

**A WATER SUPPLY
INDUSTRY
INSTALLATION
GUIDE**

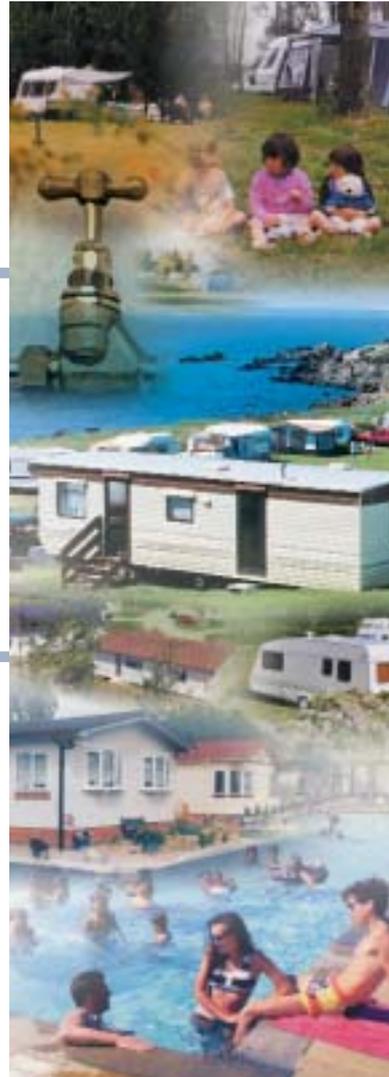
**PREVENTION OF
CONTAMINATION AND
WASTE OF DRINKING WATER
SUPPLIES**

SEPTEMBER 2002

Holiday and Residential Parks

*Information for
anyone installing,
modifying or
maintaining
plumbing
installations*

WRAS
Water Regulations Advisory Scheme



Prepared and Approved on behalf of
the UK Water Suppliers by the
Water Regulations Advisory Scheme
Technical Committee

Holiday and Residential Parks

PREVENTION OF CONTAMINATION AND WASTE OF DRINKING WATER SUPPLIES

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Some Useful Definitions

WATER FITTINGS

'Water fittings' includes all pipes, pipe fittings, joints, valves, cisterns, appliances and equipment which form the water supply system in premises or are connected to it. The supply pipe is included i.e. that part of the underground service pipe, connecting the premises to the water main, which is owned by and is the responsibility of the premises owner.

WHOLESOME WATER

Water supplied by the Water Supplier of suitable quality for drinking purposes.

CONTAMINATION

Contamination includes any reduction in aesthetic, chemical or biological quality of the water due to raising its temperature or the introduction of polluting substances – whether it is harmful to health or not.

BACKFLOW

Backflow is defined as 'flow in a direction contrary to the intended normal direction of flow'.

CROSS-CONNECTION

Any connection between the water supply system containing wholesome water supplied by the Water Supplier and pipes, fittings or equipment containing any other water.

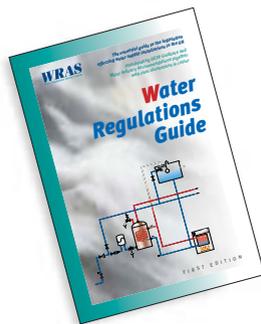
PERMEATION

Permeation occurs when a substance penetrates the material of which a pipe is made and contaminates the water within the pipe.

This Installation Guide was compiled on behalf of the UK Water Suppliers by the Holiday and Residential Parks Group of the Water Regulations Advisory Scheme Technical Committee. The Group wishes to express its appreciation for the support and assistance given in preparing this Guide by the National Caravan Council Ltd. and the British Holiday and Home Parks Association Ltd.

Introduction

For many years, water supply byelaws were used to protect and conserve public water supplies. These byelaws were replaced in England and Wales on the 1 July 1999 by the Water Supply (Water Fittings) Regulations (1999), and on the 4 April 2000 in Scotland by the Byelaws 2000. The Regulations and the Byelaws 2000 are technically similar and references to 'the regulations' in this Installation Guide refer to both. Water Regulations in Northern Ireland are to be updated by 2004, resulting in the same technical requirements throughout the whole of the UK.



Where do the regulations apply?

The regulations apply to all types of premises and to all plumbing systems, pipes above or below ground, water fittings, appliances and equipment which is supplied, or is to be supplied, with water from the public supply. The regulations apply from the point where water enters the premises' underground supply pipe. Premises without a public water supply connection are not governed by these regulations.

The regulations do not apply to plumbing systems installed before 1st July 1999 (England and Wales) or 4 April 2000 (Scotland), provided they were installed in accordance with the water supply byelaws in force at the time. However, if the Water Supplier has reasonable grounds for considering that there is a significant risk of contamination or waste of water, it can still require improvements under other legislation.

What are the regulations for and who has to follow them?

