

Connection to the public sewerage system

– guidance notes and technical specification

These notes have been compiled to provide assistance and background information for persons wishing to make a connection to a public sewer within the Southern Water region.

The application procedure

Read these guidance notes and technical specification which will provide guidance on the materials and workmanship required to meet Southern Water standards. Additional information is contained in *Sewers for Adoption (7th Edition)* which is published by the Water Research Centre and available from www.wrcplc.co.uk/sfa.

Complete the attached application form and return it to the address shown at the end of these notes together with the relevant vetting and supervision fee and drawings.

Southern Water will give its decision on your proposal within 21 days. **You must not programme your works to commence within this period.** Failure to include any of the requested information or payment will be deemed as an incomplete application and may result in your application being delayed/returned.

At least two working days before intending to carry out the works, you or your contractor should contact the Clerk of Works as shown on the approval letter to arrange a mutually convenient inspection date. Every effort will be made by Southern Water to meet your required inspection date providing that the two days notice has been given.

What does it cost?

A vetting and administration charge plus VAT, as per the application form, is levied for **each** sewer connection whether made directly onto a public sewer or indirectly via an existing lateral or private sewer and is based on the type of connection.

An Infrastructure Charge is also applicable to first time connections – upon connection to the public sewerage system, or a sewer or drain which drains to the public sewerage system. An infrastructure charge for sewerage is levied on each dwelling served by the connected sewer. For the current infrastructure charges please refer to Southern Water's website at www.southernwater.co.uk. Non domestic premises will be individually assessed according to the number of appliances/fittings producing wastewater. (VAT is zero rated for new domestic property connection to the sewerage system). Infrastructure charges are applicable even if the connection is made via a private sewer providing that the private sewer ultimately discharges into the public system.

Note that these costs do not cover the cost of laying the drain from your property to the sewer or making the connection.

Technical requirements

Where a connection is to be made that serves more than three properties, and in other cases at the discretion of Southern Water, the connection to the public sewer shall be made via a new or existing public manhole.

New manhole construction must be in accordance with the typical manhole details shown in **Sewers for Adoption*. All materials used should comply with those specified in the current edition of *Civil Engineering Specification for the Water Industry* and comply with the appropriate current British and/or European Standard.

Vitrified clay pipes and pipeline fittings should comply with the relevant provisions of current British and/or European standards, for pipes with flexible mechanical joints.

Unreinforced or reinforced concrete pipes and fittings with flexible joints shall comply with the relevant provisions of current British and/or European standards.

Ductile iron pipe fittings and joints shall comply with the relevant provisions of British and/or European standards.

Sulphate resisting Portland cement or a special combination of GGBS or PFA shall be used in all cases (including precast concrete products) unless the contractor can show that any attack from soils, groundwater or aggressive atmospheres in the existing sewers will be adequately resisted by use of cement to current British and/or European standards.

The relevant proportion of M1 mortar mix shall consist of one part sulphate resisting cement to three parts of sand by volume. Mortar which has begun to set or which has been mixed for a period more than one hour shall not be used.

Connection of gravity drains to a manhole

Where a connection is to be made using a pipe of the same internal diameter as the outlet pipe from the manhole, the connection shall be made at the invert of the main channel.

Where the connection is to be made using a pipe of smaller diameter than the outlet pipe from the manhole, the connection should be made so that the soffits of the connection and outlet pipes are level.

Pipework entering a manhole shall have an external flexible joint within 600mm of the inside face of the manhole connection and a *rocker* pipe not more than 600mm long to the main pipeline, in accordance with the typical detail in **Sewers for Adoption*.

In certain circumstances Southern Water will consider the use of vertical external backdrop connections. A typical detail showing the approved arrangement is shown in **Sewers for Adoption*. Internal backdrop connections will not be permitted, except with the express permission of Southern Water.

45-degree ramped connections may be substituted for a backdrop. In such cases an oblique junction and a 45-degree bend shall be substituted for the tumbling bay junction and the 90-degree rest bend respectively.

All other construction details shall be as for the external backdrop connection.

The ramped connection on a private drain or sewer will not form part of the public sewerage system.

Connections of rising mains (pumped drainage) pipework to manholes

Such a connection will only be permitted if a manhole is constructed at the point of discharge (irrespective of the number of properties connecting).

A manhole and short length of gravity pipework will normally be required between the rising main and the public sewer. If the length of gravity sewer is not required, then a Viking-Johnson or similar approved coupling shall be installed within 600mm of the external face of the manhole. The connection level requirements of the rising mains shall be the same as those for gravity drains.

Arrangement of pipework within manholes

Pipework of 100mm to 300mm internal diameter and of a smaller diameter than the main outlet sewer shall terminate with a half section, clay branch channel bend. The angle of the connecting pipework at the point of entry through the manhole wall shall not be less than 90-degrees relative to the direction of flow in the main sewer at the point of exit from the manhole.

Where connecting pipework is in the range of 100mm to 300mm internal diameters and of the same diameter as the outlet sewer, a 45-degree to 90-degree channel junction shall be inserted. Approval must be sought for any alternative proposal.

For connecting pipework greater than 300mm internal diameter the branch channel bend shall be formed from class C20 concrete and rendered with granolithic concrete. The connecting angle shall be as above.

Connecting to an existing sewer pipe

The branch connection shall discharge its contents obliquely and in the direction of flow in the existing sewer. The oblique angle should be between 45 and 55 degrees in order that standard pipework fittings can be utilised.

