Meter Location and Installation Guide

New build domestic properties

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Version 1
**Introduction**

All new build properties must be metered. This guide is intended to help developers and accredited Self-lay providers (“SLP”) in the design and installation of water service pipes and related meter locations for domestic properties in order to achieve a standard which is consistent with Southern Water’s (“SW”) preferred policy options for a resilient network to a standard specification.

All pipework, meters, chambers and any other materials that will be in contact with potable water shall only be accepted if they are Water Regulations Advisory Scheme (WRAS) and Water Research Council (WRc) approved and compliant with SW’s Self-Lay Policy and this Guide, the Manufacturer’s Instructions, and the Water Supply (Water Fittings) Regulations 1999.

Please refer to SW’s website and the link to the Water Supply (Water Fitting’s) regulations 1999 to complete an on-line request for a site inspection by SW’s Water Regulation to inspect/audit all service pipes and meter installations. Note: Water Regulation inspection audits requests are issued to the SW Asst. Project Managers who will discuss all necessary requirements at the pre-start meeting.

SW’s policy is that meters are located externally (see preferred scenarios under). This policy is to ensure ease of access for reading and maintenance, and for reducing unnecessary disturbance to our customers in the future.

Meters are generally installed at the back edge of the highway boundary in a footpath or service strip, but alternative locations may be permitted to suit development constraints or considerations. The SLP and/or Developer is responsible for the installation of all necessary pipework (including the meter carrier) and the installation of the meter; after which SW takes responsibility for the meter only.

**Preferred scenarios**

**Scenario one - external meter in chamber**

See Appendix 1: **Diagram 1 (on page 6)** which shows how the meter (boundary box) chamber is to be located at the back edge of the footway and/or adoptable service strip and **Diagram 4 (on page 10): diagram 4a** - which details pipework entry into a building and the relative position of external pipework in trench; and **diagram 4b (on page 11)** - Installation of service pipe, meter chamber box, and depths

Developers/Self-lay Providers are responsible for all of the costs associated with the installation of the supply pipe (and, when appropriate, the communication pipe).

Southern Water’s published charges will apply relative to whether the installation forms part of a Section 45 or a Section 51 enquiry.

Single meters shall be installed in an approved boundary box (with integral meter carrier and stop-tap) and multiple numbers of meters in an approved manifold chamber (where the integral manifold assembly has typically two - six meter ports). Meter chambers, covers and frames, shall be suitable for the ground conditions and location relative to the vehicular traffic where they are to be located.

On request, we can provide details of our preferred meter chambers and meters (automated read type) from our standard list of suppliers (“SAL”). We can either provide these at a reasonable cost or you can procure them directly from the suppliers. SW’s Self-lay Policy: Schedule of Permissible Material provides additional details.
If you wish to procure meters, carriers, meter chambers (boundary boxes or manifold chambers) from SW please discuss your requirements with our site representative(s) and complete our rechargeable third party form; and an invoice will be issued soon afterwards.

The communication pipe is to be brought out to the point of connection with the main. Note: SW does not at the current time accept wall mounted external meters.

Scenario two - internal meter inside property

If we agree that scenario one is not possible or practicable due to development constraints, or considerations, single or multiple services into a property can be metered. If Developers or SLP’s want to install internal meters they are to notify us in writing when applying for a service connection and we will assess this requested option and advise accordingly.

Internal meters and related pipework and fittings shall be of a material that is suitable to the location of installation, and be accessible for future reading, exchange or maintenance.

Internal meters are typically installed in meter cupboards or ‘plant’ rooms, and as such they can easily be disturbed or exposed to extreme temperatures. Material selection shall therefore be designed to suit the proposed location. SW recommends multiple meter manifolds are constructed of gunmetal and be suitably protected.

Our policy is that internal meters are fitted with radio reading devices so they can be read from outside of the property to ensure that customers aren’t inconvenienced by meter reading personnel requesting future access.

See Appendix 1 - Diagram 2 (page 8) which shows an illustration of a typical single meter installation of in-line meter internal (not on manifold). Diagram 3 (page 9) shows, a meter carrier for a single and/or multiple internal meter installation (which can also be used on a multiple manifold).

