

Water Sub-Metering for Multi-Unit Properties Guidelines

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1 Introduction

The Water Sub-Metering for Multi-Unit Properties Guidelines (the Guidelines) has been prepared to assist in applying the Logan City Council (Council) Water Supply Standards.

This guideline document does not replace Council's "Community Title Scheme Billing and Sub- Metering Policy" (adopted 30/05/2017). The Policy and the Guideline do not supersede any requirements of Council's Water Supply Standards.

The guidelines provide technical information on the individual sub-metering of Multi-Unit Properties (MUPs). Sub-meters are required to comply with Councils requirements as a water service provider to fulfil the Plumbing Application condition introduced under the Water Act and Other Legislation Amendment 2007.

2 Scope

Since 2008 the Queensland Plumbing and Wastewater (QPW) Code has made it mandatory to install sub-meters in all new multi-unit developments and some non-residential premises. This has enabled water service providers to directly charge owners of separate lots in new buildings for their actual water consumption. For multi-unit buildings under single title, this will also enable itemised billing based on sub-meter readings, so that the owner may pass the cost of water onto the individual user.

The purpose of the Guidelines is to help ensure that any Council requirements in respect to sub-meters are consistent and in line with the intent of Council's Water Sub-Metering for Multi-Unit Properties Policy (the Policy). The Policy, and Guidelines may be amended from time to time. Any decision and approvals made by Council in connection with a particular development application will take precedence over the Policy and the Guidelines.

The Guidelines provide details about:

- metering requirements;
 - where sub-meters are required;
 - sub-meter selection information and associated infrastructure;
 - sub-meter installation requirements; and
- Council's Smart Metering and Automatic Meter Reading (AMR) position.

3 Definitions

The dictionary in **Appendix A** defines particular words used within this Guideline.

4 Metering Requirements

Council maintains responsibility for the installation of all master meters with approved plumbers required to install sub-meters in accordance with Council guidelines and approved products.

For metering infrastructure (i.e. meter models/types, componentry and AMR systems) currently accepted by Council, please visit the 'South East Queensland Water and Sewerage Design and Construction (SEQ D&C) Code' and the associated 'Accepted Civil Infrastructure Products and Materials (IPAM) List' website at <http://www.seqcode.com.au/products>.

The developer or landowner is responsible for making sure water meters and sub-meters conform.

It is a Council requirement that all new multi-unit developments, defined as *meterable premises*, that draw water supply from Councils' water supply infrastructure will be metered in accordance with the Policy, this guideline and the relevant legislation. A development application may need to be lodged with Council depending on the proposed installation location and type of *water meter*.

Existing developments are not required to retrofit sub-meters.

Plumbing and Drainage Act 2018 and the Queensland Plumbing and Wastewater Code.

The Queensland Plumbing and Wastewater Code (QPW Code) is the primary regulation for the introduction of sub-meters. Appendix B contains details of Part 4 of the QPW Code specifically referring to water meters for new premises.

Note: The Queensland Plumbing and Wastewater Code requirements for the metering of fire services including acceptable solutions remain unchanged by these Guidelines.

5 Responsibility for meter asset ownership

For developments constructed pre 1 January 2008 (but retro-fitted with sub-meters), the pipes or any fittings between the master meter and the sub-meter assemblies, the sub-meter assemblies themselves and any components downstream shall remain as private property and Body Corporate is responsible for maintenance and replacement.

For developments constructed post 1 January 2008, the pipes or any fittings

between the master meter and the sub-meters shall remain the property of the building owner. The master meter and the sub-meter assemblies themselves shall remain the property of the Council for maintenance and replacement. Whether a development installs new sub-meters or is approved to retrofit sub-meters, the sub-meters must meet current metering standards and guidelines.

6 Applying to Council to install water meters and connections

Council is responsible for the installation and disconnection of Council owned master water meters with the installation of water sub-meters residing with a Licensed Plumber.

Details of the specific processes and application forms for Council master meters can be found on Council's website <https://www.logan.qld.gov.au/water-and-sewerage/water-meter-connections-and-disconnections> with fees applicable.

Note: If sub-meters are proposed for the development, a Plumbing application must also be submitted to Council's Plumbing and Drainage directorate.

7 Meter Serial Numbering

Each mechanical meter installed within the City, whether it is a master meter or sub-meter, must adhere to Council's requirement for serial numbering, with each meter requiring an individual serial number specific to that meter and not to be repeated.

The following markings are required on the body components:

As integral part of the water meter:
<ul style="list-style-type: none">• Flow direction arrow on both sides of water meter;• Maker's name or unique and commonly recognised trademark; and• Nominal size of meter, e.g. 32.
Stamped or engraved onto the top of the body at a location suitable for top reading:
<ul style="list-style-type: none">• The size of the water meter in millimeters;• Example - 32mm; and• Serial number (all numbers in one year to be unique)
Serial number will consist of the following:
<ul style="list-style-type: none">• year of manufacture;• a letter which denotes the company who manufactured the water meter or model of meter; and• a five (5) number sequence (shall be sequential).• An example would therefore be - 18R 00001.

8 Master Meter

A master meter is the meter located at the point of connection to Council's water main. This meter may be a single supply into a property or may have sub-meters beyond it.

A master meter is to be installed on the front property boundary, within the common area of the property, complex or development, to measure the water supply entering the property consistent with Council's *Water Supply Standards* and guidelines at the property owner's expense.

The master meter at the boundary of the property will be considered a Body Corporate meter for the purpose of billing. The volume of water used by the Body Corporate will be determined by subtracting the sum of the usage registered on the sub-meters from the master meter.

The *Body Corporate*, or the developer on behalf of the *Body Corporate*, may install additional meters to monitor their onsite water consumption at their discretion (e.g. swimming pools, town top-ups of rainwater tanks, gyms etc.). However, these meters will not be used for billing by Council and will remain the property of the *Body Corporate*

Council will own the meter and be responsible for its maintenance, verification, and replacement.

- Meter sizes 20mm to 25 mm are to be installed off-lot and below ground
- Meter sizes 32mm and greater are to be installed on-lot and above ground

9 Service connection sizing (Long and Short Services)

Sizing of the appropriate connection from the Logan Council reticulation network to the meter is dependent on the service requirement (Short or Long) and meter sizing must be in accordance with Logan Council standards of service and Section 5.11 of the SEQ Water Supply Code.

- Single supply DN25mm service
- Dual supply DN32 or DN40 service

Refer to section 14 for specific examples of Long Service arrangements.

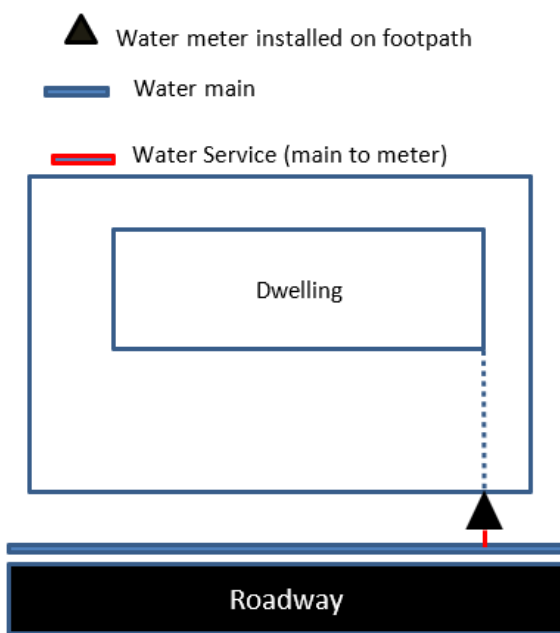
10 Single Dwelling

Single Dwelling property metering requires a single meter measuring all water entering the property.

New connections and meter requirements for this property type require a single meter supplying the overall property only.

The **SINGLE METER** will be installed by Council through the normal application processes for a new connection.

Figure 1 Example of a Single Dwelling



1

11 Dual Occupancy (Duplex)

Where a duplex is approved on a single title lot, then each separate and independent detached or Class 1 dwelling shall have a *master meter* and water service installed. A duplex existing prior to the introduction of the *Queensland Plumbing and Wastewater Code (QPW Code)* on 1 January 2008 is not required to retro fit separate meters.

The *master meter* will be installed by Council upon application in accordance with the *QPW Code*, the guidelines and Council approvals. A *water meter* and its location must always be maintained to retain access for reading and maintenance purposes

There are a variety of existing circumstances on a lot depending on when the initial building work was done and the relevant legislation at the time – for example duplexes before January 2008 may have a single *water meter* servicing both properties. A customer may apply to have a second meter installed so that both properties have their own *water meter* and are billed for individual water usage. Due to the existing plumbing, the provision of a second *water meter* may require significant internal works and/or costs.

Changes to internal plumbing are the responsibility of the owner and will require appropriate Council Plumbing and Drainage approvals. Examples of common duplex designs are shown in Figures 2 & 3.

Figure 2(a) and 2(b) - Dual Occupancy Metering no Community Title Scheme (short service).

