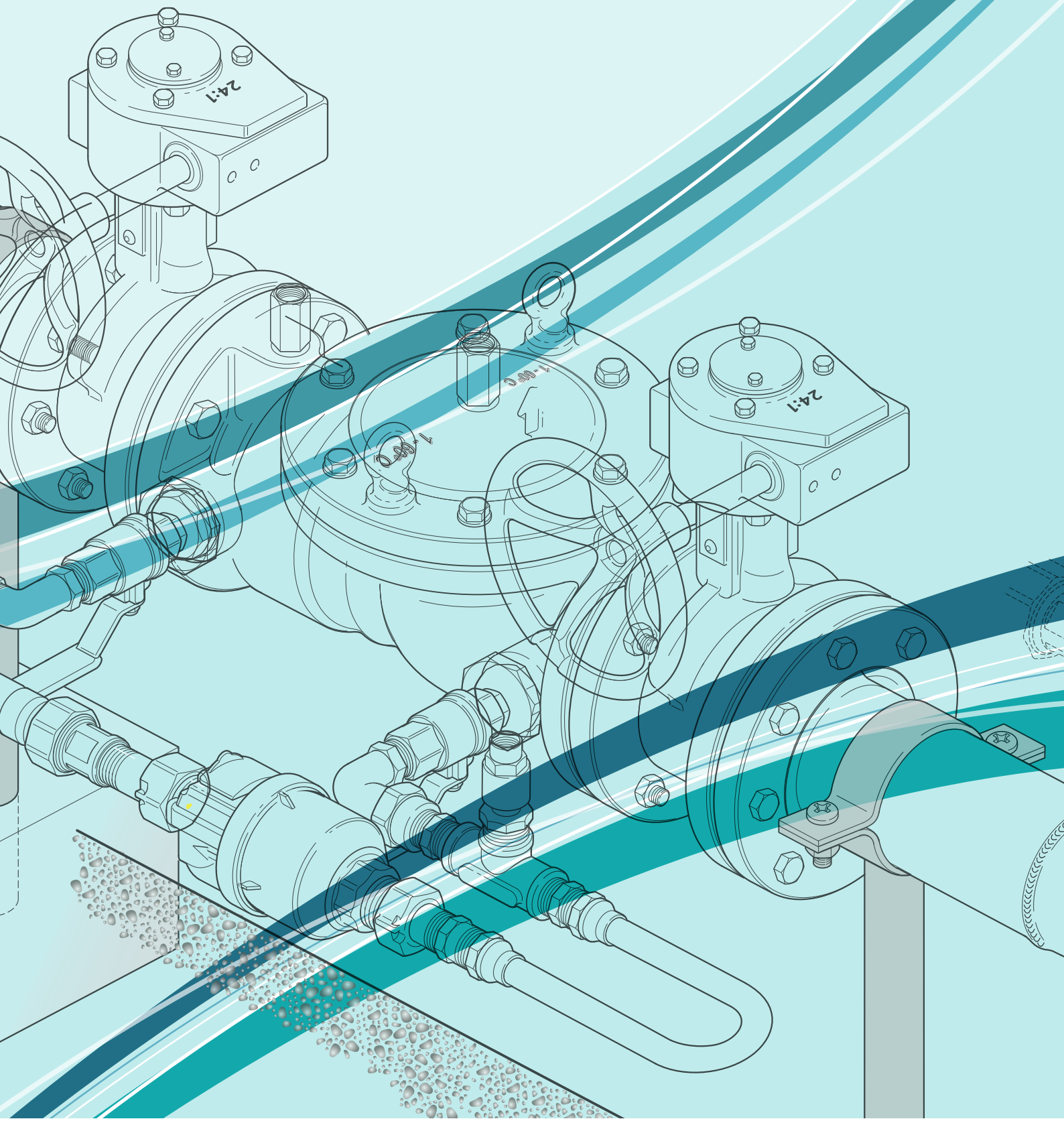
Water Metering & Servicing Guidelines



City West Water

South East Water

Yarra Valley Water

Water Metering & Servicing Guidelines

Version Three, 2013

CONTENTS

Acronyms & Abbreviations 6

1 INTRODUCTION 1

2 PURPOSE 2

3 WATER SERVICE METERING 2

4 OUTLINE OF APPLICATION PROCESS AND PAYMENT OF FEES 2

5 DEFINITIONS & ABBREVIATIONS 3
5.1 Definitions 3
5.2 Relevant Standards/Acts/Codes 5

6 WATER METER POSITIONING 6
6.1 Positioning of Main General Water/Fire Service Meters 6
6.2 Positioning of Sub/Check Meters 8
6.3 Relocation of Existing Main Water Meters 11
6.4 Water Meter Pits 11
6.5 Protection of Water Meters 14

7 WATER MAIN CONNECTIONS (TAPPINGS) 15
7.1 Wet Tappings 15
7.2 Dry Tappings for Drinking Water Supply (Residential Only) 16
7.3 Dry Tappings for Class A Recycled Water (where available) 17
7.4 Tapping Excavations 18
7.5 Plug and Re-Tap at the Water Main 20
7.6 Re-Use of Existing Tappings 20
7.7 Upsizing and Downsizing of Existing Services 21
7.8 Sizing of Water Meters and Property Service Pipes 21
7.9 Selection of Water Meters 21

8 OTHER RELATED GUIDELINES 22
8.1 Backflow Prevention 22
8.2 Remote Water Meters 23
8.3 Material for Main to Water Meter Property Service Pipes 20mm to 50mm 23
8.4 Material for Main to Water Meter Service Pipes 80mm and Larger 23
8.5 Water Meter Ownership 23
8.6 Damaged, Missing and Stolen Water Meters 24
8.7 Removal of Water Meters 24
8.8 Return of Water Meters 24
8.9 Use of a Data Logger 24
8.10 Service Pipes 24
8.11 Pressure Limiting Valve 25
8.12 Hot Water Meters 25
8.13 General water supply 25

9 RESPONSIBILITIES 26
9.1 Property Service Pipes up to and Including 50mm 26
9.2 Property Service Pipes over 50mm 26
9.3 Internal Pipe Work 26
9.4 Remote Water Meters 26
9.5 All Other Services 26

10 GENERAL WATER AND FIRE SERVICE VALVING ARRANGEMENTS 27
10.1 Grouped Water Meters 27
10.2 Non-Compliant Installations 27
10.3 Fire Services 28
Inline Boosting 29
10.4 Fire Service Metering Guide 30
10.5 Fire Service Pumping 33

11 RESIDENTIAL WATER METERING AND SERVICING 34
11.1 Single Dwelling Residential Development 34
11.2 New Dual Dwelling Residential Development 35
11.3 Multi-Dwelling Residential Development (Greater than two units and less than 20 units ground floor/ground and first floor) 39
11.4 Multi-Dwelling Residential Development (Greater than 19 units ground floor/ground and first floor) 40
11.5 Multi-Dwelling Residential Development (High Rise multi dwelling, greater than two floors) 40
11.6 Dependent Living Residential Units ('Granny Flat') 41
11.7 Moveable Residential Units (DoH 'Granny Flats') 41
11.8 Residential Caravan Parks 42

12 NON-RESIDENTIAL WATER METERING AND SERVICING 43
12.1 Single Occupancy Non-Residential Development 43
12.2 Multi-Occupancy Non-Residential Development 45

13 WATER METERING IN SPECIAL CASES 47
13.1 Mixed Developments 47
13.2 Additional Units or Factoryettes to Existing Developments 49
13.3 Existing Multi-Occupancy Residential and Non-Residential Developments with no existing Sub/Check Meters 50
13.4 Properties Serviced by Temporary Private Water Service 51
13.5 Bulk Water/Common Water 53
13.6 Trade Waste 53
13.7 Non-Residential Irrigation Systems/Council Open Space 54
13.8 Water Connections for properties having Drinking Water/Class A recycled water (other than single residential dry tapped properties) 56

14 DRAWINGS (WATER SERVICES ASSEMBLY ARRANGEMENTS) 63

FIGURES

Figure 6.1: Drinking Water Only 6
Figure 6.2: 20mm Class A Recycled Water & Drinking Water. Water Meter Assemblies Installed by Water Retailer 7
Figure 6.3: Drinking Water & Class A Recycled Water 7
Figure 6.4: Individual Occupancy Sub/Check Meter 9
Figure 6.5: Meter Cupboard Located in Common Access Area 9
Figure 6.6: High Rise Sub/Check Meter Typical Arrangement 10
Figure 6.7: Offsetting of Existing Water Meters (Long Side) 12
Figure 6.8: Offsetting of Existing Water Meters (Short Side) 13
Figure 7.1: Drinking Water Wet Tapping 15
Figure 7.2: Drinking Water Dry Tapping 16
Figure 7.3: Class A Recycled Water 17
Figure 7.4: Minimum Size of Excavation for Water Trappings and Pluggings 19
Figure 10.1: Typical Tapping Under Pressure Greater than 50mm 27
Figure 10.2: Typical Boostered Fire Service with Single Check Detector Valve 33
Figure 11.1: Drinking Water & Class A Recycled Water 34
Figure 11.2: Typical Dual Occupancy Residential Development 35
Figure 11.3: Typical Dual Occupancy Where Only One Dwelling has Water Main Frontage 36
Figure 11.4: Existing Dual Occupancy Developments with a main meter only 38
Figure 11.5: Typical Multi-Dwelling Residential Development 39
Figure 11.6: Dependent Persons Residential Units 42
Figure 12.1: Single Occupany Non-Residential Development 44
Figure 12.2: Multiple Occupancy/Non-Residential Development 46
Figure 13.1: Typical Mixed Development 48
Figure 13.2: Additional Units or Factories to Existing Developments where Existing Unit Owners Do Not Wish to be Individually Metered 49
Figure 13.3: Private Water Main Remote from Reticulation Supply 51

Acronyms & Abbreviations

AS	Australian Standard
GWIP	Galvanised Wrought Iron Pipe
RW	Recycled Water (Class A)
DoH	Department of Health, formally the Department of Human Services
Ø	Nominal Internal Pipe Diameter
DPU	Dependent Persons Unit
EPA Victoria	Environment Protection Authority Victoria

1 INTRODUCTION

These Water Metering and Servicing Guidelines have been introduced to provide consistency across the three Metropolitan Melbourne Water Retailers.

The guidelines will benefit the plumbing, building and developer industries, including plumbers, designers, builders, developers, property owners, plumbing specialists and Water Retailer staff.

The guidelines have been prepared as a combined effort by the three Water Retailers - City West Water, South East Water and Yarra Valley Water.

2 PURPOSE

These guidelines document the necessary water metering and water servicing conditions required by the Water Retailers for new developments, alterations to existing developments and existing water metering arrangements. These guidelines are not a technical document and should be used as a guide and for illustrative purposes only. For more detailed technical information refer to **AS/NZS3500-2003** National Plumbing and Drainage Code and Water Services Association of Australia (WSAA). Wherever possible, conditions have been standardised to assist the industry/customer. The 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, the relevant Water Retailer will determine the necessary requirements on a case-by-case basis.

These guidelines are to be read in conjunction with the Water Retailer's Control over Connections under Section 145 of the Water Act 1989.(VIC)

3 WATER SERVICE METERING

All Water Retailers require the installation of an approved water meter (known as the main water meter) to measure the volume of water supplied through each property service pipe to a parcel of land.

In addition to this, additional water meters (known as sub or check meters) are required to measure the volume of water supplied to certain types of “dwellings/occupancies” located within that parcel of land as well as possibly measuring water for certain purposes within a property i.e. water used for irrigation.

Water meters, at a cost, will be provided by Water Retailers and the water meter technology will be appropriate to the type of development, intended purpose and required flow rates. The Water Retailers will endeavour to provide the most cost effective water meter, however some water services (like fire services) will require a different water meter arrangement which will not impede water flow or introduce pressure losses.

Note:

- All water meters must be a type approved by the Water Retailer for the purpose of billing and be fit for purpose.
- Only water meters approved for horizontal installation shall be installed horizontally and must have a register at or near vertical to the horizontal axis of the water meter.

4 OUTLINE OF APPLICATION PROCESS AND PAYMENT OF FEES

Refer to the individual Water Retailer’ application requirements.

5 DEFINITIONS & ABBREVIATIONS

5.1 Definitions

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 by both Common law and legislation, in accordance with the Valuation of Land 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 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.
Main Water Meter	A main water meter is the Water Retailer' approved water meter connected directly from the water main located as close as possible to the properties' title boundary.
Dwelling (Residential)	A dwelling is a self-contained building erected on the land of the property owner and is used or intended to be used as a separate residence. A dwelling must contain a minimum of kitchen, bathroom and sanitary facilities to be considered self-contained. *Source: Based on the definition of 'dwelling' in Section 46H of the Planning and Environment Act (Vic) 1987.*
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 Water Retailer' 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.
Dry Tapping	A dry tapping is generally 20mm in diameter (nominal Ø) and installed by the developer at the time the 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. The Water Retailer installs the water meter assembly including the water meter on request and payment of the applicable fee.
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 to 200mm Ø and greater. *Please note: The service pipe work and water meter assembly must be in place prior to the connection being made.*
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 water meter reader. The benefits of remote water meters are that the Water Retailer reads the water meter outside of the property thereby ensuring security and privacy for the customer.
Tapper	A Water Retailer 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. The plumber is responsible to excavate to expose the water main. The main is required to be shut off and therefore existing customers connected to the main must be notified prior to the work taking place. The relevant Water Retailer 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.
Drinking Water	The highest quality water otherwise referred to as potable water.
Recycled Water (Class A)	Class A recycled water is the highest quality of recycled water and is achieved after a tertiary treatment process combined with pathogen removal. The DoH (www.health.vic.gov.au) has classified Class A recycled water as safe for use on irrigation for food crops – including those eaten raw. DoH 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. Class A recycled water has the widest range of uses including: • Residential garden watering • Closed system toilet flushing • Process/cooling water for industry • Fire protection reticulation systems (external to the property) • Irrigation of municipal parks and sports grounds • Water for contained wetlands or ornamental ponds • Food crops that are consumed raw or sold to consumers uncooked or processed • All of the uses listed for classes B - D.
Plug Off/ Plugging	Is when an existing tapping up to and including 50mm Ø is required to be removed. The plumber is responsible to excavate to expose the tapping and a Water Retailer representative will seal the service. Plug offs 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 to excavate to expose 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. The relevant Water Retailer 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.
Single Check Detector Valve	A single check detector valve is designed to prevent the unwanted reversal of flow from the fire service into the Water Retailer' water supply system. It also provides both customer and the Water Retailer details of water usage through a fire service. Low volumes are recorded on a 'by-pass water meter' which is read on a regular basis. Benefits include: • Identification of unaccounted water use • Assists in the proactive management of the water supply system.
SCV – Testable	A single check valve (testable) is designed for use in 'low hazard' conditions in fire services to prevent backflow caused by back-siphonage or back pressure. It is intended for use under continuous pressure conditions.
SCDA – Testable	A single check detector assembly (testable) is a testable device for use in 'low hazard' conditions in fire services only, to prevent backflow caused by back-siphonage or back pressure. It is intended for use in fire service lines under continuous pressure and to allow monitoring 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 (refer to diagram).

Sub Meter/ Check Meter	An approved water meter connected after a main water meter is used to register water used by multi-dwelling/occupancy developments on a parcel of land. For billing reasons a sub/check meter must not be supplied through another sub/check meter; it must be supplied directly from a main water meter.
Property Service Pipe	A water pipe that supplies water from the reticulation main to the customer. The portion of the service pipe under the control of a Water Retailer generally terminates at the outlet of the water meter. Location on mains described as 'short side', meaning water mains on the same side of a road reserve as the parcel of land to be serviced, or 'long side' where the property service pipe is required to cross under a road way to reach the property.
Water Retailers	Refers to the three Melbourne Metropolitan Water Retailers licensed to provide drinking water, sewerage services and recycled water to properties in Urban Melbourne. The Water Retailers comprise of City West Water, Yarra Valley Water and South East Water.
Temporary Private Water Service	A temporary private water service is permitted in cases where the Water Retailer determines that a property is too remote from the existing reticulated water infrastructure, and is assessed having regard to potential future development. The water service is installed by the owner's/applicant's contractor external to the individual properties it services and is maintained and owned by the responsible legal entity. If/when reticulated water supply becomes available (water mains fronting the property) it is the responsibility of the individual property owner to transfer supply to the reticulated water main at the owners' expense. Where these services are not adequately maintained the respective Water Retailer may terminate supply having given property owners (legal entity) the appropriate notice.
Control over Connections	A list of conditions that the relevant Water Retailer 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.(VIC)
Reticulated water/sewer supply system	A network of water/sewer mains, pump stations etc. owned and operated by the Water Retailer to provide for the community's water and sewerage needs.

5.2 Relevant Standards/Acts/Codes

- Plumbing Code of Australia
- Plumbing Regulations 2008 or subsequent versions
- Customer Charter
- AS/NZS 3500 Plumbing and Drainage – Water Services
- AS 3565 Meters for Water Supply
- *National Measurement Act 1960*
- National Measurements Regulations 1999
- Recycled Water Plumbing Guidelines
- AS 1851: 2005 Maintenance of Fire Protection Systems and Equipment
- Residential/Home Fire Sprinkler Services designed under the AS2118.4 or AS2118.5
- Fire System Design Standards – AS 2419, 2441, 2118.1-6
- Backflow Prevention Standards AS/NZS 2845
- Water Act 1989 (VIC)
- Water and Sewerage Regulations 2012

6 WATER METER POSITIONING

6.1 Positioning of Main General Water/Fire Service Meters

- The water meter assembly must be within two metres of the title boundary that abutts the water main.
- The water meter assembly must be fitted at right angles to the water main, in line with the tapping.
- The water meter assembly 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 the Backflow prevention device is a Reduced Pressure Zone type, a minimum 300mm to the device vent is required).
  On a case by case basis consideration will be given to varying the height of the water meter up to a maximum of 1.5m subject to specific approval from the relevant Water Retailer.
- The water meter assembly must not be encased in concrete surrounds.
- Water meters must be readily accessible for reading, maintenance and replacement.
- Water meters can be installed in utility rooms or meter cabinets located within a common access area and be readily accessible, subject to the Water Retailer' approval.
- Water meters must not be located within garages, roof cavities, ceiling spaces or inside pits.
- Water meters must not be installed within dwellings.
- 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 6.1: Drinking Water Only

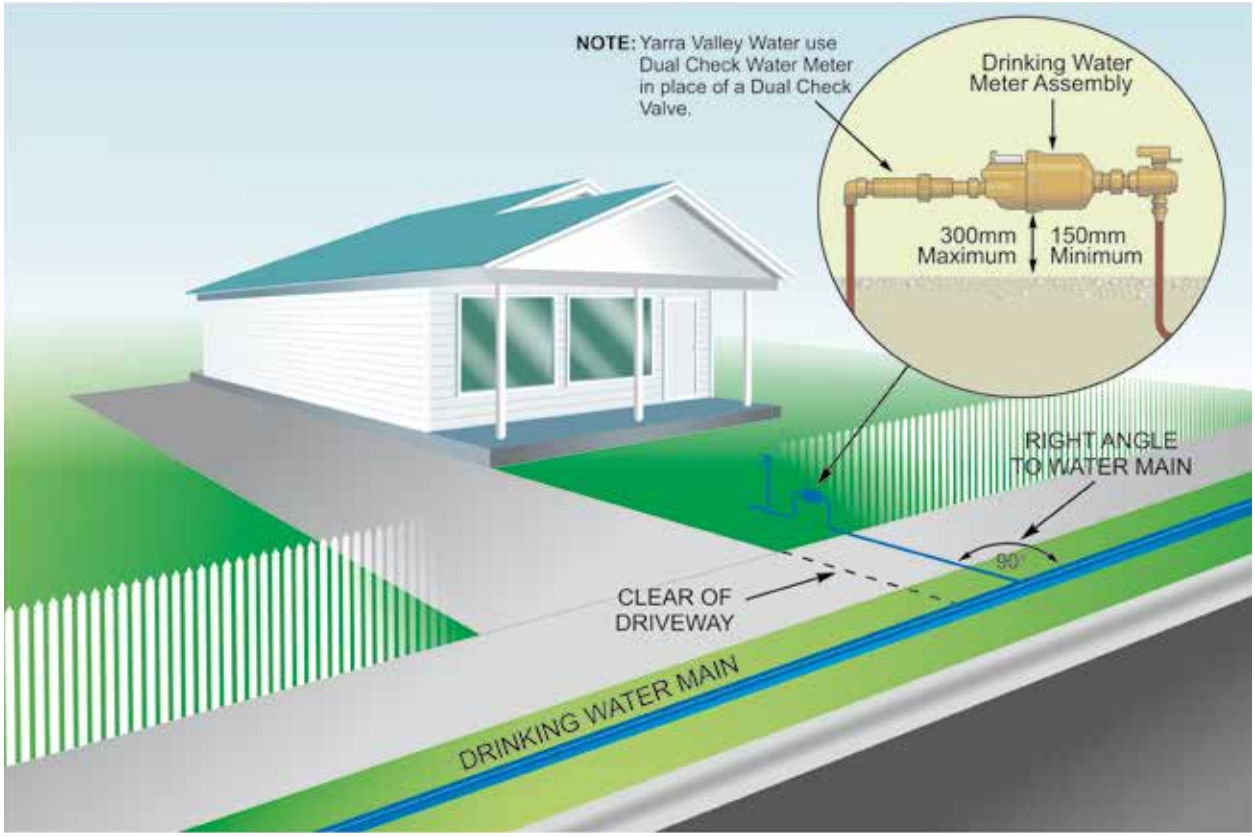


Figure 6.2: 20mm Class A Recycled Water & Drinking Water. Water Meter Assemblies Installed by Water Retailer

