (mm)	Total Length
20mm	Main General Low Hazard	Mechanical (Mech)	N/A	Right angle (∟) ball valve 60mm	N/A	N/A	220 inc. couplings	N/A	N/A	N/A	N/A	110	N/A	50	440
	Main General with Testable device	Mech	N/A	∟ball valve 60mm	N/A	N/A	220 inc. couplings	N/A	N/A	84	100	233	84	50	831
	Check	Mech	N/A	∟ball valve 60mm	N/A	N/A	220 inc. couplings	N/A	N/A	84 Only required where damage may occur in removing meter	N/A	N/A	N/A	50	330 or 414 with additional isolating valve
	Recycled Water	Mech Dual Check	N/A	∟ball valve 60mm	N/A	N/A	220 inc. couplings non standard threads to meter	N/A	N/A	N/A	N/A	Cross connection control within meter	N/A	50	330
25mm	Main General Low Hazard	Mech	N/A	∟ball valve 75mm	N/A	N/A	250 inc. couplings	N/A	N/A	99 Only required where damage may occur in removing meter	N/A	114	N/A	60	499 or 613 with additional isolating valve
	Main General with Testable device	Mech	N/A	∟ball valve 75mm	N/A	N/A	250 inc. couplings	N/A	N/A	99	99	233	99	60	816
	Check	Mech	N/A	∟ball valve 75mm	N/A	N/A	250 inc. couplings	N/A	N/A	99 Only required where damage may occur in removing meter	N/A	N/A	N/A	60	484
32mm	Main General Low Hazard	Mech	70	100	Yes	N/A	325	N/A	32	N/A	N/A	160	100	70	857
	Main General with Testable device	Mech	70	100	Yes	N/A	325	N/A	32	100	112	233	100	70	1142
	Fire Hosereel & General Low Hazard	Mech	70	100	Yes	N/A	325	N/A	32	N/A	N/A	160	100	70	857
	Check	Mech	70	100	Yes	N/A	325	N/A	N/A	100 Only required where damage may occur in removing meter	N/A	N/A	N/A	70	565 or 665 with additional isolating valve
40mm	Main General Low Hazard	Mech	75	125	Yes	N/A	350	N/A	32	N/A	N/A	312	125	75	1094
	Main General with Testable device	Mech	75	125	Yes	N/A	350	N/A	32	125	124	312	125	75	1219
	Fire Hosereel & General	Mech	75	125	Yes	N/A	350	N/A	32	N/A	N/A	312	125	75	
	Check	Mech	75	125	Yes	N/A	350	N/A	N/A	125 Only required where damage may occur in removing meter	N/A	N/A	N/A	75	750
50mm	Main General Low Hazard	Mech	93	152	Yes	N/A	523	N/A	32	N/A	N/A	367	N/A	93	1260
	Main General Testable device	Mech	93	152	Yes	N/A	523	N/A	32	152	140	367	152	93	1704
	Fire Hosereel & General	Mech	93	152	Yes	N/A	523	N/A	32	N/A	N/A	367	152	93	1412
	Check	Mech	93	152	Yes	N/A	523		N/A	152 Only required where damage may occur in removing meter	N/A	N/A	152	93	1013 or 1165 with additional isolating valve
80mm	Main General Low Hazard	Mech	170	282	258	440	344	280	32	N/A	N/A	400	282	170	2658
	Main General Testable device	Mech	170	282	258	440	344	280	32	282	315	400	282	170	3255
	Fire Hosereel & General	Mech	170	282	258	440	344	280	32	282	N/A	400	282	170	2940
100mm	Main General Low Hazard	Mech	210	305	292	540	318	340	32	305	N/A	535	305	210	3762
	Main General High Hazard	Mech	210	305	292	540	318	340	32	305	370	535	305	210	3762
	Fire Hydrant / Sprinkler	Mag Meter (full flow)	210	305	N/A	540	250	340	32	305	N/A	410 SCVT	305	210	3267
	Fire Hydrant / Sprinkler	SCDAT	210	305	N/A	N/A	By-pass only	N/A	N/A	N/A	N/A	410 SCDAT	305	210	1440
	Fire Hydrant / Sprinkler & General	Mag Meter (full flow)	210	305	N/A	540	250	340	32	305	N/A	535	305	210	3032
150mm	Main General Low Hazard	Mech	360	403	381	790	300	490	32	N/A	510	685	403	360	4714
	Main General High Hazard	Mech	360	403	381	790	300	490	32	403	510	685	403	360	4311
	Fire Hydrant / Sprinkler	Mag Meter (full flow)	360	403	N/A	790	300	490	32	403	N/A	410 SCVT	403	360	3951
	Fire Hydrant / Sprinkler & General Hazard	Mag Meter (full flow)	360	403	N/A	790	300	490	32	403	N/A	685	403	360	4226
	Fire Hydrant / Sprinkler	SCDAT	360	403	N/A	N/A	By-pass only	N/A	N/A	N/A	N/A	572 SCDAT	403	360	2098
200mm	Main General Low Hazard	Mech	420	403	428	1040	350	640	32	N/A	N/A	960	419	420	5112
	Main General High Hazard	Mech	420	419	428	1040	350	640	32	419	600	960	419	420	6147
	Fire Hydrant / Sprinkler	Mag Meter (full flow)	420	419	N/A	1040	350	640	32	419	N/A	673 SCVT	419	420	4832
	Fire Hydrant / Sprinkler & General	Mag Meter (full flow)	420	419	N/A	1040	350	640	32	419	N/A	960	419	420	5119
	Fire Hydrant / Sprinkler	SCDAT	420	419	N/A	N/A	By-pass only	N/A	N/A	N/A	N/A	673 SCDAT	403	360	2339

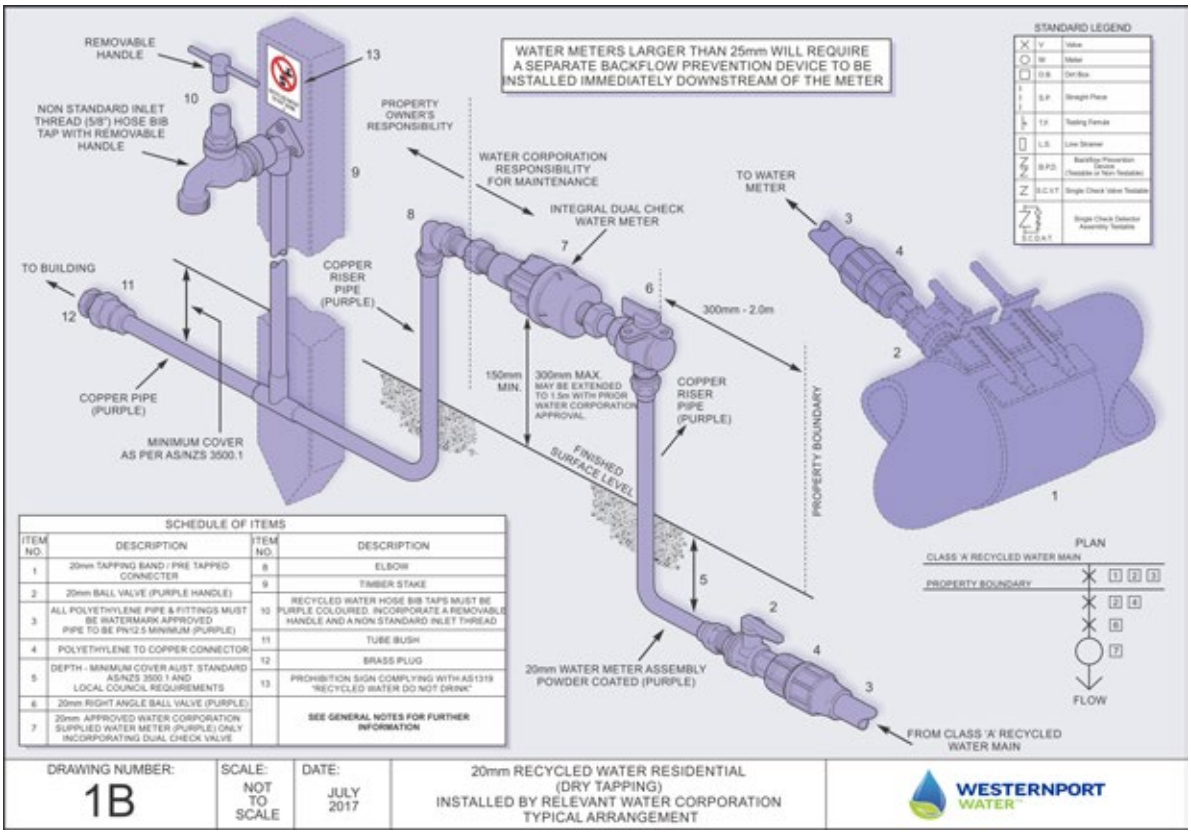
1. 20 - 25mm General Water Service (Wet Tapping) Low Hazard Residential/Commercial/Industrial