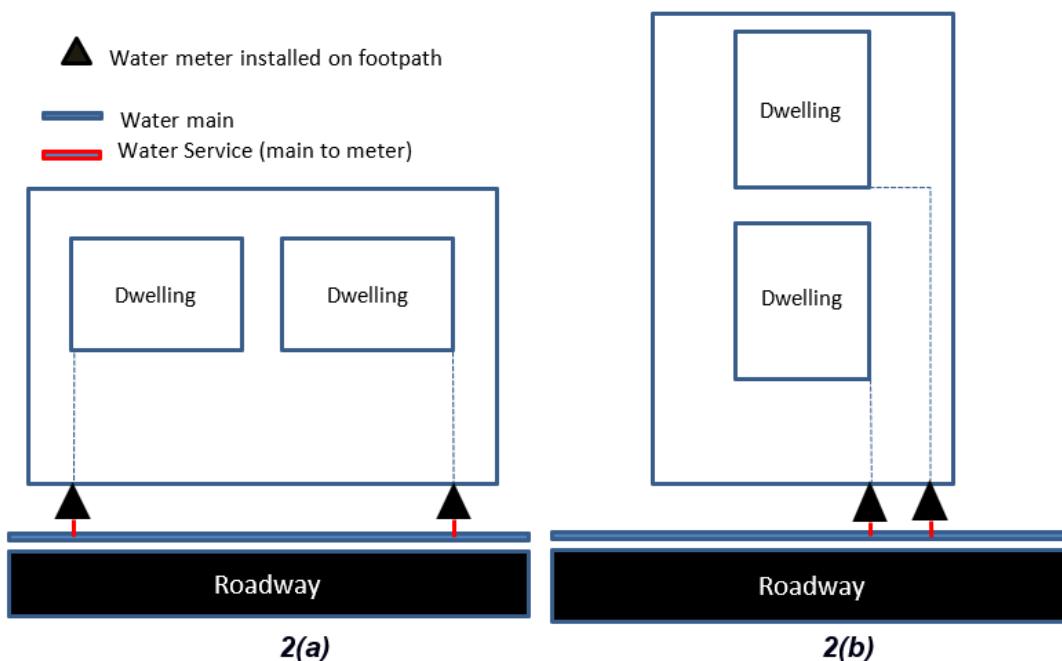
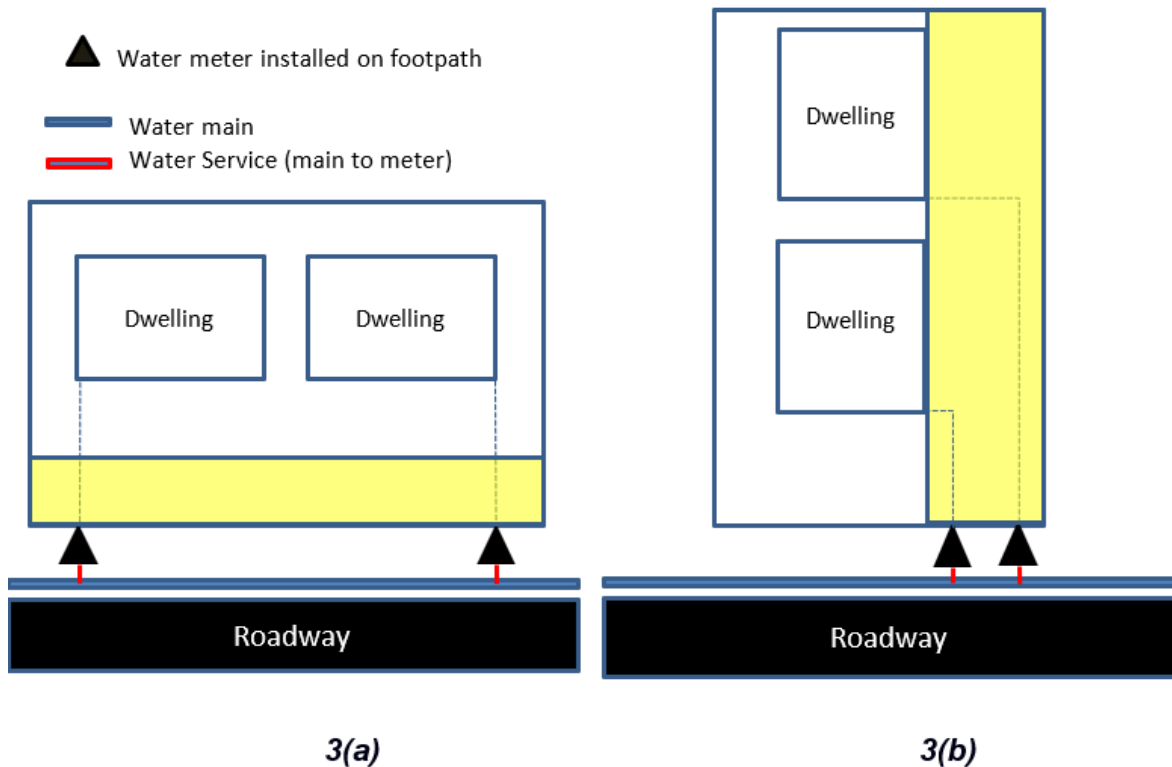


Figure 3 (a) and 3(b) Dual Occupancy Metering with Community Title Scheme (Short Service).



12 Secondary Dwelling

A Secondary dwelling is termed a 'Dwelling house (Secondary dwelling)' in the Logan Planning Scheme 2015 and is included as part of the Dwelling house definition. A Secondary dwelling is a separate self-contained dwelling that is used in conjunction with, and subordinate to, the main dwelling on the same lot (e.g. a granny flat). A Secondary dwelling is restricted in size to:

70m² if in a residential zone and on a lot less than 1,000m² in size; or

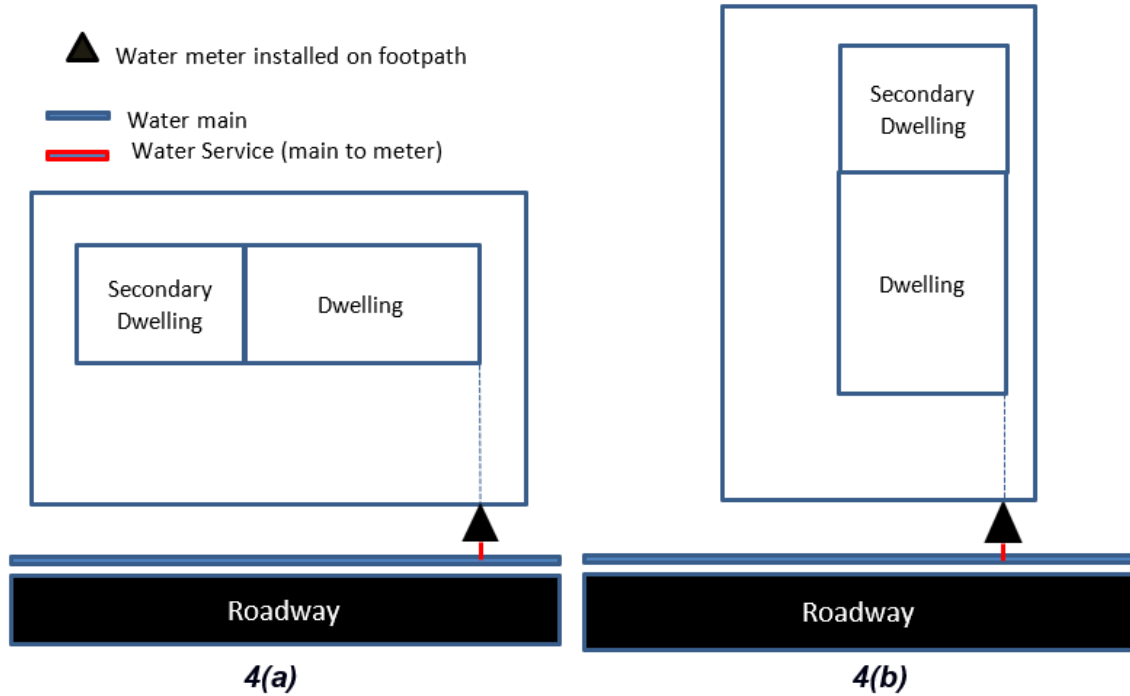
100m² otherwise.

A Secondary dwelling must only be occupied by persons who form one household with the main dwelling. They may be located besides, behind, below or above an existing or new dwelling.

New connections and meter requirements for this property type require a single meter supplying the overall property only.

This **SINGLE METER** required will be installed by Council through the normal application processes for a new connection.

Figure 4(a) and 4(b) Secondary Dwelling Single Meter (short service).



13 Auxiliary Units

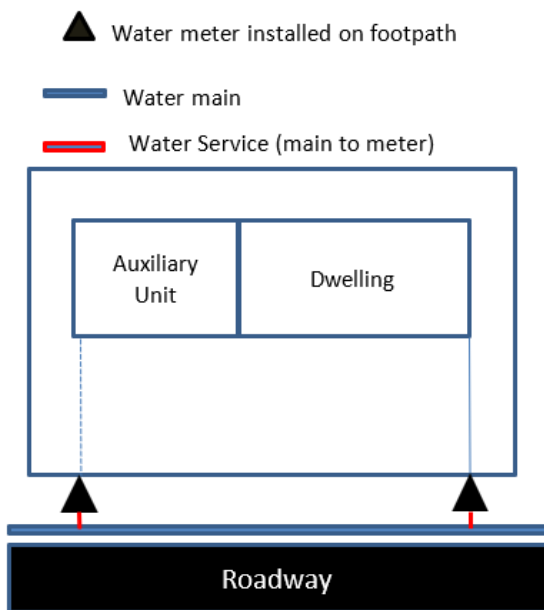
An Auxiliary unit is termed a 'Dual occupancy (Auxiliary unit)' in the Logan Planning Scheme 2015. This form of development is where both dwellings are owned by the same person on a single land title with a minimum lot size of 450m² and the Auxiliary unit:

- has a maximum of two bedrooms;
- has no more than one kitchen;
- has no more than one living space;
- has a maximum size of: 70m² if in the residential zone category and on a lot less than 1,000m²; or
- 100m² otherwise.

In the event of a property with an Auxiliary unit being constructed in accordance with *Queensland Plumbing and Wastewater Code (QPW Code)* an individual meter **MUST** be installed for each unit in the dwelling.

