Developer Services:

Fire hydrant guidance

This guide is for anyone requiring a water connection and needs to understand what is needed when installing fire hydrants.

It explains what hydrants are, how they work, and what you need to know to install and maintain them safely and legally.

Fire hydrant requirements for new water connections

As part of your new water connection application, you may be required to install one or more fire hydrants. The fire authority or building control will advise you if hydrants are needed for your development.

Fire hydrants are typically required for:

- Larger developments
- Sites with higher fire risk (e.g., multi-storey buildings, care homes, warehouses)

If the fire authority or building control confirms that hydrants are required, please let us know. We can include the fire hydrants in your project design.

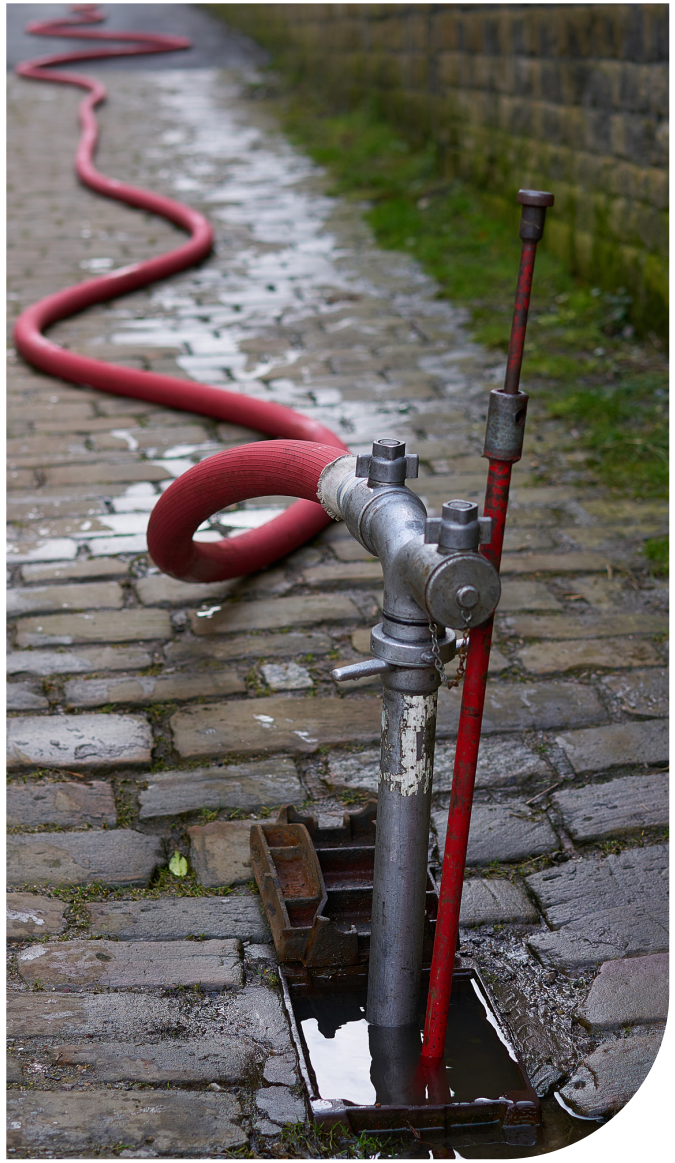
The fire authority will also specify the flow rate they need. Once you share this flow rate with us, we will carry out a capacity check to confirm whether our water network can support the required flow.

Installing a fire mains

When installing a fire-fighting system, please ensure it meets the following:

- All fittings and materials must be Regulation 4 compliant.

  Note: There are water fittings approval companies that test and certify water fittings (ie KIWA, NSF, WRAS and soon BSi). Water undertakers generally accept these certifications as proof of Regulation 4 (water fitting quality).
- All fittings and materials in contact with water must be Reg 31 compliant.
- All nuts and bolts incorporated in the fire-fighting system must be manufactured from a corrosion resistant material (galvanised fasteners will not be accepted).
- The fire-fighting system will require commissioning prior to connection.



8140b 12.25

Developer Services: **Fire hydrant guidance** continued

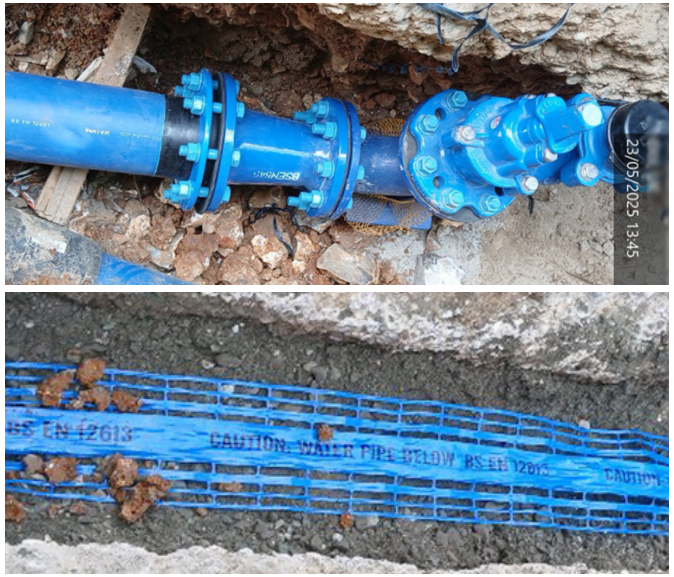
Fire main requirements:

- Fire mains should be installed to a depth between 750mm and 1350mm.
- Marker tape laid along the length of the hydrant supply pipe.
- Chambers, covers and lids to be provided by the developer.
- Pipe laid from hydrant to boundary. Pipe should be capped at the boundary end.
- Black cap on fire hydrant – to prevent anything going inside the bowl of the fire hydrant.

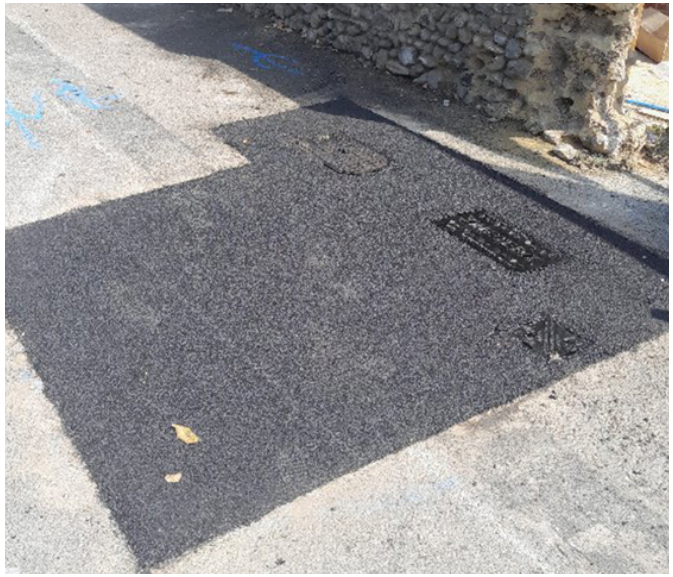
Fire hydrant requirements:

- Hydrants must be compatible with local fire authority.
- All hydrants are to comply with the requirements of british standard specification BS750. Hydrants shall be the 2½" stainless steel London round thread design as defined in BS750. They shall be clockwise to close operation.
- The hydrant should be central and vertically installed within the chamber.
- The installation shall be adjusted by means of riser pipes to ensure the outlet is no deeper than 300mm.
- Hydrants must be fitted with frost plugs and the chamber cleared of debris.
- Capable of accommodating a firehose and/or standpost.
- Able to be operated with a hydrant valve key.

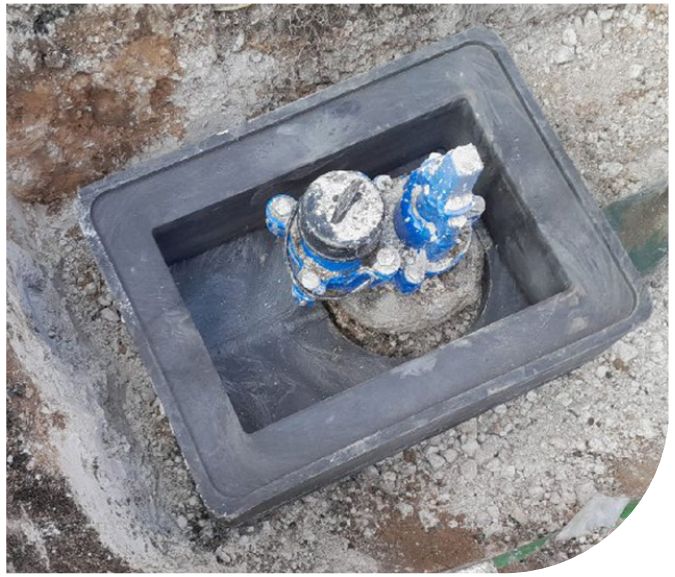
Fire hydrant install example:



Box example:



Reinstated/finished look:



Developer Services: **Fire hydrant guidance** continued

Private fire mains requirements (system not in the public highway):

- An isolation valve within the boundary at point of water supply connection.
- A single check valve downstream of the isolation valve.
- The fire-main and hydrants installed downstream of the single check valve
- The fire-fighting system will require Commissioning prior to connection.