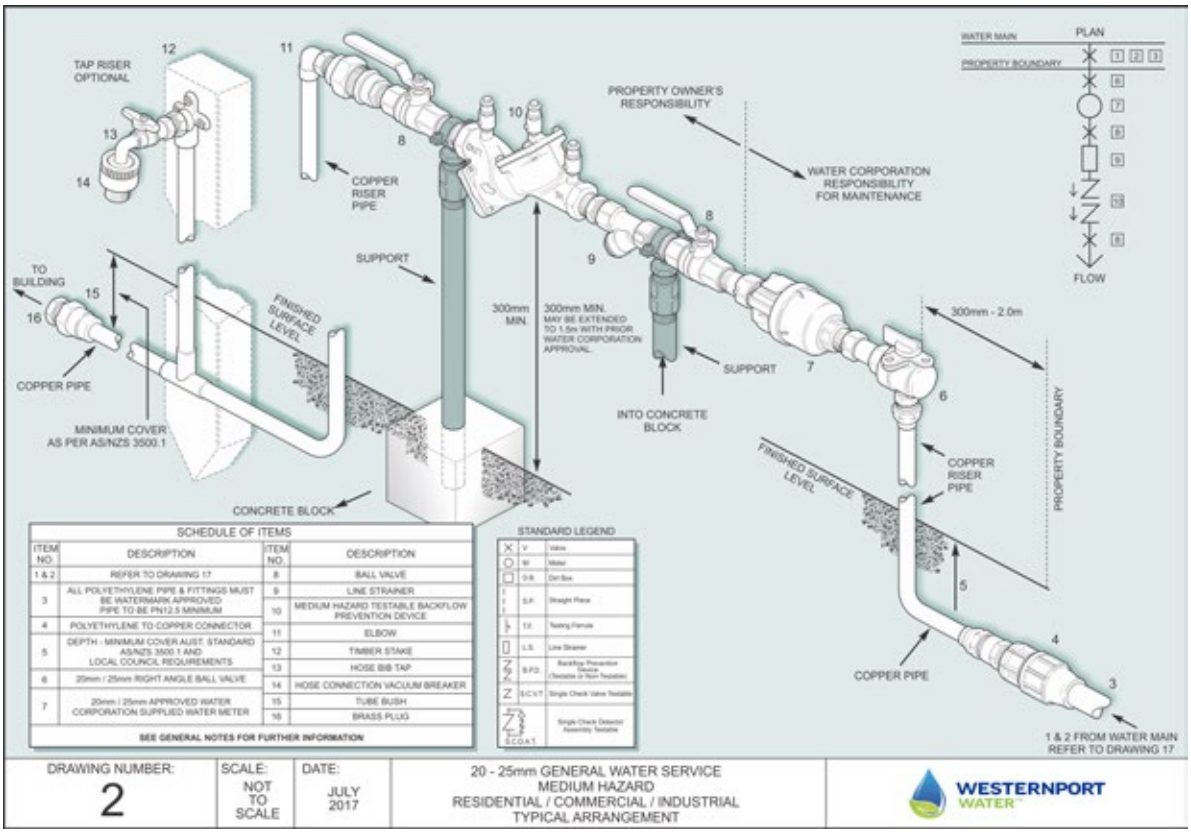
1a. 20mm Drinking Water (Dry Tapping) Low Hazard Residential (Installed by Westernport Water)



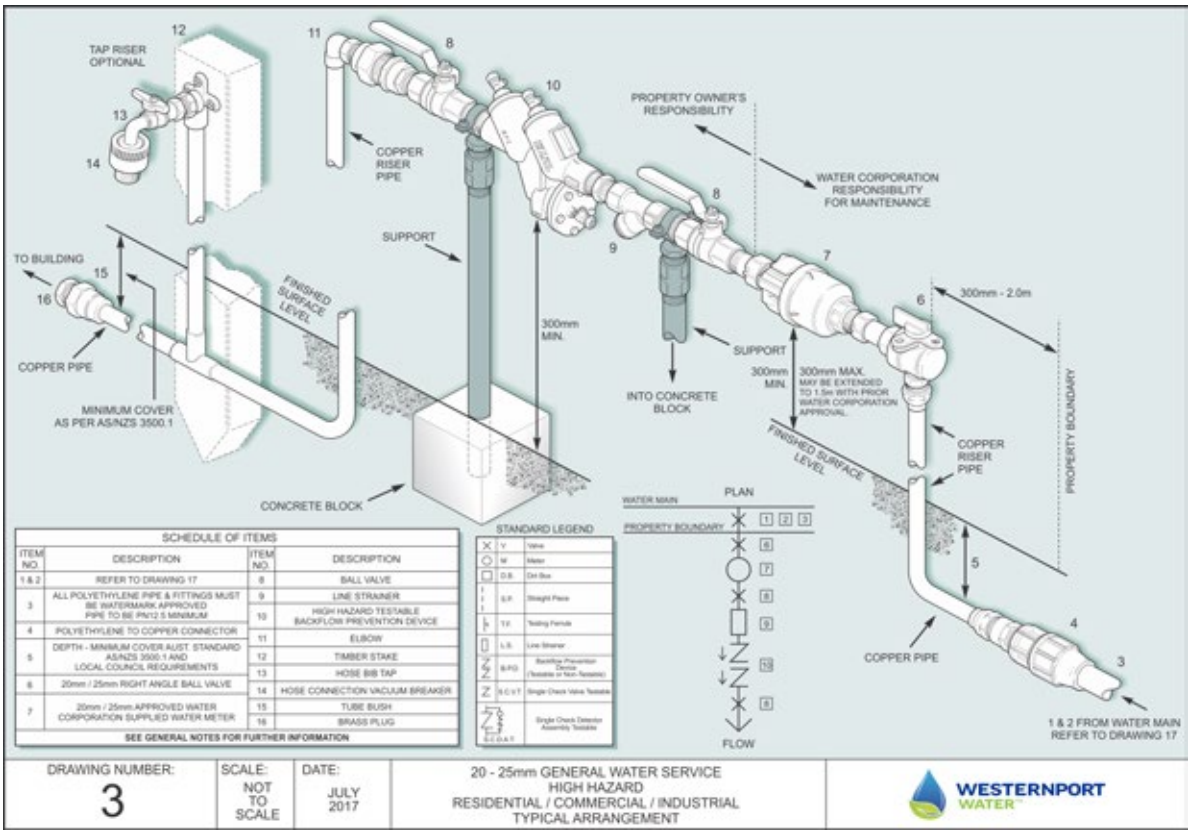
1b. 20mm Recycled Water Residential (Dry Tapping) Low Hazard Residential (Installed by Westernport Water)



2. 20 - 25mm General Water Service Medium Hazard Residential/Commercial/Industrial



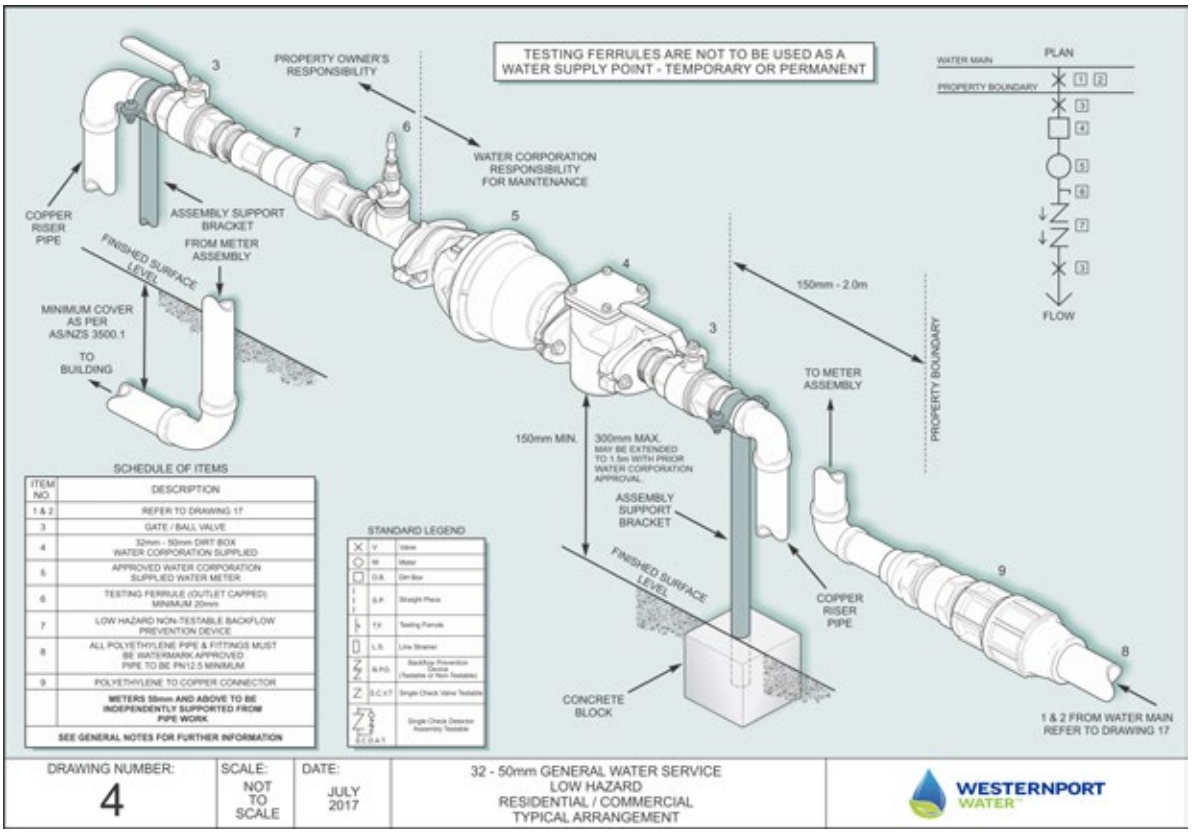
3. 20 -25mm General Water Service High Hazard Residential/Commercial/Industrial



ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION
1 & 2	REFER TO DRAWING 17	8	BALL VALVE
3	ALL POLYETHYLENE PIPE & FITTINGS MUST BE WATERMARK APPROVED PIPE TO BE PN12.5 MINIMUM	9	LINE STRAINER
4	POLYETHYLENE TO COPPER CONNECTOR	10	HIGH HAZARD TESTABLE BACKFLOW PREVENTION DEVICE
5	DEPTH - MINIMUM COVER AUST. STANDARD AS/NZS 3500.1 AND LOCAL COUNCIL REQUIREMENTS	11	ELBOW
6	20mm / 25mm RIGHT ANGLE BALL VALVE	12	TIMBER STAKE
7	20mm / 25mm APPROVED WATER CORPORATION SUPPLIED WATER METER	13	HOSE BIB TAP
		14	HOSE CONNECTION VACUUM BREAKER
		15	TUBE BUSH
		16	BRASS PLUG

SEE GENERAL NOTES FOR FURTHER INFORMATION

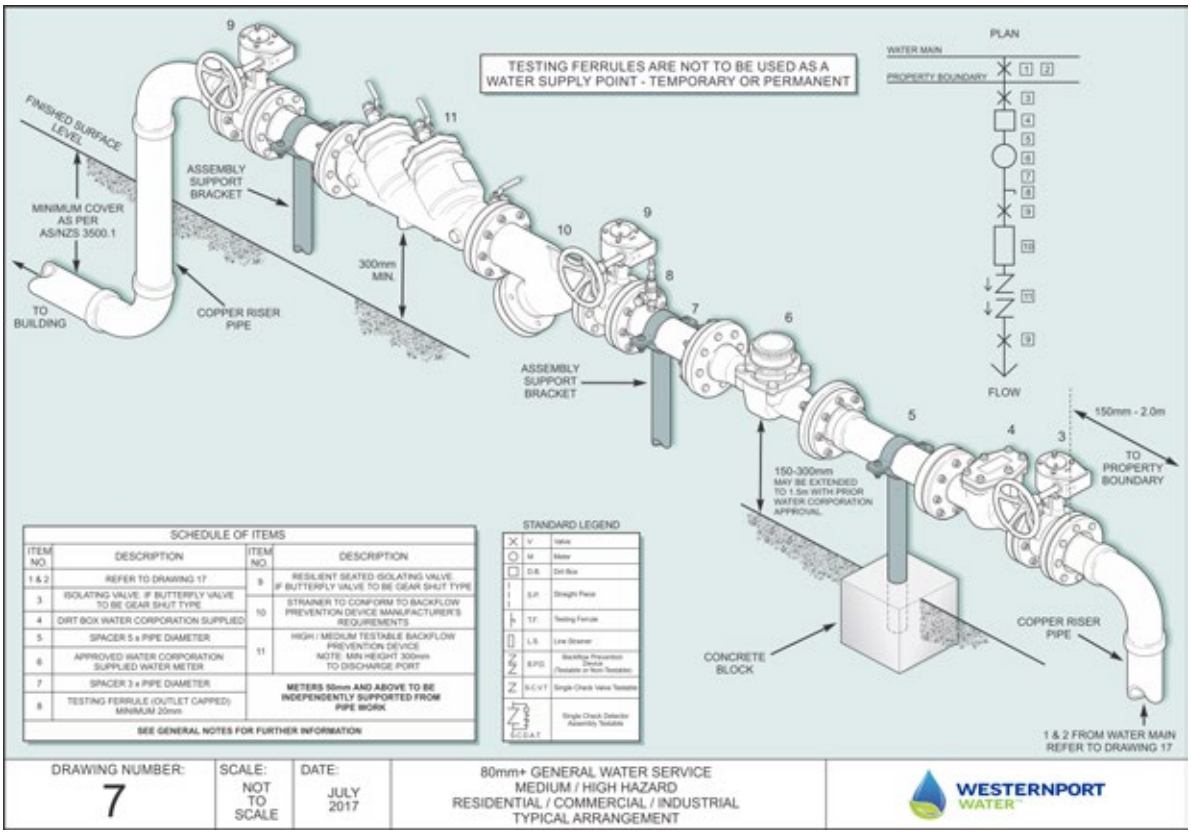
4. 32 – 50 mm General Water Service Low Hazard Residential/Commercial/Industrial



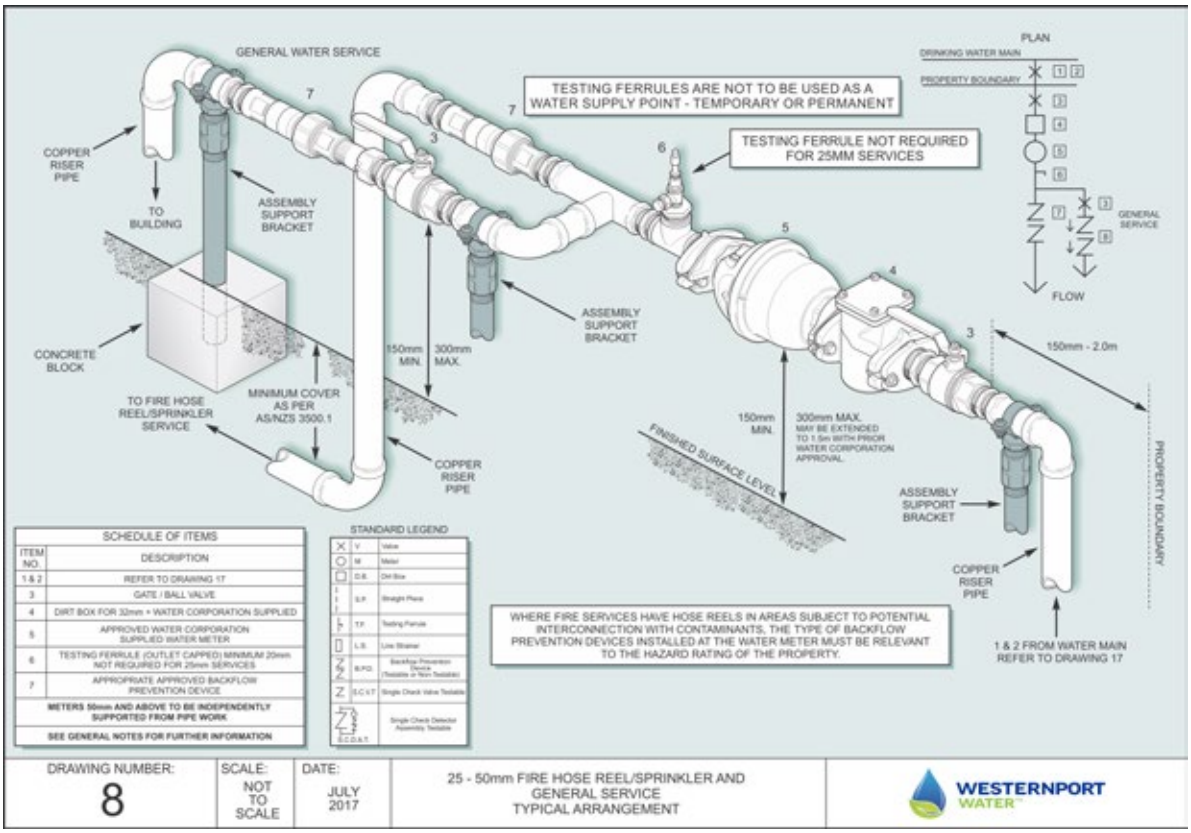
ITEM NO.	DESCRIPTION
1 & 2	REFER TO DRAWING 17
3	GATE / BALL VALVE
4	32mm - 50mm DIRT BOX WATER CORPORATION SUPPLIED
5	APPROVED WATER CORPORATION SUPPLIED WATER METER
6	TESTING FERRULE (OUTLET CAPPED) MINIMUM 20mm
7	LOW HAZARD NON-TESTABLE BACKFLOW PREVENTION DEVICE
8	ALL POLYETHYLENE PIPE & FITTINGS MUST BE WATERMARK APPROVED PIPE TO BE PN12.5 MINIMUM
9	POLYETHYLENE TO COPPER CONNECTOR

