



ISCG

Industry Specialist
Consulting Group

Industry Best Practice (IBP)

Marine Water Facilities – Inland and Coastal
6 November 2019 Edition 1



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This document consists of three parts:

Section 1 – Guidance and information for owners and operators enabling them to ensure the standards are maintained

Section 2 – Operations Matrix outlining day to day operations, the protection required and the equipment that should be used

Section 3 – Glossary of terms and appendices with images and diagrams

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Introduction

The Industry Specialist Consulting Group (ISCG) was formed to provide the recreational boating industry with practical guidance in the safe use and operation of coastal and inland water facilities. ISCG consists of representatives from a number of water undertakers – as Regulators, together with industry experts from British Marine, the Royal Yachting Association (RYA), The Yacht Harbour Association (TYHA), Royal National Lifeboat Institution (RNLI) and the Canal & River Trust (CRT).

Purpose

This Industry Best Practice (IBP) document is designed to raise operational standards in the supply of domestic water for recreational boating activity, ensuring consistent practice across the marine industry, other organisations and individuals offering relevant facilities. It does this by providing marine operators with a consistent standard of operations, procedures and equipment for the provision and maintenance of domestic water facilities.

The intended outcome is to enable water undertakers (the regulatory enforcers) and end users to work together more effectively to safeguard the public drinking water network.

Scope

This Industry Best Practice (IBP) document is to be used by owners, operators and users of:

- marinas
- boatyards
- harbours
- sailing clubs
- canals
- canal locks
- rivers

as well as any other waterside facility that has access to the public drinking water supply via, for example, the use of a hose union bib tap to provide drinking water. Working on behalf of leisure marine interests, the IBP has been approved for use by:

- British Marine
- CRT
- RYA

- TYHA
- UKHMA

This IBP has been made freely available from 4 November 2019 but is currently only accepted as guidance by the following water undertakers:

- Anglian Water
- Hafren Dyfrdwy
- Jersey Water
- Severn Trent
- Southern Water

This IBP will be a living document that will be updated and adapted to reflect changes and requirements as they occur throughout the industry. The document will be version controlled by the use of an issue date on the face page and footer of each page.

The Water Supply (Water Fittings) Regulations 1999

What are the Water Supply (Water Fittings) Regulations 1999?

Under Section 74 of the Water Industry Act 1991, the Government confers powers and duties to local water undertakers to enforce the Water Supply (Water Fittings) Regulations 1999. This places a statutory obligation upon water undertakers to make routine inspections on premises within its area of supply.

Owners and occupiers of premises and anyone who installs plumbing systems or water fittings have a legal duty to ensure their systems satisfy the Regulations. Failure to comply will result in enforcement notices being served, with the possibility of legal action.

Which Regulations affect me?

The following extracts apply:

REGULATION 4

It is a legal requirement that every water fitting shall be of an appropriate quality and standard; and be suitable for the circumstances in which it is used.

To demonstrate evidence that a water fitting is manufactured to an appropriate quality or standard, the following evidence shall be required:

- (a) it bears an appropriate CE marking in accordance with the Directive;*
- (b) it conforms to an appropriate harmonised standard or European technical approval;*
- (c) it conforms to an appropriate British Standard or some other national specification of an EEA State which provides an equivalent level of protection and performance; or*
- (d) it conforms to a specification approved by the Regulator.*

REGULATION 5

Any person who proposes to install a water fitting in connection shall give notice to the water undertaker that he proposes to begin work with any of the following operations:

- 1. The erection of a building or other structure, not being a pond or swimming pool.*
- 2. The extension or alteration of a water system on any premises other than a house.*
- 3. A material change of use of any premises.*

REGULATION 6

Where a water fitting is installed, altered, connected or disconnected by an approved contractor, such as a WaterSafe approved plumber, the person shall upon completion of the work furnish a signed certificate stating whether the water fitting complies with the requirements of the Water Supply (Water Fittings) Regulations 1999 to the person who commissioned the work.

The approved contractor shall send a copy of the self-certification form to the local water undertaker where applicable.