Examples of an Auxiliary Unit is below

Figure 5 Auxiliary Unit metering

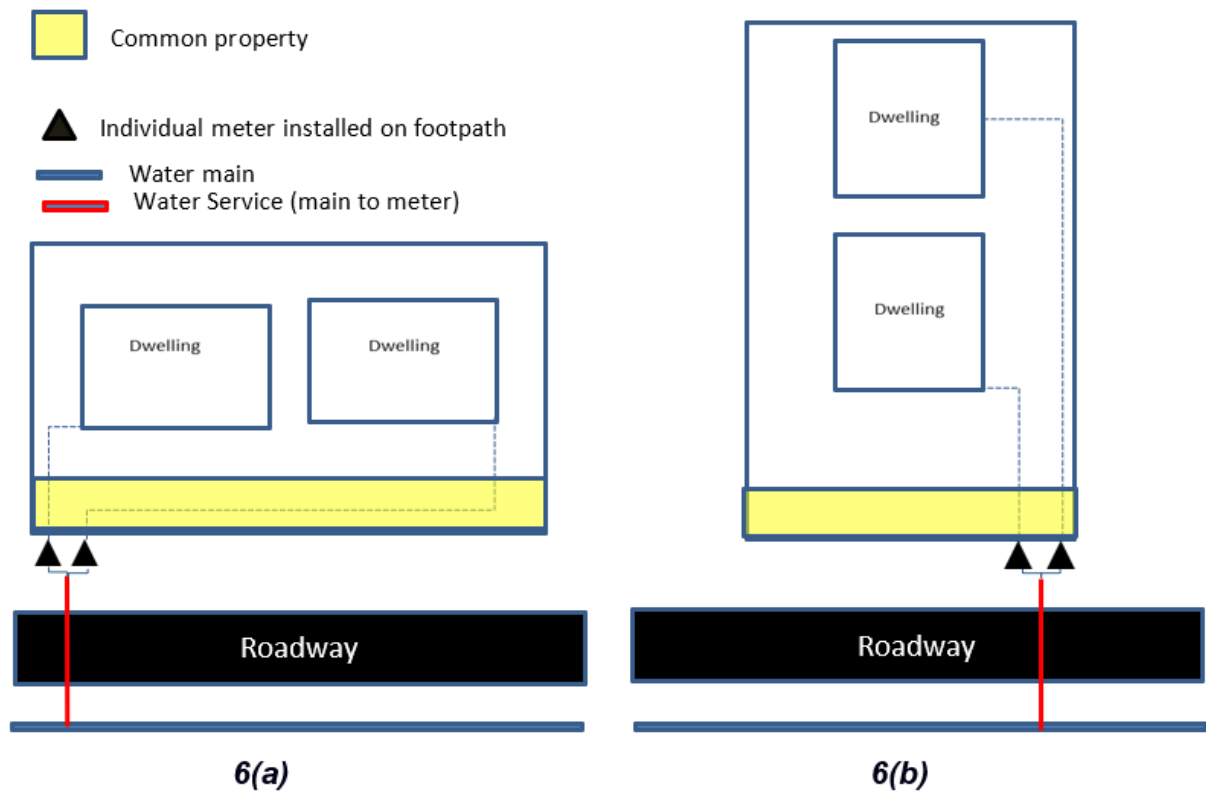


14 Long Service Connection (Dual Occupancy and Auxiliary Units)

In the event of the property connection being a “Long Service”. For example, requiring a road crossing a single appropriately sized service under the road is acceptable. Refer to section 9 with regards to service sizing.

Examples of Long Service arrangements are show below:

Figure 6(a) and 6(b) Dual Occupancy Metering with Community Title Scheme (Long Service).



15 Sub-Meter General Provisions

A single sub-meter capturing all drinking water entering the meterable premises must service each lot within the MUP. These sub-meters shall capture only the water entering the lot they are assigned to. The location and type of all meters and sub-meters will require Council approval.

The Licensed Plumbing Contractor is responsible for the installation of sub-meters. Council's Plumbing and Drainage section will conduct inspections to make sure installations have been completed in accordance with the Guidelines, *Plumbing and Drainage Act 2018, AS/NZS 3500*, and the Council's Plumbing and Drainage approved hydraulic plans.

Where possible sub-meters shall be grouped together and must be in a location that is unrestricted at all times. **Sub-meter assemblies and/or meter boxes shall not be installed within concrete or roadways or be encapsulated within concrete.**

Where any orientation other than horizontal orientation, the sub-meter must be capable of operation in the vertical or other angular alignment without performance degradation and that capability must be referenced in the patent approval certificate.

The general provisions for sub-meters are as follows:

- All sub-meters shall be selected from Council's approved water meter list.
- All sub-meters shall be installed in the approved Council format.
- Australian Standard AS/NZS3500 outlines several provisions with regard to backflow protection. Where necessary, a hazard assessment may be completed for the development as well as for individual lots. The default situation is that each sub-meter installation must be fitted with dual check valves at the points where sub-meters are installed. In 20mm diameter sub-meters, these check valves shall be incorporated in the sub-meter so that the overall length of the sub-meter assembly is not affected.
- All sub-meters must comply with the dimensions described in Appendix D of Australian Standard AS3565.1. Sub-meter assemblies of 20mm size must have end connections of 14 threads per inch. Other sizes must conform to the Australian Standards if available, otherwise with normal Council practice (details can be provided on request).
- All sub-meters are to be installed in accordance with their pattern approval certificates. Care must be taken to ensure that the sub-meter type selected is installed in the correct position e.g. with the dial face in

a position where an unassisted person standing on the floor can easily read it.

- All sub-meters shall be installed in a common or public access area and have unique serial numbers.
- Accessible location is being at ground level, outside the building where access to the sub-meters is unrestricted at all times, including free from building security, not being obscured by vehicle movements, and free from overgrown vegetation and all other forms of obstructions and hazards.
- It is recommended that in the event of horizontal developments requiring sub-meters per lot, that the meters are installed prior to construction to facilitate on site water metering and management.
- All sub-meters of the same size installed in a complex shall be the same make and model.
- Sub-meters shall be installed no higher than 1800 millimeters.
- All sub-meters shall have service pipes on the inlet and outlet side of the sub-meter assembly (no other fittings e.g. pressure reduction devices connected directly to the assembly).
- All sub-meters shall be supplied with an initial reading of 0000kLs.
- All sub-meters shall be tagged. The tag shall be fixed to the pipework adjacent to the meter or attached to the meter and have the unit number and meter number displayed in permanent ink. The tag shall not interfere with any data recording equipment if applicable.
- All outdoor tags to be engraved.
- All sub-meters shall be housed in an approved sub-meter enclosure or approved meter pit.
- Slip couplings are to be installed on the inlet side of the sub-meters of wall mount brackets only.
- Sub-meter assemblies shall not be installed within concrete or roadways or be encapsulated within concrete.
- Wall mounted sub-meters in a designated walkway require a protective shroud.

Refer to Appendix E or example of standard meter arrangements.

16 Multiple Body Corporates

Where there are multiple *Body Corporates* in a development, the total water supply to each *Body Corporate* shall be metered. This meter is then considered the *master meter* for the *Body Corporate* connected. The boundary meter can be the *master meter* for one *Body Corporate* only.

Where there are multiple *Body Corporates* involved this can result in common internal water service mains. The ownership and maintenance responsibility for these common internal water mains is with those that benefit from this private infrastructure.

17 Multiple Land Uses and Complexes

Mixed use complexes (that is, mixed residential and non-residential) shall have a *master meter* servicing each separate volumetric lot - e.g. a *master meter* to the residential section and a *master meter* to the non-residential section. *Sub-meters* must be grouped together and installed in an *accessible*, common area to allow direct reading.

Should the residential and non-residential uses be within a single *body corporate* then only one *master meter* is required. Should there be more than one volumetric lot, each volumetric lot needs to have their own *master meter*.

Common property areas must also be *sub-metered* (that is, designated common areas such as recreation areas and common public toilets).

If the development contains more than one land use, then each land use shall follow the relevant *sub-meter* requirements. For example, a high-rise building with shops on the ground floor, offices on the following intermediate storeys, with residential apartments above, or a hotel on top may require:

- Each shop to be metered individually;
- Each floor of the office space to be metered;
- Each residential apartment to be metered separately;
- A single meter for the hotel usage; and
- The entire water supply to each *Body Corporate* must be metered if applicable.

The location of the water *sub-meter* enclosure shall be in a common or public

area to allow access to the *sub- meters* for maintenance or replacement. Mixed use complexes will require a water *sub-meter* enclosure to house *sub-meters*. In most cases more than one water *sub-meter* enclosure will be required. Refer to section 21 on sub-meter enclosures.

If the sub-meters are to be within a fire enclosure, safety rating shall not be compromised and the water sub-meter enclosure shall be installed in accordance with relevant standards including adequate bunding and drainage to prevent seepage into the infrastructure and all penetrations shall be sealed. Sub-meter installation dimensions shall be maintained.

18 Communal Hot Water Systems

Where hot water is supplied through individual hot water systems, there is no requirement to install a separate sub-meter for each hot water system. The hot water in this situation is measured through the drinking water sub-meter.

Where hot water is supplied from a communal hot water system, the system is required to be sub-metered. A sub-meter must be installed on the drinking water intake of the communal hot water system and the hot water consumption will be billed to the Body Corporate as common property water consumption.

19 Drinking Water Sub-Meters

Drinking Water Sub-Meter Installation Option 1

In buildings up to and including three storeys, horizontal developments or where access to any of the sub-meters may be restricted in any way (e.g. gated communities) where the hydraulic analysis of the plumbing shows an acceptable level of pressure loss, sub-meters shall be installed within developments to measure individual units and common property water supply as follows:

- a) Buried in sub-meter boxes in accordance with Council standards on the common property less than 3m outside the front boundary of the lot for which the sub-meter is required and not installed in concrete.
- b) Installed in a weather resistant sub-meter enclosure located at an accessible side of the building or in an enclosure in a common area (stairwell landing, beside the elevator shaft, etc.) on the ground floor.
- c) Only 20mm and 25mm sub-meters permitted below ground with any larger sizes required to be above ground.