SEE GENERAL NOTES FOR FURTHER INFORMATION

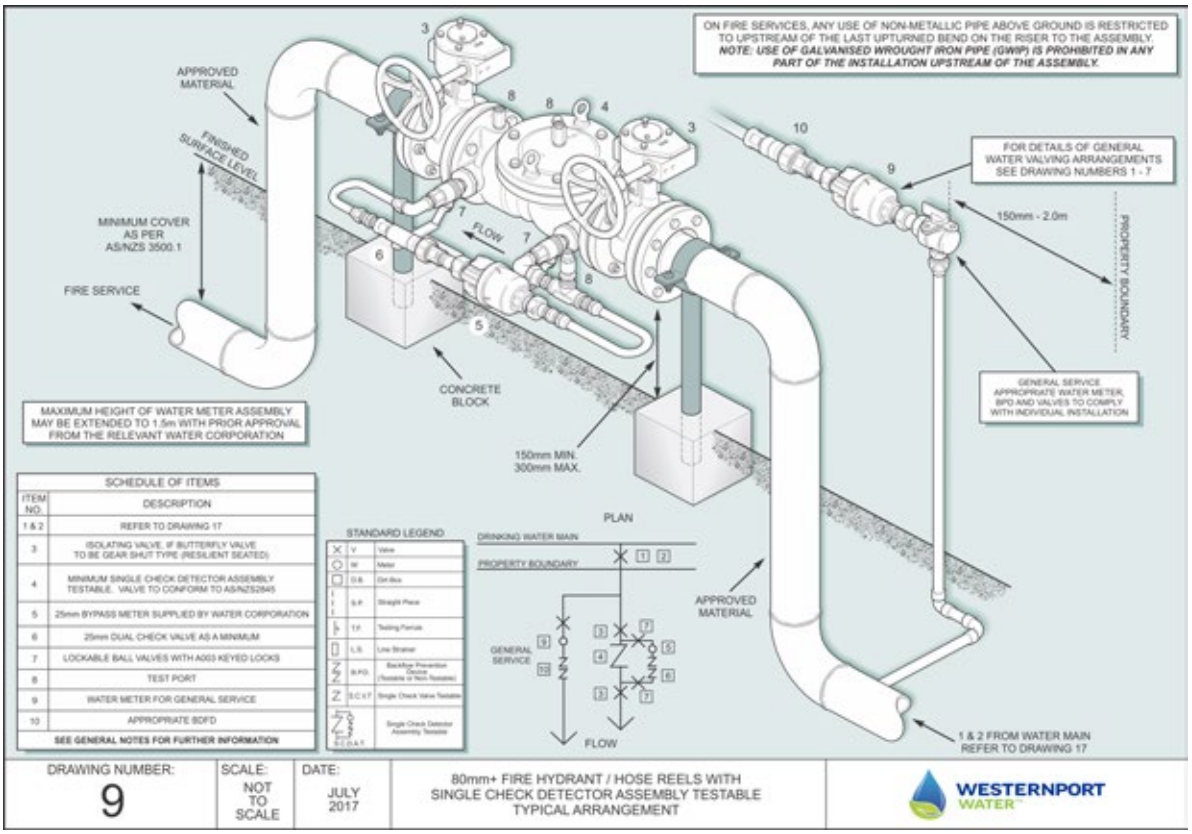
7. 80mm+ General Water Service Medium/High Hazard Residential/Commercial/Industrial



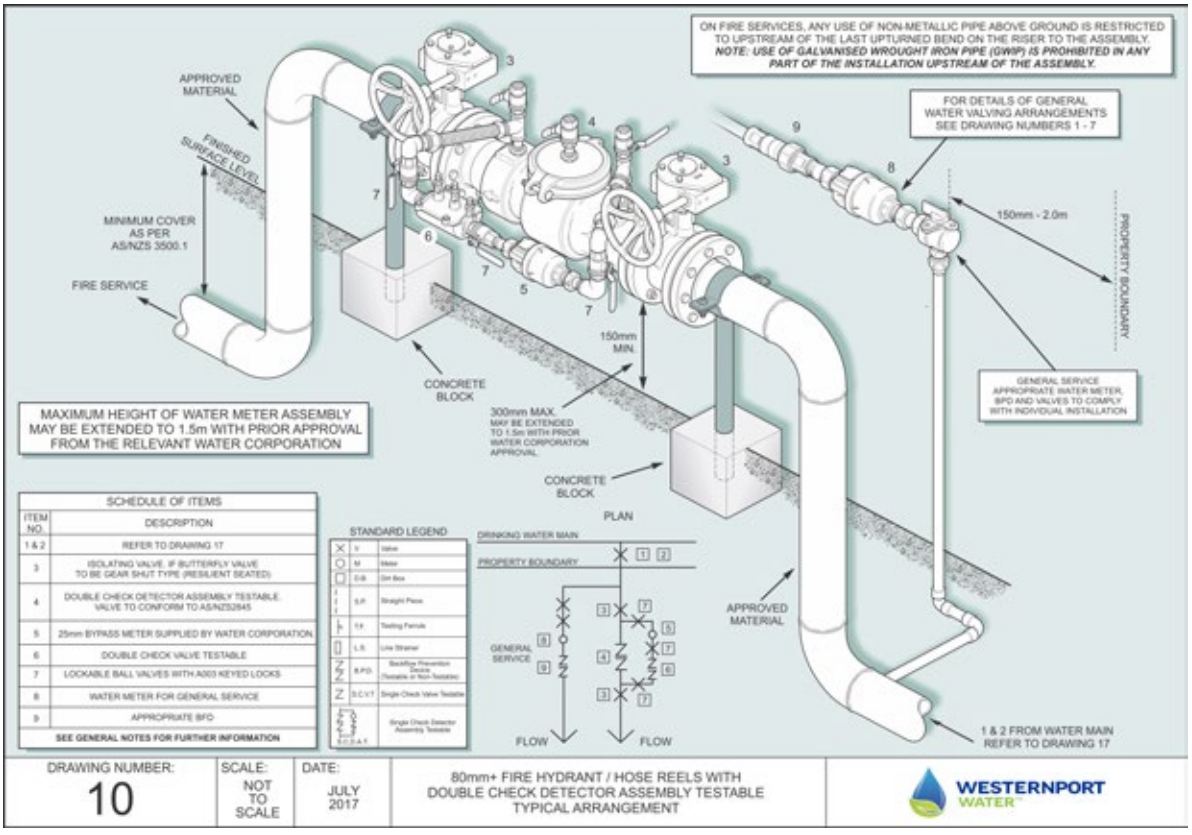
8. 25 – 50mm Hose Reel/Sprinkler and General Service



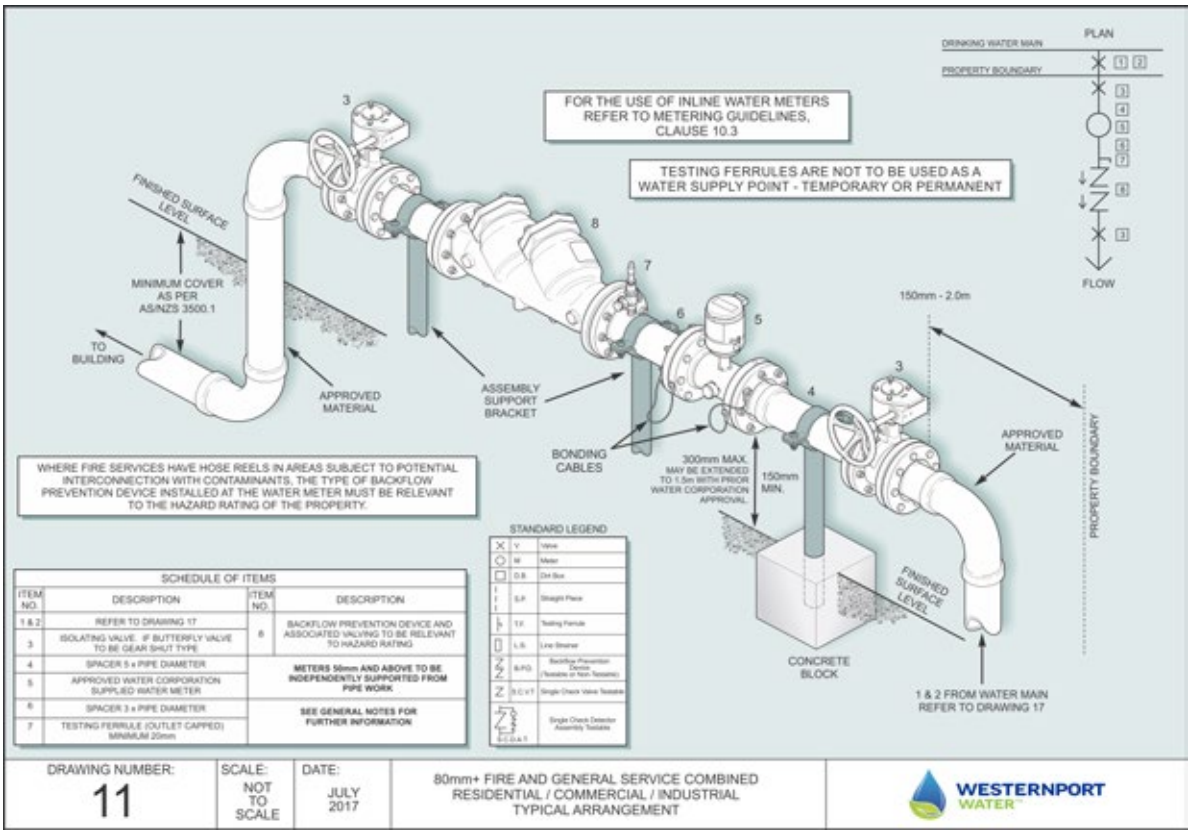
9. 80mm + Fire Hydrant/Hose Reel with Single Check Detector Assembly Testable