Although this IBP provides practical guidance on how to comply with Water Supply (Water Fittings) Regulations 1999, users of this document need to be aware that water undertakers (as the regulator) have the power to enforce further rectification works on the owner/occupier of the premises under the relevant legislation. This may include, additional or increased level of backflow protection or the disconnection of the mains drinking water supply due to a serious or significant risk to public health.

Fluid Categories

What are Fluid Categories?

Below is an extract taken from Schedule 1 - Fluid Categories of the Water Supply (Water Fittings) Regulations 1999 which helps to explain each of these bands:

FLUID CATEGORY 1

Wholesome water supplied by a water undertaker.

FLUID CATEGORY 2

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

- (a) a change in its temperature, or
- (b) 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:

- (a) ethylene glycol, copper sulphate solution or similar chemical additives, or

- (b) sodium hypochlorite (chloros 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:

- (a) chemical, carcinogenic substances or pesticides (including insecticides and herbicides), or
- (b) 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:

- (a) faecal material or other human waste;
- (b) butchery or other animal waste; or
- (c) pathogens from any other source.

For further information on Fluid Category levels refer to Appendix 1.

Guidance

Training

- A.** Owners and operators must ensure that all relevant staff are aware of this IBP document and that they are fully trained to carry out the required practice outlined within it. This IBP must form part of the staff induction and training processes and be integrated into health and safety systems.
- B.** Operational directors and managers must familiarise themselves with this document and be responsible for signing off on its use by their organisations.
- C.** Periodic reviews by IBP users must be conducted and any feedback generated as part of this process relayed back to the ISCG or the local water undertaker.
- D.** Water undertakers will be conducting random inspections and spot checks as part of their statutory inspection process to ensure the guidance and standards are being applied and routinely maintained.

General standards

Applicable to all sections of the advice that follows

Signage

It is a requirement that all hose union bib taps and water points be clearly marked and readily identifiable as to their intended use. This must be done with permanent signs which are consistent across the site.

Site drawings

All marinas, sailing centres and boatyard premises must have (as far as reasonably practicable) an up to date site drawing and/or a water fittings inventory. Site drawings must illustrate the layout of the mains water supply pipework, water points and drains. It is necessary to identify where the mains water supply enters the premises at the highway boundary, as well as the location and nature of any additional backflow protection devices such as double check valves (DCVs).

Calibration test

If the premises has an existing Reduced Pressure Zone (RPZ) valve then a calibration test must be carried out to ensure the valve is working correctly. The testing procedure must only be performed by an accredited person who is qualified and competent to do so.

Following the test, a copy of the test certificate must be submitted to the local water undertaker within 10 working days to demonstrate compliance with the Water Supply (Water Fittings) Regulations 1999. Testing must be carried out on an annual basis or at more frequent intervals as specified by the local water undertaker.

Winterisation

Winterisation arrangements are essential for ensuring plumbing systems are adequately protected against freezing

which can lead to unwanted waste water from leaking pipes. It is advised that standpipes are isolated and drained down during the winter months when not in use.

Drains

There are wastewater discharge regulations which define the use to which drains can be subjected to various chemicals and fluids and it is important that this forms a part of the site's operational procedure (this information should be part of onsite records – routine checks).

Hoses

If hoses are supplied for use by the marina or harbour it is recommended that they are used for wash-down purposes only. These should be of an expandable type that will dry out after use. The trigger gun needs to be an Auto Shut Off (AUS) type.

Contractors

All contractors, external companies or individuals who will be using the onsite water facilities must be made aware of, and comply with, the operating conditions. They must not use any equipment or water points that do not follow or comply with the standards outlined in this IBP. It is recommended that the owner/occupiers of the premises should employ a WaterSafe approved plumber to undertake any plumbing works.

Tenants and staff responsibilities

Onsite tenants must be informed of the new standards and begin to use them from the date of publication. Individual owners and occupiers of boats moored afloat and those who 'dry sail' (boats stored ashore and launched for use) must also be made aware of and adhere to the current IBP.

