

# LAYING NEW WATER SUPPLY PIPES

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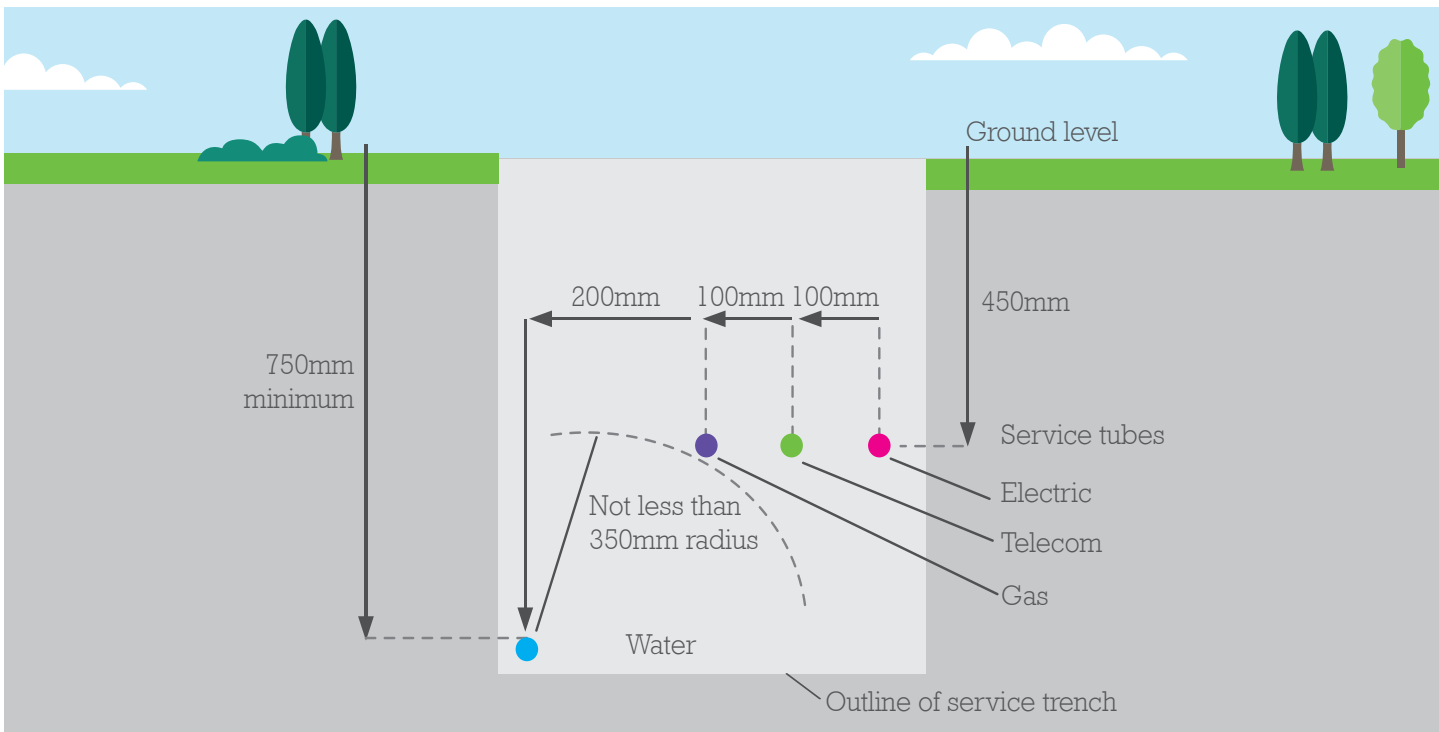
# LAYING NEW WATER SUPPLY PIPES

All materials and fittings used **must** comply with the Water Supply (Water Fittings) Regulations 1999. The following information is taken from the Water Regulations Guide Book, and is only intended as guidance when laying new water supply pipes. For further details please visit their website [www.wras.co.uk](http://www.wras.co.uk).

Private supply pipes must be inspected in advance of them being connected to our water mains network. There are two options of certifying Water Regulations compliance in terms of supply pipes by either gaining consent from Northumbrian Water or by using a WaterSafe approved plumber.