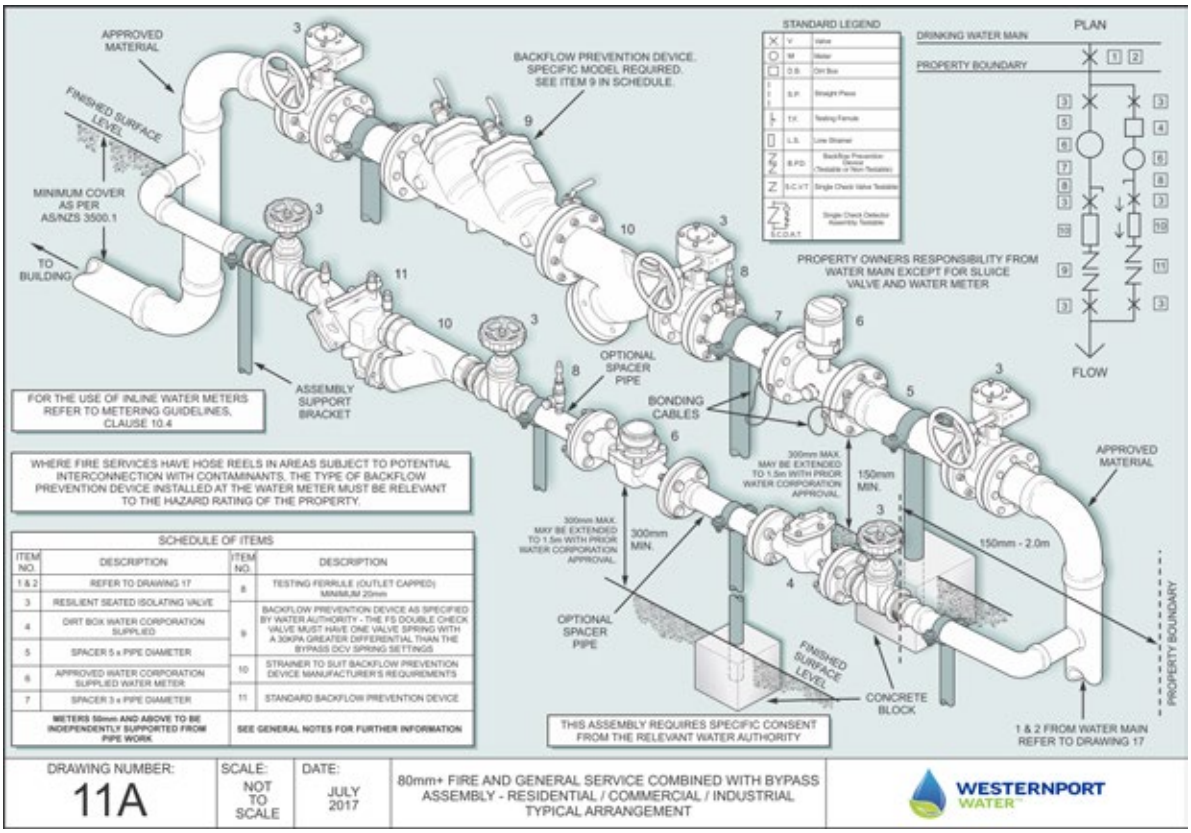
10. 80mm+ Fire Hydrant/Hose Reel with Double Check Detector Assembly Testable



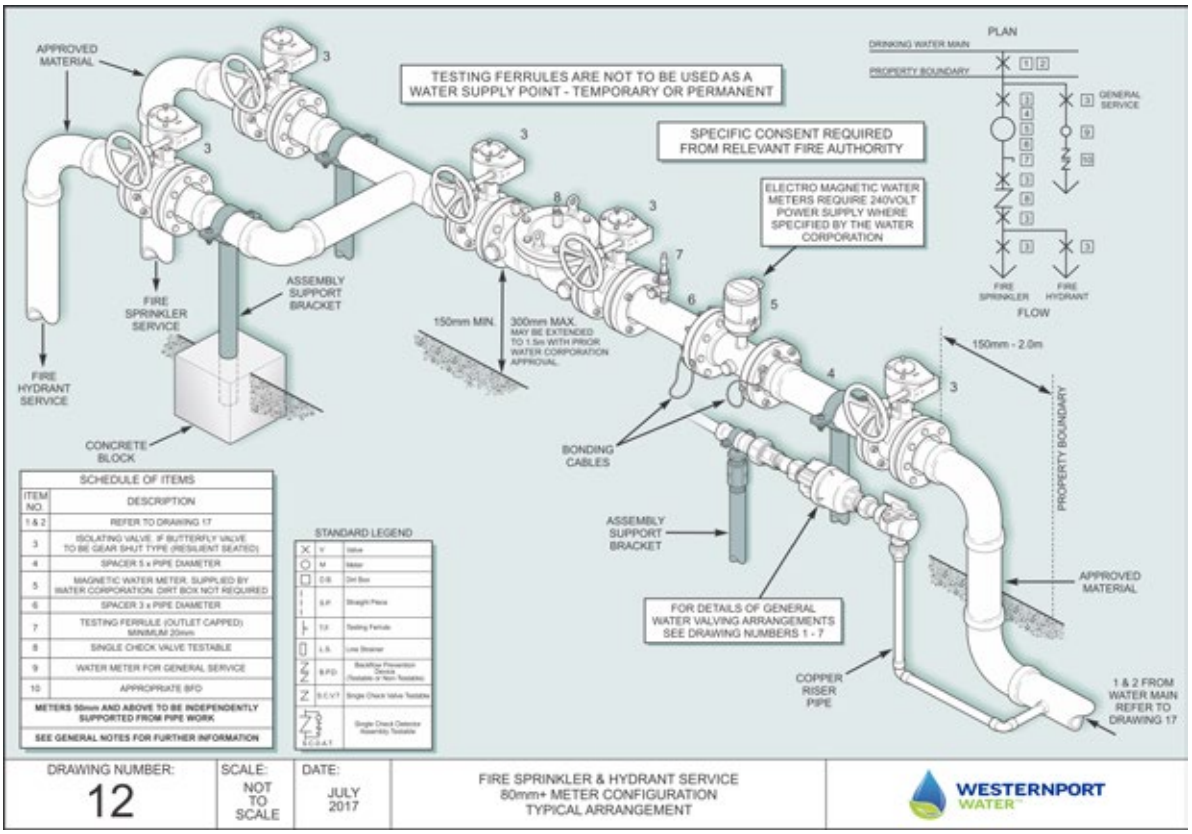
11. 80mm+ Fire and General Service Combined Residential/Commercial/Industrial