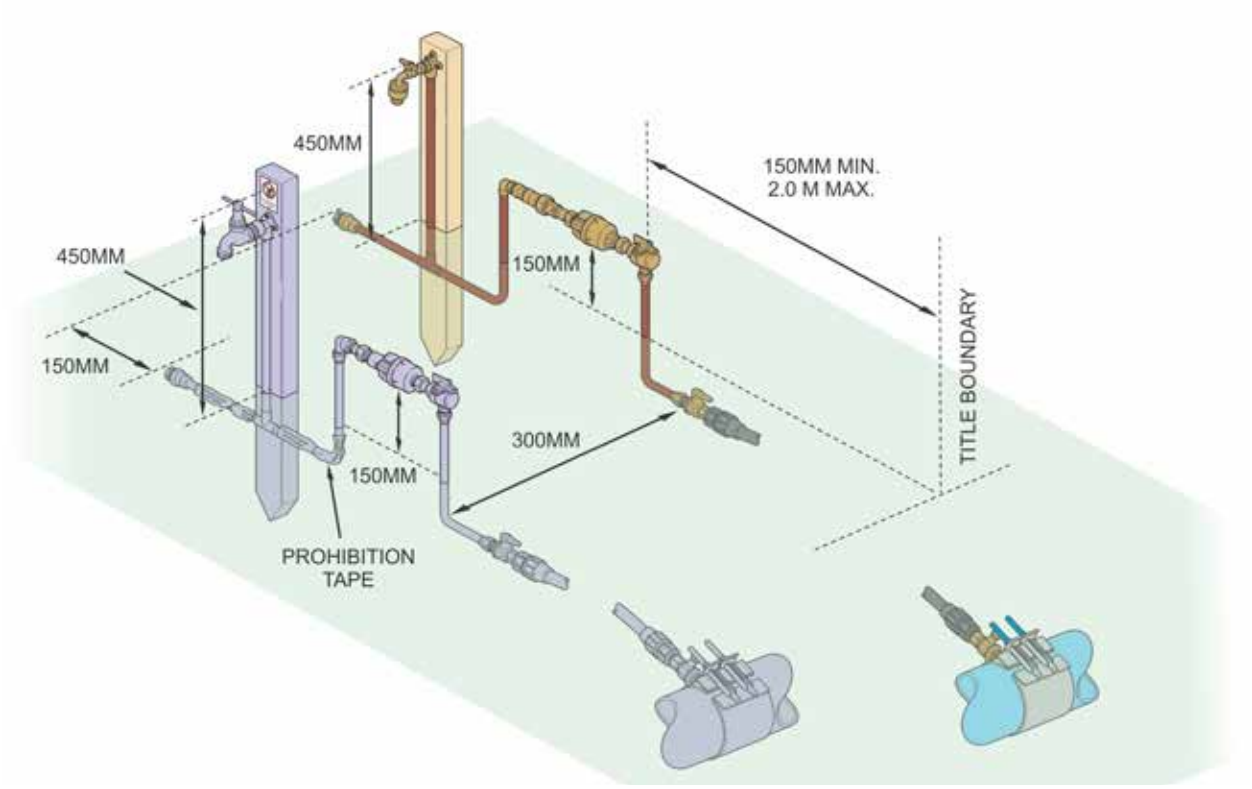
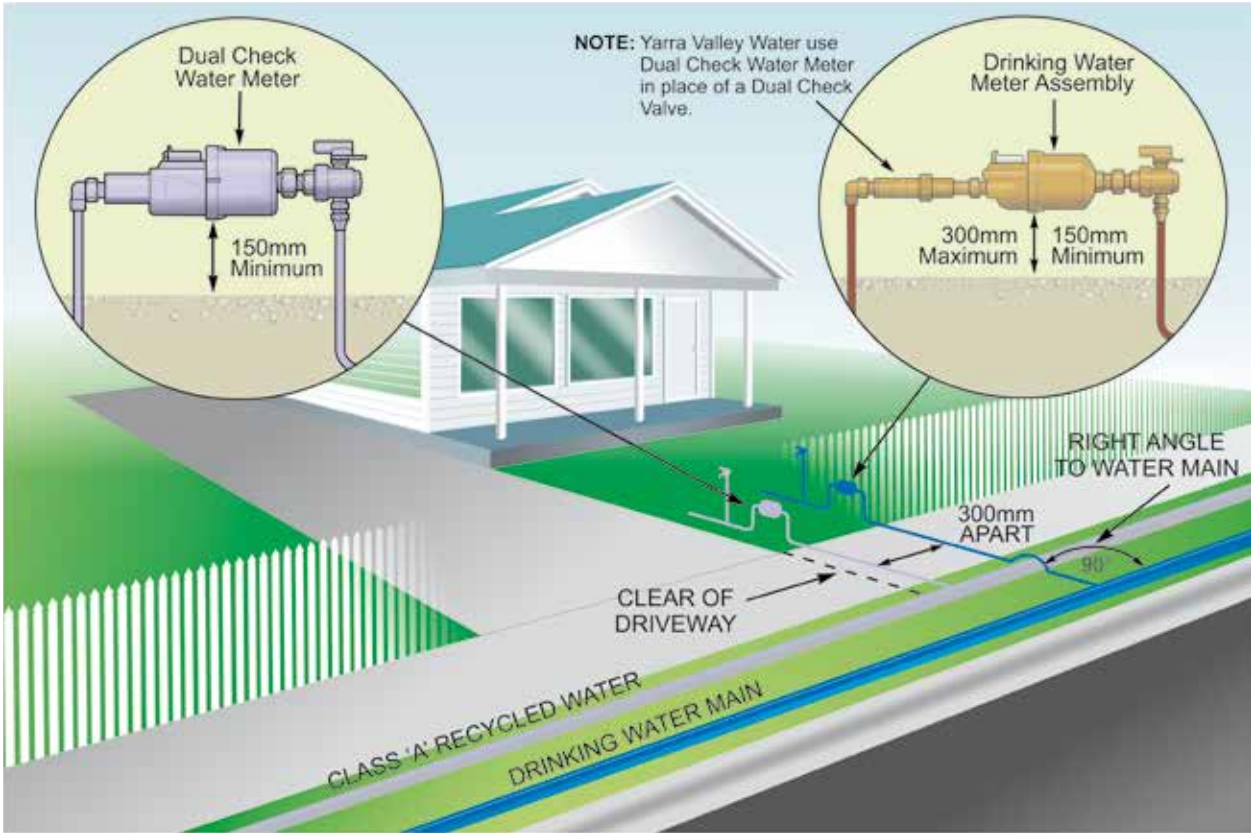


Figure 6.3: Drinking Water & Class A Recycled Water



6.2 Positioning of Sub/Check Meters

- Prior to any check meters being installed, the Licensed Plumber will ensure the following:
  - The drinking water service/check meter assembly servicing each unit must be fitted with a permanent tag
  - The tag must be located adjacent to the proposed position of the check meter
  - The tag must be made of a water proof material (i.e. plastic or similar)
  - The tag as a minimum, must provide the following information in a legible permanent print
  - Floor level (if applicable) and unit number
  - If the check meter is for a common area the tag must have the common area purpose (i.e. lap pool etc.)
- Remote water meters can be installed inside secured areas of main buildings provided that the following conditions are met:
  - Water meters are installed in utility rooms or meter cabinets located within common access areas on each level
  - Water meters are readily accessible for maintenance and replacement.
- Water meters must **not** be located:
  - Inside the units/apartments
  - Within the ceiling cavities of common access areas or pits.
- Provision for the water meters must be:
  - No less than 150mm above the finished floor level
  - No greater than 1.5m above the finished floor level (unless otherwise approved by the relevant Water Retailer in writing)
  - With a minimum clearance above the centre of each pipe of 250mm
  - With a minimum clearance of 150mm between the centre of each pipe and any wall or door
  - The licensed plumber is to provide a water meter assembly including a temporary non metallic water meter spacer for each water meter, prior to the water meter installation.
- Separate isolating valves adjacent to each water meter installation in accordance with AS/NZS3500 must be provided.

Note:

- An additional isolating valve is required on the outlet side of water meters where removal of the water meter may result in water damage to the building or excessive water wastage.
- Where water meter assemblies **only** are to be installed, the water meter spacer pipe is to be of an approved material type in accordance with the Plumbing Regulations incorporating the Plumbing Code of Australia. All other water metering requirements are to be complied with.

Figure 6.4: Individual Occupancy Sub/ Check Meter

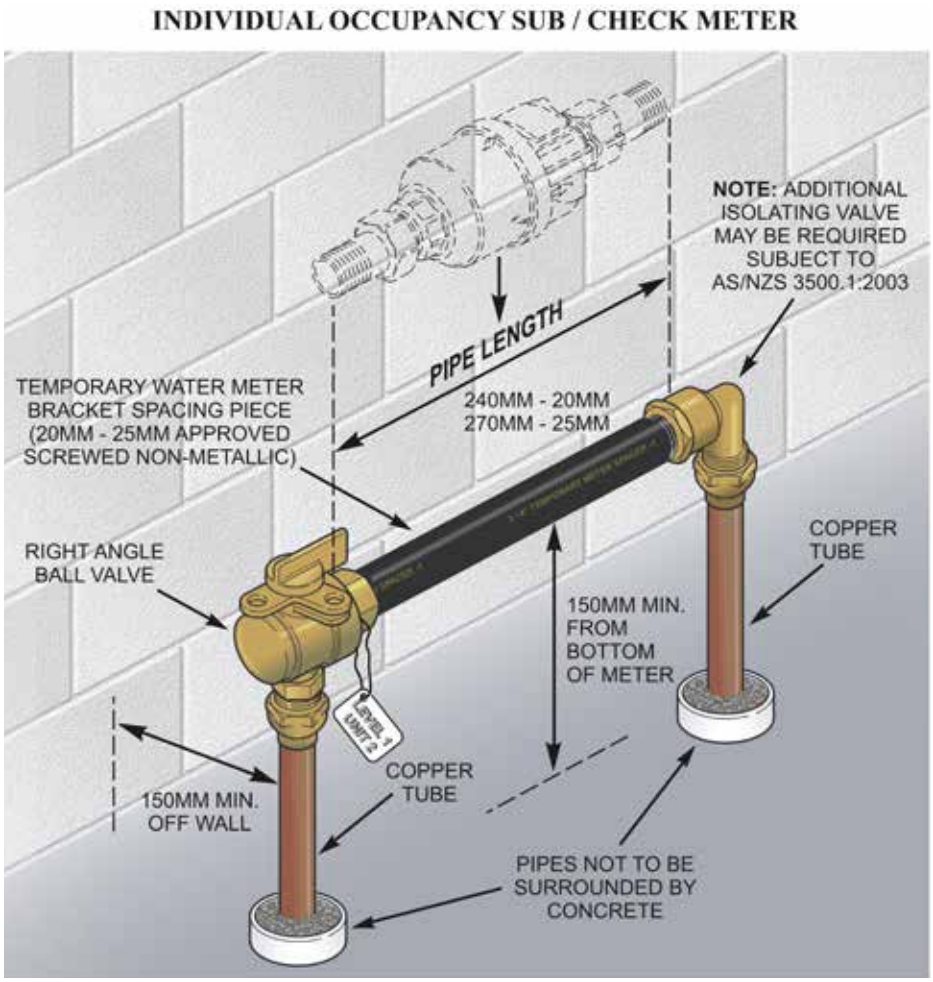
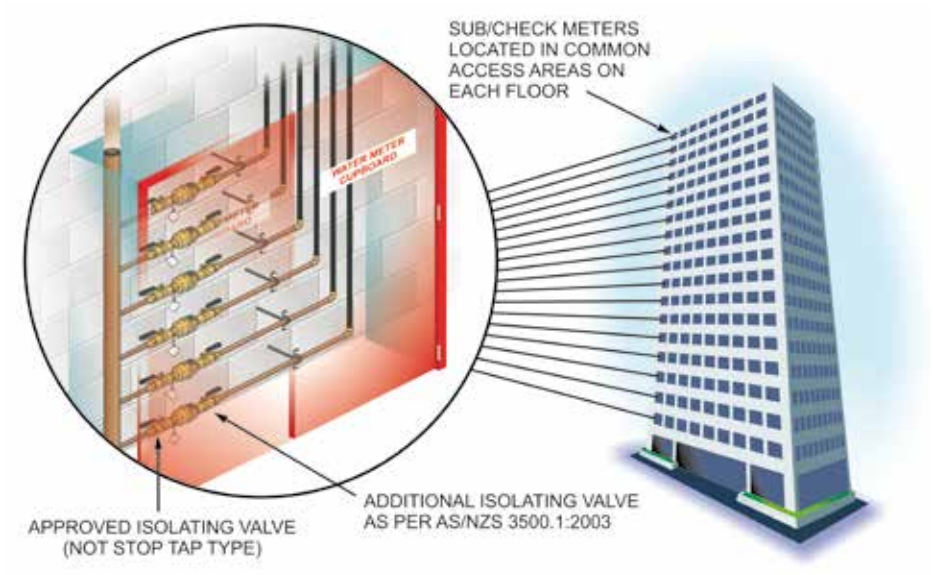
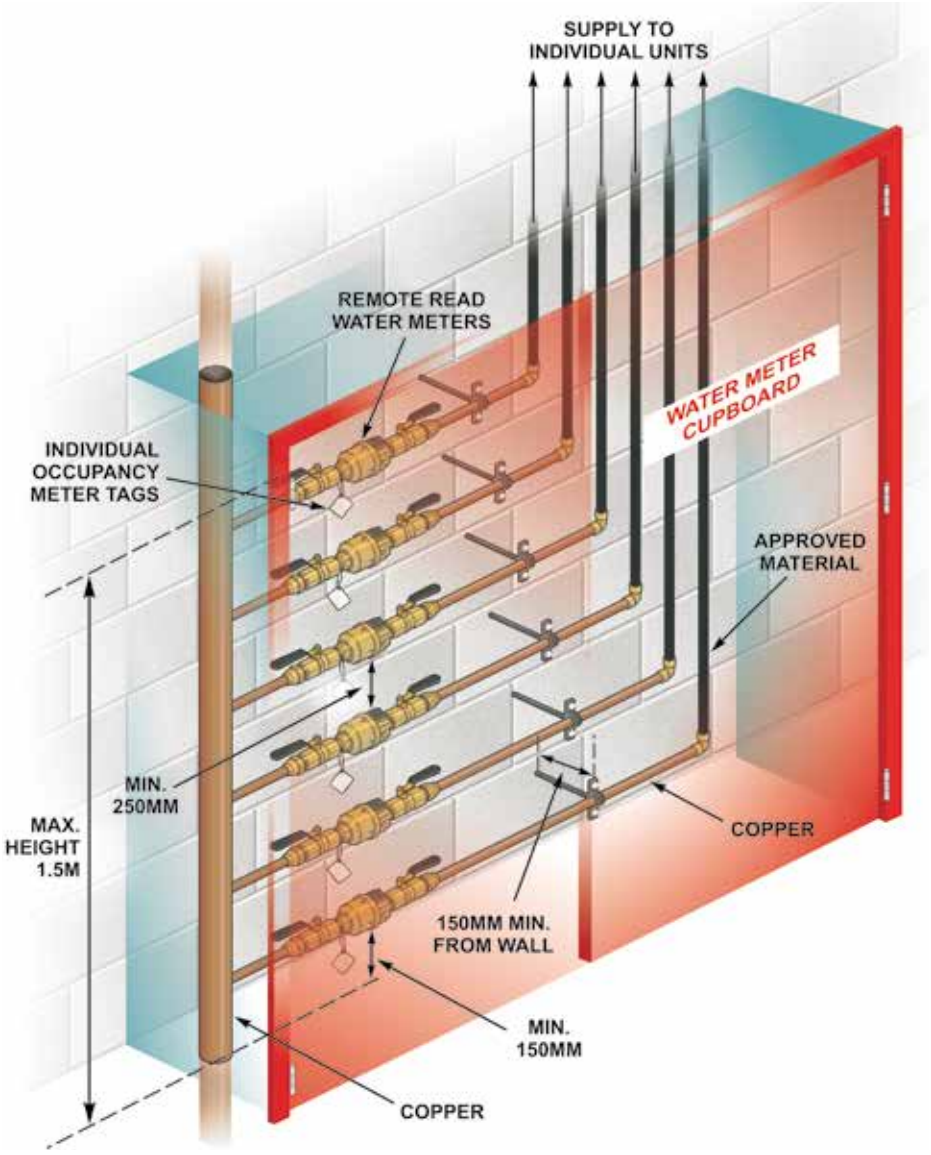


Figure 6.5: Meter Cupboard Located in Common Access Area



For detailed information refer to Figure 6.6

Figure 6.6: High Rise Sub/Check Meter Typical Arrangement



6.3 Relocation of Existing Main Water Meters

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

- 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. All costs associated with the deviation of existing water meter(s) to be borne by the owner/applicant. Refer to drawing below.
- The relocation of the assembly is permitted by either deviating of the service pipe within the above guidelines, or plugging and re-tapping the water main in accordance with the following:
  - 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 metres of the title boundary that abuts the water main.
  - 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 Water Retailer' meter at the owners' expense.
  - Main to water meter work is to be carried out by owner's licensed plumber in accordance with clause 6.1, at owners' expense.

Note:

- Where the relocation of any Class A recycled water meter assembly is required, it is to be carried out by the relevant Water Retailer. Both assemblies (drinking water and Class A) will be relocated at the owners' expense. The assemblies shall remain 300mm apart with the drinking water meter assembly located on the right hand side. (See 7.5 Plug and ReTap of the Water Meter).

- These guidelines apply equally for tappings located on the same side (short) of the road reserve and those located on the opposite side (long) of the road reserve.

