

# Whole site and zone backflow protection

There are many commercial/industrial processes where the whole plumbing system can still pose a high risk of backflow to Hartlepool Water's supply even though the plumbing system is installed to the required regulatory standards. This could be because of the type of business that is being carried out there, or the way in which the water system is being managed.

## 1. Whole site backflow protection

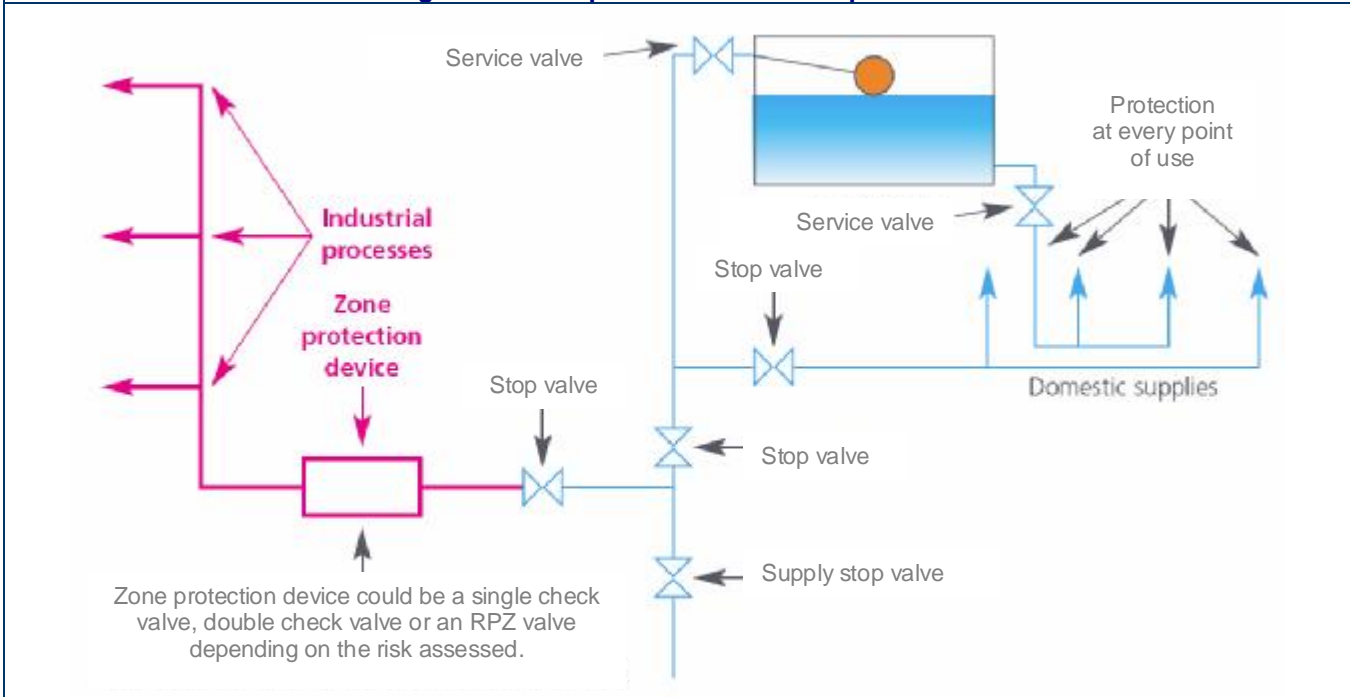
When this situation arises, Hartlepool Water will insist that 'whole site backflow protection' is installed. The term 'whole backflow protection' means that Hartlepool Water's water supply is fully protected at all time from the risk of any possibility of backflow or back siphonage which may occur from a commercial/industrial plumbing system by the installation of a suitable backflow device at the point of entry to the site.

It is very important that Hartlepool Water are fully aware of what fluid category risk your new commercial/industrial plumbing system could be to our supply. Hartlepool Water need to be made aware of this at the application/notification for a water supply stage, where we will assess your application for a supply and advise on what fluid category of backflow protection device must be installed to comply with the Water Supply (Water Fittings) Regulations 1999. This device must be installed before the system is commissioned.

## 2. Zone backflow protection

Zone backflow protection simply means protecting a water supply pipe that is supplying one or more separately occupied premises/buildings (see diagram 1).

**Diagram 1: Example of zone backflow protection**



### 3. Ownership of the whole site or zone backflow protection device

The backflow protection device is owned by the customer who is responsible for its maintenance and servicing.

### 4. The five fluid categories

#### Fluid category 1

Wholesome water supplied by a water undertaker

- Drinking water

#### Fluid category 2

Water in fluid category 1 whose aesthetic quality is impaired owing to:

- A change in temperature
- The presence of substances or organisms causing a change in taste, odour or appearance.