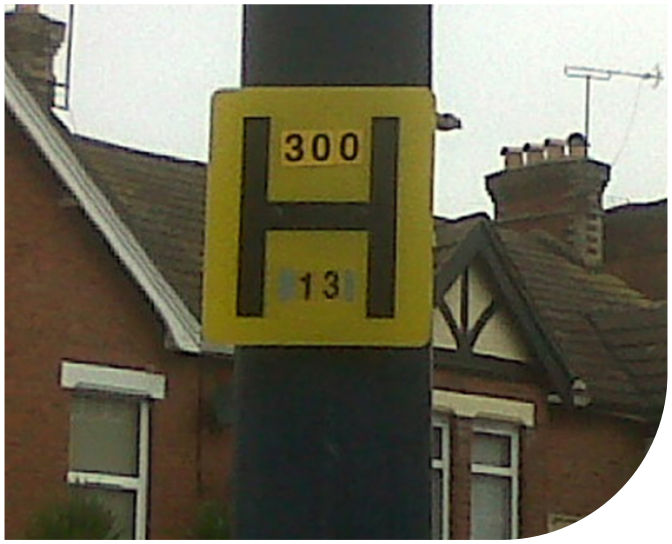
Marking the hydrant

Hydrants must be clearly marked so fire crews can find them. Use a yellow marker post with a plate showing:

- Pipe diameter (top number)
- Distance to hydrant (bottom number)
- In grassy areas, a thermal 'H' may be burned into the road surface.

When constructing the fire hydrant ensure the following:

1. Remove the cover with a lifter bar.
2. Ability to attach the standpipe securely.
3. Open and close valves slowly to prevent pressure surges.
4. Must not be damaged or blocked.



A fire hydrant sign to show location of fire hydrant, the marker is facing the location of the fire hydrant. Guidance from fire service will be provided if required.

Common issues to watch for

- **Incorrect covers:** Check with your local fire service which ones they want you to use.
- **Missing spindles:** Make sure this isn't missing.
- **Caps or loggers:** These may be left on hydrants—remove carefully if needed.
- **Debris or hazards:** Pit must be free of debris or hazards that may obstruct the fire service.

Chlorination and testing requirements

Your fire-fighting system must be fully commissioned prior to connection. This includes flushing, pressure testing the fire main in its entirety, disinfecting and sampling all components listed and achieving a successful chlorination. A chlorination certificate and all commissioning records must be provided to Southern Water at least 10 days before your new connection date.

When is sampling required?

Sampling must be processed by a UKAS accredited (ISO17025) laboratory. Test reports must clearly show that the microbiological and turbidity methods are accredited. Further guidance can be found at: ukas.com.

Onsite testing (in situ) must also be carried out at the time of sampling and include:

- Free and total chlorine residual measurement
- Appearance
- Odour

All lengths of pipe of any diameter should be disinfected. Pipes below 50mm internal diameter can have a spray disinfection (1000mg/l free residual chlorine) or use 'fizzy' chlorine tablet (normally used for single service pipes) followed by a thorough flush through.

Developer Services: **Fire hydrant guidance** continued

Above 50mm internal diameter the methods described in the SWS's Hygiene Code of Practice (HCoP) should apply – 20mg/l free chlorine for 16 hours (minimum) or 50mg/l for two hours.

Analysis ID	Component name
IN_FREECL	Chlorine (Free) (in-situ)
IN_TOTCL	Chlorine (Total) (in-situ)
IN_APPEAR	Appearance (in-situ)
IN_ODQLIN	Odour (Qualitative Intensity) in-situ
IN_ODQLNT	Odour (Qualitative Nature) in-situ
ODOURQL_IN	Odour (Qualitative Intensity
ODOURQL_NA	Odour (Qualitative Nature)
ODOUR_DN	Odour (Quantitative Intensity) (Dilution No.)
TCOL_CF	Total coliforms (Confirmed)
ECOLI_CF	E. coli (confirmed)
CC2_37	Colony counts (2 Days at 37°C)
CC3_22	Colony counts (3 Days at 22°C)
TURBIDITY	Turbidity
FSTREP_CF	Enterococci (Confirmed)
CLOS_CF	Clostridium Perfringens (Confirmed)

Based on the findings of your soil contamination report, along with the declaration completed for previous land usage on the Southern Water portal, indicating that former land usage is likely to have contributed to contamination on site.

- pH (Hydrogen Ion)
- Iron
- Copper
- Full GCMS Scan
- Total Hydrocarbons
- Colour
- Manganese
- Magnesium
- Trihalomethanes (THMs)
- Turbidity
- Aluminium
- Zinc
- VOC (Volatiles)
- Conductivity
- Calcium
- Lead
- Phenols
- Taste – In-situ and laboratory

These chemical requirements will need to be provided in addition to the tests, left.

Each laboratory completes their method validation based on specific sample bottles, so it is important that the customer uses the sample bottles provided by the laboratory they select to do the analysis. Otherwise, the results will be subject to deviations, and they will have to take the samples again.

Want to learn more?

Click the links below:

- Fire & Rescue Services Act 2004
- Water Industry Act – Section 57
- BS9990 – Code of practice for fire-fighting systems
- National guidance document on the provision of water for firefighting

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