The main purpose of the regulations is to prevent the waste, misuse, undue consumption and contamination of public water supplies. All owners or occupiers of premises and sites which are connected to the public water mains are responsible for their water systems. They have a legal duty to comply with the regulations. Equally importantly, by following these requirements, they will protect their water supplies from contamination, prevent waste of water (and avoid wasting money where supplies are paid for by means of a water meter) and ensure they have reliable and robust plumbing systems which will give good service.

Many agricultural premises provide sites for touring caravans and motor caravans during the summer period. It is important for site operators to ensure that the quality of water provided for visitors is not impaired by agricultural use of the same supplies. Reference should be made to the WRAS 'Agricultural Premises Installation Guide' to help ensure that such water supply systems comply fully with the regulations.

The **Water Regulations Guide**, available from WRAS and approved by the Water Suppliers, provides guidance in greater detail on how to meet the requirements of the regulations. It provides the information on which this Installation Guide is based. (see 'Where to seek further information and advice, page 16')

Scope of this Guide

This Guide is intended as an aid to the Parks Industry and has been produced with its assistance. It refers to residential and holiday home parks together with touring caravan, motor home and tent sites, both permanent and seasonal. These will be referred to in the Guide as 'parks'. The main aim of the Guide is to summarise the requirements of the regulations as they affect parks, for the prevention of contamination and waste of drinking water. The Guide will assist the home owner and park owner/operator in complying with the regulations when designing new systems and when modifying and maintaining existing systems, keeping the quality of water suitable for its intended purpose.

This Guide deals specifically with preventing contamination by backflow i.e. flow in a direction opposite to that intended, with the risk that contaminants may be drawn back into the pipework and consumed. It also deals with measures to reduce burst pipes and damaged fittings caused by freezing. It encourages good plumbing practice and water conservation and supports efforts to establish common procedures and installation methods for water supplies in the holiday and residential parks industry.

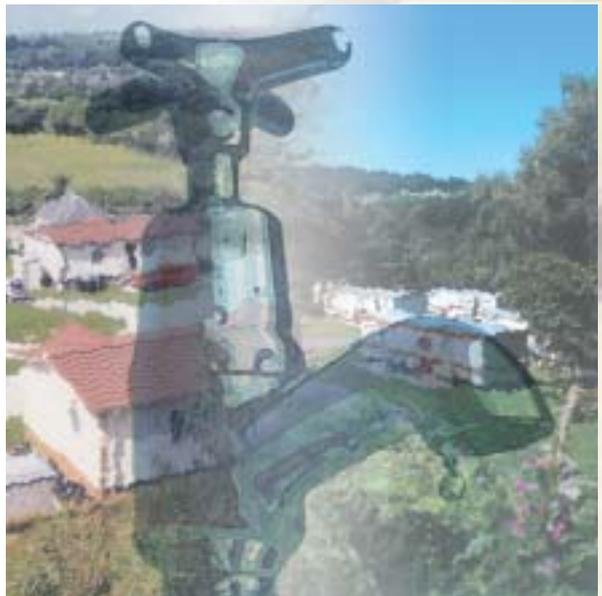
Responsibilities

The Water Supplier

It is the duty of the Water Supplier to supply wholesome water to the premises for domestic purposes. The Water Supplier also has the duty to enforce the regulations in its area of supply. This is done by checking, to the extent that it considers necessary, the plans of proposed installations and granting consent for their installation. The Water Supplier also inspects selected proportions of new and existing premises for the compliance of their plumbing systems with the regulations.

The Customer

Regulations require the installer and customer (the user, owner or occupier) to give the Water Supplier prior notification of proposed installations and to comply with any conditions attached to the Water Supplier's consent. Water systems must be designed, installed and maintained adequately and the risk of contamination and waste of water must be minimised by the use of suitable backflow prevention devices and by using suitable fittings and materials in contact with water. These requirements are described more fully overleaf.



Notification

What installations have to be notified?

Regulation/Byelaw 5 requires that the local Water Supplier must be notified in advance for most types of plumbing installations and anyone installing or using the installation without the Water Supplier's consent could be committing a criminal offence.

Notification and consent is required for the installation of water fittings in connection with:

- the construction of buildings or structures in any premises;
- extensions or alterations of water systems in all premises except for domestic dwellings. Notification is therefore required for all extensions or alterations to water systems within parks, except for those within the individual park homes or caravan holiday homes themselves;
- a material change of use of any premises.
- the installation in any premises of specified items. These include:
 - a pump or booster drawing more than 12 litres per minute;
 - a water treatment unit which produces a wastewater discharge or which requires the use of water for regeneration or cleaning;
 - a reduced pressure zone (RPZ) valve or other mechanical device for backflow protection against a fluid which is in Fluid Category 4 or 5;
 - a garden watering system (except one designed to be operated by hand);
 - the construction of a pond or swimming pool over 10,000 litres capacity, designed to be replenished automatically with water supplied by a public water supplier.