## TRENCHES

Ideally the trench should be lined and the pipe covered with sand or soft earth and not sharp rubble. **No open ends should be left to prevent ingress of contaminants. All of the pipework must be laid in the trench and available for inspection by Northumbrian Water or installed by a WaterSafe approved contractor prior to back filling otherwise approval to connect will be withheld.**



The private (supply) pipe is to be laid at a minimum depth of 750mm and up to a maximum depth of 1350mm below finished ground level (in accordance with Water Supply (Water Fittings) Regulations 1999 G7.7).

However, where the pipe crosses the property boundary and enters the premise, the depth should be 750mm.

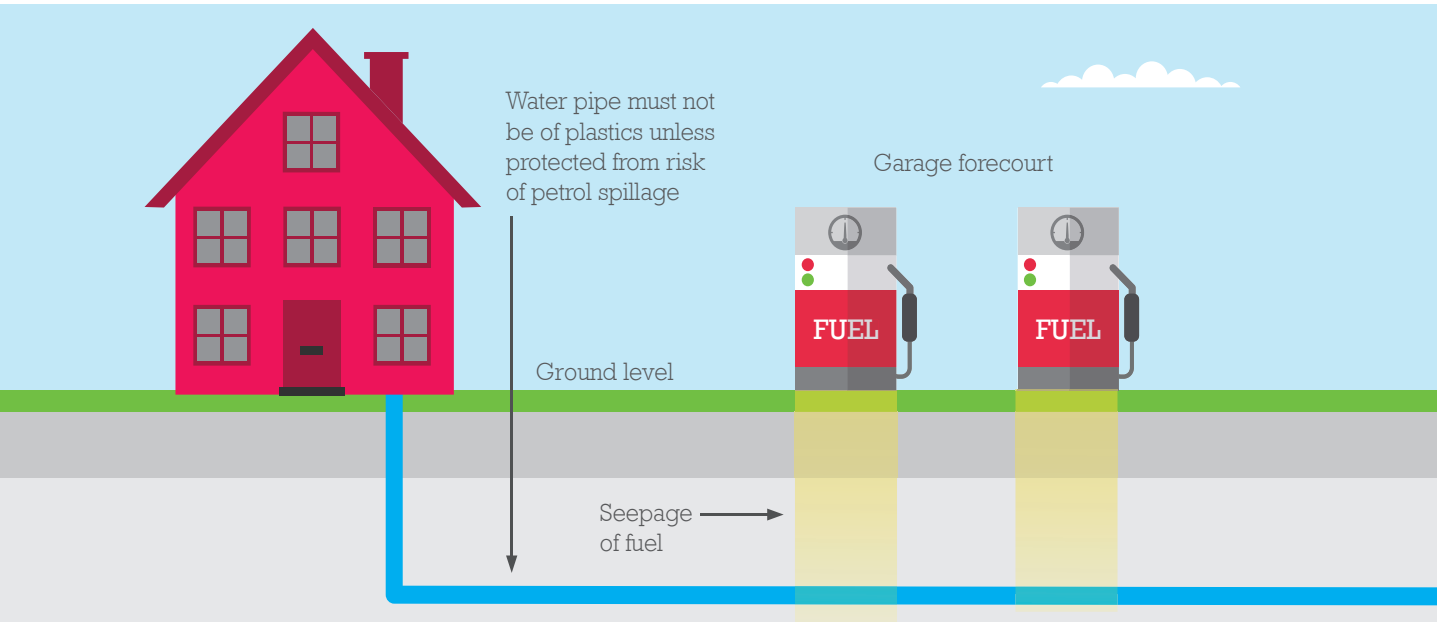
**Note:** If it is difficult to achieve the requirements detailed above, please contact Northumbrian Water's Regulation department.

## USING SUITABLE MATERIALS

It is important that the ground conditions are assessed before water supply pipe materials are selected. The most commonly used pipe material for is medium density polyethylene (MDPE) that complies with BS6572.