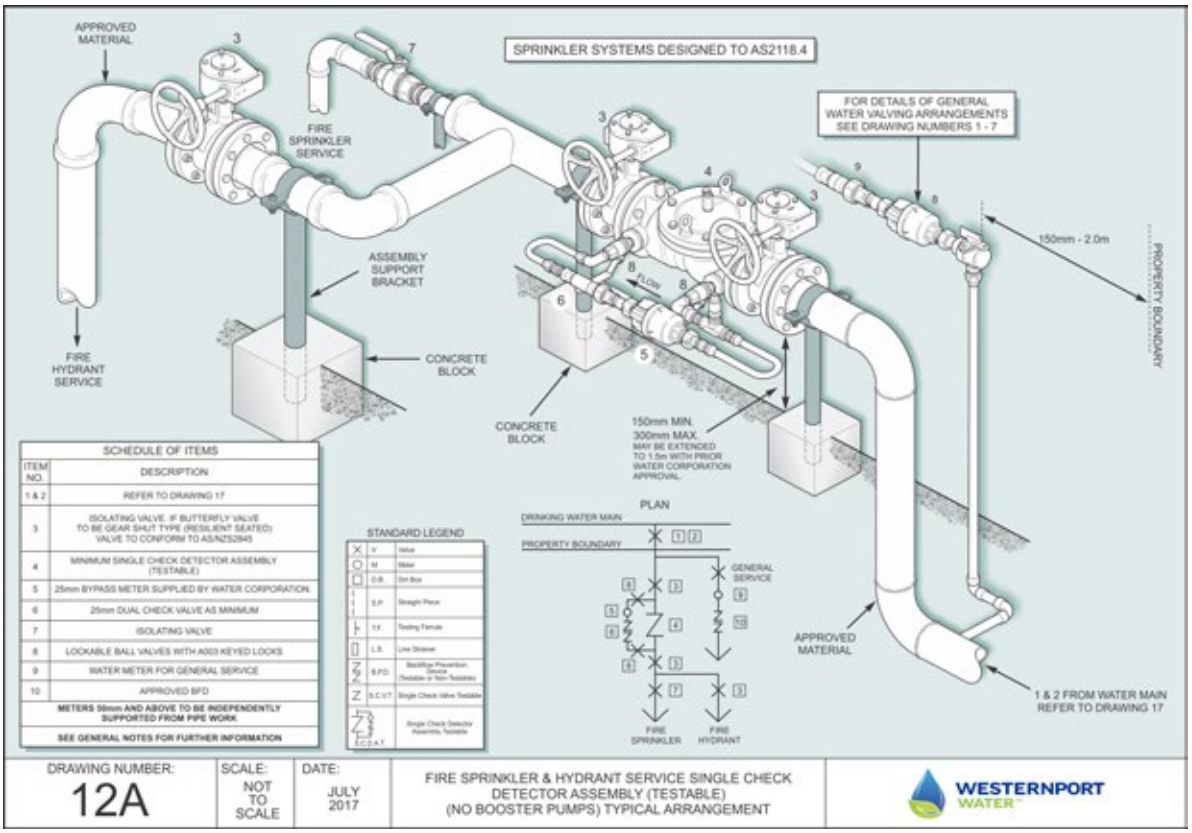
11A



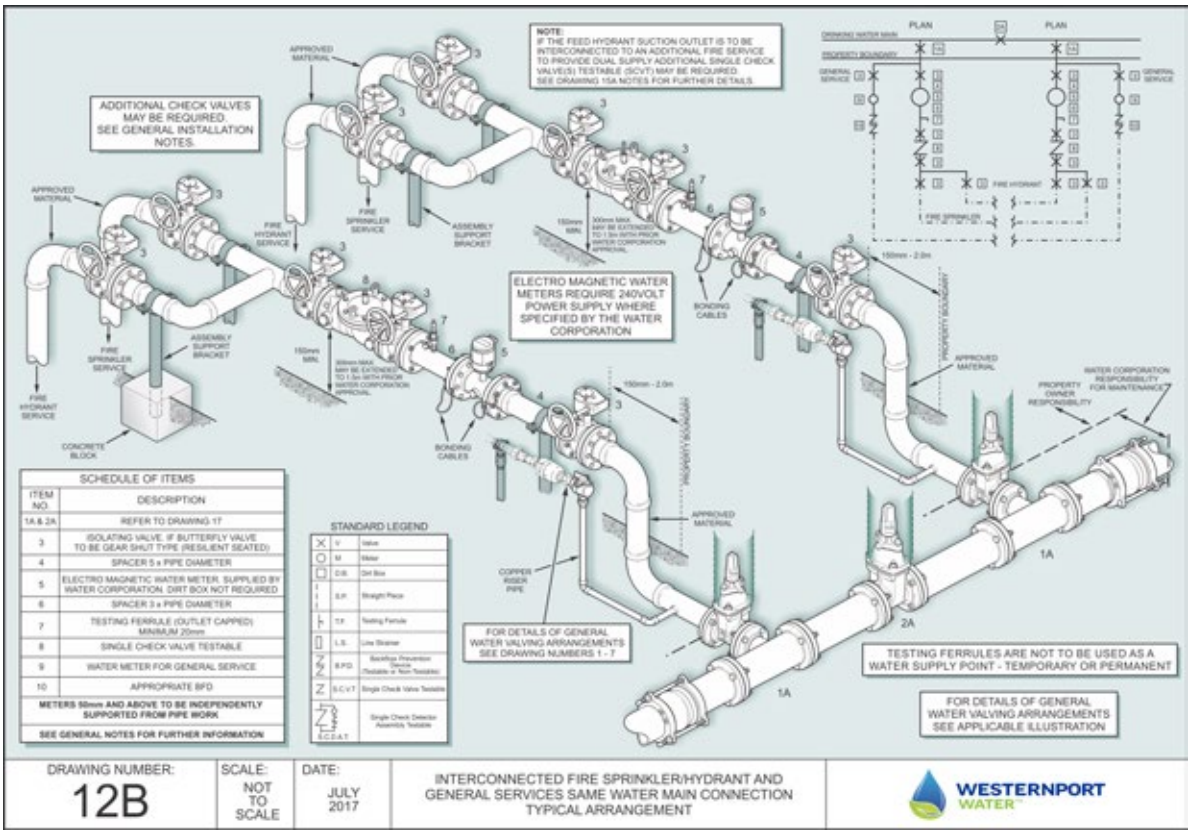
12. 80mm+ Fire Sprinkler and Hydrant Service Meter Configuration



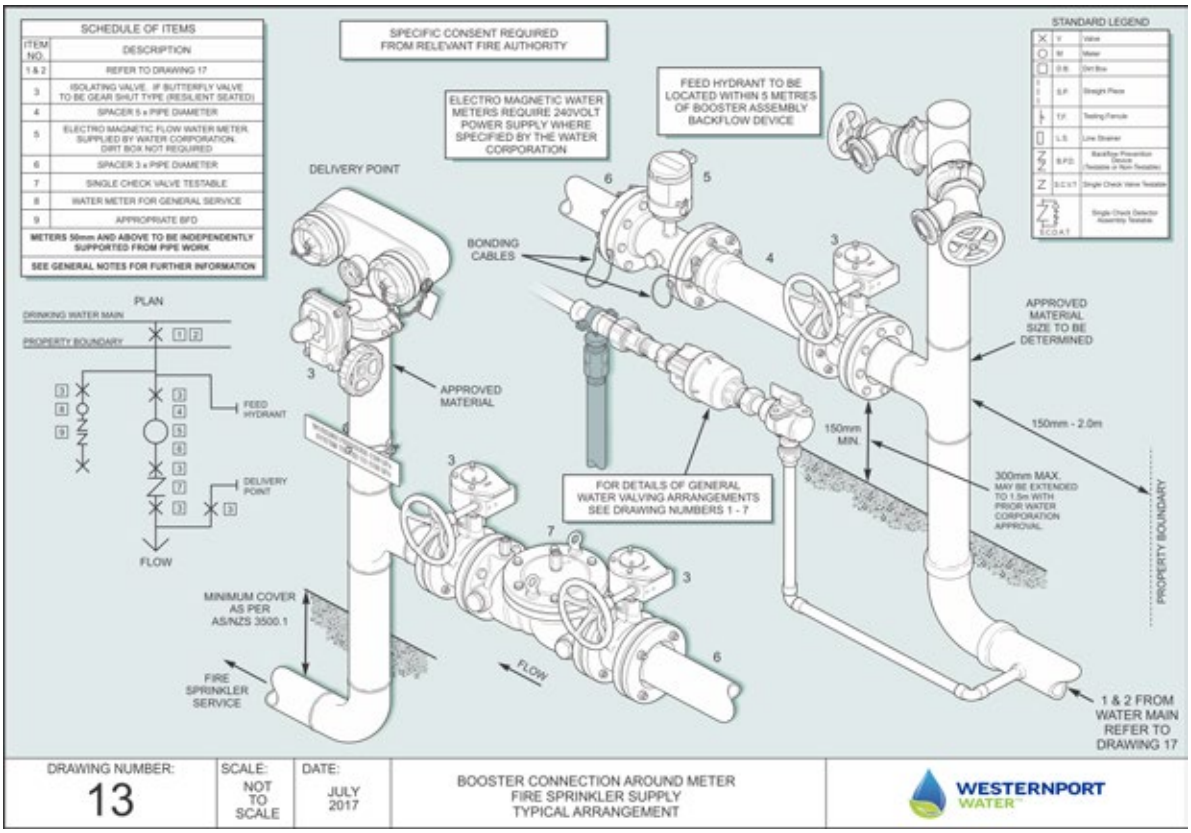
12a. 80mm+ Fire Sprinkler and Hydrant Service Single Detector Assembly (Testable) (No Booster Pumps)



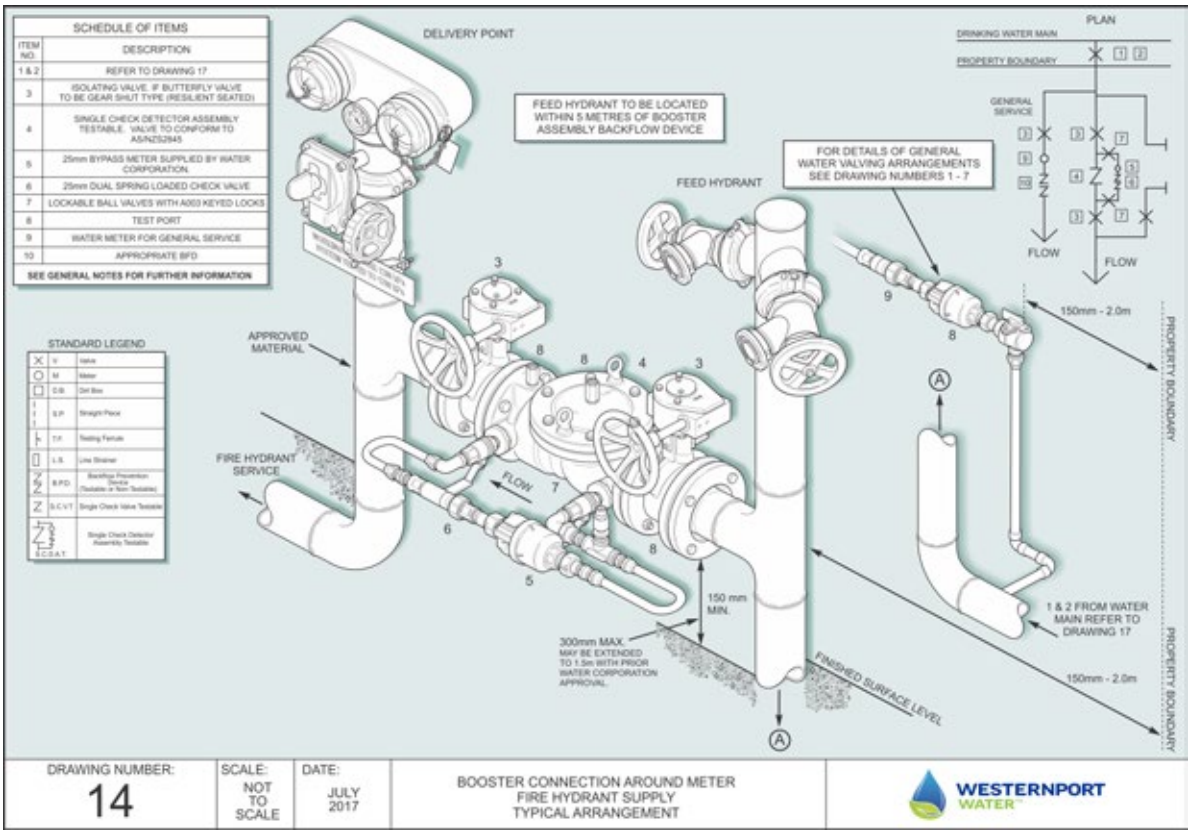
12b. Interconnected Fire Sprinkler/Hydrant and General Services Same Water Main Connection