What details have to be provided and by whom?

Notification can be sent to the local Water Supplier by the park owner, park operator, the installer or someone acting on their behalf, and the details required are:

- a** the name and address of the person giving notice and, if different, the name and address of the person to whom the consent should be sent;
- b** a description of the proposed work or any significant change of use of the park premises;
- c** the location of the park and its use or intended use;
- d** a plan of those parts of the park premises which relate to the proposed work and a diagram showing the pipework and fittings to be installed;
- e** if an Approved Contractor* is to do the plumbing work, the Approved Contractor's name and address.

**See Page 7 for the benefits of using Approved Contractors (also known as Approved Plumbers)*

A note about Pipework Diagrams

The plan of the premises and the pipework diagram (referenced (d), above) that are needed to comply with the regulations will not be required for temporarily-connected touring caravans or motor homes, but they will be required where the premises are caravan holiday homes or park homes. The vast majority of caravans (holiday homes and residential park homes) in the UK are built to a nationally agreed specification which will take account of the regulations' requirements. Construction to this specification is audited by the National Caravan Council (NCC) through its Certification Scheme. This provides parks and water companies with the assurance that the plumbing systems within the approved models comply with the regulations. The NCC will also provide the parks or water companies with a direct route to obtain the necessary drawings/schedule of fittings for any given model which has been approved. NCC approved products are listed on its website (www.thecaravan.net) by model description.

The Water Supplier's consent.

The Water Supplier has ten working days in which to either refuse consent or to grant it, with or without conditions. If no response is made after ten days, consent is deemed to have been granted and the work can start, but the installation must be carried out to comply fully with the regulations.

Notification requirements for Caravan Holiday Homes

Caravan holiday homes (CHH)

(‘static’ caravans): These are transported to the park on lorries and typically remain connected to the park water distribution system for many months. They may be moved occasionally within the park to new pitches or be transferred from one park to another. They are occupied for extended periods of the year, but are not intended for permanent residential occupation. The table shows under which category of Regulation/Byelaw 5 notification would be required and whether notification is required if the connection work is carried out by an Approved Contractor (see page 7 for explanation). The table covers both new and previously owned or occupied caravan holiday homes.

Notification requirements for Residential Park Homes

Residential park homes:

Designed to BS 3632, these are intended for permanent residential occupation. Although similar in appearance to brick-built bungalows, they are defined as caravans in law. These are transported to the park on lorries and typically remain connected to the park water distribution system indefinitely. In exceptional circumstances, they may be moved within the park to a new pitch or be transferred from one park to another. The table shows under which category of Regulation/Byelaw 5 notification would be required and whether notification is required if the connection work is carried out

Caravan Holiday Homes (CHH)	Notification Category (Table, Reg/Byelaw 5)	Notifiable?	Notifiable if using approved contractor?
Installation of CHH on a pitch previously used for touring/motor caravans	3 <i>Change of use</i>	Yes	Yes
Installation of CHH on a newly-developed park	1 <i>Erection of a structure</i>	Yes	Yes
Installation of CHH on a new pitch on an existing park	2 <i>Extension or alteration</i>	Yes	No
Installation of CHH on an existing pitch on a park (including re-location within the same park)	2 <i>Extension or alteration</i>	Yes	No

Residential Park Home	Notification Category (Table, Regulation 5)	Notifiable?	Notifiable if using approved contractor?
Installation of park home on new pitch	1 <i>Erection of a structure</i>	Yes	Yes
Installation of park home to existing pitch	1 <i>Erection of a structure</i>	Yes	Yes
Re-location of a park home to an existing pitch in the same park	2 <i>Extension or alteration</i>	Yes	No

by an Approved Contractor (see page 7 for explanation). The table covers both new and previously owned or occupied residential park homes.

Residential park home owners should be aware that if water charges for their home are not paid for by the park owner, most Water Suppliers’ billing departments will need to be separately informed when homes are connected or disconnected from the water supply.

Notification of temporary connections to Touring Caravans and Motor Caravans

Touring and motor caravans (motor homes): Typically these are towed or self-propelled and move from park to park, sometimes spending only a night or two in the same place. They may be temporarily connected to the water supply system, usually by flexible hose to a mains services bollard (normally through a standardised snap connector).

Where touring caravans and motor caravans are to be temporarily connected to the park's plumbing system, the connection must be made via a backflow prevention device which provides protection to fluid category three (see the section on backflow protection). A suitable device is a double check (non-return) valve, which should be installed on the park side of the flexible hose connection and may be provided as part of an All Service Bollard. Where this requirement is complied with, the Water Supply Industry considers that notification is not required and consent is deemed to be granted for touring caravans and motor caravans.