Figure 6.7: Offsetting of Existing Water Meters (Long Side)

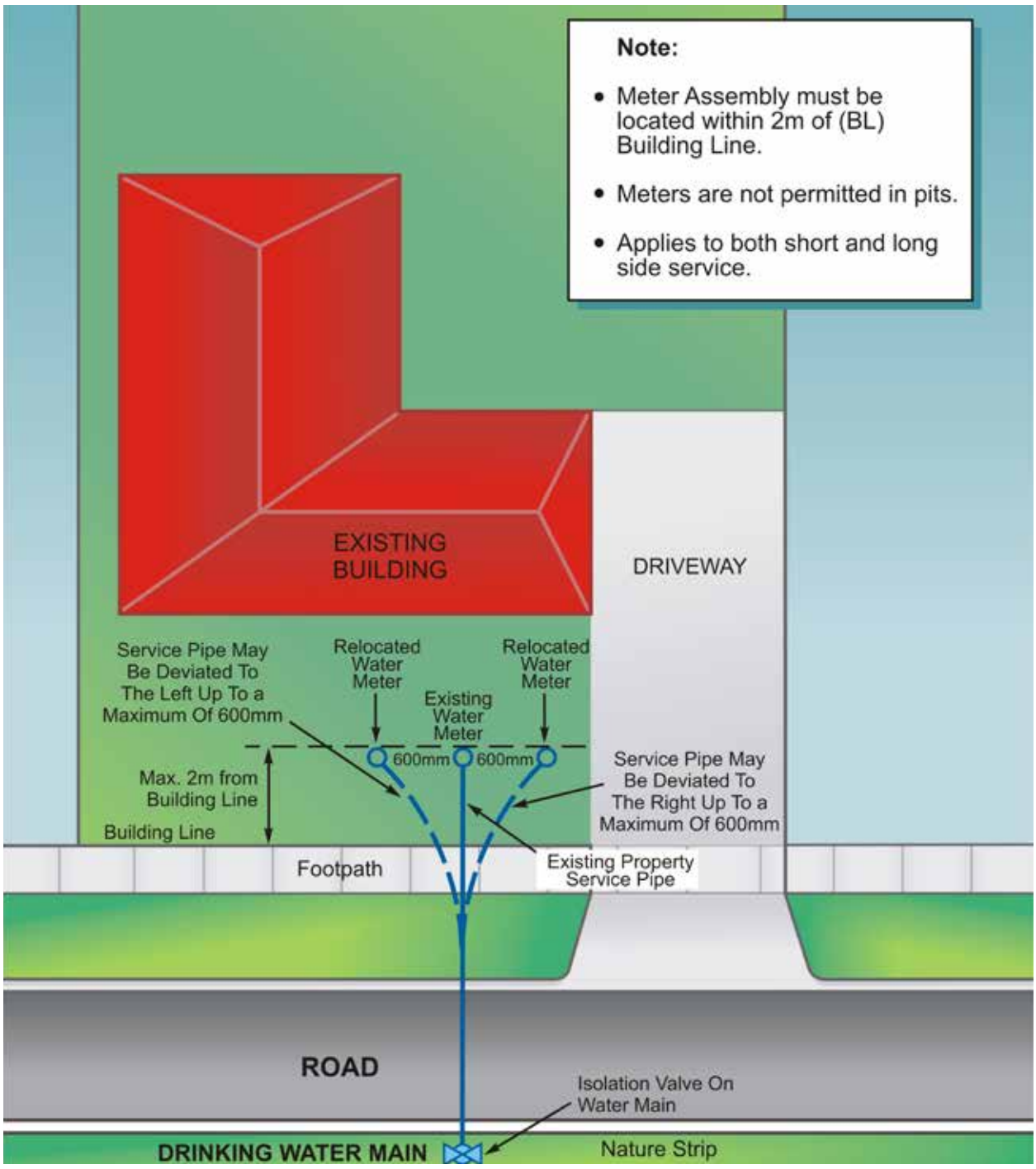
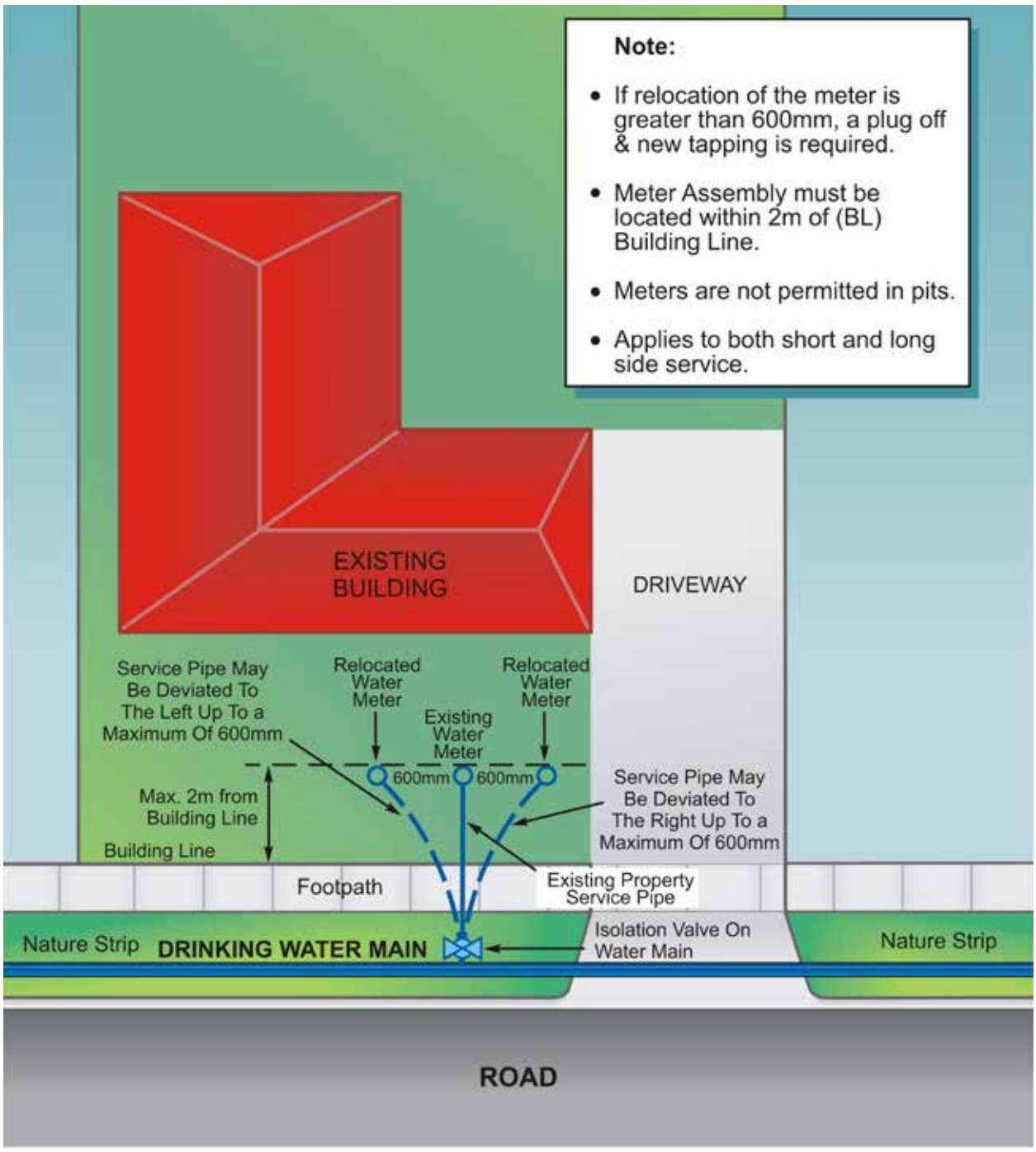


Figure 6.8: Offsetting of Existing Water Meters (Short Side)



6.4 Water Meter Pits

Where conditions in Section 6 'Positioning of Water Meters' cannot be met, main and/or sub/check meters may be permitted to be installed in a pit, however it must be demonstrated that all listed options to install the water meter above ground have been adequately explored to the satisfaction of the relevant Water Retailer. In such cases, the pit must conform to the following requirements:

- Be constructed in 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 person.
- In trafficable areas must provide for a cover adequate to the loads experienced as well as access for reading (i.e. 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 (i.e. connected to the storm water system).
- The owner of the pit is responsible to maintain the pit in good order, conforming to the above requirements at all time and is responsible for any costs applicable.
- A pit located outside the title boundary and/or on council property requires the property owner to gain appropriate approval prior to the installation of the pit.

Note:

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

6.5 Protection of Water Meters

In order to provide protection for water meters, the Water Retailer may require the installation of a water **meter cage to be installed.**

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, a standard industry key or 003 key must be able to open the lock.
- 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 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.

7 WATER MAIN CONNECTIONS (TAPPINGS)

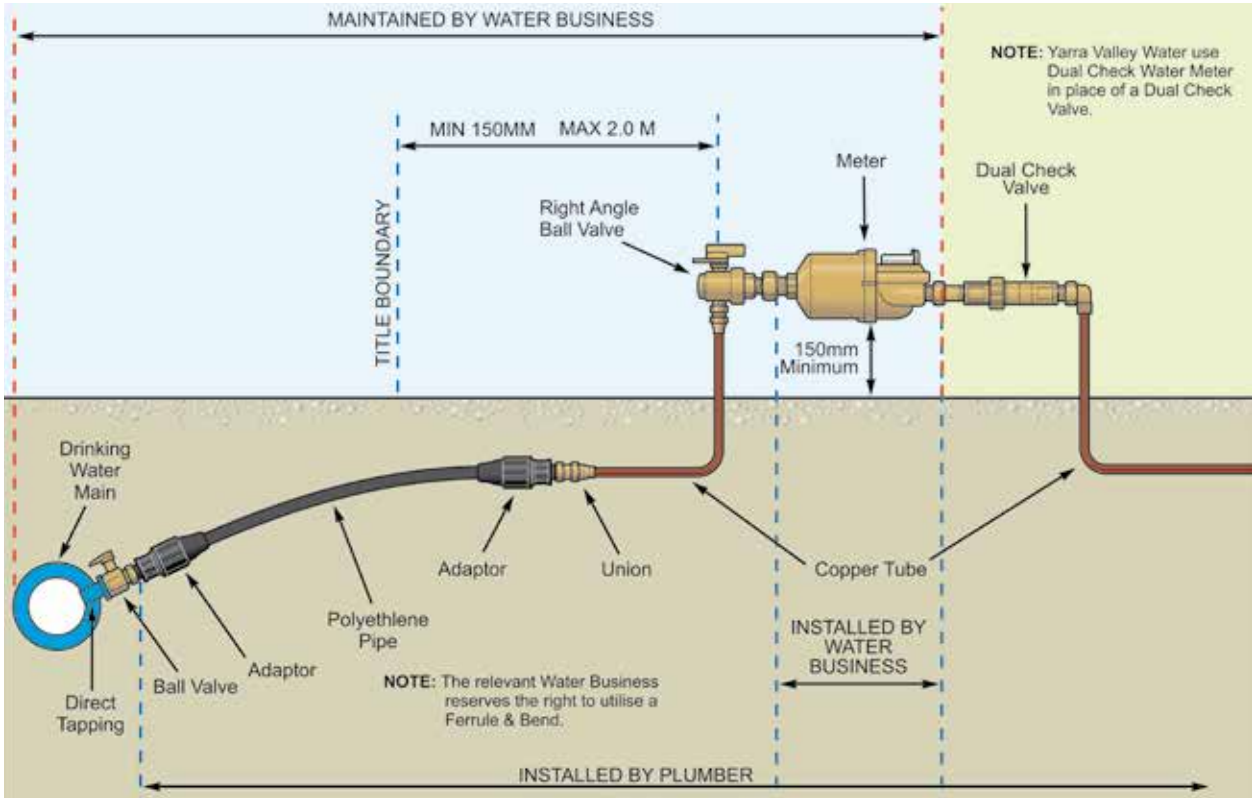
7.1 Wet Tappings

The responsible Water Retailer representative performs the tapping. Plumbers are not permitted to carry out this work.

Not all water mains/aquaducts are capable of having a property service connection. The selection of water main used for this purpose is to the discretion of the Water Retailer.

- A fully completed Plumbing Application must be submitted to the relevant Water Retailer with applicable fees paid and consent given prior to any works being carried out.
- For 20mm and 25mm connections, the water meter will be delivered by the Water Retailer on the day and at the time of the arranged tapping.
- 32mm and larger water meters are provided to the licensed plumber by the Water Retailer prior to or on the tapping day. The water meter may be delivered to the property site or to a predetermined location providing it is located within the respective Water Retailer' licensed boundary.
- The water meter assembly including the containment backflow prevention device must be installed in accordance with these guidelines prior to the connection to the water main being carried out. Some large water meters may take longer to be supplied and therefore customers may need to allow a minimum of 10 days lead time when arranging for the water meters.
- **Water Meter Location** – Positioned at right angles to the water main, above ground and within two metres of the title boundary that abutts to the water main.
- The maximum length of property service pipe is 30m. If a longer connection is required an extension of the water reticulation will be necessary.
- The property service pipe must be at right angles to the property

Figure 7.1: Drinking Water Wet Tapping

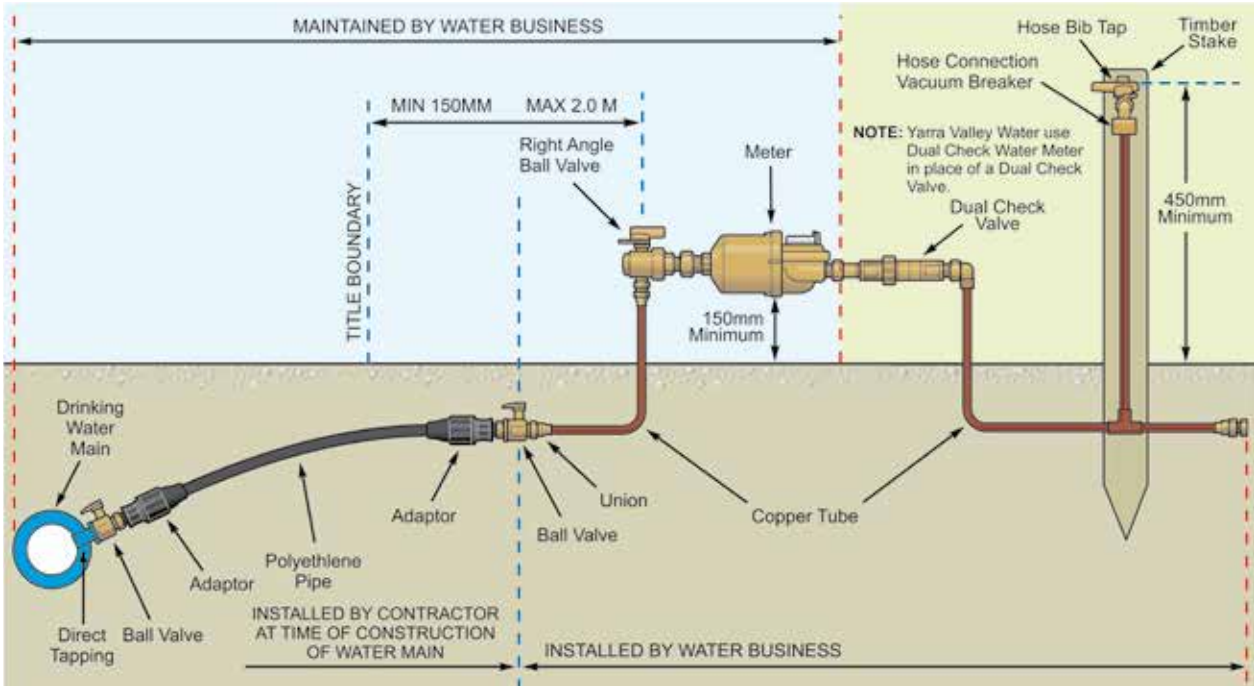


7.2 Dry Tappings for Drinking Water Supply (Residential Only)

The water meter assembly for 20mm Ø dry tappings is installed by the Water Retailer. Plumbers are not permitted to carry out this work.

- A fully completed Plumbing Application must be submitted to the relevant Water Retailer with applicable fees paid and consent given prior to any works being carried out.
- A connection point is provided on the outlet side of the water meter assembly for the plumber to connect the internal water service pipe.
- The location of the dry tapping can be obtained from the relevant Water Retailer (a fee may apply).
- In the event that the location of the water meter assembly requires moving by more than 600mm in either direction, the existing tapping is to be plugged at the water main and a new dry tapping provided. This work is to be carried out by the relevant Water Retailer (fees apply).
- **Water Meter Location** – Positioned at right angles to the water main, above ground and within two metres of the title boundary that abuts to the water main.

Figure 7.2: Drinking Water Dry Tapping

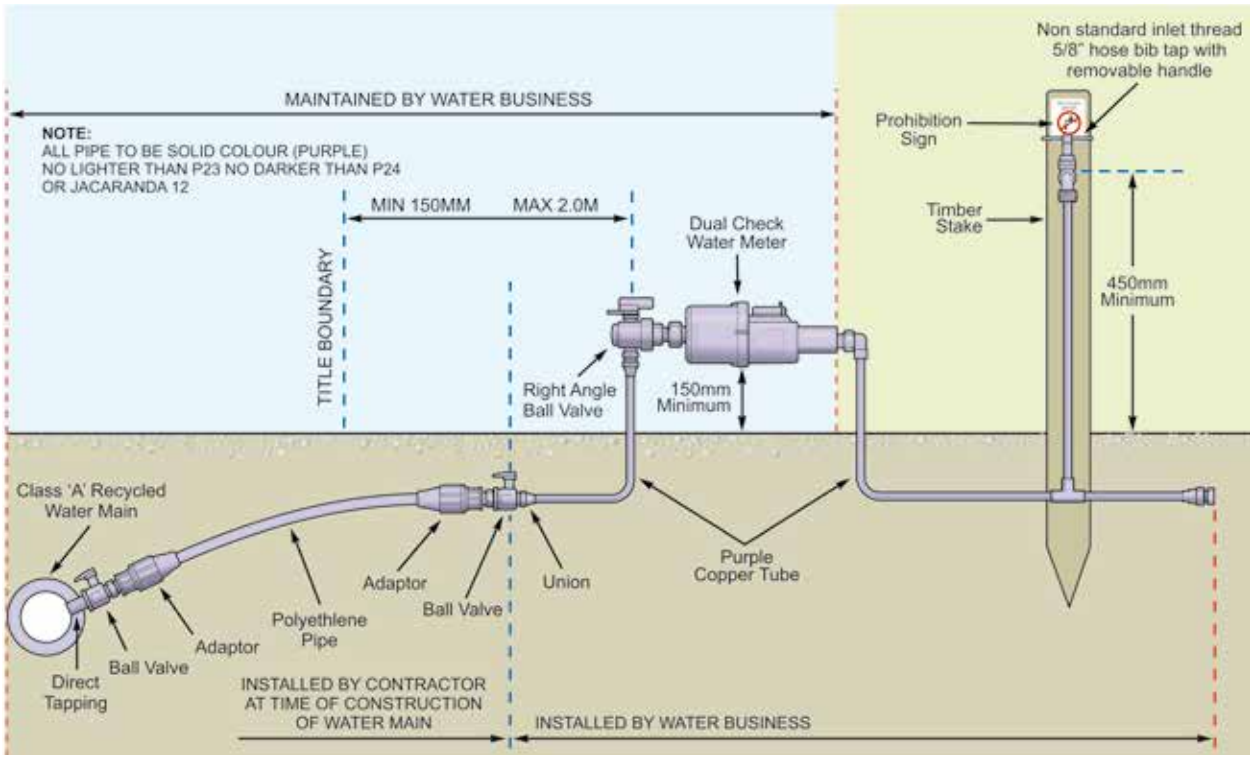


7.3 Dry Tappings for Class A Recycled Water (where available)

The water meter assembly for Class A recycled water dry tappings is installed by the Water Retailer. Plumbers are not permitted to carry out this work.

- A fully completed Plumbing Application must be submitted to the relevant Water Retailer with applicable fees paid and consent given prior to any works being carried out.
- A connection point is provided after the water meter assembly for the plumber to connect the internal recycled water service pipe.
- The location of the dry tapping can be obtained from the relevant Water Retailer (a fee may apply).
- In the event that the location of the recycled water meter assembly requires changing, the existing tapping is to be plugged at the recycled water main and a new dry tapping provided. This work is to be carried out by the relevant Water Retailer (a fee may apply).
- **Water Meter Location** – always located 300mm to the left of the drinking water meter assembly, positioned at right angles to the recycled water main, above ground and within two metres of the title boundary that abuts to water main.

Figure 7.3: Class A Recycled Water



7.4 Tapping Excavations

Unless previously advised the licensed plumber should confirm the tapping time by telephoning the relevant Water Retailer or its nominated agents on the working day prior to the tapping.

- 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 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** hole size required for the tapper to do the work is specified in Figure 7.4.
- The water service pipe, water meter assembly, including isolating valve and appropriate backflow prevention device, must be installed prior to the tapping taking place (refer to Water Service Assembly Arrangements).
- Connection to the water main must be at right angles to the intended position of the water meter.
- The contractor/licensed plumber **must be on site at the time of the tapping** and take all precautions necessary for the safety of the excavation including traffic management and the protection of pedestrians.

Note:

- Failure to satisfactorily meet all of the above requirements will result in cancellation of the tapping for that day, making it necessary for the plumber to re-book and pay a re-booking fee.
- Loose polyethylene sleeving (Greensleeve) is used to protect ductile iron water mains 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.