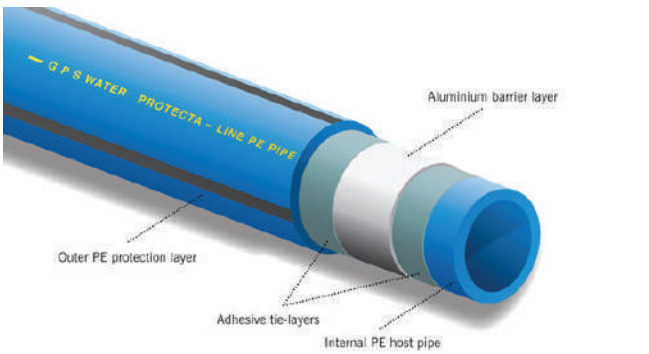
However, certain chemicals such as oil, petrol or creosote can permeate MDPE supply pipes and pose a risk to potable water quality. If ground is contaminated with these chemicals through storage or spillage it is often the case that so-called 'barrier' pipe and suitable fittings must be used.

In the following section there is some general information about pipe materials and contaminated land. Further detailed and important information is available on our website at [www.nwl.co.uk/UKWIR-contaminated-land-guidance](http://www.nwl.co.uk/UKWIR-contaminated-land-guidance).



## BARRIER PIPE

Barrier pipe is reinforced to protect water supplies against certain types of contaminants that can permeate standard MDPE pipe and put our water supply at risk. There are different types of barrier pipes available, ductile iron, plastic coated copper and multi-layer plastic with a metal layer. Barrier pipe must be compliant with BS 8588.



## PRESSURE TESTING

It is best practice to lay a private supply pipe in a way that avoids joints. Where joints are unavoidable the installation must be pressure tested and disinfected prior to connection our water mains. Pressure tests must be witnessed by Northumbrian Water unless the test data is recorded by means of a data logger and forwarded onto Northumbrian Water for approval.

For both internal and external pipework the test pressure for or any pipe should be 1.5 times the maximum working pressure that any pipe or fitting is subjected to. Following any pressure test, a disinfection regime must be carried out supported by analytical testing.

Full details of our pressure testing requirements can be found at [www.nwl.co.uk/business/water-regulations](http://www.nwl.co.uk/business/water-regulations).



DISINFECTION

Northumbrian Water will require disinfection:

- If new connection is to an existing premise, domestic or otherwise, that was originally connected to a non Northumbrian Water supply e.g. raw water, springs, borehole or other source.
- For an existing property previously supplied by the above, all of the internal and external pipework need to be disinfected prior to connection to the supply.
- The new pipe is greater than 50mm Internal Diameter.
- The new pipe is greater than 50 meters in length.
- If the installed pipe has been left or isolated for greater than 30 days (WRAS - IWQ01).
- If pipe is left empty and capped at both ends for anything greater than 3 months, seek guidance from the Water Regulations department as this may be subject to site specific risk assessment.
- The pipe is subject to ingress by pests or contaminants.

Full details of our disinfection requirements can be found in guidance notes 4 (New Supplies) and 5 (Existing Supplies) at [www.nwl.co.uk/business/water-regulations](http://www.nwl.co.uk/business/water-regulations).

**Note:** Following the disinfection, water samples are required for bacteriological satisfaction. Total Coliforms, E Coli, 22 & 37°C Colony Counts, Free and Total Chlorine Residuals must be taken and certificated by a UKAS accredited laboratory.

BUILDING ENTRY

Where a water pipe enters a building or runs beneath a building etc, it must be located in a suitable duct. The correct size ducting is ideally a minimum of 100mm (4”) diameter pipe, to allow the pipe to be removed in the future if required. The ducting pipe is usually plastic but can be other materials if suitable. There must not be any markings for other utility services like gas, electricity, telecom etc.

**Note:** Pipes entering a building at the approved depth should be passed through a duct with each end sealed to prevent against entry of fluids, vermin and insect. A removable universal adaptor could be used. The duct should comprise of a continuous slow bended duct of sufficient size to permit the pipe and insulation to be withdrawn and replaced if necessary.

A suitable stop tap (BS1010) and drain off valve (BS2879) must be fitted, as soon as the pipe enters the building. Ideally this must be as close to the point where the pipe enters the building as it is possible. Allowances can be made, however the pipe needs to be insulated as per diagrams 2 and 3 adjacent. **The use of expanding foam, oil based sealants will not be accepted due to contamination issues.**

Thermal insulation should be of the closed cell type complying with BS5422 and installed in accordance with BS5970. Insulation must be able to prevent water from freezing for between 12 to 18 hours. Typical manufacturers like Armaflex, Kingspan, Kaimann and Tuboilt.

For further advice contact Northumbrian Waters Regulations department.