Notification requirements for other installation work on parks

You must notify the Water Supplier if you are planning to install a water distribution infrastructure as part of the development of a new park, or you are extending an existing distribution system involving the erection of additional buildings or structures. The extension of the infrastructure of an existing park to create new pitches is also notifiable, unless it is carried out by an Approved Contractor. New installations or modifications to all other facilities such as swimming pools, restaurants, laundrettes, general watering points, chemical toilet wash points and dish-washing points require notification and consent.

As a separate matter, if the demand for water is increasing as a result of the creation of new pitches or other facilities, park operators should seek advice from their Water Supplier about the adequacy of the existing water supplies to meet the additional demand.

Approved Contractors

The regulations encourage suitably qualified installers to be accredited as Approved Contractors (also known as Approved Plumbers) by the Water Supplier or other recognised organisations. An Approved Plumber will give the customer a certificate stating that the installation work he or she has done satisfies the regulations. In the event of breaches of the regulations in connection with the certified work, the owner or occupier can use the certificate as a legal defence against any resulting prosecution.

An Approved Plumber is permitted to undertake work on extensions or alterations of existing systems without prior consent and so can carry out work on the water system following the re-location of caravan holiday homes or residential park homes without having to notify and await the Water Supplier's consent before starting work.

Some Water Suppliers operate their own Approved Plumbers schemes, but most support the national Water Industry Approved Plumbers Scheme (WIAPS), whose members have demonstrated their experience of plumbing work and knowledge of the Regulations and have liability insurance cover.

Park Owners/operators may already employ or use the services of a plumber not currently registered as an Approved Plumber under either the local or a national scheme. Park Owners/Operators should find it of benefit to have an Approved Plumber on site. For further information on how an employed plumber can pursue Approved Plumber status please contact the British Holiday and Home Parks Association or the National Caravan Council. Alternatively, contact your Water Supplier for a list of Approved Plumbers who are available for work or look on the WRAS website for details.



CAUSES OF CONTAMINATION AND WASTE

What to look for

Incorrectly installed water fittings and systems and cross-connections with other water sources can lead to the contamination of mains water supplies and installations and can cause waste of water.



Causes of Contamination and Waste

Ensure that the water supply system of any franchise outlet within the park complies with the regulations – responsibility lies with the park owner, the user and the installer.

Any pipe or fitting containing water that is not wholesome (e.g. used mains water, swimming pools, rainwater, recycled water or any water not supplied by a water undertaker, such as a private supply) must not be connected to fittings or pipes containing wholesome water, unless an adequate backflow prevention device is installed.

Water supplies used for horticultural processes (irrigation, fertiliser dosing etc.) and non-domestic purposes must be provided with backflow protection devices appropriate to the contamination risk (downstream fluid category).

All underground pipes should be laid at a minimum depth of cover of 750mm (2'6"). Pipes may only be installed at a shallower depth with the written permission of the Water Supplier and provided they are suitably insulated to prevent damage - particularly by freezing. Guidance can be found in the WRAS Water Regulations Guide.

Float-operated valves for cisterns must be manufactured to BS 1212 (to Parts 2, 3 or 4 for WC cisterns; to Parts 1 – 4 for other cisterns) or be approved by WRAS (listed in the Water Fittings and Materials Directory) and they must have a servicing valve upstream of the float-operated valve.

The installation of lead pipe, lead fittings and the use of solder containing lead for drinking water installations is prohibited. Care must be taken to ensure that only approved solders, marked 'lead free' are used.

Ensure that you know the precise location of your own stop-valve for isolating the water supply and that it is operated at least annually to ensure that it is free to function in the event of an emergency.

To prevent ingress of contamination, no pipe or fitting should be installed near a cesspit, sewage effluent soak-away or in contact with contaminated material, regardless of any protection given. In order to prevent permeation by hydrocarbons, care should be taken to avoid installing plastic pipes where diesel, petrol or heating oil is stored or is likely to be spilt.

Regular inspections and maintenance will ensure that drinking water is not contaminated or wasted.

It is prudent to know where your water meter is located and to check its reading regularly. Unexplained increases in readings could indicate a burst pipe or other wastage.

Contamination Risks and Fluid Categories

Categorising contamination risks

An assessment is required of the risk of contamination by backflow for each water fitting or appliance that contains water or other liquids and is connected to the plumbing system. The regulations define five levels of contamination risk, called Fluid Categories, and for each category backflow prevention devices are described which provide an adequate level of protection. The Fluid Category should be assessed on the highest level of risk to which the water fitting is exposed.

Examples of backflow risks

Many of the situations that are regarded as high risk are commonly found in Holiday and Residential Parks and are identified in the following list of examples on page 10. This list is representative only and should not be regarded as exhaustive. Seek advice from your local Water Supplier if in doubt about the fluid category for a particular application.