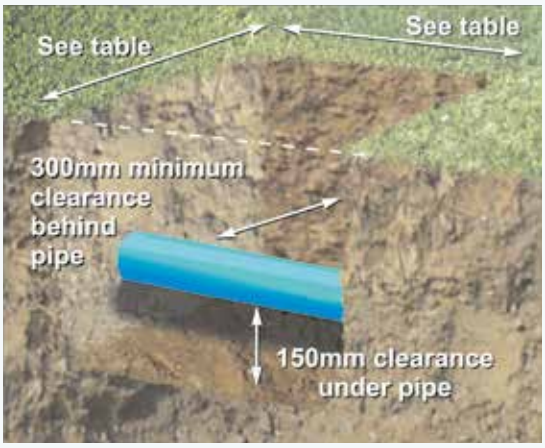
Figure 7.4: Minimum Size of Excavation for Water Trappings and Pluggings

Excavation Requirements

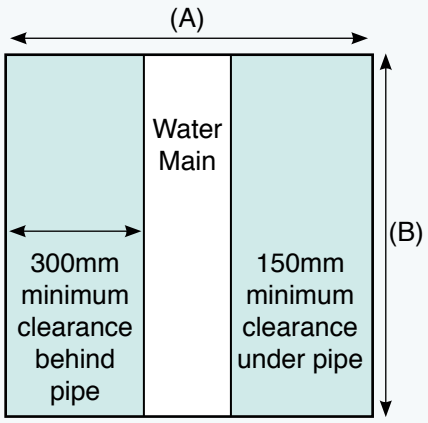
- The contractor is to carry out all excavation requirements and ensure that all Occupational Health and Safety, Trenching, Road Signage, Traffic Management & Road original permits requirements are applied for.
- Obtain location of all other services. Dial Before You Dig by calling 1100.
- Other services may be in the excavation provided they are not on the same elevation as the pipe to be tapped.
- 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 Retailer, 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 be on side, 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.

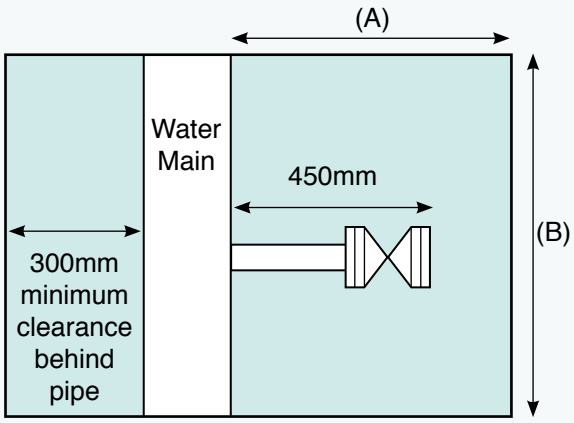
Note:

- Excavations (below) also apply when flushing main and renewing ferrule.
- Proper ground support must be provided for all excavations over 1500mm deep.
- The tapping hole must be free of all ground water.
- Loose polyethylene sleeving (Greensleeve) is used to protect ductile iron water mains 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.



Trench 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		
80-225mm	(A) 1000mm	(B) 1000mm
250-300mm	(A) 1200mm	(B) 1200mm
375-450mm	(A) 1500mm	(B) 1500mm

7.5 Plug and Re-Tap at the Water Main

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

- If the re-tapping involves only the drinking water meter assembly, 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.
- A new application (with applicable fee) must be lodged if an existing tapping is to be plugged and re-tapped.
- 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 of the new tapping being installed.
- Where relocation of any Class A recycled water property service pipe is required, it is to be carried out by the relevant Water Retailer.
- 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 on the right hand side when facing the property.

7.6 Re-Use of Existing Tappings

Existing water tapping and existing property service pipe 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 table 3.2 of AS/NZS3500.1:2003.

However, 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), the existing property service pipe and water meter may be retained to service the new development.

7.7 Upsizing and Downsizing of Existing Services

- Existing tappings may be retained where the upsizing/downsizing of the property service pipe is no more than one pipe size (subject to approval by the Water Retailer).
- The upsizing/downsizing is to occur directly at the first isolation valve located off the water main.
- Full replacement of the property service pipe is to be carried out by the owners' plumber at the owners' expense.
- Only approved polyethylene pipe is to be used for general services up to and including 50mm.
- Services larger than 50mm to be of an approved material in accordance with the Plumbing Regulations incorporating the Plumbing Code of Australia.
- The owner or applicant is responsible to ensure pressures and flows will be adequate and substantiated in writing by a licensed plumber or hydraulic consultant.
- The request for the retention of the existing service must be submitted in writing for approval by the Water Retailer.

Where the above criteria for retention of the existing tapping can not be satisfied, the existing tapping is to be plugged and an appropriately sized tapping is required in accordance with Clause 7.6.

If the service is >80mm diameter, the existing tee or tapping band is to be removed by the Water Retailer at the owners' expense.

7.8 Sizing of Water Meters and Property Service Pipes

All water meter sizes are to comply with relevant standards. For non-residential developments, the size of the property service pipe to the property is to be determined by the property owner or authorised agent.

7.9 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 the Water Retailers for billing purposes are to be of an approved type supplied by the Water Retailer.

8 OTHER RELATED GUIDELINES

8.1 Containment Backflow Prevention

Water Retailers require all new connections and redevelopments 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.

- An agreement is required to be executed between the Water Retailer and the property owner at the application stage when a backflow testable containment device is installed.
- If the risk category of a non-residential development is unknown at time of application, the Water Retailer 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.

Note:

- Where the installation of an appropriate zone or individual hazard backflow prevention device is necessary in accordance with the provisions of AS/NZS 3500.1:2003, the relevant Water Retailer 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.
- Where above ground rainwater tanks are installed to provide toilet flushing, and it is intended to interconnect the reticulated drinking water supply system from, an appropriate containment backflow prevention device will 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.
- For residential properties within Yarra Valley Water's operating area a dual check water meter (up to 25mm Ø diameter) is used.

8.2 Remote Water Meters

Remote water meters are to be installed, at the owners' expense. Where pre-arranged access would be necessary in order for the Water Retailer to read the water meter, it is now no longer acceptable for the customer to supply keys and codes to access any new development. For existing properties it is at the Water Retailer' discretion to obtain/retain keys and access codes.

- Remote water meters must be installed in new developments of three levels or greater.
- Additional equipment at the owners' cost may be required where the development is greater than four levels.
- When applicable, water meters must have a minimum 150mm distance between the centre of the pipe and any wall and a minimum 250mm distance between the centres of the pipes of each water meter assembly.
- Remote water meters **must not** be located inside the units/apartments, or within the ceiling, wall or floor cavities of common access areas.
- Remote meters will need to be installed when the meter is located behind a fence, gate (locked or unlocked) or within an area protected by a security system.

8.3 Material for Main to Water Meter Property Service Pipes 20mm to 50mm

New Developments - The piping must comply with the relevant standard AS/NZS3500. Polyethylene pipe (PE 100 PN 12.5) is required as a minimum as per AS/NZS3500.

Note:

- PE pipe is not to form a part of the water meter assembly.

8.4 Material for Main to Water Meter Service Pipes >50mm Ø

Services greater than 50mm Ø may be installed in any approved material and installed in accordance with AS/NZS3500, refer to additional information in general notes of the meter configuration drawings.

8.5 Water Meter Ownership

Water meters are supplied by the relevant Water Retailer upon payment of a regulated fee. Once fitted the water meter remains the property of the relevant Water Retailer and is maintained and replaced periodically at no cost to the owner unless the owner has altered the water meter surrounds and accessibility to the water meter.

8.6 Damaged, Missing and Stolen Water Meters

The owner/applicant is required to notify the Water Retailer as soon as any damage or loss of a water meter has occurred. A regulated fee for the supply and installation of the replacement water meter and any other associated works may be charged. The replacement of meter will be conducted by the Water Retailer's authorised contractors.

8.7 Removal of Water Meters

No person shall alter a water meter's position unless that person has first obtained permission from the respective Water Retailer to do so. Only the Water Retailer's authorised contractors are permitted to remove water meters. Penalties apply for non-compliance.

If the redevelopment of a site is occurring and the meter is no longer required, the existing service must be plugged and the meter removed. If a building is being demolished and an application has not been lodged for redevelopment of the property, the existing service must be plugged and the meter removed. Water meters removed are not to be reused as per the National Measurement Regulations.

8.8 Return of Water Meters

For redevelopments or demolitions where the service is to be plugged the water meter will be collected by the Water Retailer's authorised contractors at the time of the plugging.

8.9 Use of a Data Logger

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

8.10 Property Service Pipes for Redevelopments

Where a redevelopment is proposed and the existing property service pipe is of GWI material the property service pipe is to be replaced.

- Only approved polyethylene pipe as per AS/NZS3500 is to be used up to and including 50mm Ø.
- Any approved material can be used on property service pipes greater than 50mm Ø.

8.11 Pressure Limiting Valve

When the maximum static pressure at any outlet (fire services excepted) within a building exceeds 500Kpa, a pressure limiting valve may be required at the owners cost in accordance with AS/NSS3500.1 - 2003.

8.12 Hot Water Meters

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

8.13 General Water Supply

Inline Booster Pumping may be approved, subject to the written approval of the relevant Water Retailer. A written request for the approval of variable speed inline pumps must be lodged with the relevant Water Retailer, as part of the application for conditions of connection, and should include details of pump curves and pumps to be used.

Note:

- The maximum pump flow should not result in the capacity of the street main being exceeded under peak demand conditions. This must be checked and approved by the Water Retailer.

9 RESPONSIBILITIES

9.1 Property Service Pipes up to and Including 50mm Ø

The Water Retailers are responsible for maintaining the property service pipe where the property service pipe is not of GWI material and not for a fire service (refer to the Water Retailer' individual Customer Charter).

9.2 Property Service Pipes greater than 50mm Ø

The property owner is responsible for maintaining the general property service pipe.

9.3 Internal Pipe Work

The property owner is responsible for maintaining all pipe work from the outlet side of the main water meter, including any sub/check meter assemblies. Any sub/check meter purchased from the Water Retailer remains the property and responsibility of the relevant Water Retailer. This does not include private water meters not purchased or accepted by the Water Retailer.

9.4 Remote Water Meters

The Water Retailers are responsible for maintaining and for the replacement of remote water meters, with the exception of stolen or damaged water meters in accordance with Sec 8.2.

9.5 All Other Services

The Water Retailer maintains the tee/tapping band including the flange. The owner of the property maintains all other parts of the service. Refer to Figure 10.1.

10 GENERAL WATER AND FIRE SERVICE VALVING ARRANGEMENTS

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

10.1 Grouped Water Meters

Where grouped water meters are to be located for multi unit developments, the owner/owners' corporate is responsible to ensure that each sub/check meter is always tagged with the corresponding unit number.

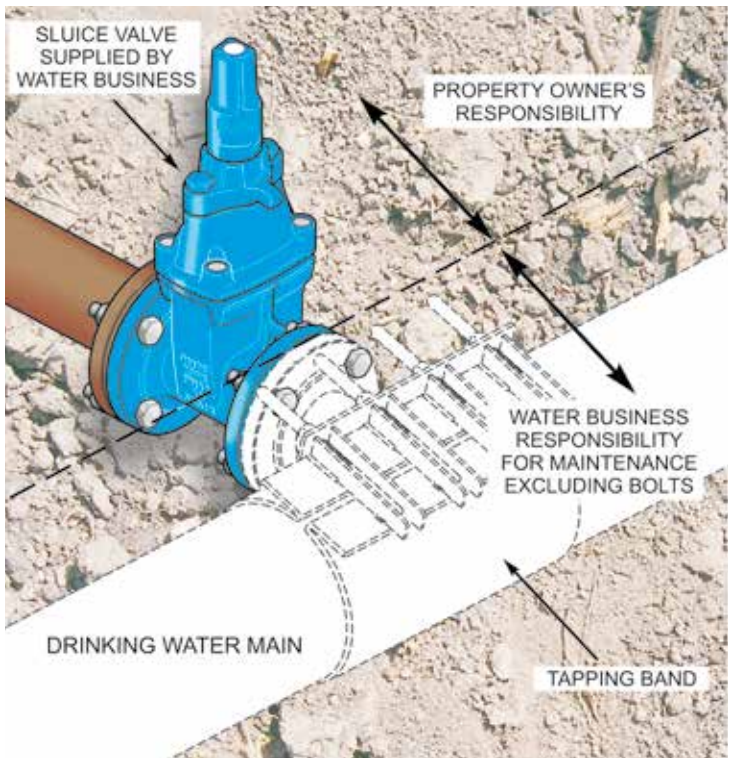
10.2 Non-Compliant Installations

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

Note:

- Bolts on the inlet side of the sluice valve are the responsibility of the property owner.

Figure 10.1: Typical Tapping Under Pressure Greater than 50mm Ø



10.3 Fire Services

All fire services must be metered. The type of meter used is dependent on the type of fire service being installed and the Australian Standard design applicable to each installation. The relevant Water Retailer will supply the meter/s at the owners cost. The metering requirement specific to the fire system design is detailed within the 'Fire Service Metering Matrix'. See Sec 10.4.

Note:

- Typically all water meter assemblies shall comply with the Water Services Assembly/ Arrangements located on individual Water Retailer Web sites.

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

Redevelopments/Major Augmentation of Fire Services

In cases of redevelopments and/or a major augmentation of a fire service, the fire service metering and containment backflow are to be upgraded to meet current requirements.

Recycled Water for Fire Services

The relevant Water Retailer may grant approval for recycled water to be used for fire fighting purposes subject to recycled water quality and availability of supply. 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 Water Retailers' water supply system.

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

Hose Reel Services

The meter shall be installed to measure all water usage prior to separate fire service and general service piping, however the hose reel service may be taken directly from the metered general water supply service where the design specifies a combined system.

Hydrant Services

These services as a minimum, must be fitted with a WaterMark approved Single Check Detector Assembly Testable (SCDAT) (supplied by the property owner) and a 25mm by-pass water meter supplied by the Water Retailer. See Fire Services Metering Matrix on page 30 for more details.

Each isolating valve located within the by–pass meter assembly is to be locked in the open position by the commissioning/device testing contractor. The lock is to be a Fire Authority keyed padlock.

Each Single Check Detector Assembly Testable (SCDAT) must be registered with the relevant Water Retailer and be commissioned. Retesting of the valve is required on an annual basis and retest reports forwarded to the relevant Water Retailer.
For Backflow Protection, as a minimum, a Single Check Valve Testable (SCVT) is required on all fire services 50mm Ø diameter or greater.

Automatic Fire Sprinkler Services

Where the fire system is designed and installed to AS2118.1 or AS2118.6 an electromagnetic flow meter must be installed to register all fire service water used (see fire service metering Matrix for details).

Note: Where 240V electrical connection is specified by individual Water Retailers the electrical connection must occur at the time of installation of the meter. Such connection is to be direct wired (plug type connections will not be permitted).

Where a hydrant and fire sprinkler service is required, the water meter will register all fire service water used.

Fire Service Water Saving Requirements

The fire sprinkler system design shall incorporate all necessary features called for in AS1851:2005 (Maintenance of Fire Protection Systems and Equipment) and/or subsequent versions of AS1851 or equivalent to allow for the monthly testing of the fire sprinkler system.

Where fire system booster pumps (diesel & electric set) are required, the system shall incorporate recirculating equipment such as storage tanks or other options/methods to reduce or eliminate the wastage of test water.

Written advice to be provided that demonstrates water saving options have been included in the design and may include either:

Tank capture system (either option)

a) a large break tank or full capacity storage tank with recirculation of all water discharge that is capable of discharging into the tank and will include (pressure relief valve, pump churn relief valve, cooling water, flow test water, installation relief lines) or
b) a recirculation tank. The small capacity tank used during testing, generally only to capture pressure relief valve & control valve discharge and directly pumps the water back into the inlet pipe. The operation of the system must be included in the maintenance routines.

or

Written advice from a Fire Engineer or Design Consultant detailing that the fire pump system will, upon installation, have the pressure relief and control valves adjusted to minimise water loss with an acceptable pressure gauge schedule (in accordance with AS2118.1 Automatic Fire Sprinkler Systems Section 8.6). This work must be undertaken by an experienced fire engineer/designer.

It is recommended that the owner test and maintain the fire service valve external to their property on a yearly basis.

Note:

- For further information please contact the relevant Water Retailer.

10.4 Fire Service Metering Guide

Type of Fire System	Design Standard	Designed under a Single Standard or in Combination with another Standard	Inline booster pumps (not Jacking pumps)	Metering Requirement	Water Saving Measures Required. Yes or No – refer to the 'Water Saving Measures Definition' (Page 2)
Fire Hydrant 80mm diameter or larger	AS2419.1	Single	No	SCDAT	No
Fire Hydrant 80mm diameter or larger	AS2419.1	Single	Yes	Mag meter	No
Fire Hydrant 80mm diameter or larger & general service combined	AS2419.1		No	Turbine meter	No
Automatic Fire Sprinkler greater than 50mm diameter	AS2118.1	Single	No	Mag meter	No
Automatic Fire Sprinkler greater than 50mm diameter	AS2118.1	Single	Yes	Mag meter	Yes
Automatic Fire Sprinkler / Fire Hydrant 80mm diameter or larger	AS2118.6	Combined	No	Mag meter	No
Automatic Fire Sprinkler / Fire Hydrant 80mm diameter or larger	AS2118.6	Combined	Yes	Mag meter	Yes
Automatic Fire Sprinkler Designed under Commercial and Residential Standards i.e carpark under one standard / units under another	AS2118.1 / AS2118.4	Combined	No	SCDAT	No

10.4 Fire Service Metering Guide (continued)

Type of Fire System	Design Standard	Designed under a Single Standard or in Combination with another Standard	Inline booster pumps (not Jacking pumps)	Metering Requirement	Water Saving Measures Required. Yes or No – refer to the 'Water Saving Measures Definition' (Page 2)
Automatic Fire Sprinkler Designed under Commercial and Residential Standards i.e carpark under one standard / units under another	AS2118.1 / AS2118.4	Combined	Yes	Mag meter	Yes
Automatic Fire Sprinkler up to 50mm diameter	AS2118.4	Single	No	Turbine meter	No
Automatic Fire Sprinkler greater than 50mm diameter	AS 2118.4	Single	No	SCDAT	No
Automatic Fire Sprinkler up to 50mm diameter	AS2118.5	Single	No	Turbine meter	No
Automatic Fire Sprinkler, Drenchers up to 50mm diameter	AS2118.2	Single	No	Turbine meter	No
Automatic Fire Sprinkler, Drenchers greater than 80mm diameter	AS2118.2	Single	Yes	Mag meter	No
Automatic Fire Sprinkler, Drenchers greater than 80mm diameter	AS2118.2	Single	No	SCDAT	No
Automatic Fire Sprinkler, Deluge up to 50mm diameter	AS2118.3	Single	No	Turbine meter	No
Automatic Fire Sprinkler, Deluge up to 50mm diameter	AS2118.3	Single	Yes	Turbine meter	No
Automatic Fire Sprinkler, Deluge 80mm diameter or larger	AS2118.3	Single	No	SCDAT	No
Automatic Fire Sprinkler, Deluge 80mm diameter or larger	AS2118.3	Single	Yes	Mag meter	No.

10.4 Fire Service Metering Guide (continued)

<table>
<tr><th colspan="3">Definitions</th></tr>
<tr><td>Jacking Pumps: Used to maintain pressure in the fire system and have no bearing on whether recirculating is required.</td><td>Inline Booster pumps: Used to pump water directly from the water main. Normally a Diesel and an Electric pump is utilised.</td><td>Booster Connections: Refers to providing a connection for Fire Brigade pumper trucks (No direct inline pumping).</td></tr>
<tr><td>SCDAT: Single Check Detector Assembly Testable.</td><td>Combined Fire Service System: A fire system designed under two separate Australian Standards i.e carpark under one standard and the remainder of the development under another.</td><td>Drenchers, Deluge Systems: Provide a wash of water over windows or act as a barrier between areas within a building by creating a wall of water.</td></tr>
<tr><td>SCVT: Single Check Valve Testable.</td><td colspan="2"></td></tr>
<tr><td>Mag Meter: Magnetic/ Ultrasonic type meters have no moving parts and are permitted by Fire Authorities on request.</td><td></td><td>Combined Fire and General System: Where the Fire service also supplies general water fixtures. In such cases prior relevant Fire Authority consent is required to meter the fire service via a water meter other than a bypass meter. Backflow prevention requirements must be in accordance with the hazard level identified for the development.</td></tr>
<tr><td>Turbine Meter: Normal water meter used on general & fire services up to 50mm. Fire services > 50mm require either a Magnetic Flow Meter or Single Check Detector Assembly Testable (SCDAT) to be used.

NOTE: The use of turbine water meters for hydrant fire services MUST have prior approval from the relative fire authority.</td><td colspan="2">Water saving Measures: Recirculating tank or other means employed to save the test water i.e. Adjustment of pressure relief valve to maximise water savings.