Only one meter shall be installed per individual property - in no instance shall more than one meter supply a property, except a property with multiple individual units, i.e. a building with multiple flats, which may have a single person or organisation responsible for water supply to individual flats; in which case a suitably sized meter may be installed, when agreed by us.

Internal manifolds/meter carriers

When manifolds are accepted and a pre-fabricated manifold isn’t available (or suitable) it’s the developer or SLP’s responsibility to fabricate and install the internal meter manifold to connect with the water meters.

A six-way internal manifold (typically 540mm wide x 340mm high) requires 90mm space on either side to accommodate the meter and space to fit it. It is to be fixed securely to the wall, and if located in a cupboard will typically protrude 250mm from the wall.

A single internal manifold (meter carrier) is typically 65 mm wide x 110mm long and requires 160mm between the centres to enable the meters to be screwed in. It must likewise be fixed securely to the wall.

Material selection shall be designed to suit the proposed location. SW recommends meter carriers are constructed of gunmetal and be suitably protected.
Fitting the manifolds

If the pipework is incorrect when the meter installer turns up, they may not be able to fit the meters. If SW is the meter installer (rather than an SLP) you will be charged for an aborted visit. When the manifolds are installed they need to meet these requirements:

1. A single stop-tap shall be installed on the inlet to a six or four-way manifold (of the same diameter as the inlet pipe) to enable the manifold to be completely isolated and exchanged.
2. Safe and comfortable access to the manifold shall be provided to install or exchange meters.
3. A non-return (check) valve and drain cock shall be installed immediately upstream of each meter.
4. Each pipe shall be tagged to indicate the apartment/unit it supplies (i.e. a block of flats or properties with multiple units).
5. A stop-tap (closed) fitted in each apartment/unit.
6. Single manifolds require 160mm between the centres to enable the meters to be screwed in, and shall comply also with this drawing under:

![Diagram of a manifold installation](image)

Particular considerations when installing meter chambers

1. Meter chambers (single boundary box or manifold chamber) that are self-contained with integral meter carriers and isolation valves are consistent with Southern Water’s policy for a standardised system for future maintenance and operational use.
2. These self-contained meter chambers are available from our current suppliers (standard asset list) which we’ve assessed as satisfying our policy and standards. Details can be provided on request and procured either directly from the current supplier or from ourselves.
3. The trench for the pipe is to be excavated from the property to the water main, or edge of the property boundary at a depth which gives the pipework a 750mm minimum cover (the...
measurement from the finished ground level to the top of the pipe) and the maximum cover is 1350mm. The trench and installation of the service pipe is to be left exposed for us to assess that the installation complies with the Water Supply (Water Fittings) Regulations 1999.

4. Failure to comply with the regulations will mean that consent for a connection to our potable water mains network cannot be provided, which may result in a delay to your connection and potential charges for aborted/unsuccesful inspections.

5. The boundary box shall be installed so that all joints are water tight. While there are many alternatives for service pipe fittings, our standard asset list includes suppliers which we’ve assessed as satisfying our policy and standards.

6. Excavation around the water main shall expose the point of connection to the pipe and also relative to any road crossing ducts (for service crossing of roads) for the service connection to be made.

7. Supply pipe: A single length of pipe (no joints) shall be installed from the property footings (from the internal stop-tap) to the boundary box outlet where the connection to the outlet pipework from the boundary box is to be made, leaving a sufficient length to make the connection, as necessary.

8. Communication pipe: A single length of pipe (no joints) shall be installed from the inlet to the boundary box (and integral pipework) to the point of connection to the main to supply the service, leaving a sufficient length to make the connection, as necessary.

9. Pipework shall be capped with a mechanical fitting until the trench and pipework have been inspected and passed by us that the service pipe is satisfactory to connect to the main.

10. We won’t be liable for blockages in the pipework once the connection is made. Please ensure all pipework is free of debris prior to fitting a cap end and has been flushed and tested in accordance with the Water Supply (Water Fittings) Regulations 1999.

11. All pipework shall be clearly marked up to identify the plot it will be supplying.

12. External meter (single boundary box/chamber and/or multiple meters in manifold chamber) are to be installed within 300mm of the back edge of the kerb within a service strip or public adopted footpath. If a service strip or footpath location is not available and no other alternative can be agreed with us the meter chamber will need to be installed at the back edge of the road (fronting the kerb) in a road specification boundary box/chamber.