Site staff have an obligation to ensure

the new best practice outlined in the IBP is being carried out and will agree to report any failings to the site's management team. This applies to both private individuals, onsite businesses and external contractors working on site.

Any activity which is being undertaken and does not comply with the requirements set out in the IBP's guidance must be stopped until the appropriate standards are reached.

Each marina or boatyard tenant must undertake a regular, routine inspection of all water points, equipment and zone protection, using the same record sheet as the site operator. This must be documented by the site owner/occupier and made available electronically. Water undertakers may request a copy of these routine inspection reports as part of their inspection process. It is recommended that photographs are taken as evidence when conducting this process.

Certificates

Any certificates for site work undertaken should be kept with the routine inspection documents for the site and any other water facility documentation.

Maintenance and upgrades

A system and ongoing programme of works for replacing and upgrading any necessary onsite backflow protection and hose union bib taps must be put into place. This should be recorded as it may be requested by the water undertaker at a later date to demonstrate compliance.

Acceptable standards clarification

It is not a legal requirement for those using this IBP to exclusively use WRAS (Water Regulations Advisory Scheme) approved fittings in order to demonstrate water

fittings and materials are manufactured to an appropriate quality and standard (Regulation 4). Other certified bodies, such as Kiwa and NSF could also be accepted by water undertakers (see Glossary and Appendix for details).

IBP for new projects

For all new marina and boatyard projects or for those thinking of altering, extending

or upgrading their existing facilities, there will be a separate IBP. This will provide recommendations and a list of compliant facilities equipment which will assist the owner/occupier in demonstrating compliance, as well as making operations easier and potentially more cost effective.

All sites and businesses

Standpipe standards

If the intended use of the water delivery system is for domestic usage and human consumption, then a compliant Regulation 4 approved drinking water standpipe arrangement could be considered acceptable. Each standpipe must consist of the following:

- A.** Individual/dedicated stop tap
- B.** Drain down valve
- C.** Inline double check valve (DCV)
- D.** Appropriate and adequate amount of pipe insulation
- E.** Be located in a secure and lockable housing where applicable, for example when located on a fuel dock or yard hoist dock

Risk assessment

All drinking water points must be risk assessed to determine the appropriate

level of backflow protection based on their intended use and what their terminal fittings are subjected to.

Where the Fluid Category is deemed to be higher than Fluid Category 3, the risk assessment may question the suitability of its location and as a result the drinking water standpipe may need to be relocated, removed or fed from a dedicated Fluid Category 5 break feed tank.

Hoses

It is recommended that site operators supply hoses for wash down purposes only. If a site operator issues a hose for the filling of the onboard domestic cold water storage tanks it is responsible for ensuring that the hose is cleaned, maintained and stored correctly to maintain water quality standards. Records should be kept of this.

Marinas and harbours (coastal)

Fuel docks

Wash downs are not permitted at any time on fuel docks (unless for emergency reasons). Neither is the use of detergents when refuelling, or rinsing down after fuelling up. This also applies to harbour masters' craft, lifeboats and police vessels.

If a fuel dock is not staffed then any hose union tap (HUT) must be locked. Any hose must not be left attached to the HUT unless it is in use for filling. Hoses must comply with the requirements outlined in the Operations Matrix.

The installation and general use of a HUT located on a fuel dock must comply with all of the requirements set out in the Operations Matrix.

When filling site fuel storage tanks on a fuel dock, the mains water supply must be shut off as part of Standard Operating Procedure (SOP). It is recommended that the mains water supply is isolated when the fuel dock is closed.

Vessels taking on fuel are not permitted to use their own hoses to fill their onboard water tanks.

If there is a waste water pump out facility on a fuel dock (whether manned or not) then the HUT must comply with all of the requirements set out in the Operations Matrix

Boat sheds

Signs for the correct use of HUT and drinking water filling points must be clearly

identifiable and consistently marked based on those activities to which they are subject. The identification must be undertaken by the persons occupying and/or managing the building. It is recommended that all signage and guidance is consistent with the rest of the site and business's corporate livery.