Demonstrated Water Saving Measure Definition:
No: The fire system is required to be designed to accommodate monthly testing to AS1851. Systems designed to AS 2118.4 or AS 2118.5 automatically conform to monthly testing per AS1851.

Yes: Provide a fire system to recirculate test water Or Adjust PRV & control valves to save water with a pressure gauge schedule to AS2118.1 and incorporate monthly testing.

NOTE: A statement is required from an appropriately recognised expert i.e. Fire Engineer confirming these requirements.

Fire Service Backflow Prevention: Fire services 80mm and larger require as a minimum, a Single Check Detector Assembly Testable (hydrant services require the addition of 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 the relevant Water Business as a condition of supply.</td></tr>
</table>

10.5 Fire Service Pumping

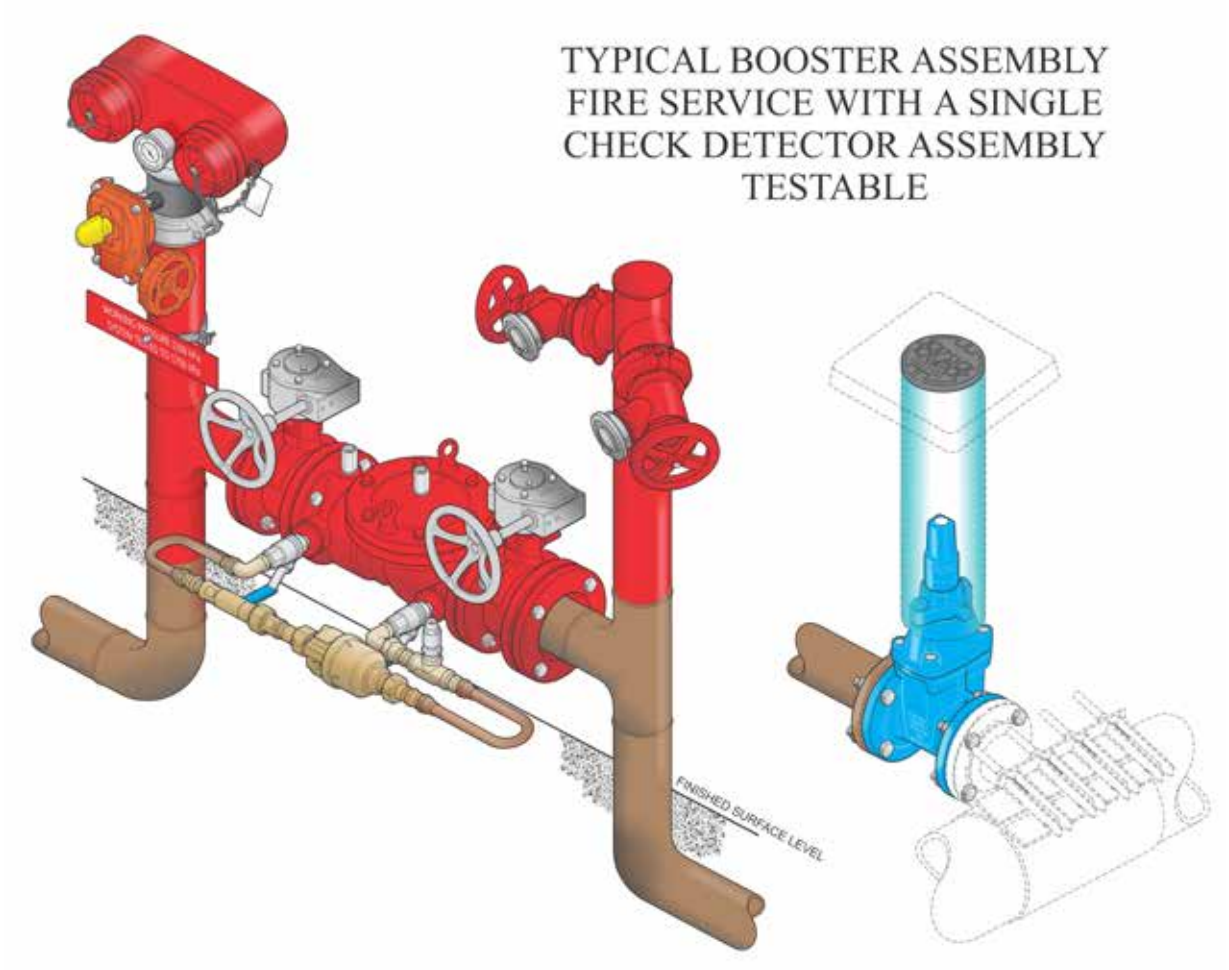
The use of inline pumps to boost supply directly from the local reticulation system may be permitted, subject to approval of the relevant Water Retailer.

A written request for the approval of inline boosting must be lodged with the relevant Water Retailer, as part of the application for conditions of connection, and should include details of pump curves and pumps to be used.

Note:

- The maximum pump flow should not result in the capacity of the street main being exceeded under peak demand conditions. This must be checked and approved by the Water Retailer.
- 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 Water Retailer water supply infrastructure assets.

Figure 10.2: Typical Boostered Fire Service with Single Check Detector Valve (Testable)



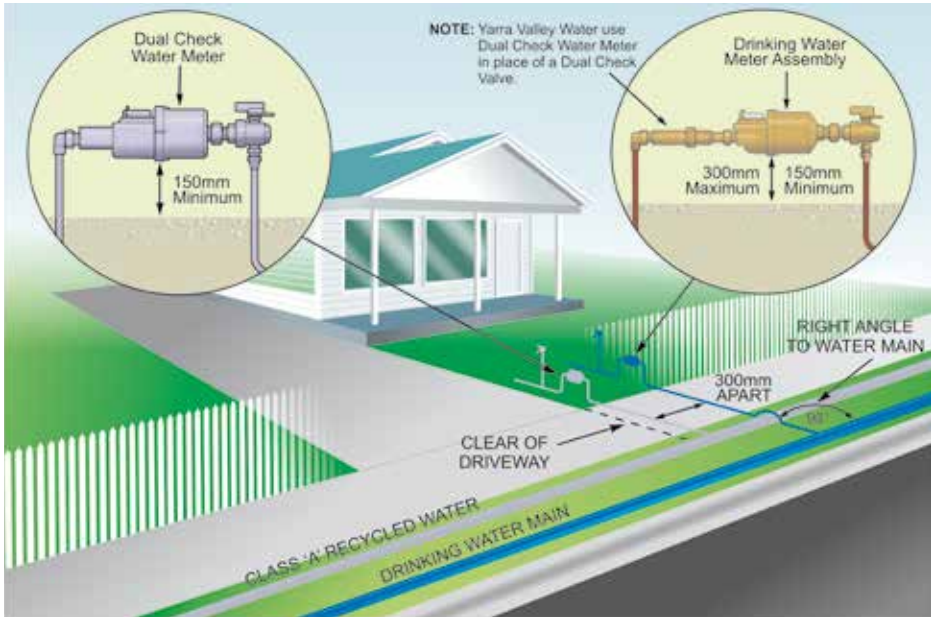
11 RESIDENTIAL WATER METERING AND SERVICING

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.

11.1 Single Dwelling Residential Development

Definition	• House • Terrace house • Strata unit where there is no common land and all units are to be serviced via separate tappings.
Water Metering	• A main water meter is mandatory on the drinking water supply and also on the recycled water supply where available. • 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 (see section 8.2 - Remote Water Meters).
Servicing	• 20mm Ø tapping is required. • For dry tappings, the water meter assembly and water meter are to be installed by the Water Retailer (generally lots created after 1992 are dry tapped - see definition). • For wet tappings, the plumber is to install the water meter assembly and property service pipe prior to the tapping time. The Water Retailer taps the water main (see definitions). • Upsizing of the property service pipe may be approved following an assessment based on the required flow rate. Additional fees apply. **Note:** All 20mm water connections within recycled water areas are to be installed by the Water Retailer at a cost. This includes the installation of the property service pipe, water meter assembly and water meter.

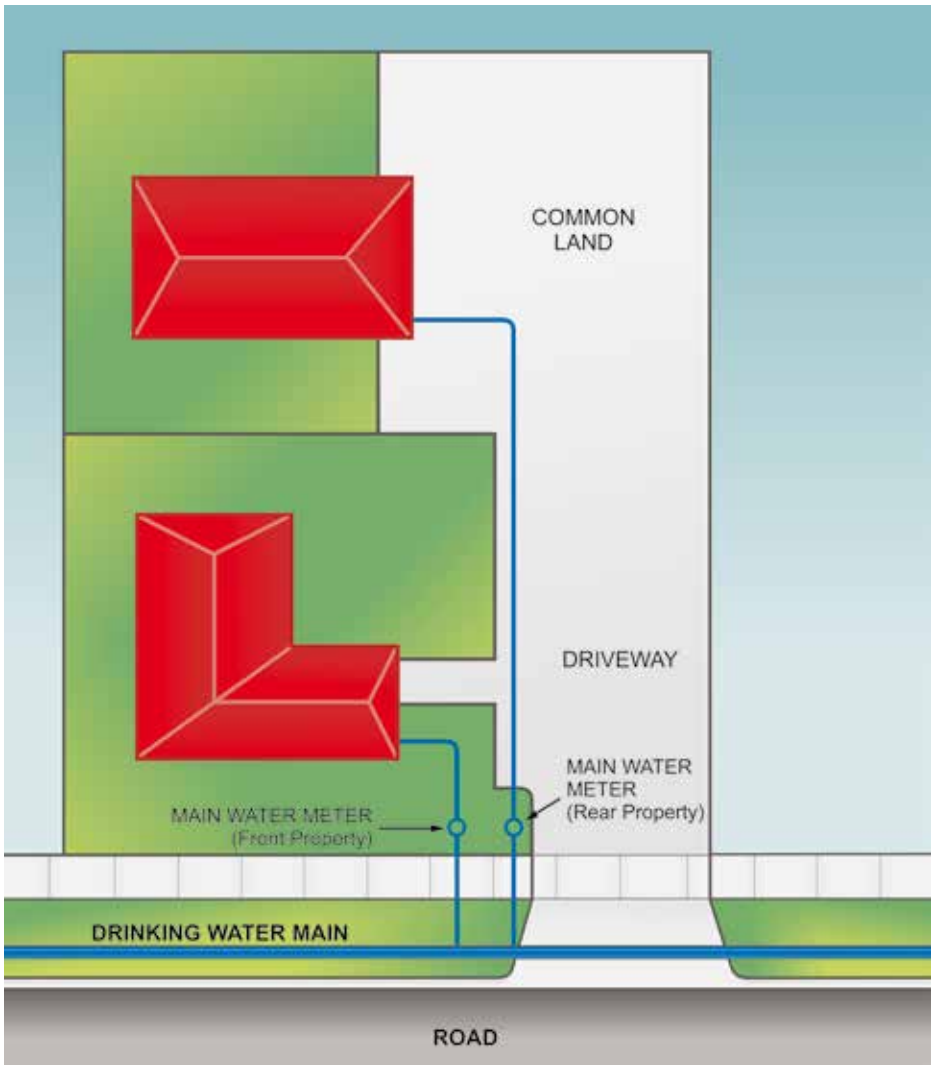
Figure 11.1: Drinking Water & Class A Recycled Water



11.2 New Dual Dwelling Residential Development

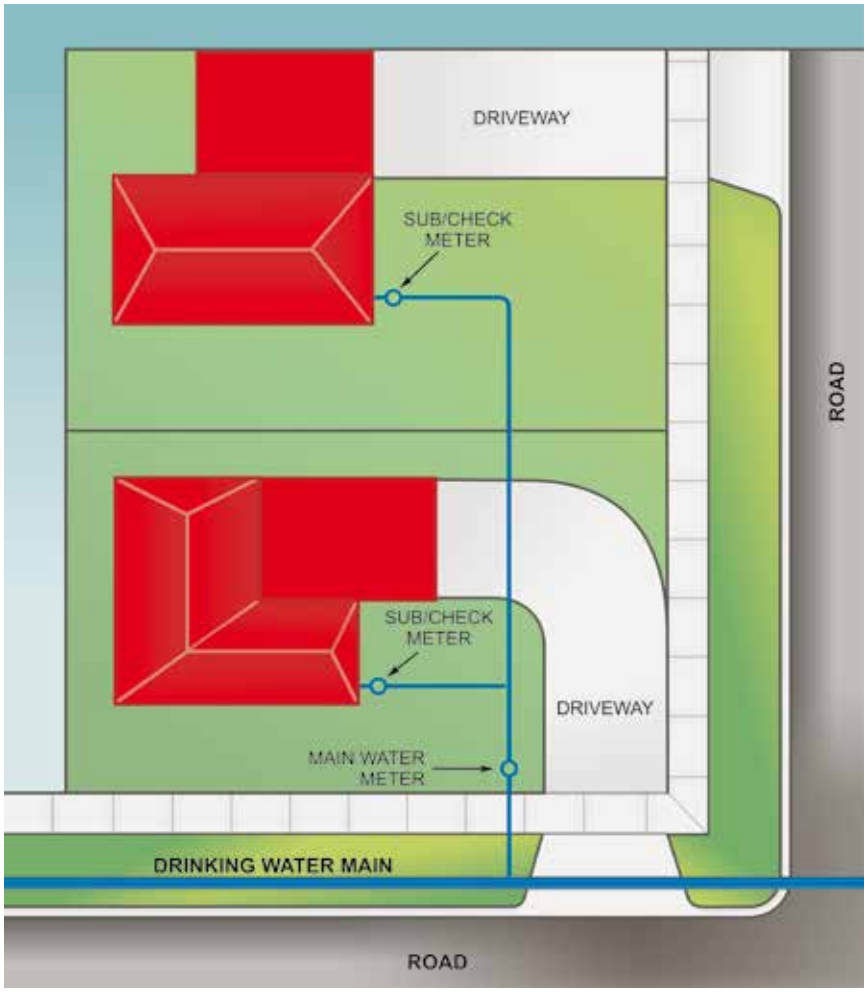
Where both dwellings have water main frontage:	
Definition	Two dwellings on a residential parcel/s of land
Water Metering	• For each dwelling a new main water meter is mandatory on the drinking water supply and also on the recycled water supply where available (see Section 8.2 - Remote Water Meters).
Servicing	• Separate 20mm Ø tappings are required to service each dwelling. • An existing 20mm Ø tapping may be retained for one dwelling if approved by the Water Retailer. • For wet tappings, the plumber is to install the water meter assembly and property service pipe prior to the tapping time. The Water Retailer taps the water main (see definitions). • Upsizing of the property service pipe may be approved following an assessment based on the required flow rate. Additional fees apply. • Where only one dwelling has water main frontage (either for new dwellings or a proposed second dwelling): • Existing dual occupancies constructed prior to 1997.
* For all Dual Dwelling Residential Developments within Yarra Valley Water's service area, contact Yarra Valley Water for servicing requirements	

Figure 11.2: Typical Dual Occupancy Residential Development



Where only one dwelling has water main frontage (either for new dwellings or a proposed second dwelling):	
Definition	Two dwellings on a residential parcel/s of land
Water Metering	• A main water meter is required (generally 25mm) on the drinking water supply and also on the recycled water supply when available to service both dwellings. • For each dwelling a sub/check meter is required on the drinking water supply and also on the recycled water supply when available (See Section 8.2 - Remote Water Meters). • For all Dual Dwelling Residential Developments contact Yarra Valley Water for servicing requirements
Servicing	• To be serviced by 25mm tapping and main water meter with sub/check meters on each unit. An existing 20mm tapping is to be plugged. • When upsizing a service, where possible, one size up from the ferrule / ball valve is acceptable (refer to clause 7.8). • For wet tappings, the plumber is to install the water meter assembly and property service pipe prior to the tapping time. The Water Retailer taps the water main (see definitions). • Upsizing of the property service pipe may be approved following an assessment based on the required flow rate. Additional fees apply.

Figure 11.3: Typical Dual Occupancy Where Only One Dwelling has Water Main Frontage



Existing dual occupancies constructed prior to 1997	
Definition	With many existing developments, generally constructed prior to 1997 only a main water meter was provided with the water usage divided among the owners of the individual dwellings. In these cases some owners wish to install individual water meters to allow them to monitor their water usage.
Water Metering	These developments are typically serviced by a 20mm Ø main water meter. An additional main or sub/ check meter to each dwelling is able to be provided (for a fee) subject to the servicing requirements listed below (see Section 8.2 - Remote Water Meters).
Servicing	Option 1 • Separate tappings for each dwelling. The existing 20mm tapping and water meter is to be retained for one dwelling with a new 20mm tapping and water meter being provided for the second dwelling). Option 2 • The existing 20mm Ø water service tapping is to be plugged. A new 25mm Ø tapping and water meter with 2 x 20mm Ø sub/check meters to be provided to each dwelling. Option 3 • The existing 20mm Ø tapping and property service pipe is to be retained and the existing 20mm Ø main water water meter to remain in place with 2 x 20mm Ø check/sub meters to be provided to each dwelling. Existing pressures and flows are to be proven adequate and substantiated in writing by a hydraulic consultant. • For all Dual Dwelling Residential Developments contact Yarra Valley Water for servicing requirements **Note:** If the current or proposed demand for water supply affects the performance of the 20mm main water meter, option 3 will not be acceptable. This is to be determined by the relevant Water Retailer.

Figure 11.4: Existing Dual Occupancy Developments with a main meter only

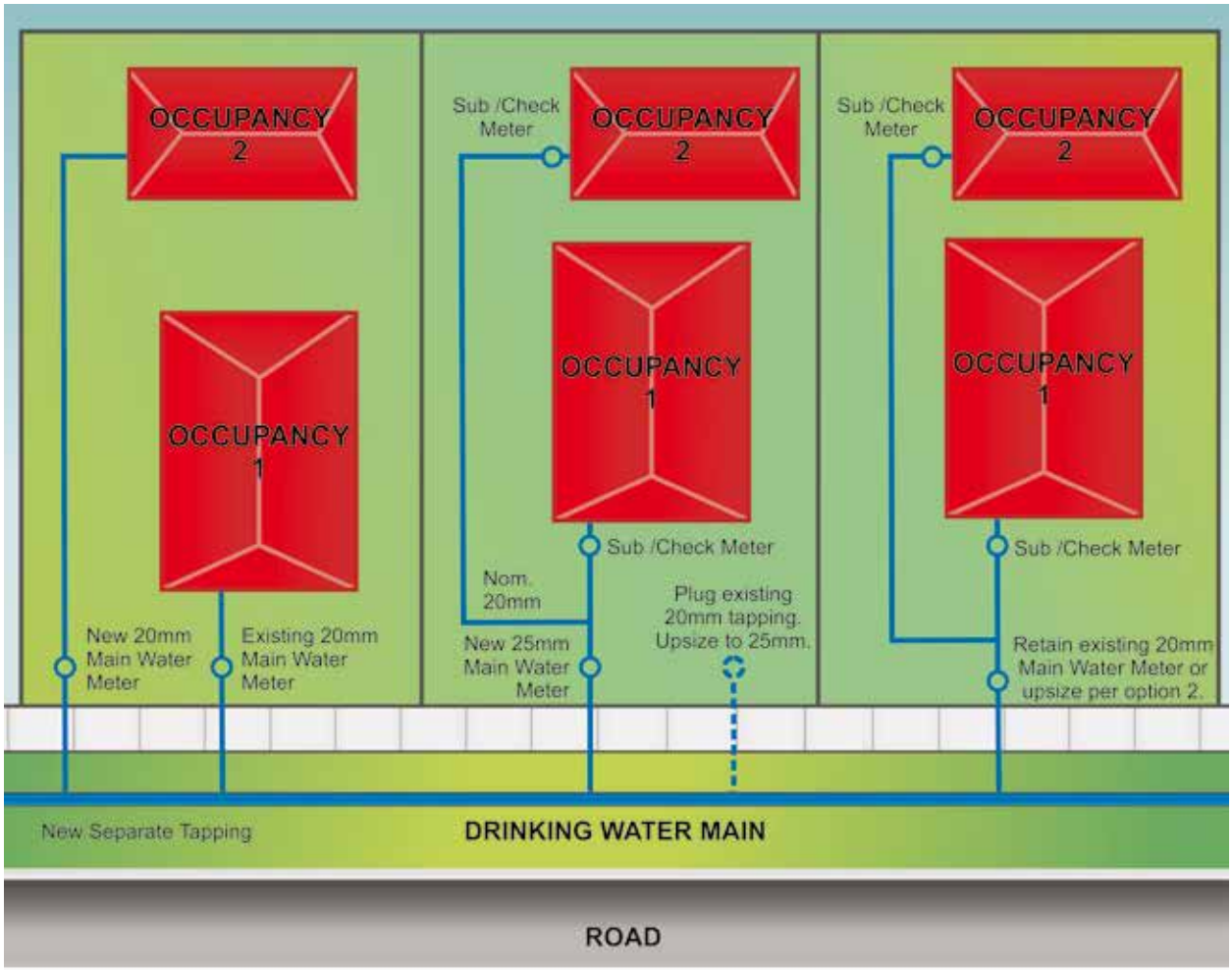
Option 1:
Retain existing 20mm tapping and water meter for occupancy 1. Provide second 20mm tapping and main water meter for the second occupancy.