This option does not require *AMR* technology as the sub-meters are manually read in the usual process of meter reading.

See the following sections on Buried Sub-Meter Boxes (s20) and Sub-Meter Enclosures (s21) for further details.

Note: *It is recommended that in the event of horizontal developments requiring sub-meters per lot that the meters are installed prior to construction to facilitate on site water metering and management.*

Refer to Section 20 for Buried Sub-Meter Boxes.

Drinking Water Sub-Meter Installation Option 2

This option is for cases where sub-meters at ground level are impractical (e.g. high-rise buildings), the sub-meters must be:

- Located in a single latched enclosure in a common area on each floor. If the design of the development makes it impractical to install all sub-meters in a single enclosure then multiple enclosures may be used, so long as the number is minimised. Refer to sub-meter enclosure requirements.
- Alternatively, for either type of development located in a utility room that is accessible through the common property, requirements are

the same as for those in sub-meter enclosures.

Refer to Section 21 Sub-Meter Enclosures for further details.

If a development is a mixture of both a gated community horizontal development and high-rise buildings, then the *sub-meter* installations may be a mixture of those described above.

20 Buried Sub-meter Boxes

Sub-meters installed in buried sub-meter boxes shall be designed such that:

- The meter box complies with existing Council specifications (see Council Water Supply Standards in Appendix A – Dictionary for more details), with the exception that the sub-meters do not need to be located in the footway against the property boundary, instead by following the installation options referred to in Section 19.
- Buried in sub-meter boxes on the common property less than 3m outside the front boundary of the lot for which the sub-meter is required and not installed in concrete.
- Lids shall have a slip resistant pattern and have moulded on its upper surface water meter.

21 Sub-meter Enclosures

Sub-meter enclosures shall be designed such that:

- There is a minimum 100mm gap, perpendicular to the direction of the pipes, between sub-meters.
- There is a minimum 100mm gap between the outermost valves and the edges of the enclosure.
- If the enclosure also houses fire hose reels, the fire rating required shall not be compromised.
- The *sub-meters* are easily accessible and readable from floor level of common property, unassisted by a ladder or other equipment. Maximum height for the higher of either the centreline of *sub-meters* or the top of the sub-meter assembly = 1.6m.
- There is no need for a person performing normal maintenance duties to enter the enclosure (i.e. the enclosure must not be classifiable as a confined space for entry purposes). Where sub-meters are in a utility room, adequate ventilation must be provided.
- A minimum of 2 square metres is available in front of the enclosure as free working space.
- Adequate lighting is available during daylight hours.
- There is sufficient room for the enclosure door(s) to swing open completely and provision for them to be held open.

- The enclosure shall have a minimum 100mm bund at the opening if it is located inside a building.
- The enclosure shall be sufficiently waterproof and include drainage accordance with standards to prevent seepage into the surrounding building structure in the event of a leak.
- The enclosure does not need to be locked but must be fastened with a latch where a double padlock can be fitted in the future if required.
- If a lock is fitted to the exterior door/s access to a key, utilisation of a key storage block or access code must be provided to Council.
- The requirements must always be complied with and maintained in working order.

22 Other Installation Requirements

All *sub-meters* must be fitted with anti-tamper devices, such as wires.

All sub-meter boxes, whether housing single or multiple *sub-meters*, must be identified on the outside with the words “**Water Sub-meter**” or “**Water Sub-meters**” in readable and permanent print.

Conventional Meter Assemblies

Where conventional 20mm meters are installed, each *sub-meter* must have ball valves on both sides for shutting of the water supply. An adjustable meter coupling on one side of the meter and a standard meter coupling on the other side for the safe removal of the *sub-meter* is required for vertical *sub-meter* installations only. The ball valve on the upstream side of the *sub-meter* must be able to be fixed in variable positions with a stainless-steel tie.

These items together are referred to as the ‘conventional *sub-meter* assembly’. The overall length of the assembly is to be no more than 500mm.

This *sub-meter* assembly shall connect to the *Body Corporate* plumbing on the upstream side and the lot owner’s private plumbing on the downstream side, both with male threads or line adaptors.

Sub-meters must be of Australian Standard dimensions and have Australian Standard threads where they connect to the building pipework.

For metering infrastructure (i.e. meter models/types, componentry and Automated Metering Reading (AMR) systems) currently accepted by Council, please visit the ‘South East Queensland Water and Sewerage Design and

Construction (SEQ D&C) Code' and the associated 'Accepted Civil Infrastructure Products and Materials (IPAM) List' website at [SEQ Design and Construction Code - Products \(seqcode.com.au\)](http://seqcode.com.au)

Other Requirements

If *AMR* technology is being considered, please see Section 23 for further information.

Sub-meter Sizing

During design, consideration shall be given to appropriate *sub-meter* sizing. Residential lots may be metered by a 20mm *sub-meter* from the authorised manufacturers. Any larger meters will require Council approval. Meters for non-residential lots must be sized as part of hydraulic design and approved by Council. Within a MUP, *sub-meters* of the same size shall be of the same brand.

Sub-meter Identification

The sub-meters must be tagged with the unit number that they serve, and the serial number must be in accordance with Council requirements.

As Constructed Drawings

The hydraulic As Constructed drawings for the development must include a table of:

- *sub-meter* serial numbers (and Meter Interface Unit (MIU) serial numbers if applicable);
- the unit numbers they serve;
- the location of the *sub-meters*;
- the date of installation of the *sub-meters*;
- the *sub-meter* readings on installation; and
- the final *sub-meter* reading at the end of construction.

Site Connectivity

Before the final plumbing certificate is issued, the developer is required to show that the connectivity between all the meters and their respective units has been checked.

An audit of the connectivity of *sub-meters* to their units may form part of the final plumbing inspection for the site. A *connectivity audit* ensures that each unit/lot/storey in the *complex* is fed through an individual *sub-meter* for that unit/lot/storey only and that this meter matches the description in the submitted drawings.

Council may conduct the *connectivity audit* to ensure that the installation has been provided in accordance with the Council approval conditions and the approved hydraulic design and drawings. The Council inspectors will choose the percentage of units involved in the audit, to a maximum of 100%.

If any part of the development fails the connectivity audit, Council or their representative may test connectivity throughout the whole development at the developer's expense. Council may provide the developer with a list of areas requiring rectification before a final plumbing certificate can be issued.

Sub Metering Information

All sub metering information must be provided on the prescribed form completed by the site representative/plumber and provided to Council as part of the site assessment.

Contact Person

The building owner is responsible for ensuring a contact person is available to enable Council staff or their representatives to access the *sub-meters* for maintenance purposes. Council will not be held responsible in the event where failure to provide access in a timely manner results in damages to persons or property.

23 Automatic Meter Reading (AMR)

It is acknowledged *that sub-meters may not* be able to be installed in an accessible part of the property. Accessible location is defined in Section 15 as being at ground level, outside the building where access to the *sub-meters* is unrestricted at all times. This includes from building security, not being obscured by vehicle movements, and free from overgrown vegetation and all other forms of obstructions and hazards.

Where currently there is considered by Council to be no alternative to the use of *AMR* technology it is Council policy that:

- Council will not accept any responsibility for the AMR system;
- where an AMR is installed as means of providing a more efficient meter reading, the meter must be accessible 24/7 to Council for meter reading purposes;
- Council will not be responsible for any AMR devices or their maintenance or replacement;
- if there is any maintenance on the *sub-meters* by Council then the developer/property owner is responsible for any AMR implications;
- it is the responsibility of the developer/property owner to select the most appropriate system for their development and not a responsibility of Council;
- where an AMR system is installed, relevant training must be provided to Council officers on its operation prior to their use commencing;
- testing of the AMR system to ensure that accurate readings are received from all *sub-meters* is the responsibility of developer/property owner and must be submitted to Council before issuing the final plumbing compliance certificate;
- in the instance that an AMR system fails, Council will default to relying on manual meter reading for *sub-meters* until the AMR system has been rectified by the relevant responsible person i.e. the developer, Body Corporate, or property owner.

The requirements also apply to AMR systems installed voluntarily on accessible *sub-meters*. The presence of an AMR system does not alleviate the need for the meters to be within public or common property. Meter locations must still conform to either Installation Option 1 or Installation Option 2 in Section 19.

Where an AMR system is installed, all meters must be readable through the AMR system, including the master meter at the boundary and any additional master meters for additional Body Corporates (see Section 17).

Refer to Appendix F for specific requirements for AMR.

24 APPENDICES

APPENDIX A - Dictionary

ITEM	DEFINITION
AMR	The term AMR means Automatic Meter Reading. This also includes Digital Electronic Readouts (DER) such as a display panel that can be scrolled through to read the respective <i>sub-meter</i> consumption.
Accessible	The term accessible for water meter reading, maintenance and/or replacement purposes, means accessible within reasonable time (between 8 am - 5 pm), with the <i>sub-meters</i> being located in a non-locked enclosure requiring a non-key access (PIN code), and not being obstructed by vehicles or other plant or equipment or vegetation.
Auxiliary unit	<p>An auxiliary unit is termed a 'Dual occupancy (Auxiliary unit)' in the Logan Planning Scheme 2015. This form of development is where both dwellings are owned by the same person on a single land title with a minimum lot size of 450m² and the Auxiliary unit:</p> <p>A Dual Occupancy that is an auxiliary unit may be occupied by different households.</p>
Body Corporate	An entity created under section 30 of the Body Corporate and Community Management Act 1997. The members of the body corporate for a Community Title Scheme are the owners of all lots included in the scheme.
Boundary	Boundary means the area between the property external walls and pathways, streets, or fence.
Building classes 1 to 10	<p>Building classifications as defined by the Building Code of Australia – Classification of Buildings.</p> <p>Some common classes being:</p> <p>Class 1a – detached dwelling or an attached dwelling separated by a fire resisting wall.</p> <p>Class 2 – a building containing more than 2 or more sole-occupancy units each being a separate dwelling.</p> <p>Class 5 – an office building used for commercial purposes.</p>

ITEM	DEFINITION
	<p>Class 6 – a shop or other building for the sale of goods by retail or the supply of services direct to the public.</p> <p>Class 9 – a building of a public nature.</p> <p>Class 10 – a non-habitable building or structure.</p>
Common area	The term common area means an area of common property as defined in the Body Corporate and Community Management Act 1997.
Common property	Common property has the meaning provided in Section 10 of the Body Corporate and Community Management Act 1997 and for a Community Title Scheme is freehold land forming part of the scheme land, but not forming part of a lot included in the scheme.
Common property water Consumption	The term common property water consumption refers to water used in common properties within a complex for irrigation, cleaning, recreation fixtures, etc. The common property water consumption for each meter read cycle will be decided by deducting the sum of consumption registered by all <i>sub-meters</i> from the consumption registered by the master meter. Water consumption through a communal hot water system is part of common property water consumption under this policy.
Communal hot water system	The term communal hot water system refers to a common system used to supply hot water to flats, apartments, houses, or units in complexes.
Community management statement	<p>The Body Corporate and Community Title Management Act 1997, Chapter 1 Part 4 Section 12, describes a community management statement as a document that:</p> <ul style="list-style-type: none"> a) identifies land; and b) otherwise complies with the requirements of the Act. One such requirement is to include a contribution schedule.