13. When boundary boxes and/or manifold chambers are to be laid fronting a communal driveway (separate supply pipes are to be installed in a communal excavation in the driveway, brought out to the highway/road location for the point of connection to the main).

14. Preferably, where possible, chambers shall be sited clear of vehicular traffic.

15. Materials for pipework and associated apparatus, boundary boxes, fittings and the like shall be provided to suit relevant ground conditions; i.e. approved protected materials (barrier pipe) shall be used when the ground is contaminated.

16. All excavations are to be backfilled with suitable and appropriate materials but leave the joints at the meter chamber exposed until all connections are completed.

17. Once connected, our installer or a self-lay provider will fit the meter and record and notify us of the property details.
Diagram 1: Acceptable location of meters chambers (boundary boxes)

Diagram notes:
- Not to be fitted in the white dotted area
- Footpath or adaptable service strip
- Water main
- Boundary Box
- Single meter with stop tap control
- 2 to 6 port external manifold in chamber
- Stop tap
- Single internal meter
- Internal multi manifold
Diagram 2: Single meter installation for In-line meter (not on manifold)

In the below diagram a double check valve is to be inserted after the meter but before the drain-cock. An external installation does not require a drain-cock or stop-tap on the outlet.
Diagram 3: (3a) Meter carrier for a single and/or multiple internal meter installation

In the below diagram a double check valve is to be inserted after the meter but before the drain-cock. An external installation does not require a drain-cock or stop-tap on the outlet.
Diagram 3: (3b) Internal meter manifold multi-meter installation
Diagram 4: (4a) Installation of service pipe, meter chamber box, and depths

For additional information, please refer to the WRAS Guidance on ‘Water System and design installation’ (and in particular Section 4, Schedule 2, paragraphs 8, 9,10,11,12 and 13, together with Schedule 2, Section 3, paragraphs 3, 4, 5, 6 and 7).
Diagram 4: (4b) Details of pipework entry into building and relative position of external pipework in trench.

Diagram showing the details of pipework entry into a building and the relative position of external pipework in a trench. The diagram includes various annotations such as 'Vertical pipe in duct less than 750mm from external face of wall', 'Solid internal floor', 'Pipes laid in a duct with insulation required', and 'Not less than 750mm, not more than 1350mm unless in a duct'.
Guidance notes for diagrams 2 and 3

1. Preferably, the meter carrier will be gunmetal or a similar approved material (plastic is not recommended in this installation) complete with integral stop-taps and non-return valve. Both the inlet and outlet shall have ¾ inch BSP threaded ends. The stop-tap shall be compliant with BS1010.

2. The meter carrier shall be fixed securely to a wooden backboard.

3. Meters must be installed in a place we can safely and comfortable access them for maintenance, or to replace a damaged meter. Meters should preferably be located at eye level, and anyone accessing it must be able to comfortably view the numbered reading.

4. A stop-tap shall be installed on both the inlet and outlet pipework to a meter. The stop-tap with an external single meter is located in the boundary box, as an integral part of the box/chamber.

5. All flats shall have individual meters (no shared supply shall be accepted) and the location of individual meters shall be identified to each flat.

6. Access for meter reading and/or maintenance shall be provided 24 hours a day, 365 days a year. We will not carry any special keys to open doors to any premises, gated community, or lockable room. Therefore any doors to a room that contains meters shall have a coded key pad (codes provided to us). Meter cupboards shall not be lockable.

7. Following its installation the meter is owned by us, as is the boundary box/chamber, and we are responsible for maintaining and/or replacing these. Charges apply if damage is caused by a third party.

8. The meter carrier and all associated pipework is not the responsibility of SW but of individual property owners and/or managing agents (flats) who are responsible for all future leaks, repairs and/or maintenance. This includes all pipework installed within the curtilage of a property (i.e. the supply pipe) to the property boundary with the highway.

9. Water and electrical apparatus shall not be installed in close proximity or within the same cupboard) – the current Electrical and wiring Regulations also apply.