#### Fluid category 3

Fluid which represents a slight health hazard, for example:

- Ethylene glycol
- Copper sulphate solution, or similar chemical additives

#### Fluid category 4

Fluid which represents a significant health hazard, for example:

- Chemical, carcinogenic substances or pesticides (including insecticides and herbicides)

#### Fluid category 5

Fluid representing a serious health hazard

### 5. What backflow protection device will need to be installed?

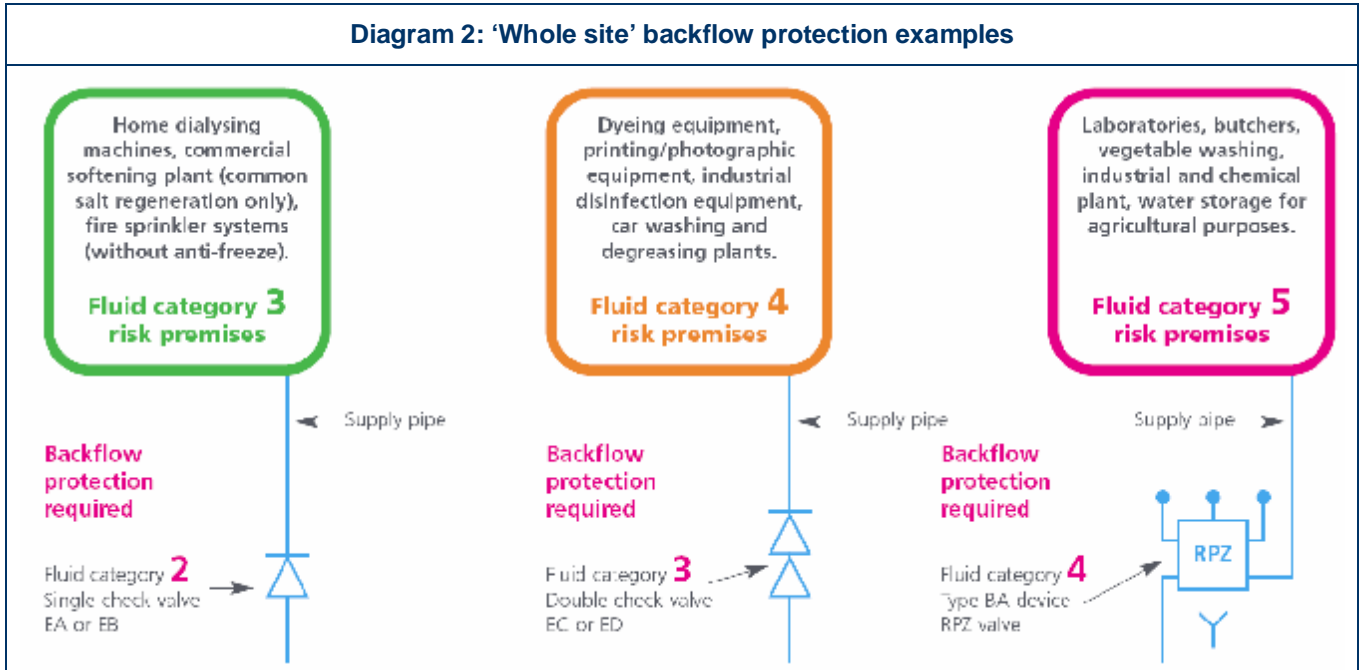
If the supply for your business/process is assessed by Hartlepool Water as a fluid category 5 risk the backflow device at the point of entry to the site or zone to be protected can decrease by one fluid category down to a category 4 backflow protector. The same would happen if the supply was assessed as a fluid category 4 risk, the backflow device at the point of entry could again decrease by one fluid category to a category 3 backflow protector and so on.

Examples of mechanical backflow devices that could be used for whole site or zone backflow protections:

Single check valve EA or EB	=	Fluid category 2 protection
Double check valve EC or ED	=	Fluid category 3 protection
Type BA device (RPZ valve)	=	Fluid category 4 protection