Mains cold water pipework in boatsheds must be clearly marked and readily identifiable. This is to avoid, for example, compressed air pipes being mistaken for domestic cold-water supply pipes.

All pipework which may be subject to extreme temperatures must be lagged with an approved insulation material.

Hoses must not be stored or located near hazardous materials. When not in use they shall be drained down and hung on a purpose-made fitting or kept on a hose reel which is clear of the floor. It is recommended that hoses are manufactured of food grade quality, non permeable materials or be of a retractable type.

If a boatshed is owned or leased by a contractor from the site owner then the IBP must form part of its contract. This includes further training as part of the health and safety induction process.

It is the responsibility of the tenant to ensure each of the standards outlined in this IBP are consistently maintained by its staff in all day-to-day operations

Boatyards and hard standing

Signage

Signs for the correct use of HUT and drinking water filling points must be clearly identifiable and consistently marked based on those activities undertaken by the persons occupying and/or managing the building. It is recommended that all signage and guidance is consistent with the rest of the site and business's corporate livery.

Awareness and compliance

As boatyards and hard standing are used by both professional and private individuals, it is essential those responsible for managing

the site ensure that awareness and practices of the current version of the IBP are understood and practiced.

Private use of pressure washers

If private individuals use pressure washers on their own vessels then the equipment used must have Fluid Category 5 backflow protection in the form of a physical type AA, AB or AD air gap. The hose run used to connect the pressure washer to the mains water HUT must be non-permeable. This can be provided by the marina or boatyard.

Inland waterways

Inland waterways contain customer service facilities on canal banks, river banks, marinas, and inland harbours. There are also standalone drinking water standpipes located across the whole network.

Drinking water filling points

All drinking water filling points must be manufactured and constructed to an appropriate quality and standard to meet those legal requirements set out under Regulation 4 of the Water Supply (Water Fittings) Regulations 1999. All inland drinking water standpipes are designed and installed to be used for abstracting wholesome domestic drinking water.

Chemical toilet disposal point

Where there is a chemical toilet disposal point, all mains water HUTs must be fitted with Fluid Category 5 backflow protection. This may include the installation of a Type DC pipe interrupter. Any hoses connected to the HUT (via the Type DC pipe interrupter)

must be no longer than 600mm and finish 150mm above the spill-over level of the receiving bowl. If this method of backflow protection is not feasible or pragmatic, then the HUT must be supplied via a dedicated break feed storage tank, incorporating a type AA or AB air gap on the inlet, which may require an additional booster pump to achieve the desired flow and pressure downstream.

Waste pump out facilities

Where there are pump out facilities, all mains water rinse taps must be fitted with Fluid Category 5 backflow protection. This may include the installation of a dedicated 'water bollard' (see Appendix 2) with a built in Type DC pipe interrupter to achieve Fluid Category 5 backflow protection. Rinse taps would not normally be needed to rinse on board tanks due to the chemicals used that are designed to break down any solids. Environmentally friendly versions of these chemicals are available.

Guidelines for the use of hoses to fill boat tanks

Recommendations for hose types

It is recommended that hoses used to supply wholesome drinking water to onboard cold water storage tanks should be of a suitable food grade standard.

Using a hose pipe to fill boats with onboard tanks

When boats are ready to fill up their onboard cold water storage tanks from a designated drinking water filling point, or mains water standpipe via a hose pipe, the end user must follow this simple SOP:

1. Ensure that you only use your dedicated wholesome water hose pipe when connecting to the water delivery device
2. Moor the boat so that you have adequate access to the drinking water delivery system
3. Ensure that the hose is safely secured to the drinking water filling point on board the boat
4. Do not allow the hose run to be in direct contact with any canal, river, lake, or other water courses, as allowing it to be submerged can lead to permeation of the hose. Permeation causes contamination of the mains water drinking supply which passes through the hose to fill the on board cold water storage tanks. This poses a serious risk to public health and to those persons consuming the water downstream of the standpipe
5. Do not allow the hose to lie in puddles
6. Do not allow the hose to lie on the ground as this can also contain contaminants and encourage ingress
7. Once the filling process has been completed, turn off the hose union tap, then physically disconnect and remove the hose. Once the hose has been disconnected, completely empty the hose of any excess water and carefully put the hose away in a re-sealable bag to prevent ingress and contamination from outside sources
8. At no time shall a hose be left as a permanent connection due to its permeable nature. Such action can lead to a potential contamination risk and may result in legal action and/or possible criminal prosecution by the local water undertaker