Long radius bend ducting



Universal adaptor



Foam seal

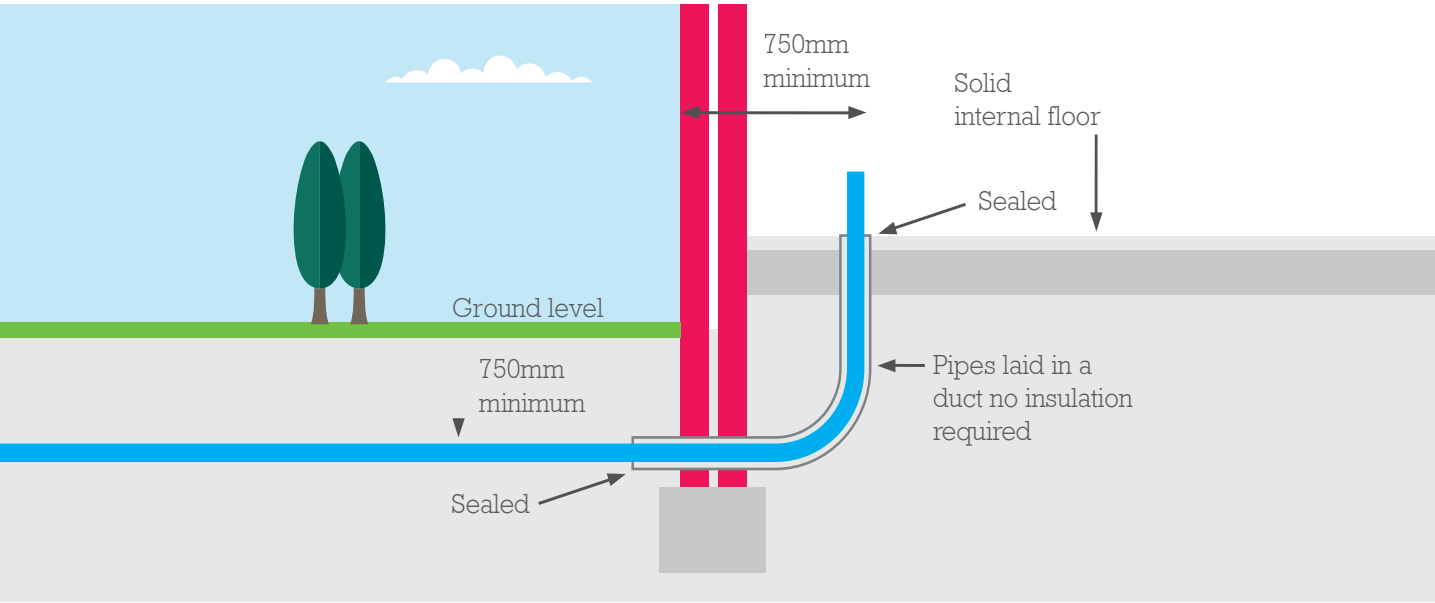


Diagram 1 - Pipes entering buildings greater than 750mm from the external face of the wall.