ITEM	DEFINITION
Community Title Scheme	<p>A scheme registered in accordance with section 10 of the Body Corporate and Community Management Act 1997 in relation to certain freehold land. A Community Title Scheme is established by:</p> <ul style="list-style-type: none"> a) the registration, under the Land Title Act 1994, of a plan of subdivision for identifying the scheme land for the scheme b) the recording by the registrar of the first community management statement for the scheme.
Complex	<p>A complex includes Community Titles Schemes (CTSs) and multi sole occupancy units of a class 2, 4, 5, 6, 7 or 8 building and each storey of a class 5 building.</p>
Complying valve	<p>A complying valve is a device incorporated as part of a water meter which a Water Service Provider can use to securely restrict the flow of water, either partially or fully, to the meterable premises. This is installed upstream of the master meter or <i>sub-meter</i>.</p>
Connectivity audit	<p>A connectivity audit is a verification process in which each <i>sub-meter</i> is matched with its respective unit. The aim of this audit is to ensure that each unit in a given complex is supplied through one <i>sub-meter</i> only and to make sure that the respective <i>sub-meter</i> is marked clearly with the number/description of that unit.</p>
Contribution schedule lot entitlement	<p>A contribution schedule lot entitlement is the number allocated to the lot in the contribution schedule or interest schedule in the community management statement in accordance with section 46 of the Body Corporate and Community Management Act 1997.</p>
Council	<p>Logan City Council.</p>
DER	<p>Digital Electronic Readouts such as a display panel that can be scrolled through to read the respective <i>sub-meter</i> consumption. Generally, part of the AMR (Automatic Meter Reading) solution.</p>
Dual occupancy	<p>Dual occupancy— means a residential use of premises for 2 households involving</p>

ITEM	DEFINITION
	<p>a) 2 dwellings (whether attached or detached) on a single lot or 2 dwellings (whether attached or detached) on separate lots that share a common property; and</p> <p>b) any domestic outbuilding associated with the dwellings; but does not include a residential use of premises that involves a secondary dwelling.</p>
Existing development	An existing development is any development whereby the development has a Plumbing Compliance Certificate, or the Developer has lodged a request for a Plumbing Compliance Certificate prior to 1 January 2008.
Fixed water access charge	Council defines fixed water access charge as the charge for having your property provided with access to the reticulated or 'town' water network in your area. It covers water supply infrastructure including water mains and pipes, pumping stations, reservoirs, hydrants, and any other associated infrastructure.
Horizontal development	A horizontal development includes free standing units or attached units supplied through one water meter for each unit and where the meter is usually located at the boundary of the unit.
Lot	A lot has the meaning in the Body Corporate and Community Title Management Act 1997.
Lot entitlement	The Body Corporate and Community Title Management Act 1997, Chapter 2 Part 5 Section 46, describes lot entitlement as a number allocated to the lot in the contribution schedule or interest schedule in the community management statement.
Management	The term management refers to the management of complex which can be a body corporate of a community title scheme or a representative body of a multi sole occupancy unit.
Master meter	The master is the meter at the point of connection to the Council's water main. In the event of a Community Titles Scheme property, this is upstream of all <i>sub-meters</i> and is used to register total water consumption.
Meterable premises	<p>The term meterable premises means:</p> <p>a) all class 1 buildings; and</p>

ITEM	DEFINITION
	<p>b) each lot within a community title scheme, including the common property, in a water service provider's area; and</p> <p>c) the sole occupancy unit of a class 2,4,5,6,7, or 8 building in a water service provider's area; and</p> <p>d) each storey of a class 5 building in a water service provider's area where the building consists of more than one storey and sole occupancy units are not identified at the time of the building's plumbing compliance assessment.</p>
MUP	Multi-Unit Property.
New development	The term new development means any complex submitting a request for a Plumbing Compliance Certificate after 1 January 2008.
Occupant/owner	The occupant/owner is an occupant or owner of a house, unit, flat or an apartment within a complex.
Pattern approval	The term pattern approval refers to a certificate issued by the National Measurement Institute. This certificate states that a meter of certain make and model has passed a set of tests and met a set of requirements, in order to be used by a water service provider for trade purposes.
Policy	The Logan City Council "Water Sub-metering for Multi-Unit Properties Policy"
QPW Code	The term QPW Code refers to the Queensland Plumbing and Wastewater Code; this code is required to be complied with under section 8B of the Standard Plumbing and Drainage Regulation 2003.
Scheme land	The land identified in the plan of subdivision registered under the Land Title Act 1994 in relation to a Community Titles Scheme.
Secondary dwelling	<p>Secondary dwelling means a dwelling, whether attached or detached, that is used in conjunction with, and subordinate to, a dwelling house on the same lot.</p> <p>Editor's note—A secondary dwelling differs from a Dual</p>

ITEM	DEFINITION
	Occupancy that is an auxiliary unit in that a secondary dwelling must be occupied by persons who form one household with the main dwelling. A Dual Occupancy that is an auxiliary unit may be occupied by different households.
Sole occupancy unit	<p>The term sole occupancy unit, in relation to a building, means: <i>a room or other part of the building for occupation by one or a joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier, including, for example –</i></p> <ul style="list-style-type: none"> a) a dwelling; or b) a room or suite of associated rooms in a building classified under the Building Code of Australia as a class 2, 4, 5, 6, 7 or 8 building; or c) <i>any part of the building that is a common area or common property.</i>
Storey	<p>The term storey means a space within a building which is situated between one floor level and the floor level next above, or if there is no floor above, the ceiling or roof above, but not –</p> <ul style="list-style-type: none"> a) <i>a space that contains only –</i> b) a lift shaft, stairway or meter room; or a) a bathroom, shower room, laundry, water closet, or sanitary compartment; or b) accommodation intended for not more than three vehicles: or c) a combination of the above; or a) mezzanine.
Sub-meter	The term <i>sub-meter</i> is used to describe individual water meters within multi - unit complexes. The term also differentiates from master meter that measures the supply of water to a multi-unit complex as a whole.
Unit	A unit is a house, flat, lot of land or an apartment within a complex.
Vertical development	The term vertical development includes developments of more than one storey and developments where units are supplied

ITEM	DEFINITION
	through meters located inside the development in a common area such as stairwell landings or beside elevator shafts.
Water meter	A water meter means a device including equipment related to the device, for measuring the volume of water supplied to a premise and installed on infrastructure that supplies a water service at the premises. An example of equipment related to the device is an automatic meter reading device and associated technology or similar devices.
Water service	Water service has the meaning given in the Water Supply (Safety and Reliability) Act 2008.
Water service provider	The term Water Service Provider, for premises, means the persons registered under the Water Supply (Safety and Reliability) Act 2008, chapter 2, part 3, as the Water Service Provider for retail water services for the premises.
Water supply	The term water supply means the plumbing supplying water to meterable premises from a water service.
Water Supply Standards	<ul style="list-style-type: none"> • The water supply standards as specified in the Water Supply (Safety and Reliability) Act 2008, • the Plumbing and Drainage Act 2018, • the South East Queensland Water Supply and Sewerage Design and Construction Code 2013, • the LCC Logan Planning Scheme 2015.