Backflow prevention and risk assessment

Every water system designed and installed to deliver wholesome drinking water shall contain an adequate device or devices for preventing the backflow of fluid from any appliance, fitting or process from occurring. The device must be appropriate to the highest applicable Fluid Category to which the fitting is subject to – in this case Fluid Category 3.

Each water delivery system must be risk assessed to determine the Fluid Category risk. Where it is not possible to operate at Fluid Category 3 it is recommended that the mains water delivery system is removed.

Domestic water supply for boats without tanks

The following should be observed for boats without on board cold water storage tanks.

Static craft

Static craft, permanently moored house boats and other residential permanently moored craft will be treated by local water undertakers in the same way as any other permanent domestic dwelling.

Any permanent water connection to these vessels will need to be authorised by the local water undertaker and the final installation method would be inspected

and approved accordingly in line with their respective new connections policies. Under no circumstances can a hose pipe be used as a permanent water connection.

Moving craft with no water storage

There are no circumstances in which a hose can be used as a permanent water connection to a mains drinking water standpipe. Mains water delivery systems may be used to fill water bottles and other small storage containers which can then be stored on the boat.

Operating procedure for chemical toilet discharge

When a Type DC backflow prevention device is fitted to the hose union rinse tap of an Elsan waste water discharge point, the hose must be no longer than 600mm. The end of the hose (discharge point) must finish a minimum of 150mm above the spill-over level of the receiving pan. This is so the end of the hose is not submerged in raw sewage (Fluid Category 5) which resides within the waste water discharge point.

Recommended SOP

1. Turn on the controlling tap until a steady stream of water begins to flow through the DC backflow prevention device
2. Increase the flow rate of the controlling tap as required but not so much that it causes water to discharge through the DC backflow prevention device
3. Do not lift the end of the hose (discharge point) above the DC backflow prevention device whilst the controlling tap is turned on
4. Do not restrict the end of the hose pipe (such as by pinching it) when the controlling tap is turned on
5. Do not let the end of the hose pipe be submerged below the water level of the cassette as this may produce a restriction and cause water to discharge out of the DC backflow prevention device
6. Please be patient as the flow of water will be restricted by the DC device

Operating procedure for pump out facilities

Pump out facilities must incorporate Fluid Category 5 backflow protection. This may be dealt with using Type DC backflow prevention device. In some cases, a new bespoke water bollard specifically designed to incorporate Fluid Category 5 backflow protection could be suitable.

The water bollards shall be marked as 'pump out use only'. This will help to ensure that these water bollards cannot be mistaken for drinking water filling points. The water bollards are also taller than the standard drinking water standpipes and therefore easier to identify.

Recommended SOP

1. Place the end of the hose (discharge point) into the receiving tank
2. Slowly turn on the controlling tap
3. Water will begin to flow through the apparatus at a restricted rate due to the DC backflow prevention device
4. Do not lift the hose above the DC backflow prevention device. The hose must be below tap level at all times or the DC device will discharge water
5. Ensure the end of the hose (discharge point) is not submerged in contaminated fluid which resides in the tank being flushed as this creates a restriction and causes mains water to discharge out of the DC backflow prevention device

Operations Matrix

for marinas, boatyards and sailing clubs

The table below illustrates typical areas within marinas, boatyards, sailing clubs and inland waterways where the public drinking water supply maybe used for domestic and non-domestic purposes.

Its purpose is to provide guidance on the minimum level of backflow protection required in-line with effective control measures routinely undertaken by the owner/occupier of the premises to control and effectively manage any potential risk of contamination of the public drinking water supply.