Definition of Fluid Categories

Fluid Category 1

Wholesome water supplied by a water undertaker and meeting the quality requirements for drinking water.

Fluid Category 2

Water which would be in fluid category 1 except that its aesthetic quality is impaired owing to a change in its temperature, or the presence of substances or organisms causing a change in its taste, odour or appearance, including water in a hot water distribution system.

Fluid Category 3

Fluid which represents a slight health hazard because of the concentration of substances of low toxicity, including any fluid which contains:–

ethylene glycol, copper sulphate solution or similar chemical additives; or

sodium hypochlorite (chlorox and common disinfectants).

Fluid Category 4

Fluid which represents a significant health hazard because of the concentration of toxic substances, including any fluid which contains:–
chemical, carcinogenic substances; or pesticides (including insecticides and herbicides); or environmental organisms of potential health significance.

Fluid Category 5

Fluid representing a serious health hazard because of the concentration of pathogenic organisms, radioactive or very toxic substances, including any fluid which contains:–

faecal material or other human waste; or

butchery or other animal waste; or pathogens from any other source.

Examples of Backflow Risks

Equipment and Location	Fluid Category
WATER USED FOR DOMESTIC PURPOSES	
1 Service bollards/stand posts – drinking water	3
2 Temporary connections to Caravans or Motor Homes	3
3 Water heaters – point of use	2
4 Washing machine – use for personal and household laundry	3
5 WCs, bidets with submerged inlet or flexible hose, urinals	5
6 Washbasins, baths and showers – normal domestic use	3
7 Sinks	5
8 Taps or other points of use – chemical toilet disposal points	5
9 Disposal equipment – sanitary towels, nappies	5
10 Central heating primary circuit – all domestic premises & non-domestic premises with output up to 45kW; 150,000 Btu/h.	3
11 Cisterns (flushing)	3
12 Cisterns – Feed & Expansion	4/3*
PLANT	
13 Cisterns – storage for various purposes	5/4/3*
14 Central heating system primary circuit – non-domestic with output greater than 45kW; 150,000 Btu/h	4
15 Swimming and paddling pools – automatic top-up and water treatment plant	5
16 Swimming and paddling pools – hose union taps	4
17 Softening plant (salt regeneration)	3
18 Steam raising plant	3
19 Photographic processing equipment	4
FIRE FIGHTING	
20 Fire hose reels (<i>but see Note 1</i>)	3/2*
21 Fire sprinkler systems – with additives	4
22 Fire hydrants – above ground outlets	2
23 Fire sprinkler systems – no additives	2

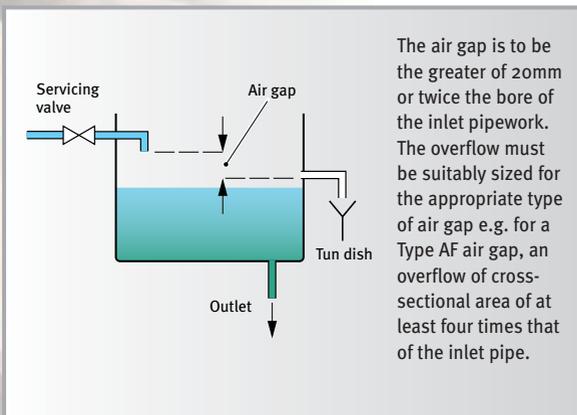
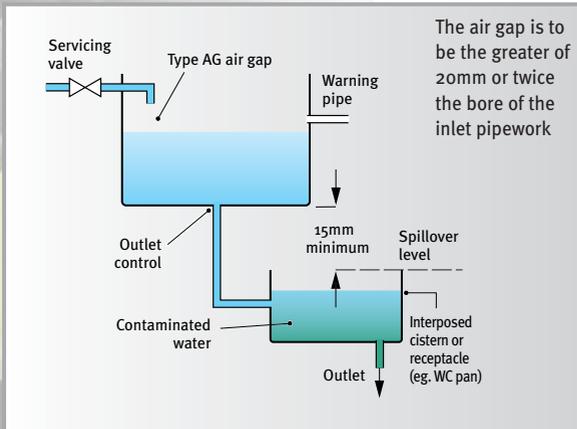
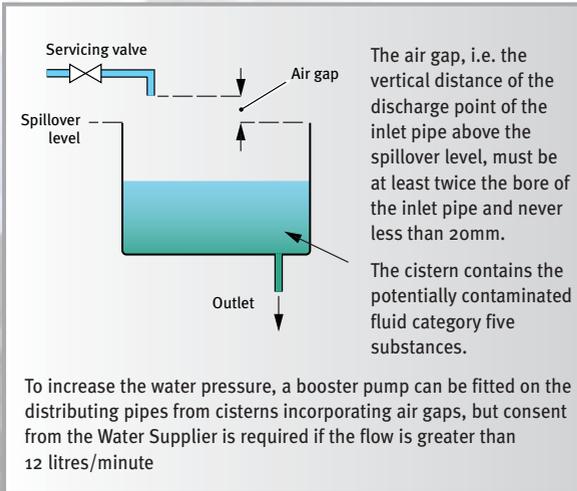
Equipment and Location	Fluid Category
IRRIGATION	
24 Hose union taps – grounds watering	5/4/3*
25 Irrigation system – at or below ground, with or without additives; greater than risk of domestic garden	5
26 Irrigation system – pop-up sprinklers or permeable ‘seep hoses’; no greater risk than domestic garden.	4
27 Irrigation systems – fixed heads 150mm above ground; no additives	3
GENERAL	
28 Connection to recycled water, rainwater, private supply	5
CATERING	
29 Vegetable washing machine	5
30 Potato peelers	5
31 Food waste disposers, with or without flexible spray head	5
32 Food waste pulpers	5
33 Pre-rinse spray units	5
34 Wash down hose reels	5
35 Dishwashers – catering equipment	4
36 Glass washers – restaurant/bar/cafe	3/4*
37 Washing machine – use for catering laundry	4
38 Rinse aid equipment (dishwashers)	4
39 Catering boilers	3
40 Beverage making equipment	3
41 Ice making machines	3
42 Steaming ovens – atmospheric pressure	3
43 Steaming ovens – pressurised	5
44 Water coolers	2
45 Water heaters	2
46 Drinks vending machines – with ingredients or CO2 gas	3
* The Fluid Category is dependent on local circumstances and should be confirmed by the Water Supplier.	
<p>Note 1: The Fluid Category should be assessed on the most serious potential contaminant. For example, if a fire hose reel is sited where it cannot reach other contaminants, it is rated as a fluid category 2 risk. If the outlet is capable of being immersed in a drain it is rated as a fluid category 5 risk and must be protected accordingly.</p>	