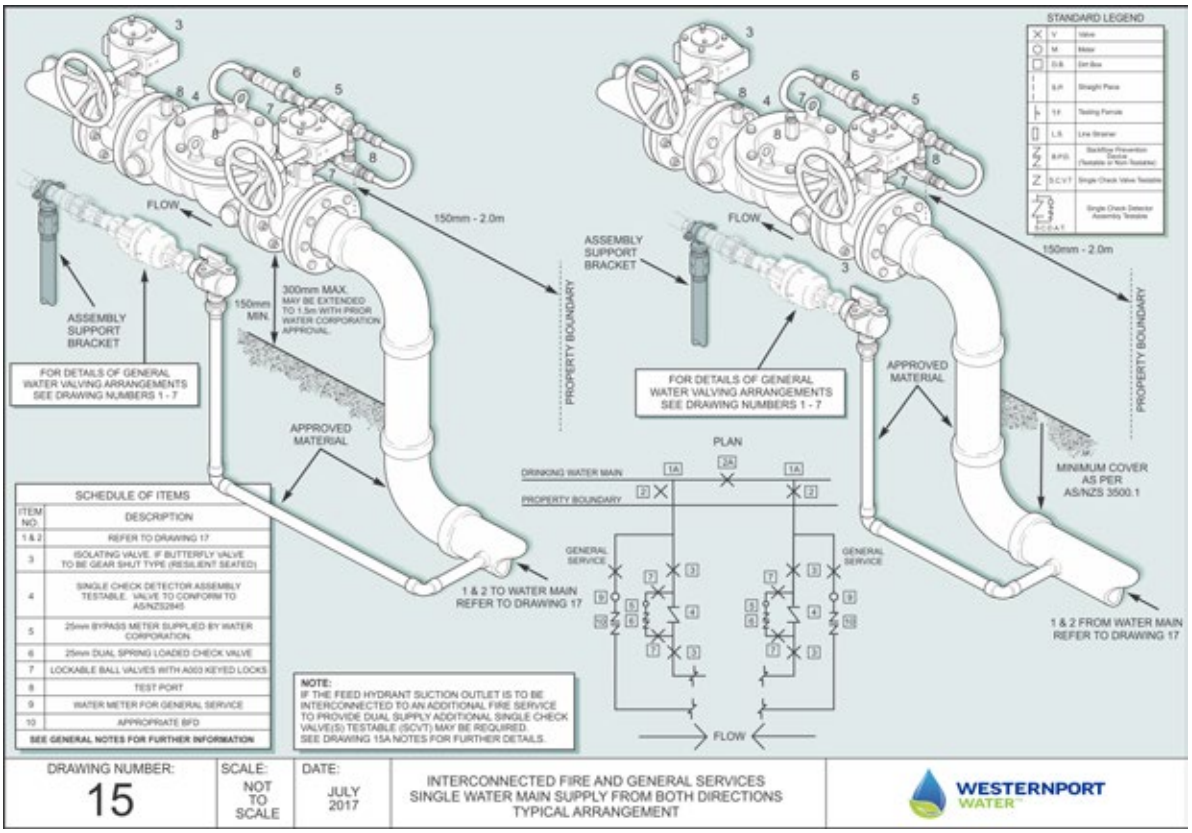
13. Booster Connection Around Meter Fire Sprinkler Supply



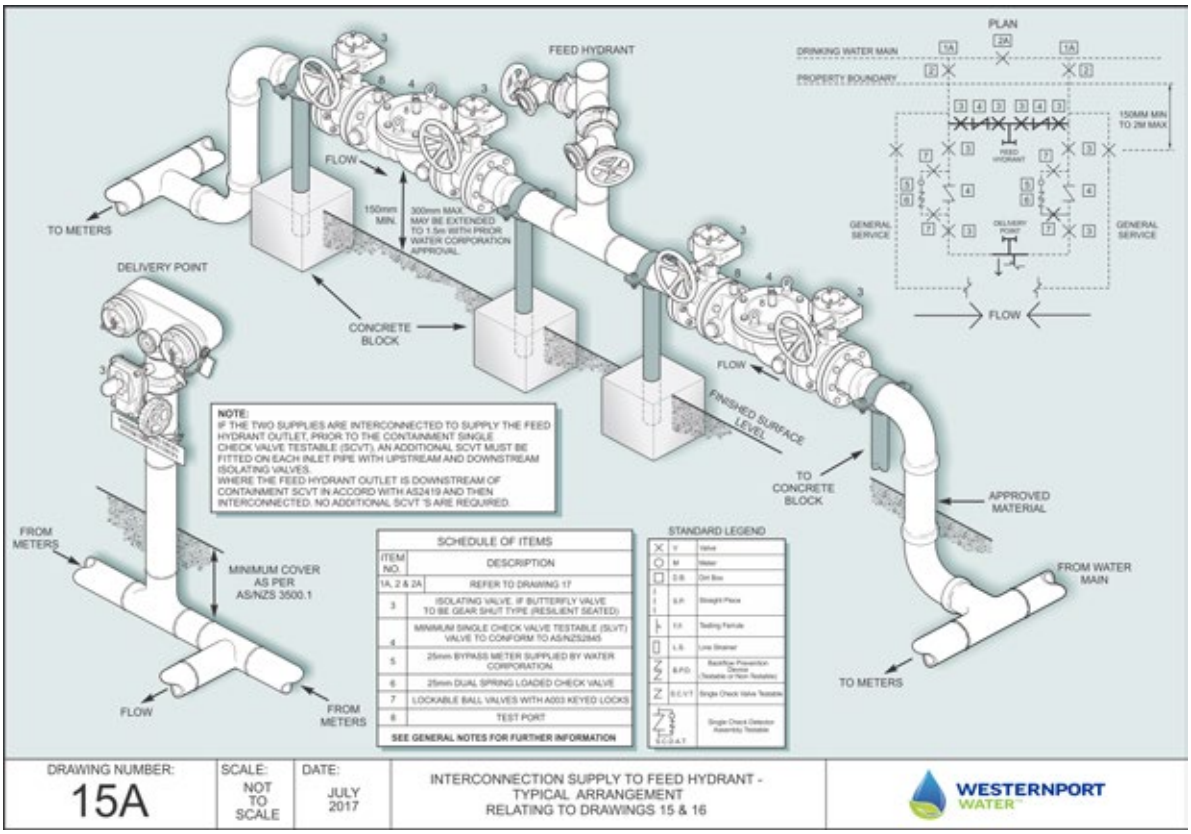
14. Booster Connection Around Meter Fire Hydrant Supply



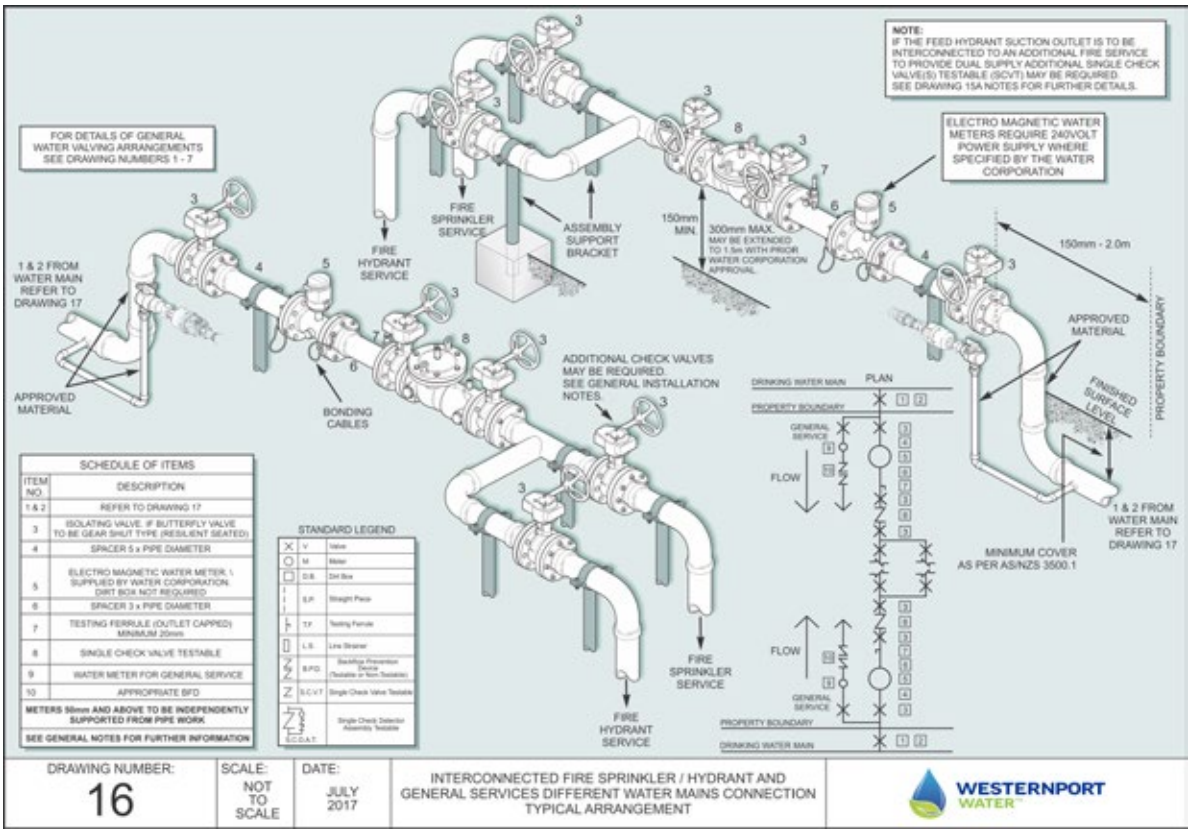
15. Interconnected Fire and General Services Single Water Main Supply From Both Directions