APPENDIX B - Extract from Part 4 of the QPW Code that details the performance criteria for water meters in new developments

Table 1. Water meters for new premises (extracted from Part 4 of *QPW Code*)

Performance	Acceptable Solutions
<p>The <i>water supply to meterable premises</i> must be fitted with a device (<i>water meter</i>) to measure the amount of water supplied to the premises.</p>	<p>Each <i>water supply to a meterable premises</i> is to be fitted with a <i>water meter</i> which –</p> <ul style="list-style-type: none"> (b) Measures only the water supplied by that water supply to that <i>meterable premises</i>; and (c) Is approved by the <i>water service provider</i>; and (d) Complies with the relevant requirements of the <i>water service provider</i> that may be imposed
<p>A <i>water meter</i> must be located so that it is easy to read and maintain.</p>	<p>The <i>water meter</i> is located –</p> <ul style="list-style-type: none"> (a) So that it can be easily maintained and read from a common area, common property or public area; and (b) It is installed – <ul style="list-style-type: none"> (i) In a common area; or (ii) In common property; or (iii) Less than 3m from a property boundary within a public
<p>A <i>water meter</i> must be properly maintained.</p>	<p>A <i>water meter</i> is to be maintained in accordance with the relevant Australian Standards.</p>
<p>The installation of a <i>water meter</i> includes a device that allows for the restriction of the flow of water from the <i>water service</i> to the <i>water meter</i>.</p>	<p>The <i>water meter</i> has a <i>complying valve</i>.</p>

APPENDIX C - Related Legislation and Policies

DOCUMENT TYPE	Council Document ID	DOCUMENT NAME & LOCATION
Legislation		Plumbing and Drainage Act 2018 https://www.legislation.qld.gov.au/view/html/asmade/act-2018-017
State Government Regulation		Plumbing and Drainage Regulation 2019 http://hpw.qld.gov.au/construction/BuildingPlumbing/Plumbing/Pages/PlumbingLawsCodes.aspx
State Government Code		Queensland Plumbing and Wastewater Code. http://hpw.qld.gov.au/construction/BuildingPlumbing/Plumbing/Pages/PlumbingLawsCodes.aspx
Legislation		Queensland Water Commission Customer Water and Wastewater Code – South East Queensland https://www.business.qld.gov.au/industries/mining-energy-water/water/industry-infrastructure/industry-regulation/obligations/customer-service-standards
Legislation		Water Supply (Safety and Reliability) Act 2008 https://www.legislation.qld.gov.au/view/html/inforce/current/act-2008-034
Legislation		Body Corporate and Community Management Act 1997 https://www.legislation.qld.gov.au/view/html/inforce/current/act-1997-028
Council Policy	DM# 8062794	Community Title Scheme Billing and Sub-meter Policy https://www.logan.qld.gov.au/environment-water-and-waste/water/residential-customers/community-title-scheme-billing-and-sub-meter
Council Policy	DM#13128045	Water Sub-metering for Multi-Unit Properties Policy
Council	DM# 8753773	Sub-meter Fact Sheet https://www.logan.qld.gov.au/environment-water-and-waste/water/residential-customers/community-title-scheme-billing-and-sub-meter
Council		Logan Planning Scheme 2015 – Schedule 6 PSP 5

DOCUMENT TYPE	Council Document ID	DOCUMENT NAME & LOCATION
		Infrastructure https://www.logan.qld.gov.au/planning-and-building/planning-and-development/logan-planning-scheme/logan-planning-scheme-version-5.1
Council		South East Queensland Water Supply and Sewerage Design and Construction Code http://www.segcode.com.au/standards/

APPENDIX D - Approved sub-meters and associated meter boxes

Complete *sub-meter* assemblies including valves and authorised for use are available from a number of manufacturers with key product specifications including:

- Dual check valves
- Pulse Output
- Australian Standard Dimensions

For metering infrastructure (i.e. meter models/types, componentry and AMR systems) currently accepted by Council, please visit the 'South East Queensland Water and Sewerage Design and Construction (SEQ D&C) Code' and the associated 'Accepted Civil Infrastructure Products and Materials (IPAM) List' website at <http://www.seqcode.com.au/products>.

Where *sub-meters* sized 25mm and 32mm are installed, approved ball valves will be required on both sides, as per the 20mm *sub-meter* requirements. Meter couplings are required in vertical arrangements only.

For meter sizes greater than 25mm external dual check valves are required.

APPENDIX E – Metering installation examples

Figure 1 Example of a Single Dwelling

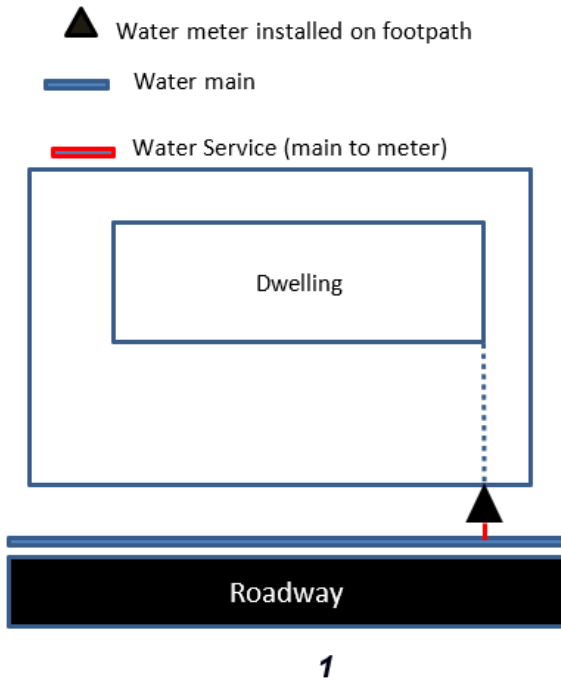


Figure 2(a) and 2(b) - Dual Occupancy Metering no Community Title Scheme (short service).

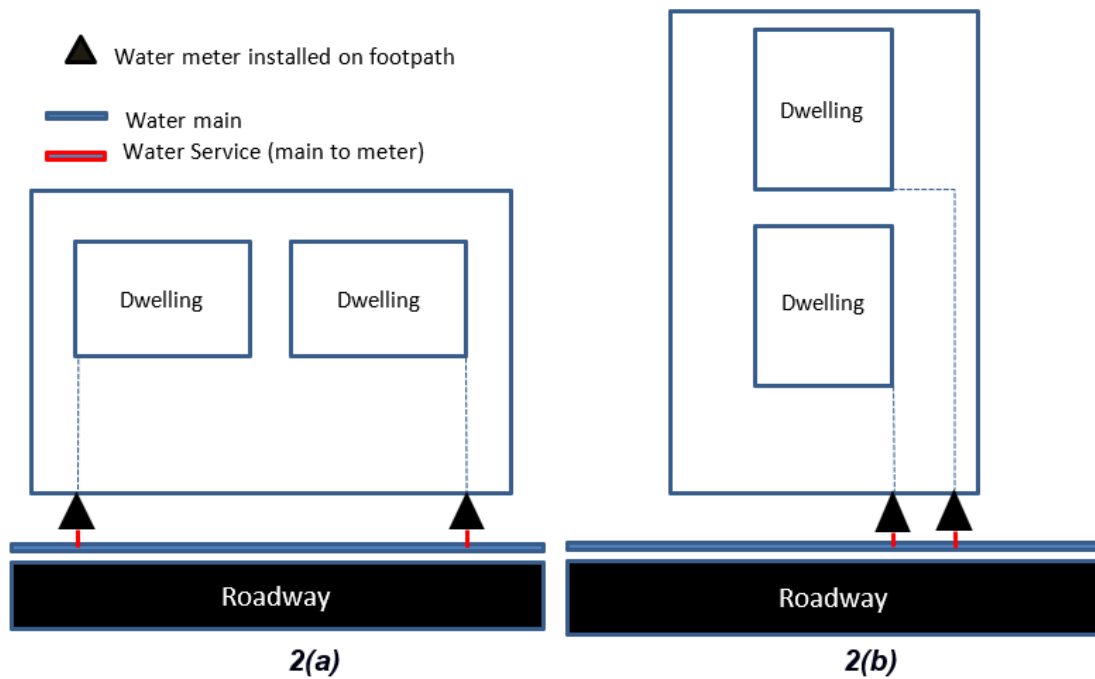


Figure 3 (a) and 3(b) Dual Occupancy Metering with Community Title Scheme (Short Service).

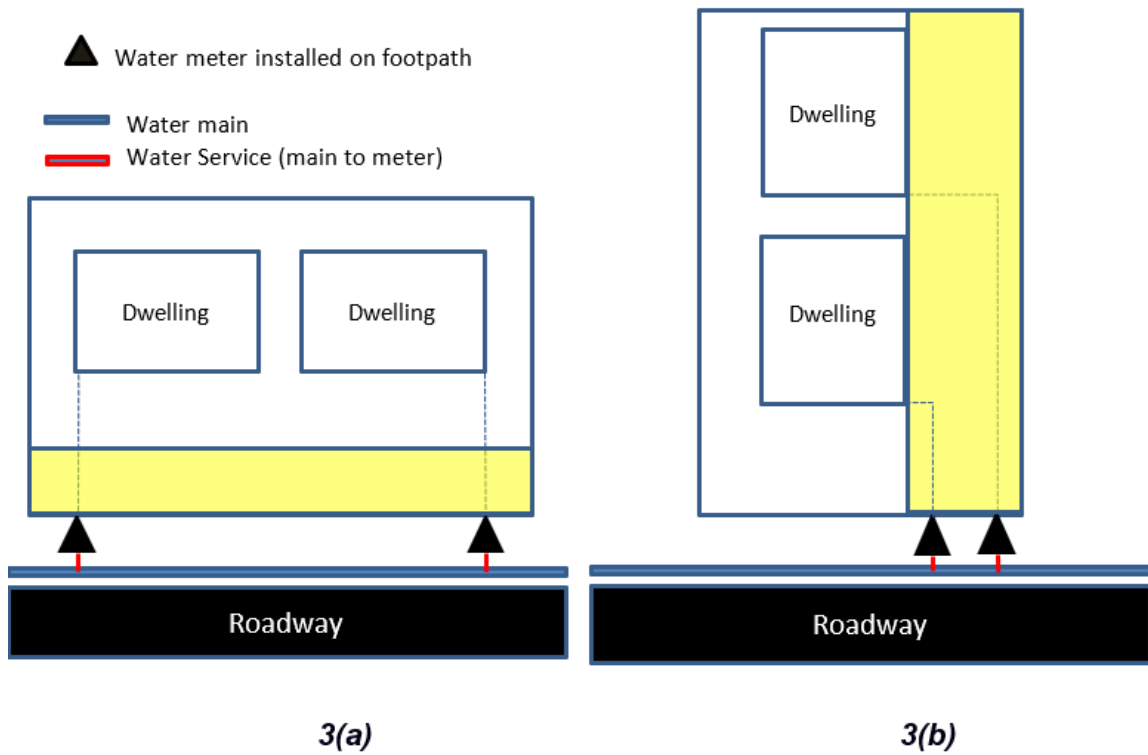


Figure 4(a) and 4(b) Secondary Dwelling Single Meter (short service).