Typical backflow prevention arrangements and devices

Fluid Category 5

Fed from storage via a suitable air-gap eg. Type AA, AUK1 or AD air gap

- ▶ The Type AA air gap, with unrestricted discharge above the spillover level



Fluid category 4

Fed via a Type AF air gap or a mechanical device eg. Type BA, reduced pressure zone (RPZ) valve

Fluid category 3

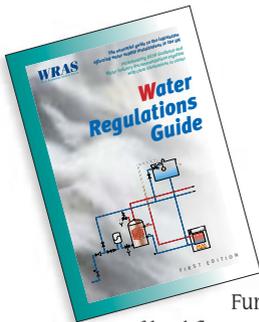
Fed via a storage cistern with a Type AG air gap or via a mechanical backflow prevention device e.g. a double check (non-return) valve (Type EC or ED).

Fluid category 2

Fed via a mechanical backflow prevention device, for example a single check (non-return) valve (Type EA or EB).

NOTE:

All mechanical backflow prevention devices (i.e. not air gaps) can fail and therefore need planned inspection and maintenance or replacement.



Further details of backflow prevention devices are given in the WRAS Water Regulations Guide and in the Government Guidance to the Regulations, both of which are available via the WRAS website (www.wras.co.uk). See 'Where to seek further information and advice'.

Taps for use with hoses

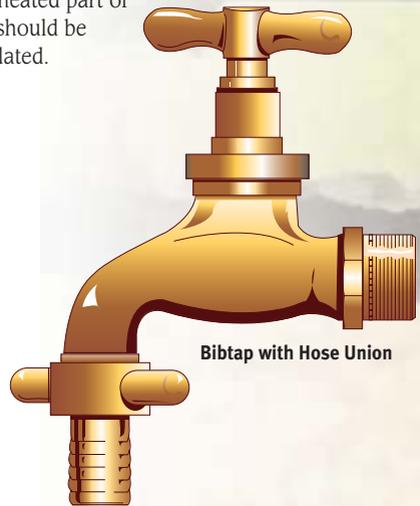
The requirements for the backflow protection of taps to which hoses can be connected (hose union taps) apply whether a hose is actually connected or not. The level of protection is determined by the potential use and contamination risk.

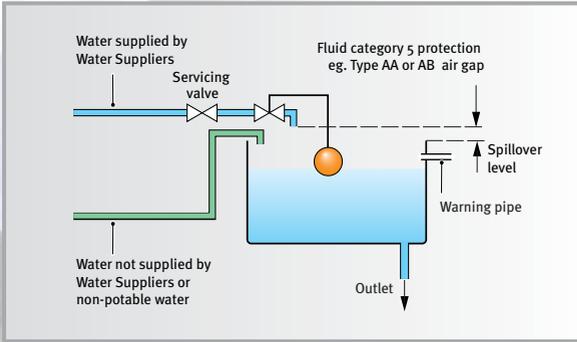
Taps with connectors for hoses (Bibtap with Hose Union)

Especially with hose union taps supplied directly from the mains rather than via a storage cistern, the end of the hose must not be allowed to be submerged because of the risk of backflow. It is also preferable to use a means of flow control with automatic shut-off e.g. a hand held trigger device.