Option 2:
- Plug existing 20mm water service tapping. Provide new 25mm tapping, property service pipe and 25mm water main.
- New sub/check meters to each occupancy.

Option 3:
- Where sufficient flow exist and have been substantiated in writing by a hydraulic consultant, the existing 20mm property service pipe and 20mm main water meter may be retained and a 20mm sub/ check meter provided for each dwelling.

Note:
- This option only applies for existing units, not new.

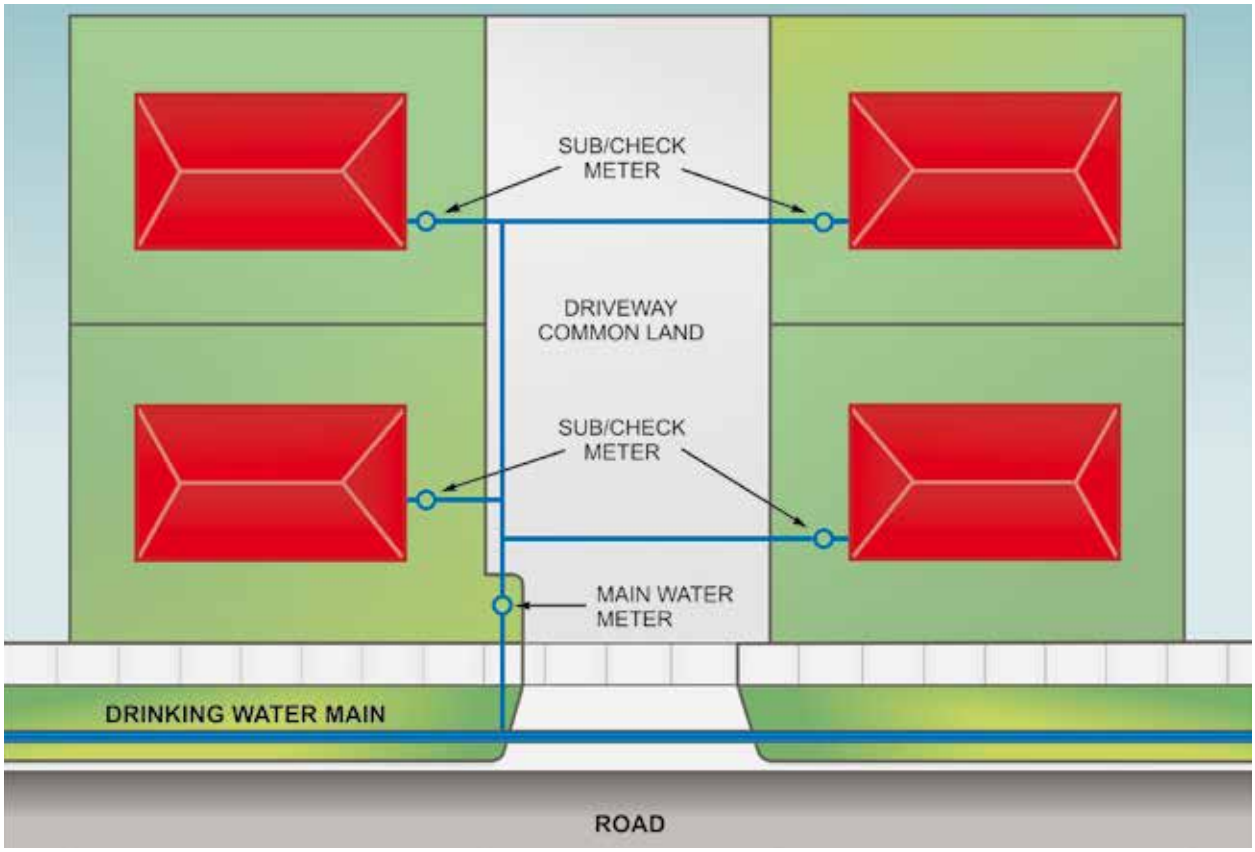
Or
- Plug existing 20mm water service tapping and install new 25mm tapping and property service pipe where insufficient flow exist.
- New sub/check meters for each occupancy.



11.3 Multi-Dwelling Residential Development
(Greater than two units and less than 20 units ground floor/ground and first floor)

Definition	Multiple dwellings on a single title or Owners Corporation: • Flats. • Apartments. • Units.
Water Metering	• A main water meter is required on the drinking water supply and also on the recycled water supply where available to service all dwellings. • For each dwelling a sub/check water meter is required on the drinking water supply and also on the recycled water supply where available. • 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 (see section 8.2 - Remote Water Meters).
Servicing	• A single tapping is to be provided to service the total development. • Upon application, second tapping will be considered where a dual supply arrangement is proposed and the services are to be interconnected. • Existing services are to be plugged with all dwellings to be serviced from the same main water meter. • Dual supply from water mains in different pressure supply zones will not be permitted.
Fire Services	Refer to Section 10.3
Additional References	**See Melbourne Metropolitan Water Retailer 'Water Service Assembly Arrangements'.**

Figure 11.5: Typical Multi-Dwelling Residential Development



11.4 Multi-Dwelling Residential Development (Greater than 19 units ground floor/ground and first floor)

Definition	• Retirement Villages (separate units, not high rise, separately titled). • Ground floor units.
Servicing	Refer to the relevant Water Retailer..

11.5 Multi-Dwelling Residential Development (High Rise multi dwelling, greater than two floors)

Definition	Multiple dwellings on a single title or Owners Corporation: • Flats • Apartments • Units
Water Metering	• A main water meter is required on the drinking water supply and also on the recycled water supply where available to service all dwellings/units. • For each dwelling/unit a remotely read sub/check water meter is required on the drinking water supply and also on the recycled water supply where available. • Additional water meter reading equipment may be required for developments over four levels. • Refer to Section 6 - Water Metering Positioning.
Servicing	• A single tapping is to be provided to service the total development. • On application, a second tapping will be considered where a dual supply arrangement is proposed and the services are to be interconnected. • Existing services are to be plugged with all dwellings to be serviced from the same main water meter. • Dual supply from water mains in different pressure supply zones will not be permitted.
Fire Services	See Section 10.6
Additional References	**See Metropolitan Water Retailer 'Water Service Assembly Arrangements'.**

11.6 Dependent Living Residential Units ('Granny Flat')

Definition	• A self-contained building erected on the land of the property owner, and is used or intended to be used as a separate residence from the main residence. The dwelling must contain kitchen, bathroom and sanitary facilities, the requirements of which are outlined below. 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 in fact a dependent relative for it to be so classified. **Source:** - Based on the definition of 'dwelling' in s 46H of the Planning and Environment Act (Vic) 1987.
New Customer Contributions	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. The fee will be charged in line with Essential Services Commission Determination requirements.
Property Declaration	In cases where the development does not meet the definition of a 'dwelling' under the provisions of the Planning and Environment Act 1987 No. 46H, and the customer does not require separate water meters for the proposed building, the owner will be required to enter into an agreement with the water authority by signing a 'Declaration Form'. The agreement will provide for payment of new customer contributions only when the property is subdivided in the future or provided with separate water meters at the request of the property owner.
Water Metering	Individual sub/check metering of the dwelling is optional. Water meters must be readily accessible for reading, maintenance and replacement. Where the water meter is deemed to be inaccessible for reading, remote read water meters will be required to be fitted (see section 8.2 - Remote Water Meters).
Servicing	These developments may be serviced in several ways: • Separate tappings for each dwelling. • Upsize existing 20mm Ø property service pipe to 25mm. A 25mm main meter with sub/check meters to each dwelling. However, if it can be demonstrated that the development's increased demand for water supply does not impact on the performance of the water meter, the following applies: • Where existing pressures and flows are found to be adequate (to be substantiated in writing via a licensed plumber or hydraulic consultant), the existing property service pipe may be retained to service both dwellings. **Note:** Where the development does not meet the definition of a 'dwelling' under the provisions of the Planning and Environment Act 1987 No. 46H, sub/check metering arrangements will not be required, and the existing service may be utilised.

11.7 Moveable Residential Units (DoH 'Granny Flats')

Definition	Provided by the DoH and deemed by Section 15 of the Housing Act 1983 as owned by the DoH, in the occupation of hirer, and is not a permanent fixture on the property. DoH to provide the Water Retailers with an approved plan for endorsement.
Water Metering	Not to be individually metered.

11.8 Residential Caravan Parks

Definition	Section 156 (3A) of the Local Government Act provides: "For the purposes of this Part and Part II of the Valuation of Land Act 1960, a caravan park is a single rateable property of which the caravan park owner is taken to be the occupier".
Water Metering	Transient caravan sites are not individually metered.
*Contact relevant Water Retailer for servicing requirements.	

Figure 11.6: Dependent Persons Residential Units

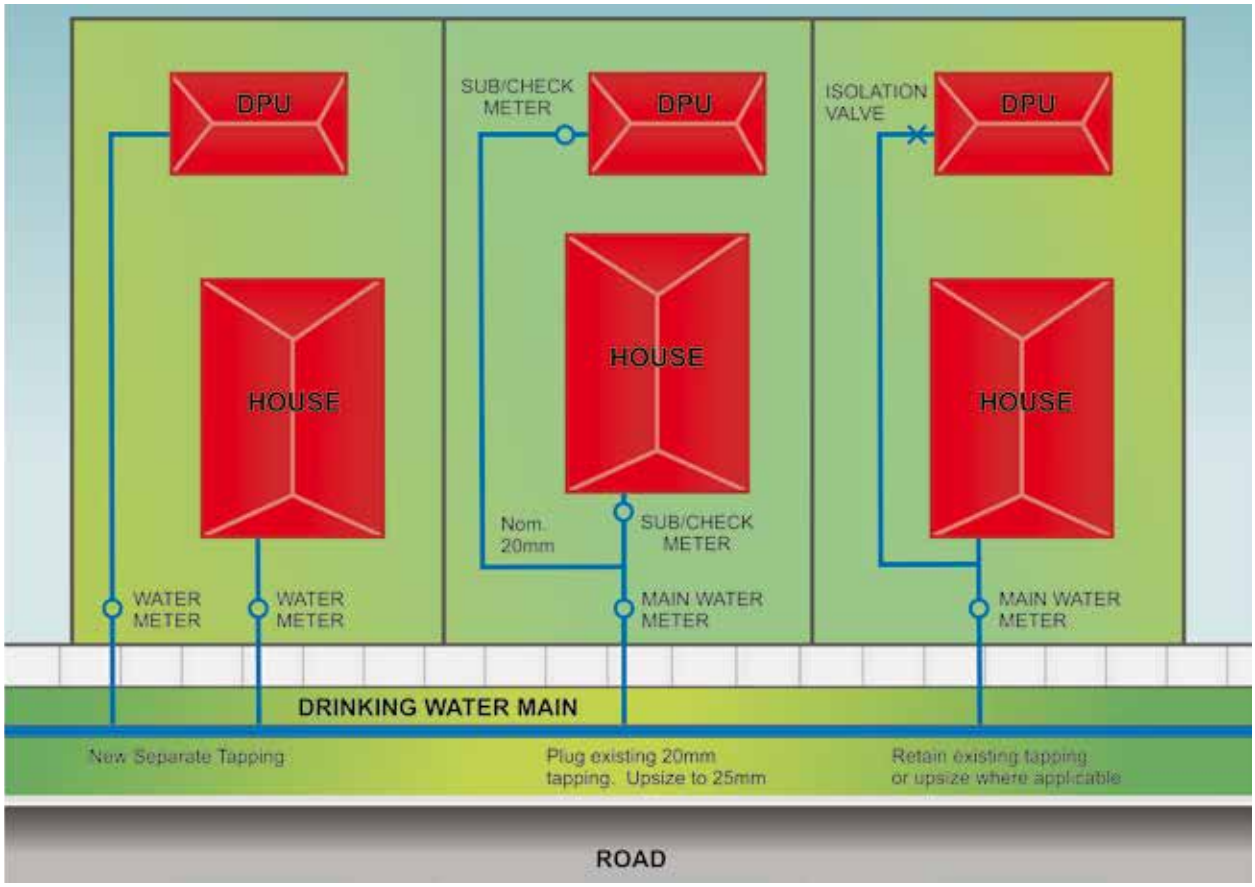
New Customer Contributions Payable

Option 1:
Separate meters may be supplied via separate tappings.

Option 2:
Plumber/consultant report required. Plug existing 20mm water service tapping and install new 25mm tapping and property service pipe where insufficient flows exist.

New Customer Contributions Deferrable-Dependant Persons Unit Declaration From Applicable

Option 3:
No subdivision.
No request for separate meters.
Plumber/consultant report required.
Plug existing 20mm water service tapping and install new 25mm tapping and property service pipe where insufficient flows exist.



12 NON-RESIDENTIAL WATER METERING AND SERVICING

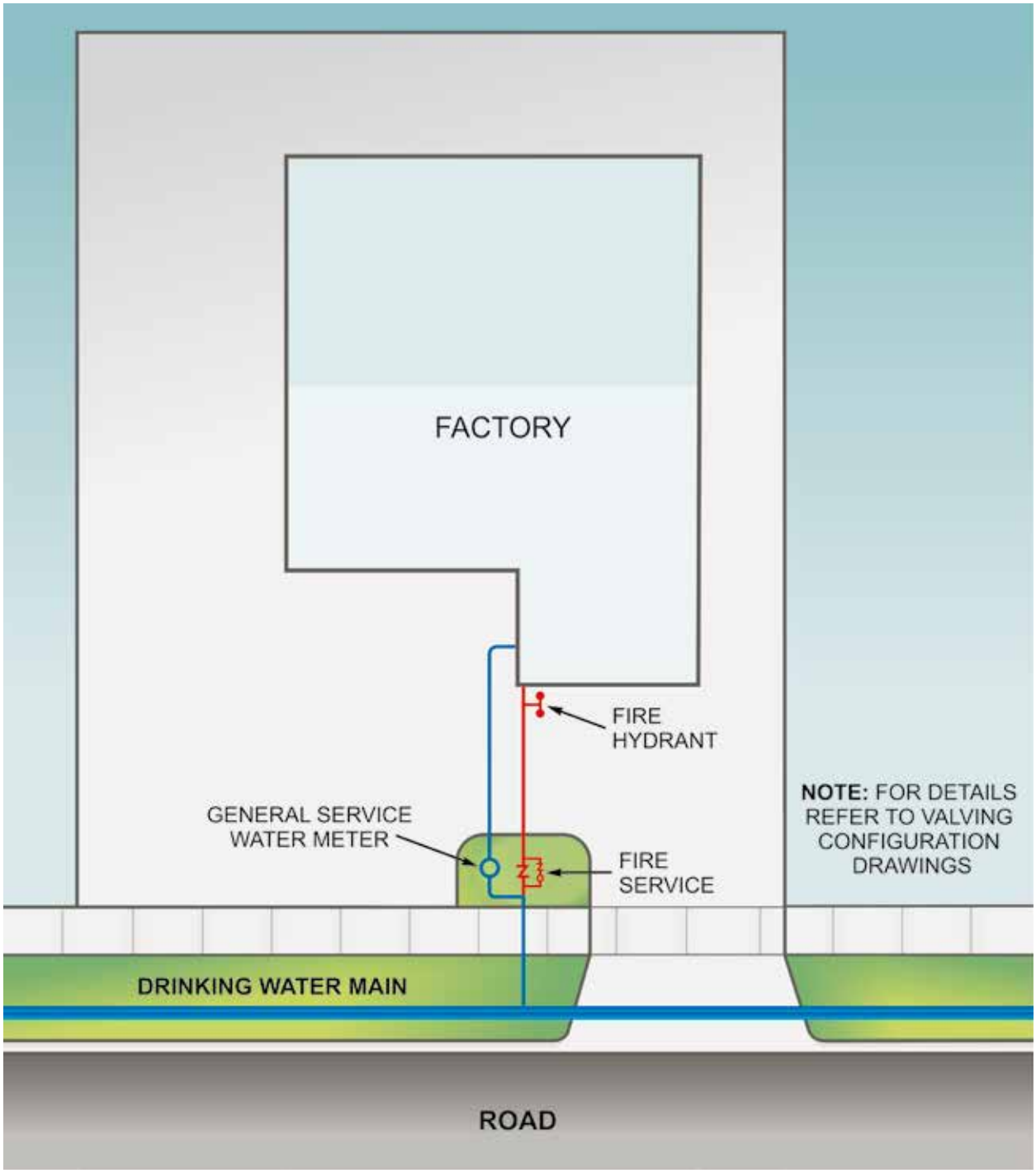
Water metering and servicing requirements for non-residential occupancies are detailed in this section to assist in determining the applicable servicing guidelines related to the proposed development.

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

12.1 Single Occupancy Non-Residential Development

Definition	Parcels of land or developments where all of the "occupancies" located on the parcel of land are for non-residential purposes: • Factories • Warehouses • Shops • Offices • Schools • Hospitals • Sporting Facilities • Childcare Centres • Nursing Homes • Council Building • Irrigation Systems **Note:** Developments that have a mixture of "occupancies" used for non-residential purposes and of "occupancies" used for residential purposes are dealt with in section 13 (Mixed Developments).
Water Metering	• A main water meter is required on the drinking water supply and also on the recycled water supply where available. • 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 (see section 8.2 - Remote Water Meters).
Servicing	• A single tapping is to be provided to service the total development. • Upon application, a second tapping will be considered where a dual supply arrangement is proposed and the services are to be interconnected. • Dual supply from water mains in different pressure supply zones will not be permitted.
Fire Services	Refer Section 10.3
Additional References	See Metropolitan Water Retailer 'Water Service Assembly Arrangements'.