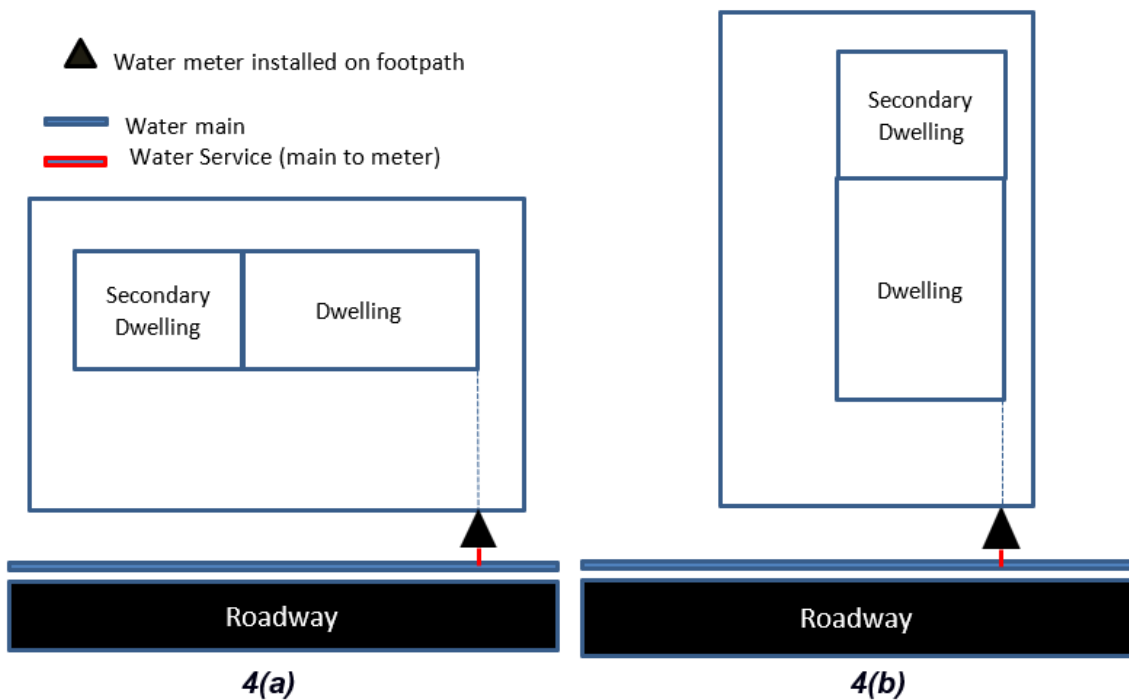
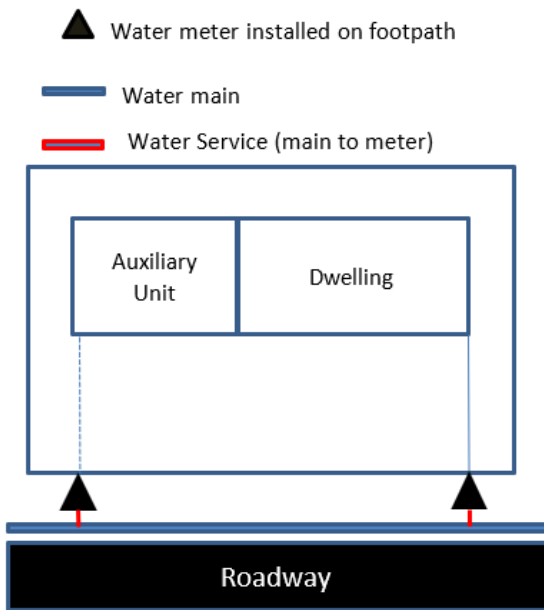
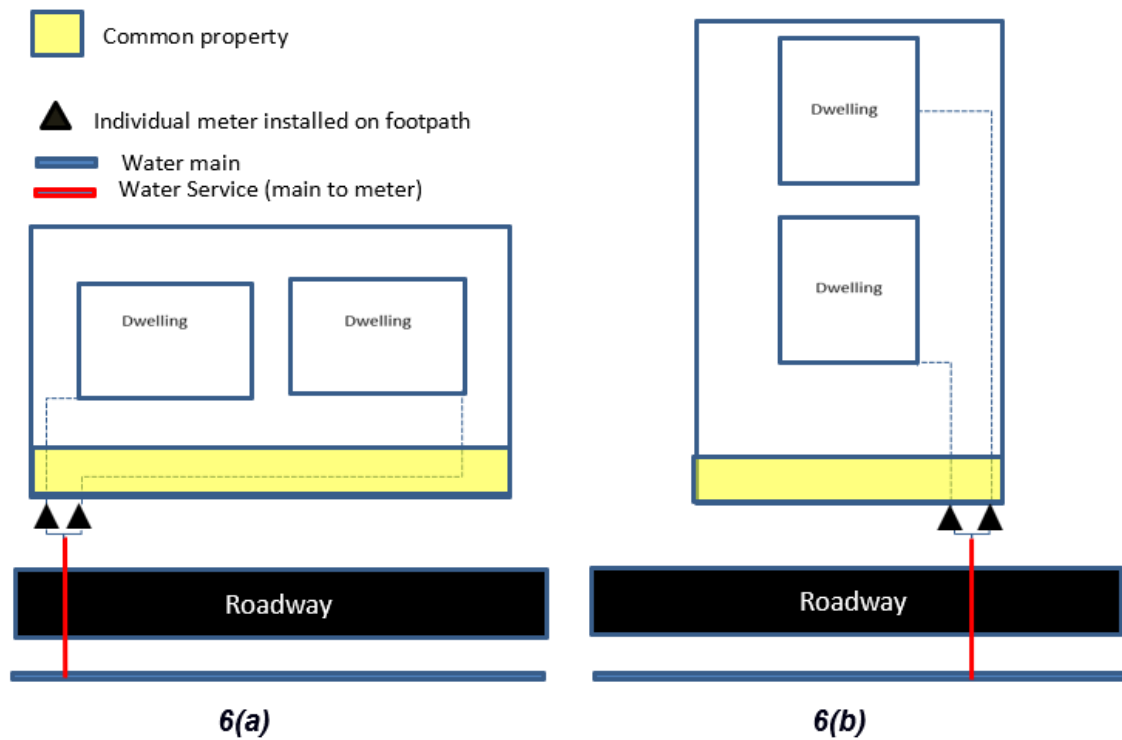


Figure 5 Auxiliary Unit metering



5

Figure 6(a) and 6(b) Dual Occupancy Metering with Community Title Scheme (Long Service).



6(a)

6(b)