If the location and use of a hose with automatic shut-off flow control poses a risk no greater than that in a domestic garden, the hose union tap can be protected by a double check valve. Elsewhere, it must be supplied through a backflow prevention device suitable for the highest risk to which the tap might be exposed, typically Fluid Category 5. The level of protection will be subject to confirmation by the water supplier.

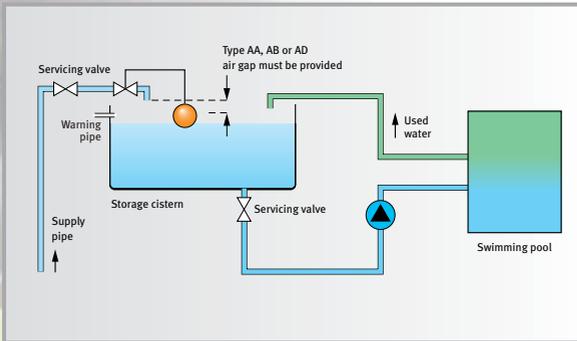
To prevent damage from freezing, check valves or other mechanical backflow protection devices for hose union bibtaps which are outside buildings should be on the supply pipe within the heated part of the building or should be adequately insulated.





Examples of Plumbing Layouts

Separation of mains supply from other supplies e.g. private water supply, recycled greywater, rainwater etc.



Separation of wholesome water in a supply pipe from water that has been used e.g. swimming pool recirculation

Requirements for water fittings

The regulations require that all water fittings are of an appropriate quality and standard and are suitable for the circumstances in which they are used. Fittings must be made of suitable materials which will resist corrosion and will not contaminate the water supply. They must be designed and made to be sufficiently robust to have an adequate service life without failing or leaking prematurely. To achieve this they must be manufactured to meet relevant European or British Standards or the Government's Performance Specification.

Approved fittings

Fittings which have been extensively tested against the Government's Performance Specification and are approved by the Water Supply Industry are listed in the WRAS Water Fittings and Materials Directory. Use of WRAS Approved Products, fitted in accordance with any approval conditions, should comply fully with the regulations and be readily accepted by the Water Suppliers' enforcement staff.



WRAS
APPROVED
PRODUCT



British Standard 'Kitemark'



Water fittings with the British Standards 'Kitemark', which are manufactured to the relevant British Standards, can be accepted as complying with the regulations and require no further testing. A list of these is also given in the Water Fittings and Materials Directory.

If you are unsure about the acceptability of any fitting, consult your local Water Supplier.

Water saving with toilet flushing

One of the requirements for fittings is that for toilets (WCs) installed since January 2001 the maximum permitted flush volume has been reduced from 7.5 to 6 litres. Dual flush is permitted, using up to 2/3 the volume of the full flush. These changes, coupled with the introduction of drop valves, flap valves and pressure flushing valves as alternatives to the syphon as flushing devices, offer potential for saving water. WCs must comply with the Government's Performance Specification. Manufacturers or suppliers should be asked to provide evidence of this in the form of a certificate of compliance.

If you want to carry out alterations to your plumbing system

- Use approved materials and fittings only.
- Use a competent plumber to ensure that the work will comply with the regulations.
- Completely remove any redundant pipework or fittings to avoid creating stagnant water in 'dead legs'.
- You are legally obliged to notify your Water Supplier and have its consent in advance of any work you intend to carry out on your water supply system except for localised repairs, servicing and like-for-like replacements and alterations or extensions to the system in a domestic dwelling.

Points To Remember



1.

Backflow of contamination into the mains or the domestic water supply of a park is unacceptable and may be harmful to health.



2.

You need to give notice of proposed installation work and have consent from your Water Supplier before starting work. Full details of when notice must be given can be found in Regulation/Byelaw 5.



3.

The regulations do not prevent the sale of water fittings which do not comply, but it is illegal to install or use them. Both the installer and user will be liable if fittings do not comply. Be safe by insisting that your supplier confirms that fittings are of an appropriate quality and standard. Suitable fittings may carry the WRAS Approved Product mark or the BSI 'Kite-mark'.



4.

Water supply pipe connections to caravans or pipes located in roof spaces and any other unheated space need to be insulated for frost protection. Preformed pipe insulation is better than loose bandage type insulation, which will require a greater thickness. Extra insulation will be required to delay freezing if prolonged low temperatures are likely to occur.



5.