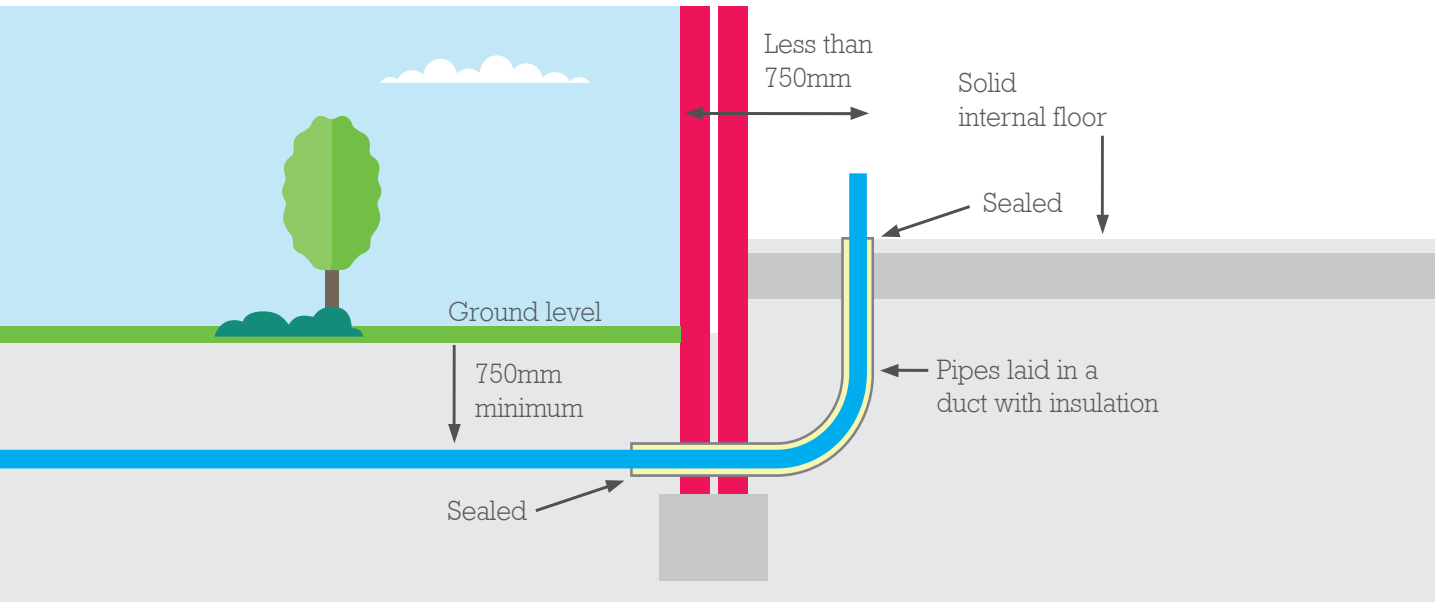


Diagram 2 - Needs insulation - Pipes entering buildings less than 750mm of ground cover or the pipe enters the building at a distance of less than 750mm from the external face of the wall.