Figure 7. Apartment Building

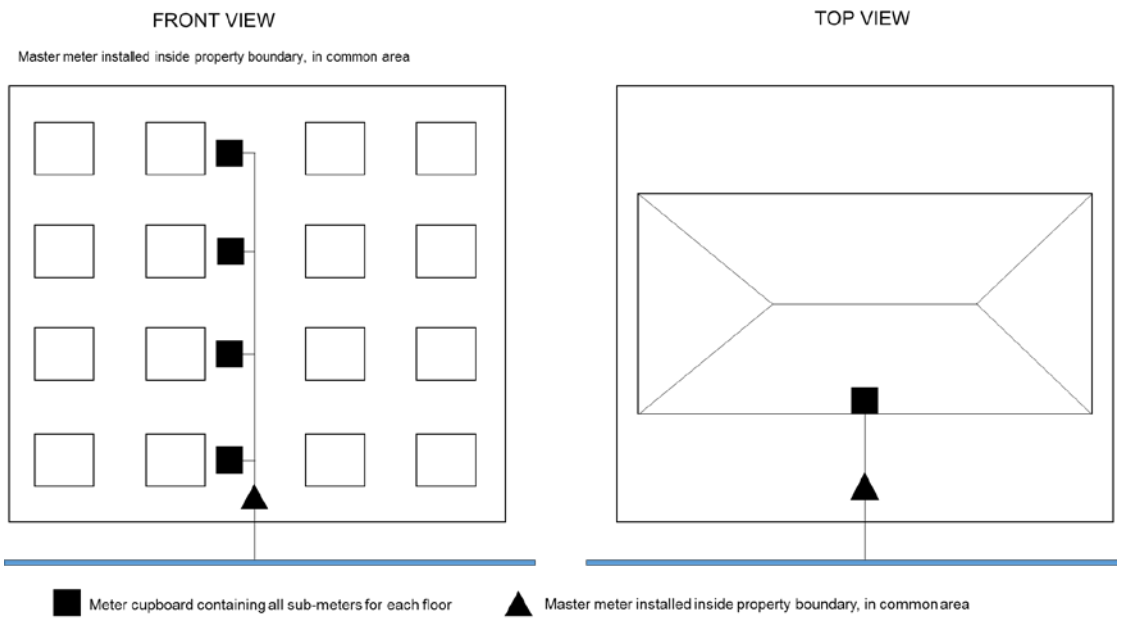


Figure 8. Office Building

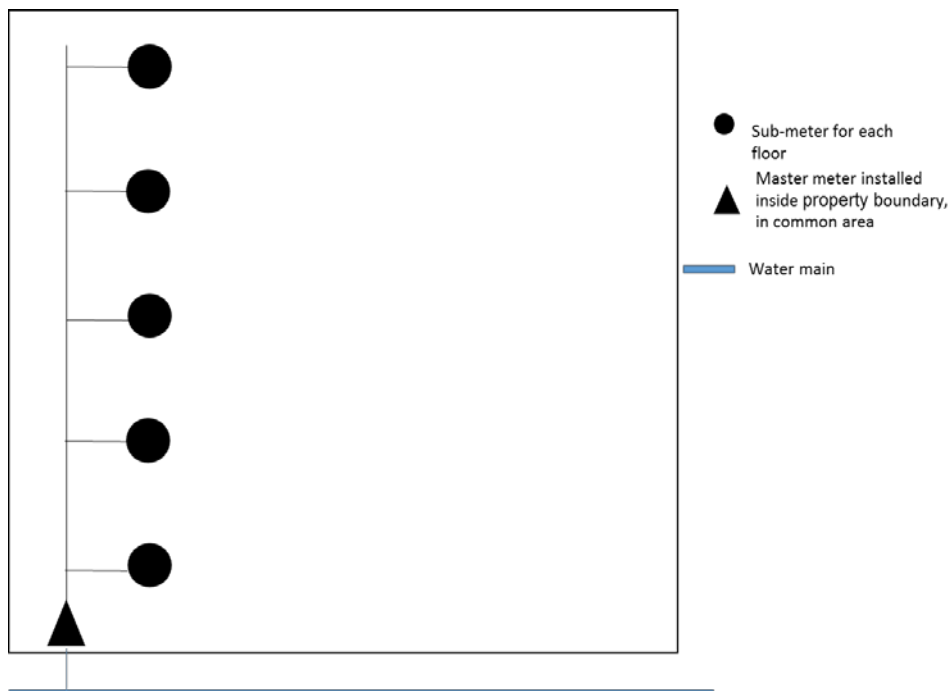


Figure 9. Gated Community

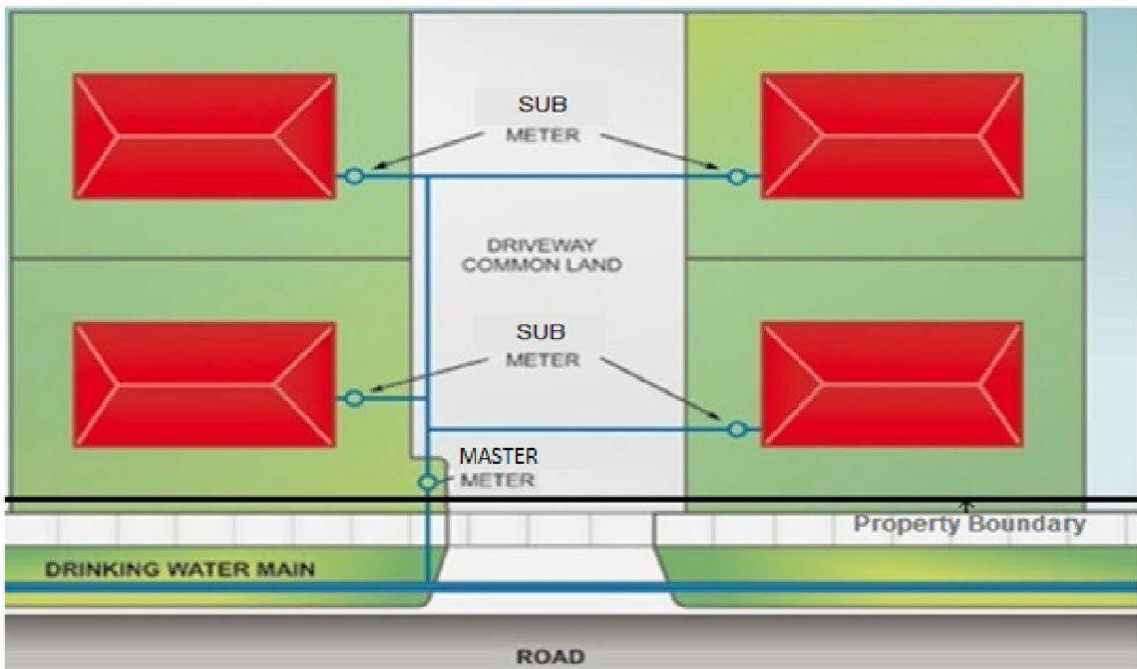
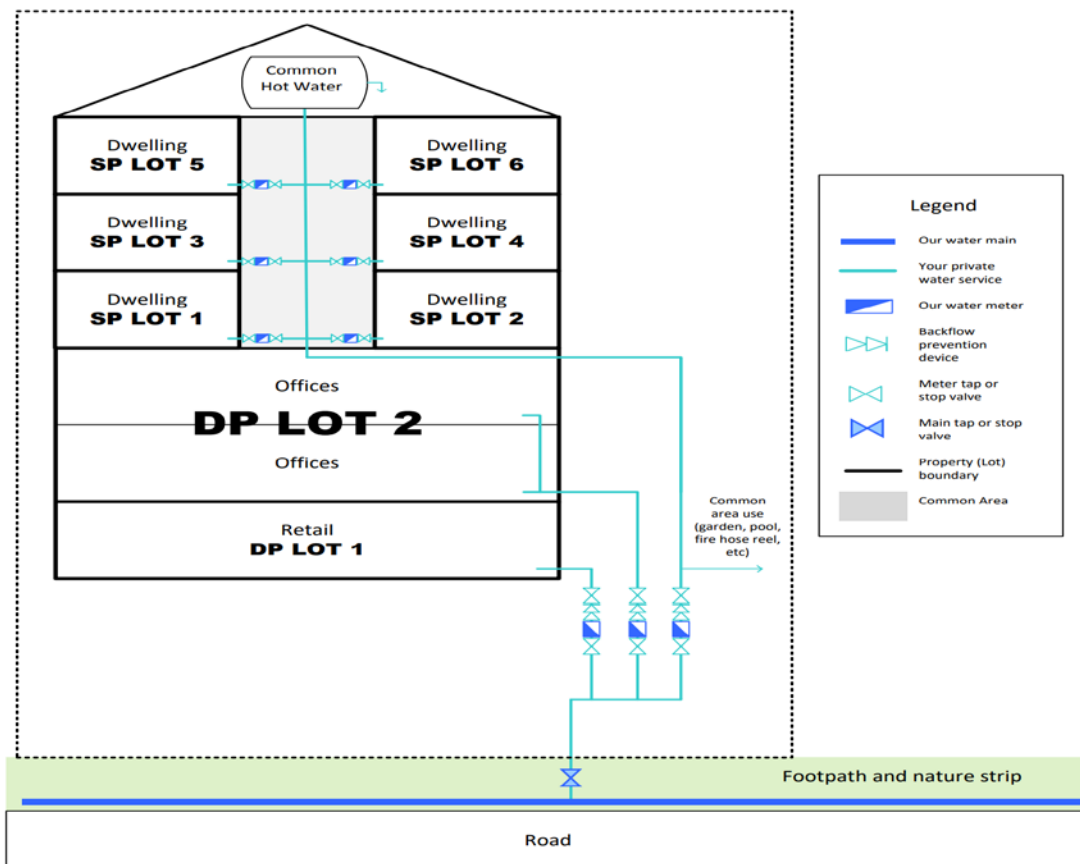


Figure 10. Example Mixed Use Building with Multiple Body Corporates and Sub-Metering to Residential Body Corporate



APPENDIX F – AMR

Technical Requirements

An AMR system will need to be installed and connected to a Meter Reading Panel (MRP) in an accessible location.

The MRP shall have a display screen between 1.0m and 1.5m above the ground from where all *sub-meter* readings can be obtained. For example, either a scrolling system that allows the user to scroll up and down between apartments, or a numeric keypad for entering the apartment number and obtaining the relevant *sub-meter* reading.

It is preferable that all alarms would be communicated with the sub-meter reading, but as a minimum, the low battery alarm (if applicable), serial/unit number, and sub-meter reading must be communicated.

Installation Requirements

- A qualified technician approved by the AMR provider must install each component of the AMR system and work must be carried out to a recognised standard.
- Installation of water sub-meters must be carried out by a Licensed Plumber to the relevant Australian Standards.
- Installation of electrical systems must be carried out to the relevant Australian Standards.
- All components of the AMR system must be installed in accessible locations in common areas for maintenance purposes but shall be hidden from public view e.g. by a cover or enclosure.
- The MRP shall be protected by a weather-proof enclosure and fitted with a standard Council lock (to be supplied).
- The installation of the Meter Interface Unit (MIU) must not impede the ability for a manual reading of the *sub-meter* to be taken. The MIU shall be fitted with tamper-proofing of some kind.

Requirement for Separable Items

The MIU and the *sub-meter* itself shall be separable items. Even if supplied by the same manufacturer, allowance must be made for the replacement of either component with a similar product of a different brand, without the need to replace both. This separation and connection must be able to be carried out in the field, without sending parts away from the site.

Connectivity Testing

Before the final plumbing certificate is issued, the AMR system must be fully commissioned and proven to be working by the developer, body corporate or property owner by providing accurate reads from all *sub-meters* in the development. This shall take place as part of the final plumbing inspection.

As Constructed Drawings

A full set of hydraulic and electrical As Constructed drawings must be submitted both to Council and to the *Body Corporate* for their records including:

- the colour and size of the conduit
- conduit material
- identification of the inspection boxes and junctions
- the meter reading panel position (wall or enclosure)
- a wiring diagram to detail each unit connection at the reading panel
- a floor plan shown to indicate the meter position on high-rise and the location of cabling in relation to services in ducting.

Asset Handover to Water Service Provider

The accuracy of the connectivity of the *sub-meters* and any associated AMR systems shall be verified as per Sections 19 - 23.

Once the Final Plumbing Certificate has been issued, ownership of the sub-meters and associated infrastructure is transferred to the Council.

The developer will continue to be responsible for rectifying any defects in products and workmanship for a twelve-month period known as the 'defects liability period', from the date of occupancy of the development, or stage of the development.

At the end of this twelve-month period, an inspection may be carried out, and all responsibility will transfer to the Council, along with any associated warranties.

For new developments (post 1 January 2008), once the final connectivity audit for the development has been successfully completed, the ownership of *sub-meter* assemblies and the *sub-meter* isolation valves will transfer to the Council.

For developments pre 1 January 2008, once the final connectivity audit for the development has been successfully completed, the ownership of *sub-meter* assemblies and the *sub-meter* isolation valves and will remain the private property of the Body Corporate.