Insulation only delays freezing; it helps retain the very little warmth that is in 'cold' water - it does not 'keep out the cold'. Turning off the water supply and draining the system (including the heating system), or some other alternative, should prevent damage during the winter.



6.

Float-operated valves to BS1212 Part 2, 3 or 4 or those that are approved by the Water Regulations Advisory Scheme are required for WC cisterns and they must have a servicing valve on the supply side of the device.



7.

Pipework downstream of the Water Supplier's meter and stop-tap usually is the responsibility of the owner or occupier of the park or premises. If any pipework serving your property is made of lead and you renew your part of it, you can request your local Water Supplier to replace, free of charge, any remaining length of lead pipe (usually in the highway) for which it is responsible.



8.

Always use a reputable plumber. Details of Approved Plumbers are available from local Water Suppliers or the WRAS website. If you undertake plumbing work yourself it must comply with the regulations.



9.

You may wish to use equipment that requires a higher water pressure to operate than the incoming mains pressure. You can ask your local Water Supplier to advise you about local pressures and you must have its consent for the installation of any pumps delivering more than 12 litres per minute.



10.

The regulations apply to all water systems capable of using mains water, including both hot and cold water supply systems, as well as central heating systems.

Where to seek further information and advice

Your Local Water Supplier

Your local Water Supplier will respond positively to enquiries about existing and proposed plumbing installations and may be able to provide helpful advice on the application of the regulations. Contact details are given in Yellow Pages under Water and on the WRAS website (www.wras.co.uk).

The Water Regulations Advisory Scheme (WRAS)

WRAS is funded by all the UK Water Suppliers to publicise the regulations and to promote consistent interpretation of them and it offers an enquiry service for those who seek further information. Recent Water Industry interpretations of the regulations and copies of all the current advice leaflets can be printed from the WRAS website (www.wras.co.uk), which also gives information about publications including the Water Regulations Guide and the Water Fittings and Materials Directory. There are also links to the wording of the regulations and Government Guidance documents, which can be downloaded or printed. The website has contact details for the Water Suppliers' regulations departments and addresses to which you should send notifications. The Water Industry Approved Plumbers Scheme is described and contact details of Approved Plumbers are given.

References

The Water Supply [Water Fittings] Regulations 1999: Statutory Instruments SI 1999 No.1148 and 1506. The text is available from the Government website (see below).

Government Guidance Document relating to Schedules 1 and 2 of the Water Fittings Regulations, available from the Government website.

The Government website is www.defra.gov.uk/environment/wsreg99/waterfit/index.htm.

Water Byelaws 2000, Scotland: Copies available from Scottish Water.

The Water Regulations Guide gives the text of the Water Fittings Regulations, Byelaws 2000 Scotland, Government Guidance to the Regulations and the Water Industry's recommendations for complying with the regulations. It is published by and available from WRAS.

The Water Fittings and Materials Directory lists products which have been tested and approved by the Water Suppliers for their compliance with the regulations. Published twice a year by WRAS.

Addresses

The Water Regulations Advisory Scheme

30 Fern Close,
Pen-y-Fan Industrial Estate,
Oakdale, Gwent NP11 3EH

Tel: 01495 248454

Fax: 01495 249234

e-mail: info@wras.co.uk

Website: www.wras.co.uk

The text of this Guide is included in the Publications section of the WRAS website and further copies may be obtained from the Water Regulations Advisory Scheme at the address given above.

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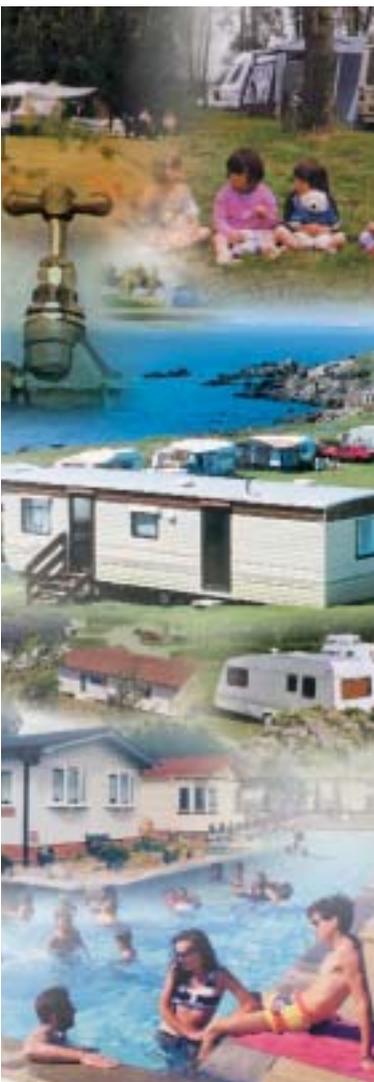
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Other Water Supply Installation Guides published:

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