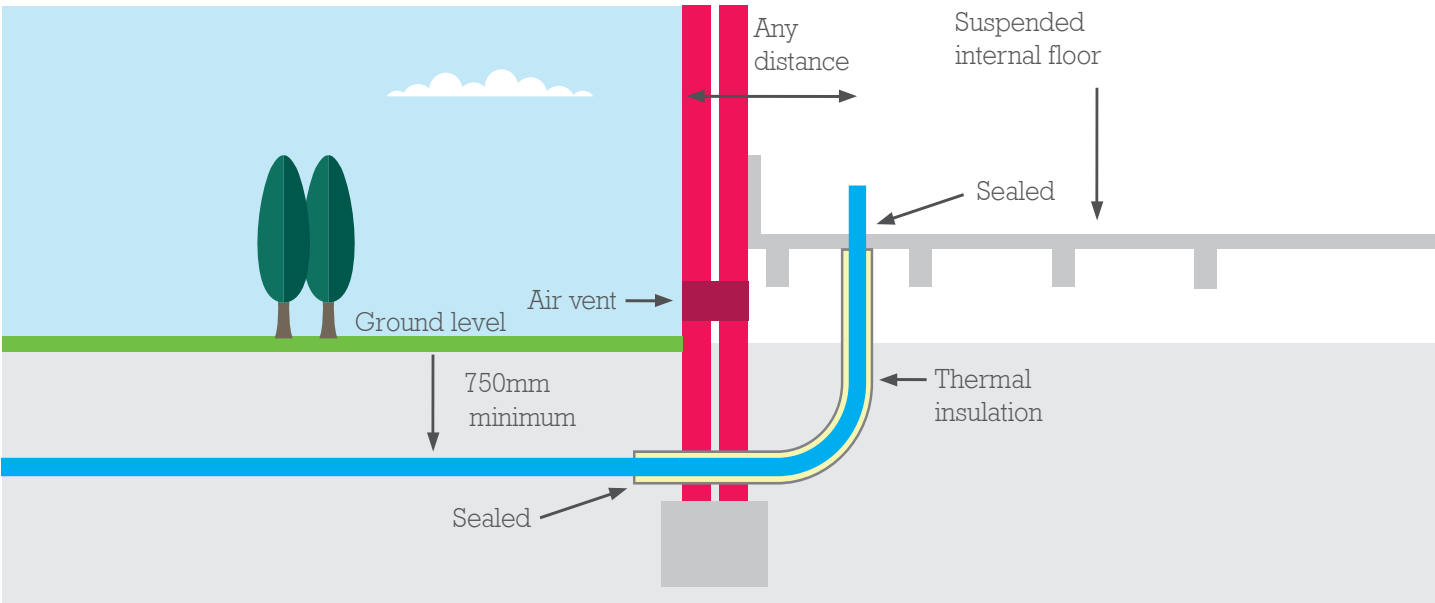
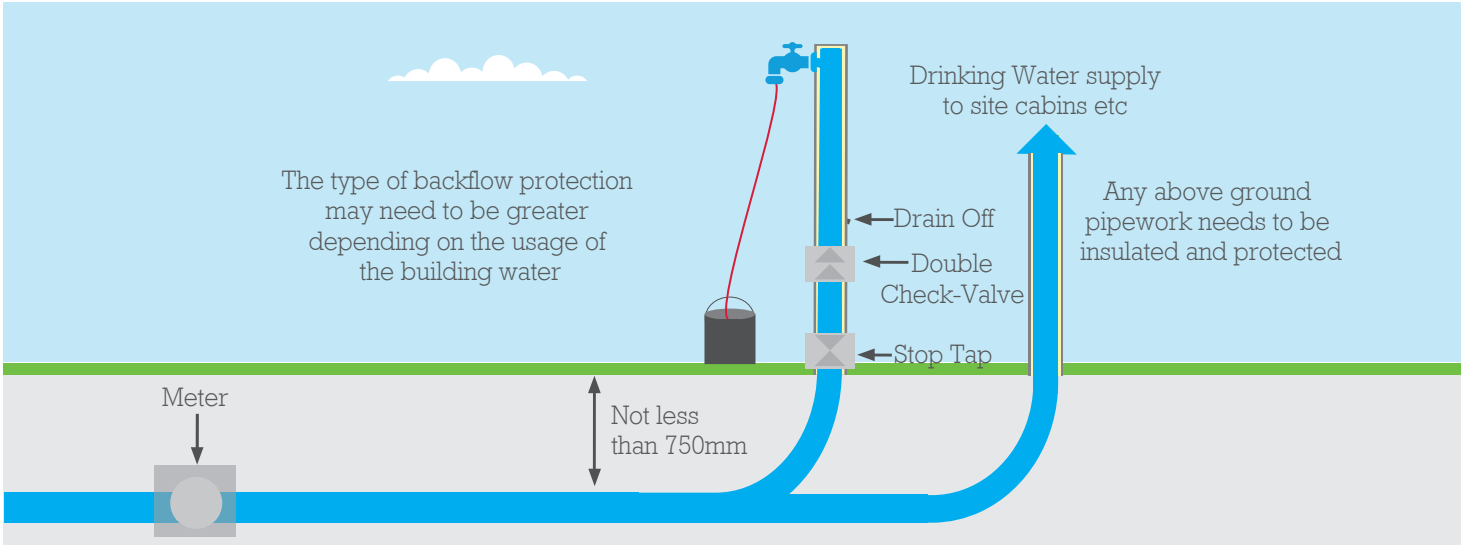


Diagram 3 - Needs insulation - Where the incoming pipe passes through a vented or unvented airspace, such as adjacent internal suspended lower floor, the pipe should be fully insulated.

TEMPORARY SUPPLY



If the temporary supply is to be used for domestic purposes such as a supply to site cabins, canteens etc. The potable water supply must be protected against potential contamination from activities being carried out during construction works by means of a backflow protection device such as a double check valve.

INTERNAL PIPEWORK AND FITTINGS (NON-HOUSEHOLD BUILDINGS)

An inspection by Northumbrian Water employees will be required for any work carried out before a connection to the water main can be made, except that carried out by a WaterSafe approved plumber. All works must comply with the requirements of the Water Supply (Water Fittings) Regulations 1999, and a copy of the certificate for work completed forwarded to Northumbrian Water.

For further information please contact the Water Regulations department.

RECLAIMED WATER SYSTEMS

A water installation used to collect, store, treat and distribute water, other than potable water direct from the mains.

Under the Water Fittings Regulations, if a customer proposes to install a water reuse system that incorporates a back-up supply from the public mains, they must notify Northumbrian Water under Regulation 5 of the Water Fittings Regulations. All water reuse systems will be inspected, recorded and registered by Northumbrian Water.