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Marina floating pontoon – saltwater	Filling the onboard water tank(s)	3/4/5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water supply pipe shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed within an insulated duct approved by the water undertaker.</p> <p>All pipework shall be readily identifiable, for example labelled 'mains cold water supply'.</p>	<p>If the intended use of the water supply is for domestic usage, ie the fitting is only to be subjected to the onboard potable cold water storage tank – intended for human consumption, then a compliant, Regulation 4 approved drinking water standpipe arrangement would be considered acceptable.</p> <p>The mains drinking water filling point must be labelled 'drinking water'. The hose shall be suitably secured (ie retaining clip to prevent the hose being submerged in the water) to the vessel when in use and be detached completely from the hose union tap once the onboard filling process has been completed.</p> <p>All drinking water hoses to be of a suitable food grade standard quality and where applicable supplied directly by the marina/sailing centre concerned. All hoses supplied directly by the marina will need to be signed for. The end user must be made aware of their correct use. The hose needs to be drained and stored clear of the floor.</p> <p>Inline double check valves shall also be required as 'zone' protection to protect the water supply arrangement from potential cross contamination, for example, to prevent potential contaminated water travelling from one area of the plumbing system to another through backflow.</p>

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Marina floating pontoon – saltwater	Washing boat down	3/4/5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water supply pipe shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed within an insulated duct approved by the water undertaker.</p> <p>All pipework shall be readily identifiable, for example labelled 'mains cold water supply'</p>	<p>If the intended use of the water supply arrangement is for a non-domestic wash down purposes, then a compliant, Regulation 4 approved standpipe arrangement with handheld trigger gun assembly (auto-shut off head type) is deemed acceptable.</p> <p>The hose and trigger gun must not be immersed in sea water and must be detached and completely removed from the hose union tap once the wash down process has been completed.</p> <p>The standpipe arrangement shall be labelled 'drinking water'.</p> <p>Inline double check valves shall also be required as 'zone' protection to protect the water supply arrangement from potential cross contamination, for example, to prevent potential contaminated water travelling from one area of the plumbing system to another through backflow.</p>
Slipway boat launching	Rinsing off boats, kayaks, SUPs and RIBs	3/4/5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water pipework shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed below ground floor level at a depth between 750mm – 1350mm, or through an insulated duct approved by the water undertaker.</p> <p>All pipework to be readily identifiable, for example labeled 'mains cold water supply'.</p>	<p>If the intended use of the water supply arrangement is for non-domestic rinse-down purposes, then a compliant, Regulation 4 approved standpipe arrangement with handheld trigger gun assembly (auto-shut off head type) is deemed acceptable.</p> <p>The hose and trigger gun must not be immersed in seawater when in use and must be detached and completely removed from the hose union tap once the wash down process has been completed.</p> <p>There must be a designated area for rinsing down of vessels adjacent to the hose union tap. This should be clearly marked or signed and well clear of the high tide mark. It is recommended that a demarcation line is painted on the slipway.</p> <p>The standpipe arrangement shall be labelled 'drinking water'.</p> <p>Inline double check valves shall also be required as 'zone' protection to protect the water supply arrangement from potential cross contamination, for example, to prevent potential contaminated water travelling from one area of the plumbing system to another through backflow.</p>