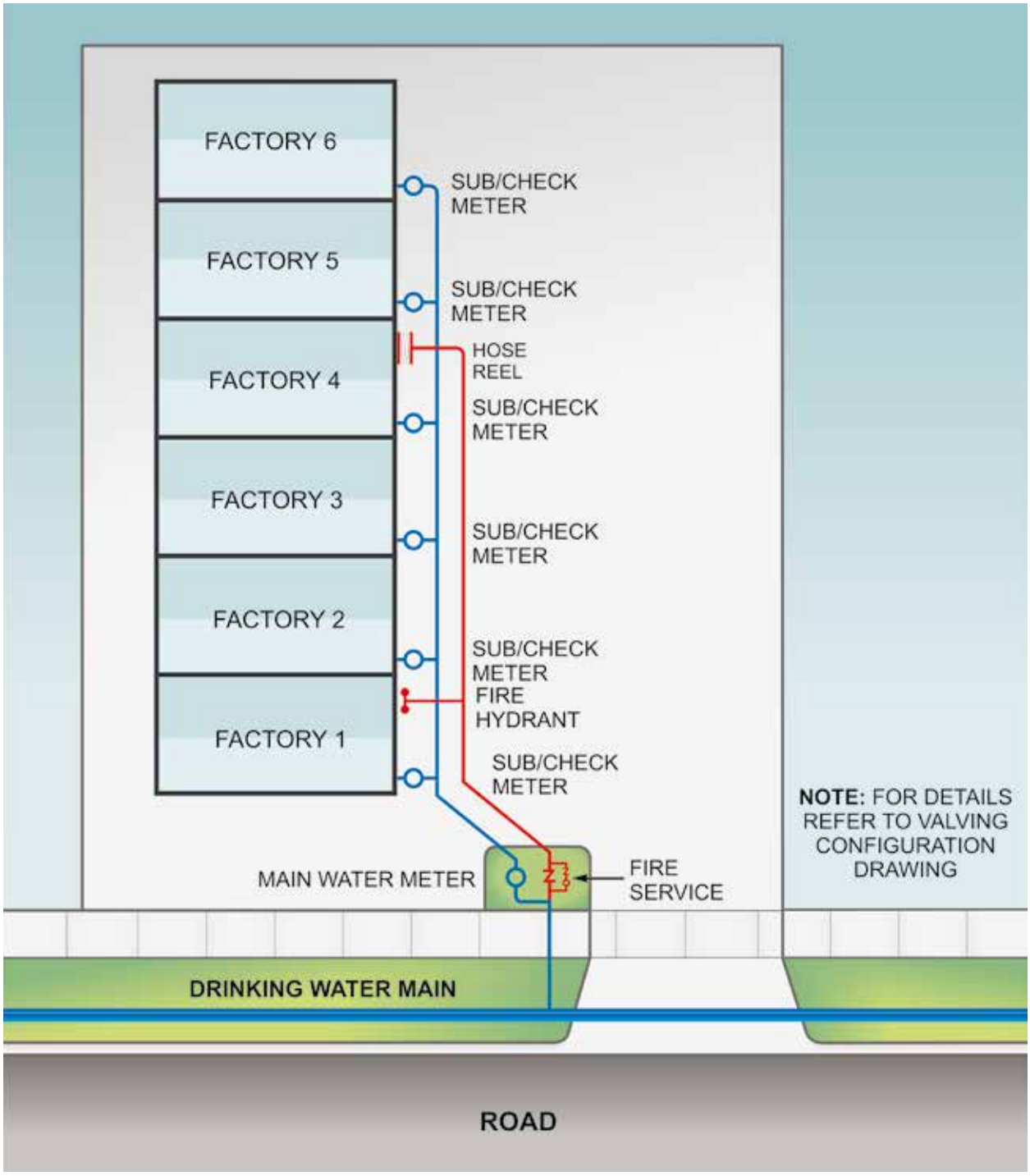
Figure 12.1: Single Occupany Non-Residential Development



12.2 Multi-Occupancy Non-Residential Development

Definition	Parcels of land or developments where all of the "occupancies" located on the parcel of land are for non-residential purposes: • Factoryettes • Strip shops (all shops have a separate frontage to street). • Multiple Sporting Facility Complexes
Water Metering	• A main water meter is required on the drinking water supply and also on the recycled water supply where available. • For each occupancy a sub/check water meter is required on the drinking water supply and also on the recycled water supply where available.
Exceptions	• Large shopping centres (each respective Water Retailer encourages water metering of these developments, however specific requirements apply). • Office blocks. • Serviced apartments. Where a lease arrangement is in place that the development will be operated as a motel, the meter assemblies will be required, however the installation of water meters will not be required. • Student accommodation. Where a lease arrangement is in place that the development will be operated as a single entity, the meter assemblies will be required, however the installation of water meters will not be required. • Motels. Where a lease arrangement is in place that the development will be operated as a motel, the meter assemblies will be required however the installation of water meters will not be required. **Note:** Water Retailer encourage individual water metering of these development types however it is not compulsory.
Servicing	• A single tapping is to be provided to service the total development. • Upon application, a second tapping will be considered where a dual supply arrangement is proposed and the services are to be interconnected. • Dual supply from water mains in different pressure supply zones will not be permitted.
Fire Services	Refer to Section 10.3
Additional References	See Metropolitan Water Retailer 'Water Service Assembly Arrangements'.

Figure 12.2: Multiple Occupancy/Non-Residential Development

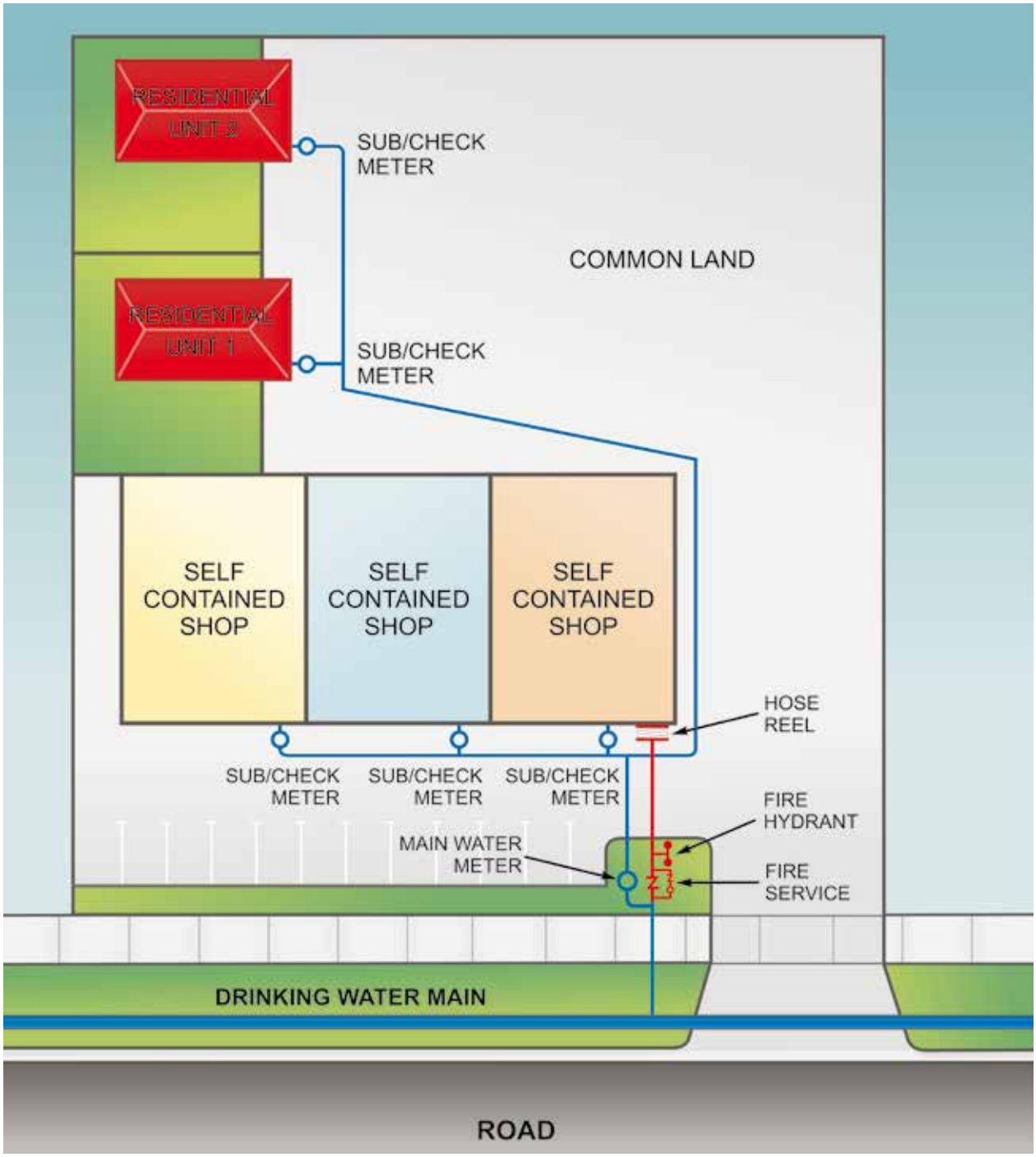


13 WATER METERING IN SPECIAL CASES

13.1 Mixed Developments

Definition	Parcels of land or developments that have within their title boundary 'dwellings'/'occupancies' used for both residential and for non-residential purposes.
Water Metering	• Using the definitions in section 5, all 'dwellings'/'occupancies' that are deemed to be self contained must have their supply individually sub/check metered. • For multi-level developments of three floors or more, remote sub/check water meters are required. • Additional water meter reading equipment may be required for developments over four floors, not including a basement (see section 8.2 – Remote Water Meters).
Servicing	• A single tapping is to be provided to service the total development. • On application a second tapping will be considered where a dual supply arrangement is proposed and the services are to be interconnected. • Dual supply from water mains in different pressure supply zones will not be permitted.
Fire Services	Refer to Section 10.3
Additional References	See Metropolitan Water Retailer 'Water Service Assembly Arrangements'.

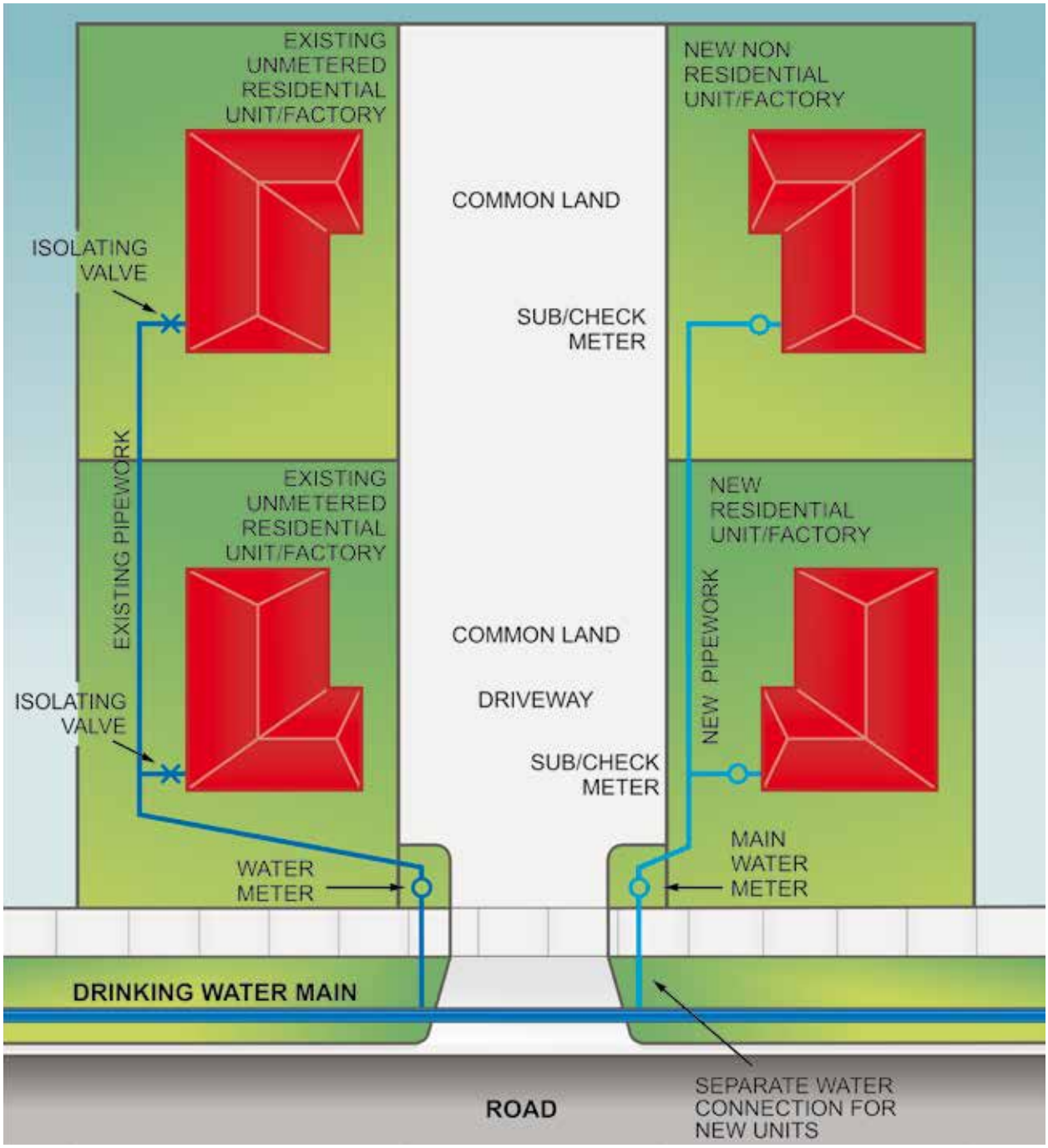
Figure 13.1: Typical Mixed Development



13.2 Additional Units or Factoryettes to Existing Developments

Definition	Where additional units or factoryettes are added to existing developments that are not individually metered; these types of developments will be treated on a case by case basis.
Water Metering	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 factoryettes with sub/check meters (See Section 8.2 - Remote Water Meters).

Figure 13.2: Additional Units or Factories to Existing Developments where Existing Unit Owners Do Not Wish to be Individually Metered



13.3 Existing Multi-Occupancy Residential and Non-Residential Developments with no existing Sub/Check Meters

Definition	In many existing developments (generally constructed prior to 1997) only a main water meter was provided with the water usage being divided among the occupants of the individual occupancies. In such cases some customers wish to install individual water meters to allow them to monitor their water usage.
Water Metering	Existing dwellings/occupancies are permitted to be individually metered, however in the case where one 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 see **Servicing** below
Note	Contact relevant Water Retailer for servicing requirements.

13.4 Properties Serviced by Temporary Private Water Service

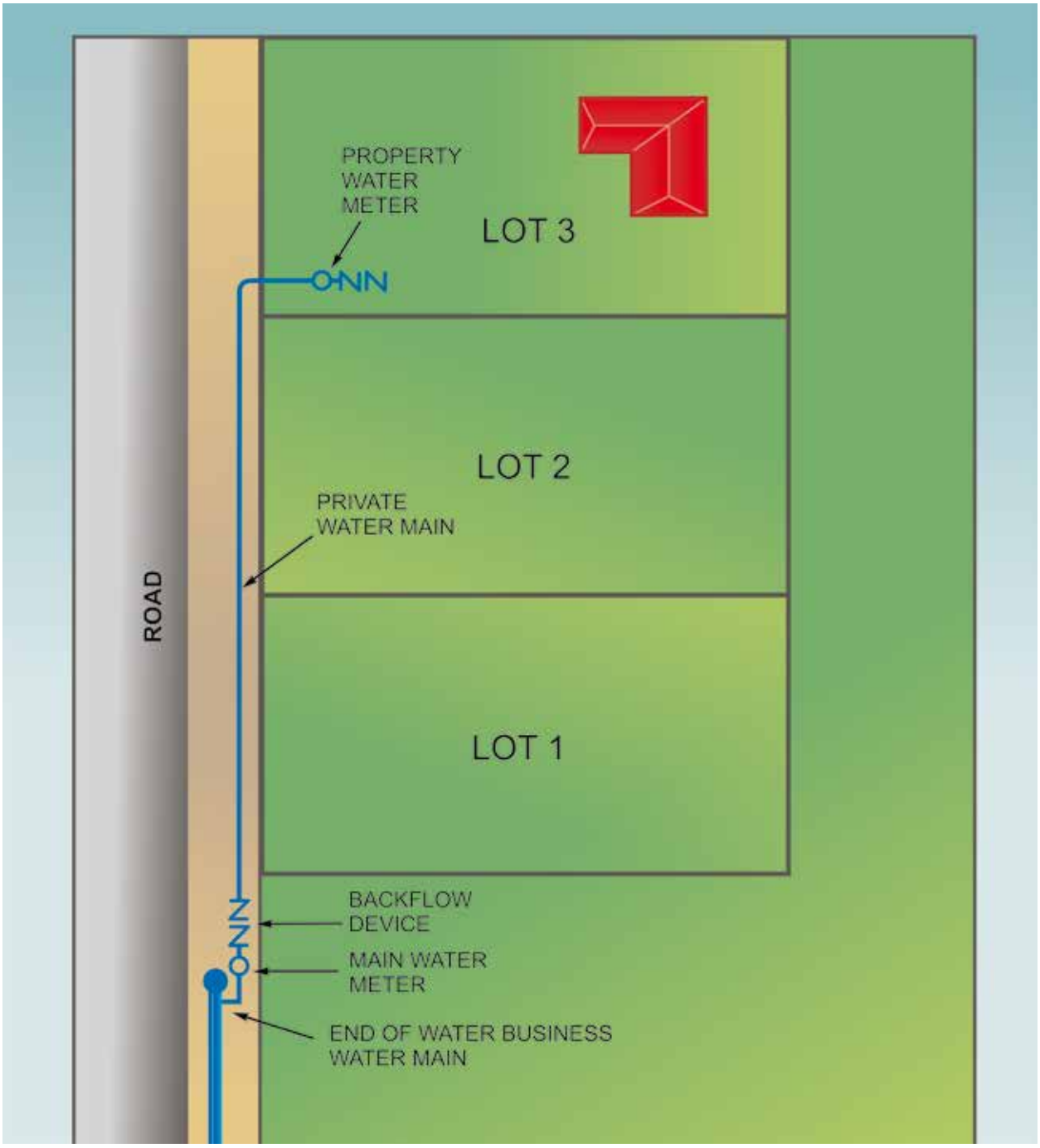
Definition

A Private Water Service is installed by the owner's contractor at the owner's cost where a reticulated water main is not required to be extended to service:

- Houses
- Farms
- Factories

Note: Private water services are temporary and may be disconnected by the relevant Water Retailer at its discretion. Private water services must be removed from service where a reticulated water supply main is installed in the future. All costs are to be borne by the property owners.

Figure 13.3: Private Water Main Remote from Reticulation Supply



Water Metering	• All new private water services must be metered by a private water service main water meter at a point as close as practicable to the connection at 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 meter assembly to prevent tampering. • 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.
Servicing	• Private water services will only be permitted in cases where the relevant Water Retailer 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. • Where multiple properties are to utilise the private water main the Water Retailer 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. • A design plan of the proposed private water service is required to be submitted to the relevant Water Retailer for approval prior to commencement of works. • Details are to be provided to the relevant Water Retailer regarding Council/other authorities approval in relation to the following: - Location and depth of the proposed service. - Relevant environmental/cultural assessment has been carried out. - Pipe material must be approved (such as Polyethylene, MPVC, OPVC) and PN12.5 as a minimum, and must be WaterMark approved. - All plumbing to be in accordance with Plumbing Regulations incorporating the Plumbing Code of Australia. - Isolation valves are to be installed at 300m maximum intervals along the length of the private water service. All valves are to be fitted with risers, valve covers and concrete surrounds at surface level. - The owner is required to contact the relevant Water Retailer to arrange for the work to be verified prior to final backfilling of trenches. A 1000 kPa minimum pressure test is to be carried out on the pipeline in the presence of a Water Retailer representative. This may have to be increased depending on the maximum working pressure of the private service. - The alignment of the as-constructed private water service is to be surveyed on completion and forwarded to the relevant Water Retailer. - The owner must agree to indemnify the relevant Water Retailer from and against all claims for loss, damage, injury or whatsoever which may arise out of the installation, operation or use of the private water service. - All owner obligations shall transfer to Successors in title is 145 part 5 Water Act 1989. - All property water meters on the nominated private water service will be totaled at the quarterly water meter readings and checked against the Water Retailer billing water meter at the tapping connection. Any significant variation between the total of the property water meters and the billing water meter will be divided equally between the property owners of the private water main. • The service is provided with no guarantee of quality, pressure, flow and continuity of supply. • Private water services are not intended to be provided for fire fighting purposes.

13.5 Bulk Water/Common Water

Definition	On Owners Corporation developments which are individually metered and have bulk water supplied for hot water purposes, swimming pools and other common uses, the amount of water supplied for these purposes will be billed to the Owners Corporation.
Water Metering	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.

13.6 Trade Waste

Definition	Trade waste is the discharge from premises as a result of trade, industrial, medical, dental and commercial premises. These premises require discharging trade waste to comply with the terms and conditions set out in the Trade Waste Agreement.
Water Metering	Flow metering of trade waste effluent is required if requested by the individual Water Retailers. Water metering is required to monitor water usage associated with trade waste discharge, in accordance with these requirements.
General Requirements	Trade waste flow meters are owned, maintained and installed by the owner at the request of the relevant Water Retailer. 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 the relevant Water Retailer a copy of each calibration certificate, within two weeks of receipt.
Additional References	See the relevant Water Retailer trade waste policy.

13.7 Non-Residential Irrigation Systems/Council Open Space

Definition	Irrigation Systems typically found in Council reserves, nature strips, median strips and school reserves.
Water Metering	Water metering is required of all irrigation systems Water meters are to be: • Installed above ground in accordance with these Guidelines. • 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.
Servicing	• A single tapping is to be provided to service irrigation systems. • Upon application a second tapping will be considered where a dual supply arrangement is proposed and the services are to be interconnected. • Dual supply from water mains in different pressure supply zones will not be permitted. • The maximum size of the metered service is generally limited to 40mm diameter (2.10 Litres/sec). • Irrigation main line piping that traverses roadways shall be either copper or polyethylene pipe and fittings, minimum Class PN12.5. • Street reserve mainline piping must be laid providing a horizontal clearance of 600mm from a water or sewer asset. • Any new Class A recycled water system piping, pipe sleeves, identification tapes outlets and sprinkler heads shall be coloured purple in accordance with AS2700 and provided with signage ‘warning recycled water do not drink’ in accordance with AS1345. • Irrigation systems must be fitted with an approved master solenoid valve to ensure that main lines up to individual sprinkler station solenoid valves are not under constant pressure. The master solenoid should be located close to the water meter assembly to reduce the length of pressurised irrigation piping. • Irrigation systems must incorporate moisture sensors to ensure watering is controlled during or following periods of rain. • Drinking water systems time of operation must comply with permanent water restriction requirements to the hours of 10pm to 6am. The time of operation of Class A recycled water systems is restricted to the hours of 10.00pm to 6.00am. • Where the irrigation system 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. **General Conditions** • Plumbing work must be installed by a licensed plumber in accordance with the Victorian Plumbing Regulations incorporating the Plumbing Code of Australia. • The design and sizing of the metered service will be the responsibility of the applicant. • All work must be maintained in accordance with the Water Retailer' Customer Charter. • The drinking water service and Class A recycled water service installations shall comply with Australian Standard AS/NZS 3500.1:2003 Water Services. **Note:** The workmanship, valves, fittings and all materials on the upstream side of, and including the last pressurised valve on the line, shall meet this Standard. Class A recycled water property service pipes and water meter assembly requirements must comply with relevant sections of this guide.