- **Greywater** - Water originating from the mains potable water supply that has been used for bathing or washing, washing dishes or laundering clothes.
- **Rainwater** - Water collected from the external surfaces of buildings and hard standing areas by diverting the flow to a storage cistern or system and used for toilet flushing.
- **Reclaimed Water** - Water, other than potable water direct from the mains, which has been collected and treated so its quality is suitable for particular, specified purposes e.g. irrigation

NOTIFICATION:

**Regulation 5.** Any person who proposes to install water fittings in connection with any of the operations listed adjacent:

- a) shall give notice to the water undertaker that he proposes to begin work;
- b) shall not begin that work (except at his own risk) without the consent of the water undertaker, which shall not be withheld unreasonably; and
- c) shall comply with any conditions to which the undertaker's consent is subject.

For further information visit [www.nwl.co.uk/business/water-regulations](http://www.nwl.co.uk/business/water-regulations) or contact the Water Regulations Department.

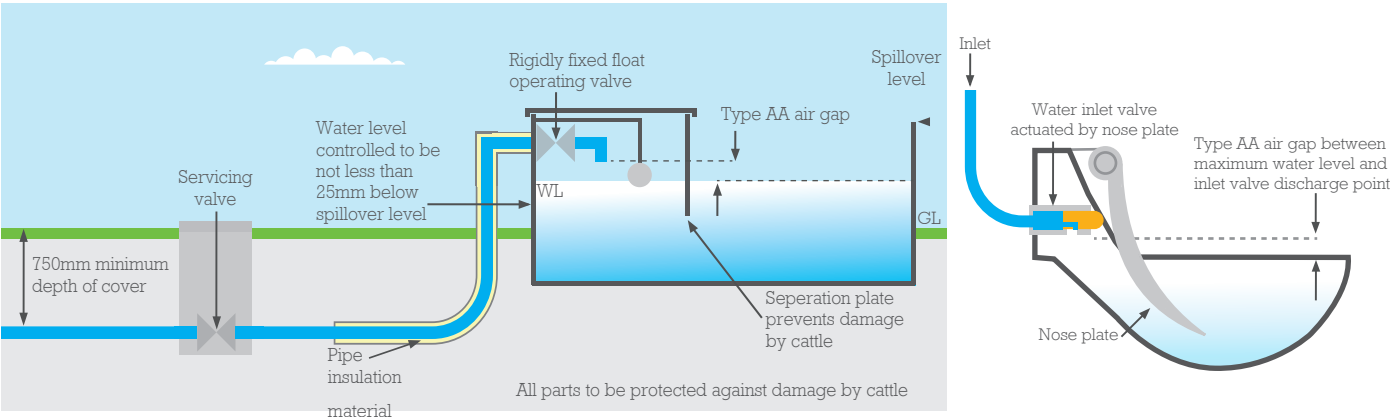
TYPES OF PLUMBING WORK COVERED:

|  |                                                                                                       |  |                                                                      |
|--|-------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------|
|  | Building a new house or another property/ structure                                                   |  | Extending or altering the water system on a non-household building   |
|  | Changing the use of a building or installing systems such as rainwater harvesting                     |  | Installing a swimming pool or pond over 10,000 litres                |
|  | A garden watering system (unless operated by hand)                                                    |  | A bath which holds more than 230 litres of water                     |
|  | Any water system outside a building which is either less than 750mm or more than 1,350mm below ground |  | A pump or booster delivering more than 12 litres of water per minute |
|  | A reverse osmosis unit (for cleaning water)                                                           |  | A reduced pressure zone (RPZ) valve assembly or similar              |
|  | A water treatment unit which produces wastewater                                                      |  | A bidet with an upward spray or flexible hose                        |

This list is not exhaustive and there are extra requirements in Scotland and Northern Ireland.

AGRICULTURAL PREMISES

Animal drinking bowls and troughs which are connected directly to the mains supply must be fitted with a double check valve at the boundary and must have fluid category 5 backflow protection. All troughs must be adequately supported and secured against movement by livestock. For further information please visit [www.wras.co.uk](http://www.wras.co.uk).



WATERSAFE

WaterSafe is a free online directory and national accreditation body for competent and qualified plumbers in England, Scotland, Wales and Northern Ireland. Visit [www.watersafe.org.uk](http://www.watersafe.org.uk).

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