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Sailing club launching slipway	Rinsing small dinghies and RIBs	3/4/5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water pipework shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed below ground floor level at a depth between 750mm – 1350mm, or through an insulated duct approved by the water undertaker.</p> <p>All pipework to be readily identifiable, for example labeled 'mains cold water supply'.</p>	<p>If the intended use of the water supply arrangement is for non-domestic wash down purposes, then a compliant, Regulation 4 approved standpipe arrangement with handheld trigger gun assembly (auto-shut off head type) is deemed acceptable.</p> <p>There must be a designated area for rinsing down of vessels adjacent to the hose union tap. This should be clearly marked or signed and well clear of the high tide mark. It is recommended that a demarcation line is painted on the slipway.</p> <p>The hose and trigger gun must not be immersed in sea water when in use and must be detached and completely removed from the hose union tap once the wash down process has been completed.</p> <p>The standpipe arrangement shall be labelled 'drinking water'.</p> <p>Inline double check valves shall also be required as 'zone' protection to protect the water supply arrangement from potential cross contamination, for example, to prevent potential contaminated water travelling from one area of the plumbing system to another through backflow.</p>
Sailing club (inland freshwater) shore side hard standing, launch slipway	Rinsing small dinghies and RIBs	3/4/5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water pipework shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed below ground floor level at a depth between 750mm – 1350mm, or through an insulated duct approved by the water undertaker.</p> <p>All pipework to be readily identifiable, for example labeled 'mains cold water supply'.</p>	<p>If the intended use of the water supply arrangement is for non-domestic wash down purposes, then a compliant, Regulation 4 approved standpipe arrangement with handheld trigger gun assembly (auto-shut off head type) is deemed acceptable.</p> <p>There must be a designated area for rinsing down of vessels adjacent to the hose union tap. This should be clearly marked or signed and well clear of the water's edge. It is recommended that a demarcation line is painted on the slipway.</p> <p>The hose and trigger gun must not be immersed in seawater when in use and must be detached and completely removed from the hose union tap once the wash down process has been completed.</p> <p>The standpipe arrangement shall be labelled 'drinking water'.</p> <p>Inline double check valves shall also be required as 'zone' protection to protect the water supply arrangement from potential cross contamination, for example, to prevent potential contaminated water travelling from one area of the plumbing system to another through backflow.</p>

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Dedicated fuel dock – staffed when open	Filling the onboard water tank(s)	3/4/5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water pipework shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed below ground floor level at a depth between 750mm – 1350mm, or through an insulated duct approved by the water undertaker.</p> <p>All pipework to be readily identifiable, for example labeled 'mains cold water supply'.</p> <p>The supply pipe material shall be constructed of an approved 'barrier' type pipe suitable for installation in contaminated land to reduce any risk of permeation from hydrocarbon fuel and oils.</p>	<p>If the intended use of the water supply is for domestic usage, ie the fitting is only to be subjected to the onboard potable cold water storage tank - intended for human consumption, then a compliant, Regulation 4 approved drinking water standpipe arrangement would be considered acceptable.</p> <p>The hose must be non-permeable and of a food grade quality (appropriately marked to an accepted standard). The hose can only be issued by staff and the standpipe shall be locked when the fuel dock is closed.</p> <p>The hose must be cleaned, maintained and stored in an hygienic manner to maintain Water Quality standards.</p> <p>No washing or rinse down activities shall be permitted on fuel docks at any time.</p> <p>The mains drinking water filling point must be labelled 'drinking water'. The hose shall be suitably secured to the vessel when in use (ie retaining clip to prevent immersion in sea water) and be detached completely from the hose union tap once the onboard filling process has been completed.</p> <p>All drinking water hoses to be of a suitable food grade standard quality and where applicable supplied directly by the marina concerned. All hoses supplied directly by the marina must be signed for and the end user made aware of their correct use.</p> <p>Inline double check valves shall also be required as 'zone' protection to protect the water supply arrangement from potential cross contamination, for example, to prevent potential contaminated water travelling from one area of the plumbing system to another through backflow.</p> <p>A site by site Risk Assessment (RA) may also be undertaken by the local water undertaker. Due to the fact these sites are unmanned and therefore have no specific standard operating processes (SOPs) or control measures in place to monitor usage and consumption, the drinking water filling point will need to be disconnected and removed from the site or be re-sited to an alternative location.</p> <p>Alternatively, a dedicated break feed tank which incorporates Fluid Category 5 backflow protection in the form of a type AA, AB or AD air gap might be feasible as long as the system is regularly checked by marina staff to reduce any risk of stagnation caused by the lack of turnover.</p>