Recycled Water (where available) Environmental Requirements	• Development of an Environmental Improvement Plan. • Customers will need to prepare an Environmental Improvement Plan (EIP) in accordance with the 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. The relevant Water Retailer will provide an EIP Template and assist the customer in preparing the EIP for their site. The EIP must be prepared and submitted prior to commencing construction of the irrigation system. If the customer fails to prepare or comply with an EIP, the relevant Water Retailer will not permit the flow of recycled water or may suspend the supply of recycled water. • For single residential properties generally a low hazard rated Dual Check Valve is required to be installed at the outlet of the water meter. • Please note for properties within Yarra Valley Water's operating area a dual check water meter is used. This will not permit the flow of recycled water or may suspend the supply of recycled water. **Some of the key EIP requirements are given below:** **Irrigation Practice** • Many different application methods can be used for irrigation with recycled water (sub-surface drip irrigation, above ground drippers, above ground spray systems). The system needs to be stated in the EIP. • Watering should occur over night between the hours of 10.00pm and 6.00am. • Run-off from the site is to be prevented due to the nutrients in the recycled water, particularly if it will flow into the stormwater system. This must be considered during the design of the system. **Nutrient and Salinity Budget** • The addition of nutrients to the soil through recycled water must be considered when undertaking fertiliser application. Additionally, the salt content of the recycled water may need to be considered when choosing plants. • The customer will be required to undertake soil sampling prior to using recycled water and have the location identified on the areas EIP, monitoring to be carried out approximately every two-three years. **Managing Occupational Health and Safety (OH&S)** • Staff/contractor must be consulted to clearly identify OH&S roles and responsibilities. • Staff/contractor inductions and refresher training shall also be provided, addressing the necessary knowledge and hazards about working with recycled water. **Contingency Plans** • Contingency Plans will need to be developed to manage any unlikely recycled water incidents such as pipeline bursts or runoff. **Auditing** • Water Retailer' may audit the site to check that recycled water is being used in accordance with the EIP.
Additional References	See Metropolitan Water Retailer ‘Water Service Assembly Arrangements’.

13.8 Water Connections for properties having Drinking Water/Class A recycled water (other than single residential dry tapped properties)

Definition	• House • Terrace House • Strata unit • Irrigation Systems • Non Residential Properties
Water Metering	• A main water meter is required on the drinking water supply and also on the recycled water supply where available. • Both the Class A recycled water and drinking water property service pipes are to be installed at the same time with both tappings to be carried out concurrently. • 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 (see section 8.2 - Remote Water Meters).
Drinking/ Recycled Water Requirements	**Drinking Water Wet Tapping Residential Properties:** **Drinking Water & Class A Recycled Water:** • The relevant Water Retailer will arrange to install the property service and connect it to the relevant Water Retailer water supply system/s. The owner/applicant must pay the relevant connection fee approved by the Essential Services Commission. • Both the drinking water and Class A recycled water meter assemblies will be positioned 300mm apart when viewed from the front of the property with the recycled water meter located on the left (refer Figure 6.2). • The recycled water meter inlet ball valve will be closed and fitted with a lock box by the relevant Water Retailer at the time of connection to the property. • The lock box is only to be removed by either Water Retailer staff, its contractor or the Plumbing Industry Commission for the purpose of conducting the commissioning inspection of internal recycled water plumbing. • A fee may be imposed for any unauthorised removal of this box.

Drinking/ Recycled Water Requirements (continued)

Class A Recycled Water Wet Tapping

- The owner/applicant must arrange to install both the property service and the connecting works at the property owner's/applicant's cost. The property service pipe is to be solid jacketed purple polyethylene pipe (PN80 or 100 PE 12.5 minimum) and must be WaterMarked. PE pipe must not form any part of the water meter assembly.
- **In the case of short side installations** the service pipe is to be laid on the left of the drinking water property service pipe when viewed from the front of the property and maintain 300mm separation.
- **In the case of long side installations** the same conduit for the drinking water property service may be utilised, however the 300mm separation is to be maintained on both the upstream and downstream ends of the conduit.
- Water Retailer will install the connecting valve between the property service and the supply system. The owner/applicant must pay the relevant tapping fee approved by the Essential Services Commission.
- The owner/applicant must install the appropriate water meter, delivered by the Water Retailer contractor, while they are installing the connecting valve at the main.
- The recycled water meter inlet ball valve will be closed and fitted with a lock box or other locking device by the Water Retailer at the time of connection to the property.
- The lock box or locking device is only to be removed by either the Water Retailer, 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 lock box.

Note: If at the time of connection the above works that the plumber is responsible for have not been completed, the tapping will be cancelled and a re-booking fee, as approved by the Essential Services Commission, will apply.

The owner/applicant must ensure that the installation of the connecting works for recycled water is in accordance with the Plumbing Industry Commission's Recycled Water Plumbing Guide for dual pipe plumbing systems, AS/NZS 3500 and Water Retailer requirements. 100% mandatory inspections of property service pipe and water meter assembly, up to the last pressurised valve, is required. Contact the relevant Water Retailer for advice.

Drinking/ Recycled Water Requirements (continued)	**Special conditions for installing recycled water supplies** • 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 the rear external area of the property. • The recycled water meter inlet ball valve will be closed and fitted with a lock box by the relevant Water Retailer at the time of connection to the property. • The lock box is only to be removed by either Water Retailer staff, its contractor or the Plumbing Industry Commission for the purpose of conducting the commissioning inspection of internal recycled water plumbing. • The water meter assembly pipe work and fittings must be of an approved type, WaterMark approved and must be of an approved colour (purple). • All pipes and fittings must never be painted any other colour. **Note:** Where the pressure testing of pipework installed for the provision of Class A recycled water requires a temporary interconnection with the drinking water supply plumbing, such interconnection is to be removed prior to the commissioning inspection. The temporary interconnection is to be installed above ground at or near the water meter assembly.
	Inspection of Work (Residential) The owner/applicant must ensure that the installation of the connecting works for recycled water is inspected in accordance with Plumbing Industry Commission requirements and the Water Retailer 'Conditions of Connection', at the owner's/applicant's expense, at each of the following stages: • **Stage 1** Main to water meter prior to back filling in the case of wet tapped properties only this inspection will be carried out by the Water Retailer approved contractor at the time of the tapping installation. • **Stage 2** Water meter to building prior to back filling. • **Stage 3** Rough-In. • **Stage 4** Commissioning prior to the building being occupied and lodgement of a compliance certificate.
	Use of Class A recycled water The owner/applicant may only use Class A recycled water which we supply for the following purposes: • Garden irrigation • Toilet flushing • Vehicle washing • Washing down outdoor furniture and the exterior of buildings • Filling or topping up ornamental water features and ponds that are not used for swimming. For onsite fire services **excluding Fire Sprinkler Systems** the use of Class A recycled water for fire fighting purposes will be assessed on a case by case basis.

Drinking/ Recycled Water Requirements (continued)

Drinking Water & Class A Recycled Water Non Residential Properties:

- The licensed plumber must arrange to install both the property service and the connecting works, at the owners' expense.
- The licensed plumber must expose the water main in accordance with the Water Retailer' requirements contained within this document .
- The relevant Water Retailer will install the connecting valve between the property service and our supply system. The owner/applicant must pay the relevant fee approved by the Essential Services Commission.
- Both the property service and the connecting works must be installed at the property owners' expense.
- The property service pipe must be solid jacketed polyethylene pipe (PE100 PN 12.5 as a minimum) and must be water marked. PE pipe must not form any part of the water meter assembly.
- **In the case of short side installations** the service pipe is to be laid on the left of the drinking water property service pipe when viewed from the front of the property and maintain 300mm separation.
- **In the case of long side installations** the same conduit for the drinking water property service may be utilised, however the 300mm separation is to be maintained on both the upstream and downstream ends of the conduit.
- The water meter/s must be installed prior to the connecting valve being installed by the Water Retailer tapping contractor. The water meter/s will be provided on site by the relevant Water Retailer tapping contractor.
- Refer to the approved water meter/pipework configuration/drawings for the installation of water service assemblies.
- If the work referred to above is not been completed at the time, and the relevant Water Retailer is to install the connecting valve, the owner/ applicant will have to make a further booking. The owner/applicant must also pay any re-booking fee approved by the Essential Services Commission.
- If any existing drinking or recycled water service to the owner's/ applicant's property is to be disconnected, the owner/applicant must expose the existing property service connection at the drinking or recycled water main (as the case requires) at the owner's/applicant's cost, to allow us to disconnect and plug the existing property service. The owner/applicant must disconnect the relevant water meter and return it to the relevant Water Retailer or its contractor.

Note: 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 owner/applicant must also comply with every traffic management requirement contained in that permit.

Drinking/ Recycled Water Requirements (continued)	**Special conditions for installing recycled water supplies** • Irrigation systems must comply with the relevant Water Retailer guide to the installation of irrigation systems. See relevant Water Retailer' web site for details. • A purple Class A recycled water 5/8 inlet thread tap having a removable handle is required to service the rear external area of the property. • A recycled water prohibition sign with the words "Recycled Water. Do Not Drink" and complying with AS1319 is to be installed above each recycled water tap outlet. • The recycled water meter inlet ball valve will be closed and fitted with a lock box or locking device by the relevant Water Retailer at the time of connection to the property. • The lock box or locking device is only to be removed by either Water Retailer staff, its contractor or the Plumbing Industry Commission for the purpose of conducting the commissioning inspection of internal recycled water plumbing. • In the case where approval is given for the connection of a fire service to the Class A recycled water supply, the isolating valve at or near the property boundary will also be locked closed. • Any pipe, tap or other fitting used or intended to be used to supply recycled water on the owner's/applicant's side of the recycled water meter must be of an approved type and colour in accordance with the 'Plumbing Industry Commissions Recycled Water Guide'. • The water meter assembly pipework and fittings must be of an approved type, WaterMark approved and must be of an approved colour (purple) • All pipes and fittings must never to be painted any other colour.
	Educational & public buildings/areas - schools, kindergartens, health care centres All external recycled water hose bib taps must conform with the requirements as previously detailed and in addition must either: • Be fitted with a 'Hose Bib Tap Lock'. or • Be installed in a secured location. Other development types where hose bib taps require secured locations or tap locks to be determined on a case by case basis.

Drinking/ Recycled Water Requirements (continued)	**Verification Inspection of Conditions of Connection for non residential properties** The relevant Water Retailer will carry out an inspection of the recycled water plumbing work to verify its 'Conditions of Connection' have been complied with. The installation of the connecting works for recycled water must be inspected in accordance with the Water Retailer 'Conditions of Connection', at the owners' expense, at each of the following stages: • **Stage 1** Main to water meter prior to back filling. • **Stage 2** Water meter to building prior to back filling. • **Stage 3** Rough-In. • **Stage 4** Commissioning prior to the building being occupied and lodgement of a compliance certificate. **Note:** Where the pressure testing of pipework installed for the provision of Class A recycled water requires a temporary interconnection with the drinking water supply plumbing, such interconnection is to be removed prior to the commissioning inspection. The temporary interconnection is to be installed above ground at or near the water meter assembly.
	Use of Class A Recycled Water The owner/applicant may only use Class A recycled water which we supply for the following purposes: • Garden irrigation • Toilet flushing • Vehicle washing • Washing down outdoor furniture and the exterior of buildings • Filling or topping up ornamental water features and ponds that are not used for swimming • Onsite Fire services excluding Fire Sprinkler Systems (the use of Class A recycled water for fire fighting purposes will be assessed on a case by case basis). **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.**

Drinking/ Recycled Water Requirements (continued)	**Drinking Water/Class A Recycled Water Backflow Prevention Requirements** From the information provided, an initial assessment of the application will be made to determine the hazard level **for both the drinking water and Class A recycled water**. In line with current regulations, Water Retailer' requires the owner/applicant to employ a suitably qualified person to check the business process on site to verify the anticipated level of hazard and install an appropriate containment device (WaterMark approved) located at the water meter, at or near the property boundary for the prevention of backflow. When a testable backflow prevention device is to be installed, please complete the provided Backflow Prevention agreement form and return it to the respective Water Retailer to allow the device to be recorded on the Water Retailer register and enable the owner's water meter/tapping to be arranged. In the interest of health and safety it is the responsibility of the property owner to ensure that containment, zone and individual backflow prevention is provided.

	Verification Of Class A Recycled Water Internal Plumbing Systems
	• The owner/applicant must ensure that the installation is verified in accordance with these requirements at the owner's/applicant's expense, at each of the following stages:
	  - Main to water meter prior to back filling.
	  - Water meter to master solenoid valve prior to back filling.
	• Where the pressure testing of pipework installed for the provision of Class A recycled water requires a temporary interconnection with the drinking water supply plumbing, such interconnection is to be removed prior to the commissioning inspection.
	• To arrange verification of the plumbing installation, please contact the relevant Water Retailer.

	Environment Improvement Plan (EIP) Prior to the supply of Class A recycled water being made available to the property, an approved Environmental Improvement Plan (EIP) is required to be submitted and executed by the Water Retailer.

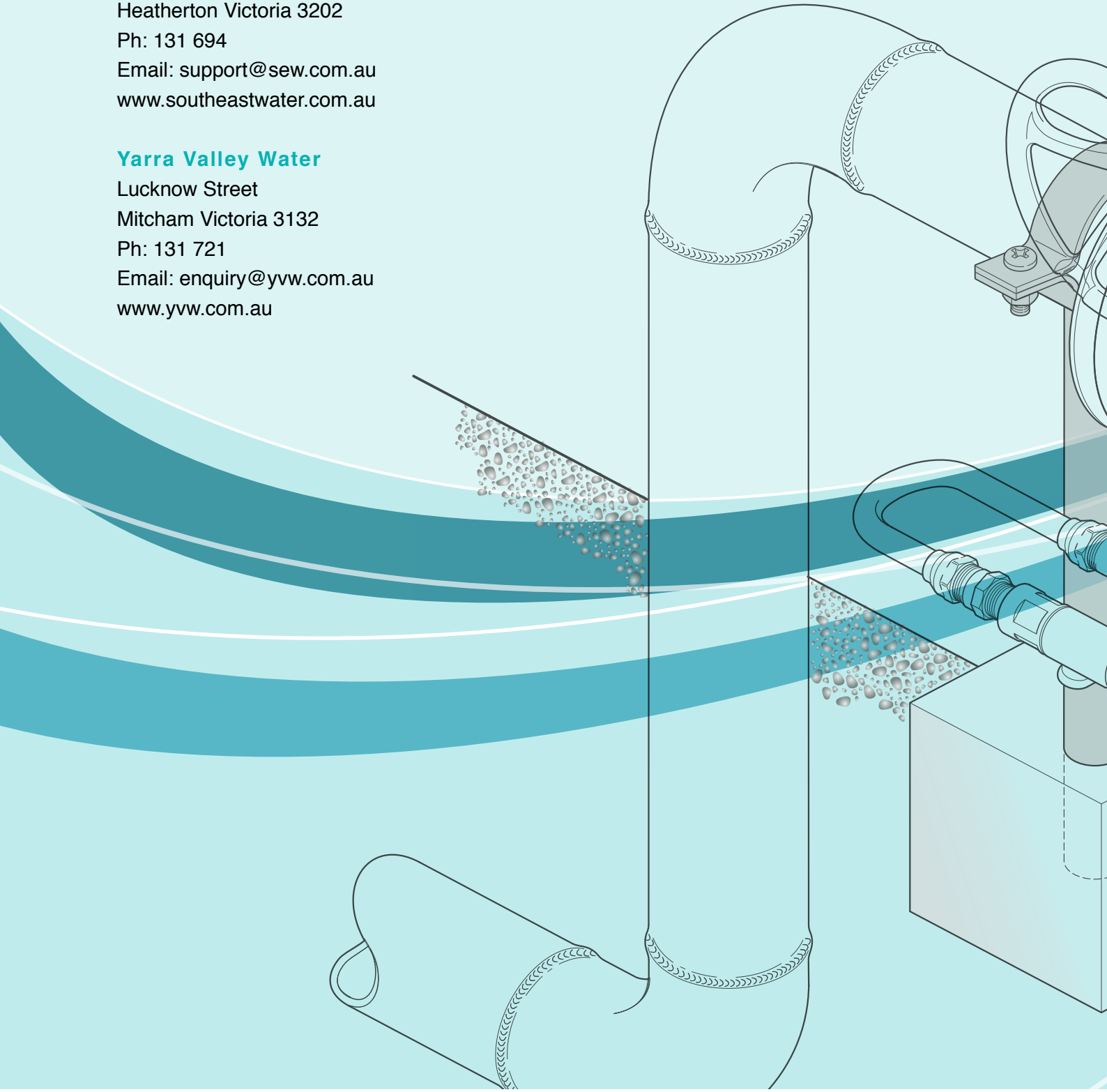
14 DRAWINGS (WATER SERVICES ASSEMBLY ARRANGEMENTS)

General Installation Notes	65
Drawing number 1: 20-25mm general water service (wet tapping) – low hazard – residential/commercial/industrial – typical arrangement	66
Drawing number 1A: 20mm drinking water (dry tapping) – low hazard – residential – installed by relevant water corporation – typical arrangement	67
Drawing number 1B: 20mm recycled water (dry tapping) – residential – installed by relevant water corporation – typical arrangement	68
Drawing number 2: 20-25mm general water service – medium hazard – residential/commercial/industrial – typical arrangement	69
Drawing number 3: 20-25mm general water service – high hazard – residential/commercial/industrial – typical arrangement	70
Drawing number 4: 32-50mm general water service – low hazard – residential/commercial/industrial – typical arrangement	71
Drawing number 5: 32-50mm general water service – medium/high hazard – residential/commercial/industrial – typical arrangement	72
Drawing number 6: 80mm+ general water service – low hazard – residential/commercial/industrial – typical arrangement	73
Drawing number 7: 80mm+ general water service – medium/high hazard – residential/commercial/industrial – typical arrangement	74
Drawing number 8: 25-50mm - fire hose reel/sprinkler and general service - typical arrangement	75
Drawing number 9: 80mm+ fire hydrant + hose reels with single detector assembly testable - typical arrangement	76
Drawing number 10: 80mm+ fire hydrant + hose reels with double check detector assembly testable - typical arrangement	77
Drawing number 11: 80mm fire and general service combined - residential/commercial/industrial - after water meter - typical arrangement	78
Drawing number 12: fire sprinkler & hydrant service – 80mm meter configuration – typical arrangement	79
Drawing number 12A: fire sprinkler & hydrant service – single check detector assembly (testable) – no booster pumps– typical arrangement	80
Drawing number 13: booster connection around meter – fire sprinkler supply – typical arrangement	81
Drawing number 14: booster connection around meter – fire hydrant supply – typical arrangement	82
Drawing number 15: interconnected fire and general services – single water main supply from both directions – typical arrangement	83
Drawing number 16: interconnected fire sprinkler/hydrant and general services – different Water mains connection – typical arrangement	84
Drawing number 17: tapping configurations – typical arrangement	85

City West Water
247 - 251 St Albans Road
Sunshine Victoria 3020
Ph: 131 691
Email: enquiries@citywestwater.com.au
www.citywestwater.com.au

South East Water
20 Corporate Drive
Heatherton Victoria 3202
Ph: 131 694
Email: support@sew.com.au
www.southeastwater.com.au

Yarra Valley Water
Lucknow Street
Mitcham Victoria 3132
Ph: 131 721
Email: enquiry@yvw.com.au
www.yvw.com.au



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Yarra Valley Water