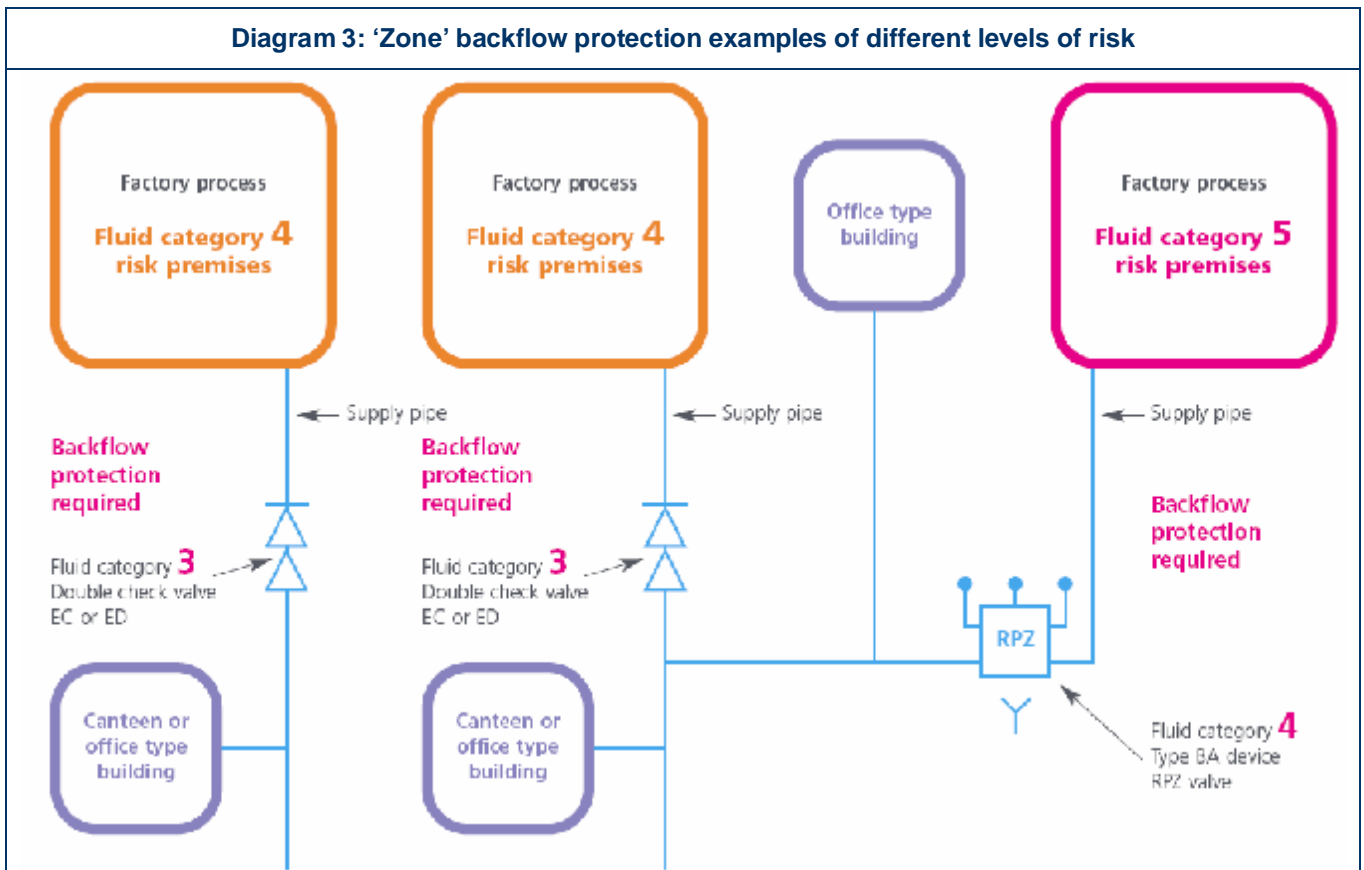
## 6. Whole site backflow protection diagram

Diagram 2: 'Whole site' backflow protection examples



## 7. Zone backflow protection diagram

Diagram 3: 'Zone' backflow protection examples of different levels of risk



## 8. What you must do to satisfy the Water Supply (Water Fittings) Regulations 1999

When proposing to install a plumbing system for a commercial/industrial process purposes, Hartlepool Water will require the following four items from you to satisfy Regulation 5.

1. A completed application for a water supply (Mains and connections application form)
2. A drawing of the mains water pipework layout for the site.
3. A brief description of the commercial/industrial process so that we can assess the possible risk of backflow to our water network.
4. A schedule of the water fittings that you intend to install.

Listed below are just a few examples of the plumbing systems that could require either whole site or zone backflow protection:

Abattoirs
Agricultural purposes
Butchery
Car washing
Colleges
Degreasing plants
Dyeing equipment
Farms
Garages
Hospitals
Industrial and chemical plant
Industrial disinfection equipment
Laboratories
Printing/photographic equipment
Stables
Vegetable washing

**IMPORTANT:** If Hartlepool Water are not made fully aware of the type of commercial/industrial plumbing system at the design/application stage, we cannot correctly assess any possible risk of backflow that the site may pose to our water network in the future.

In any case of Hartlepool Water not being made fully aware, and a backflow incident occurs from an unprotected commercial/industrial system, it will be the customer that will be held responsible for any contamination caused to our water network.

## 9. How to contact us

If you require any further information please do not hesitate to contact us:

- Email: [enquiries@hartlepoolwater.co.uk](mailto:enquiries@hartlepoolwater.co.uk)
- Phone: 01429 858 050
- Post: Hartlepool Water, 3, Lancaster Road, Hartlepool, TS24 8LW