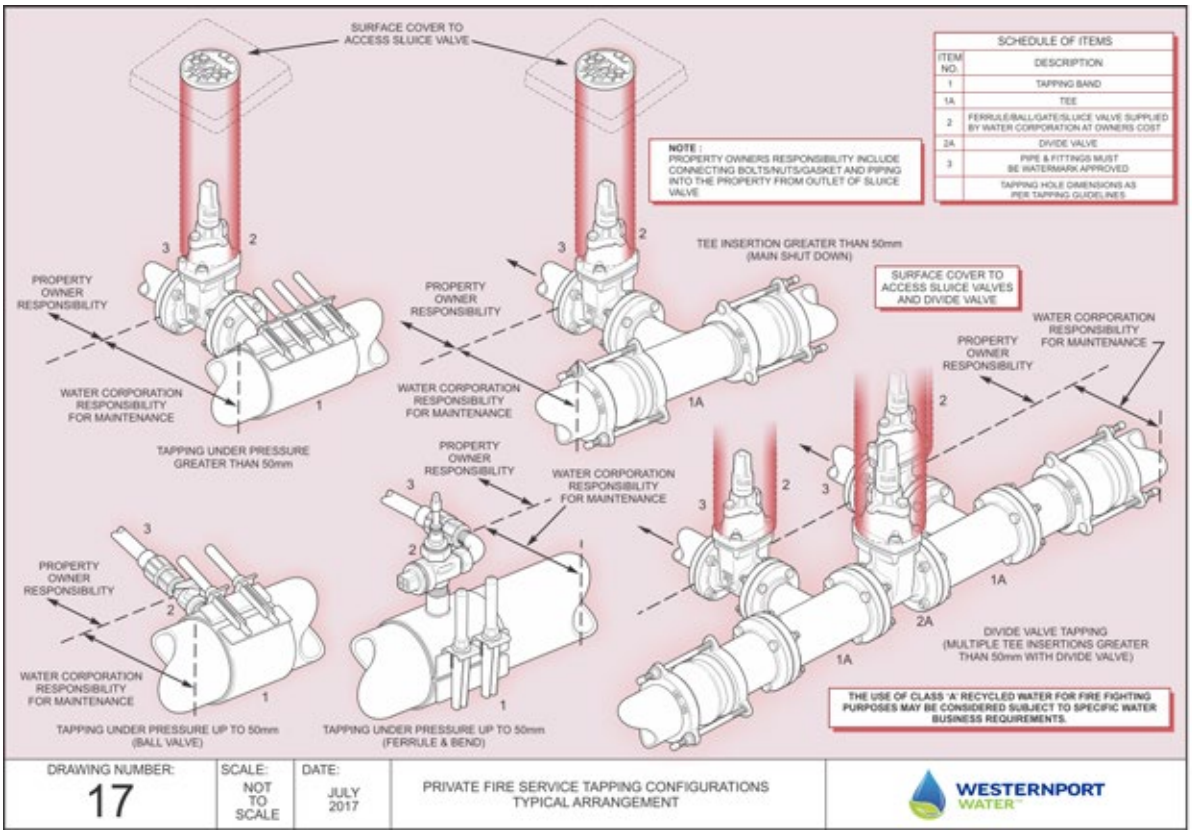
15a. Interconnection Supply to Feed Hydrant Outlet – Relating to Drawings 15 and 16



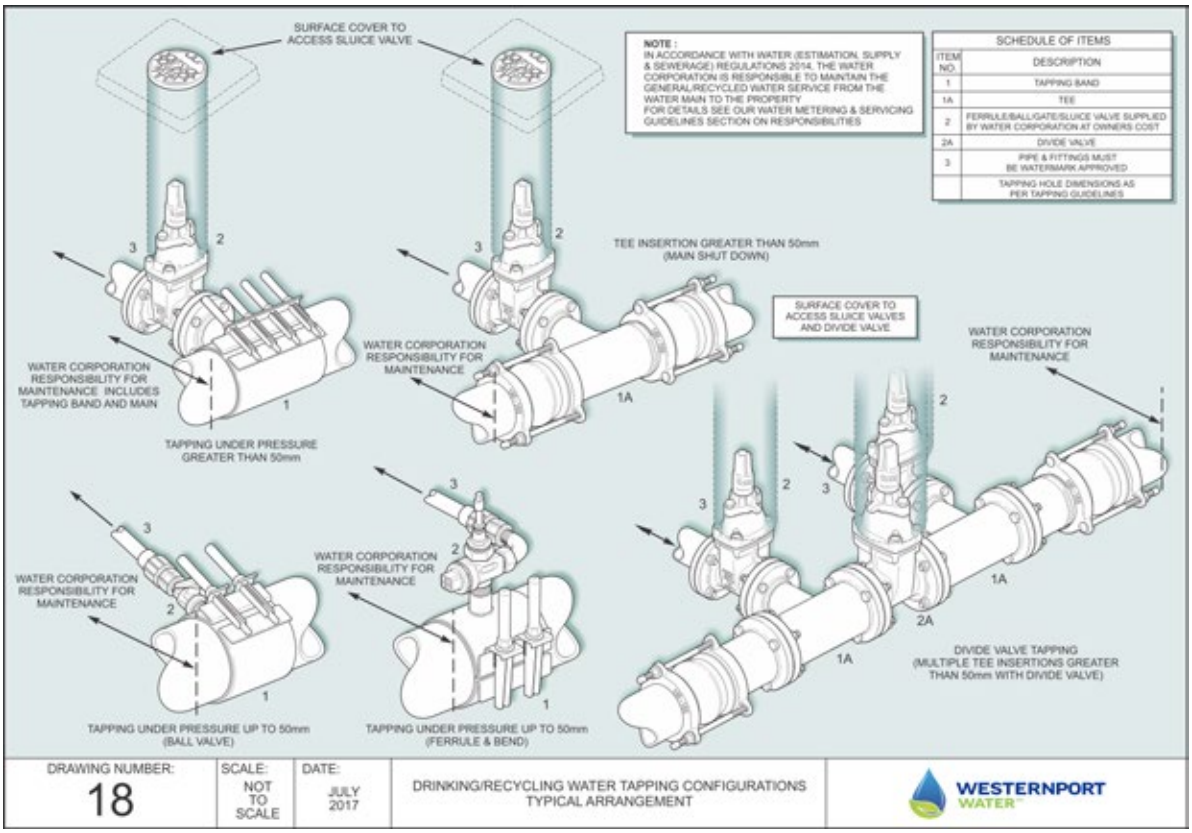
16. Interconnected Fire Sprinkler/Hydrant and General Services Different Water Mains Connection



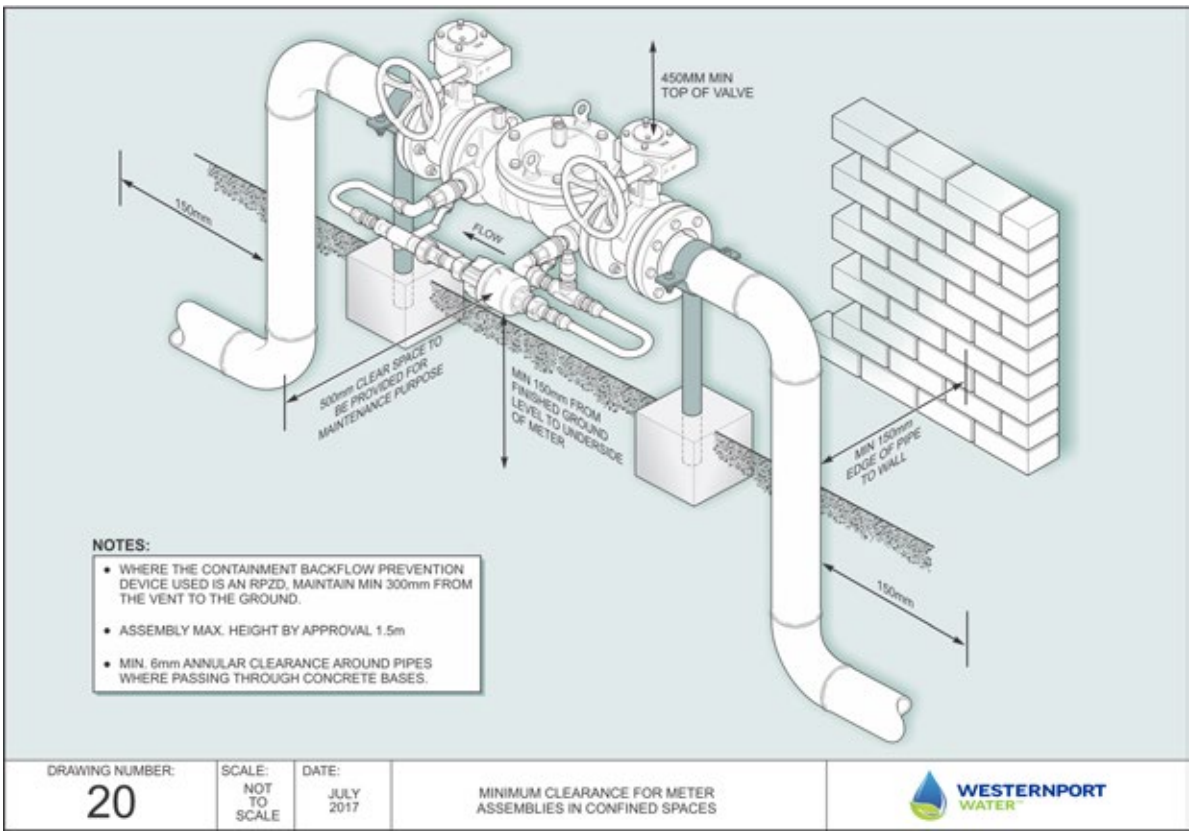
17. Private Fire Service Tapping Configurations



18. Drinking/Recycled Water Tapping Configurations



20. Minimum Clearances for Meter Assemblies in Areas of Restricted Space



Inspection of on-site plumbing works for recycled water by Westernport Water is mandatory regardless of whether recycled water is supplied by Westernport Water reticulated Class A Recycled Water main(s) or drinking water mains.