Type of entry

Branch connection to a sewer of 225mm internal diameter or less, should be made by inserting a new oblique angled junction pipe using Bandseal/Flexseal couplings or similar approved.

Oblique angled saddle connections may be used on sewers with internal diameters greater than 225mm and less or equal to 450mm provided that the internal diameter of the connecting pipework is less than half that of the public sewer.

When inserting a new junction, the existing section of pipe shall be removed by cutting the pipes to square ends using a method or system approved by the pipe manufacturer. Cracked pipes must be replaced and the line, level and existing flows maintained at all times.

Splay cut connections may be made to sewers with an internal diameter in excess of 450mm where oblique junctions may not be available. Where a splay cut connection is to be made the pipes shall be cut to ensure an oblique entry so that discharge is in the direction of flow in the main sewer. The connecting pipework shall be cut to ensure that its socket rests on the outside barrel of the sewer and that there is no projection inside the main sewer. The pipes should then be pointed in cement mortar both internally and externally.

The ends of connections not intended for immediate use shall be closed with a purpose made stopper. The location of all such joints shall be recorded by the contractor by measurement from the manhole immediately downstream and notified to the Clerk of Works prior to backfilling being carried out.

Saddle connections

Pipe saddles for concrete or clay sewers shall be bedded in Class M1 cement mortar and a cement mortar fillet formed to give at least 50mm cover to the base of the saddle. Pipe saddles for uPVC sewer pipes shall be purpose made from uPVC and fixed using the appropriate solvent cement as per the manufacturers instructions.

Saddle connections will not be permitted on brick, pitch fibre or twin walled plastic (or ribbed) sewers.

Access to connecting pipework

Where the connection is not to be made via an existing or new manhole, the requirement under building regulations to provide an inspection chamber or manhole within 12.5m of the point of connection should be observed.

When connecting to an existing lateral drain, an inspection chamber or manhole would normally be required at the head of the lateral drain.

Testing

It is not our normal practice to test any part of the drain or private sewer to be connected. However, we reserve the right to do so if there appears to be a risk of infiltration as a result of high ground water levels. Should we wish to carry out any tests upon the connecting pipework then the contractor shall provide all facilities and testing apparatus on site.

The test, which should be carried out prior to backfilling the trench, shall be in accordance with the air test specified in BS 8005. Failure to pass the test will not preclude acceptance of the connection if a successful water test (as also specified in BS8005) can subsequently be carried out.

Maintenance of flow

The contractor shall be responsible for maintaining the flow in the affected public sewer during the entire course of his works. Details as to how it is proposed to do this should accompany the application or be forwarded to the Developer Services team prior to the commencement of work on site. Internal surfaces of all sewers, drains, manholes or culverts etc shall be kept free of cement, bricks, soil or other superfluous matter.

Health and safety

All the contractor's staff shall be suitably trained in relation to entry into confined spaces.

The contractor shall provide and adequately maintain in full working order at all times approved gas detectors and emergency escape sets, one set per person, when present in or near confined spaces. Contractor's staff must be fully conversant with this equipment, its use and operation.

No working in confined spaces shall be allowed to proceed until this equipment is present and fully operational at the work site.

It shall be the contractor's responsibility to adequately support the sides of any excavations. If in the opinion of the Clerk of Works the excavation is not adequately supported, the contractor shall take all the necessary steps to make the trench safe at his own expense before any inspection works are carried out. Additional inspection charges will be levied if the Clerk of Works has to make additional site visits.

When working in the public highway, all traffic signs and barriers etc shall be provided and maintained in accordance with Chapter 8 of the Traffic Signs manual to meet the requirements of the Police and Highway Agency.

Other information

Where separate foul and surface water sewers are provided, the foul water must be directed to the foul sewers and surface water to the surface water sewers.

Please note – where such a situation exists, it will not be permitted to discharge surface water, either directly or indirectly (eg via a private sewer or drain), into the foul water sewer.

Connections to pumping mains are **not** permitted.

The discharge of land drainage or ground water into the public sewers is also not permitted.

The discharge of non-domestic effluent is not permitted until a valid trade effluent consent has been issued by Southern Water. Queries regarding trade effluent should be addressed to our Technical Call Centre on 0845 278 0845.

Before final approval of the connection is given it may be necessary for all or part of the contributory drains or sewers on the development to be inspected. Should this be necessary, the two days notice requirement will be applicable.

If you wish your lateral drain to be adopted by Southern Water please submit an application in accordance with **Sewers for Adoption*. The application forms can be found on Southern Water's website.

You are strongly advised to avoid commencing works on Fridays and weekends as any delays due to unforeseen circumstances will be compounded by the difficulty of obtaining additional fittings etc which may result in you incurring additional costs.

All necessary preparatory work including all the obligatory road signing and guarding shall be carried out and/or is in place prior to the inspection taking place.

Before any opening is made in the carriageway, footpath or verge a road opening notice must be obtained from the appropriate Highway Authority. All requests for information regarding the associated costs, procedures and timescales should be addressed to them.

You can find out where the public sewers are in your area by writing to:

**LandSearches
Southern Water
Southern House
Capstone Road
Chatham
Kent
ME5 7QA**

Should you require any further information please contact:

**Developer Services
Southern Water
Southern House
Sparrowgrove
Otterbourne
Hampshire
SO21 2SW**

Phone: 0330 303 0119

Fax: 01962 716228