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Dedicated fuel dock – unmanned site	Filling the onboard water tank(s)	3/4/5	<p>The mains cold water pipework shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed below ground floor level at a depth between 750mm – 1350mm, or through an insulated duct approved by the water undertaker.</p> <p>All pipework to be readily identifiable, for example labeled 'mains cold water supply'.</p> <p>The supply pipe material shall be constructed of an approved 'barrier' type pipe suitable for installation in contaminated land to reduce any risk of permeation from hydrocarbon penetration.</p>	<p>A dedicated break feed tank which incorporates Fluid Category 5 backflow protection in the form of a type AA, AB or AD air gap might be feasible as long as the system is regularly checked by marina staff to reduce any risk of stagnation caused by the lack of turnover.</p> <p>No washing or rinse down activities shall be permitted on fuel docks.</p> <p>The hose shall be suitably secured to the vessel when in use (ie retaining clip) – to prevent immersion in sea water, and must be detached and completely removed from the hose union tap once the wash down process has been completed.</p> <p>The standpipe arrangement shall be labelled 'drinking water'.</p> <p>Inline double check valves shall also be required as 'zone' protection to protect the water supply arrangement from potential cross contamination, for example, to prevent potential contaminated water travelling from one area of the plumbing system to another through backflow.</p> <p>A site by site Risk Assessment (RA) may also be undertaken by the local water undertaker. Due to the fact these sites are unmanned and therefore have no specific standard operating processes (SOPs) or control measures in place to monitor usage and consumption, the drinking water filling point will need to be disconnected and removed from the site or be re-sited to an alternative location.</p>

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Boatyard (coastal) lifting dock	Pressure washing vessel hull of bio/anti fouling	5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water pipework shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed below ground floor level at a depth between 750mm – 1350mm, or through an insulated duct approved by the water undertaker.</p> <p>All pipework to be readily identifiable, for example labeled 'mains cold water supply'.</p>	<p>All non-domestic wash down/rinsing activities must be undertaken using a pressure washer which incorporates a Fluid Category 5 - type AA AB or AD air gap.</p> <p>All standpipe arrangements to be labelled 'Drinking Water' as well as further guidance to the end user on its intended use. This will be achieved through effective onsite management and a revised induction process. The introduction of an indelible label must be displayed on the external standpipe casing.</p> <p>The hose and trigger gun shall be kept clear of immersion when in use and be detached completely from the hose union tap once the wash down process has been completed. The connecting hose to the hose union tap must be of a non-permeable type.</p> <p>Inline double check valves are also required as 'zone' protection to protect the private water supply system from potential cross contamination, for example contaminated water caused through backflow, travelling from one area of the site to another.</p>
Boatyard/ shipyard – hard standing	Pressure washing vessel hull of bio/anti fouling	5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water pipework shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed below ground floor level at a depth between 750mm – 1350mm, or through an insulated duct approved by the water undertaker.</p> <p>All pipework to be readily identifiable, for example labeled 'mains cold water supply'.</p>	<p>All non-domestic wash down/rinsing activities must be undertaken using a pressure washer which incorporates a Fluid Category 5 - type AA AB or AD air gap.</p> <p>All standpipe arrangements to be labelled 'Drinking Water' as well as further guidance to the end user on its intended use. This will be achieved through effective onsite management and a revised induction process. The introduction of an indelible label must be displayed on the external standpipe casing.</p> <p>The hose and pressure gun must be kept clear of immersion when in use and the pressure washer be detached completely from the hose union tap once the wash down process has been completed. The connecting hose to the hose union tap must be of a non-permeable type.</p> <p>Inline double check valves are also required as 'zone' protection to protect the private water supply system from potential cross contamination, for example contaminated water caused through backflow, travelling from one area of the site to another.</p>

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Boatyard – hard standing	Private user – individual supplying their own hose for washing down their own vessel	3/4/5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water pipework shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed below ground floor level at a depth between 750mm – 1350mm, or through an insulated duct approved by the water undertaker.</p> <p>All pipework to be readily identifiable, for example labeled 'mains cold water supply'.</p>	<p>All standpipe arrangements to be labelled 'Drinking Water' as well as further guidance to the end user on its intended use. This will be achieved through effective onsite management and a revised induction process. The introduction of an indelible label must be displayed on the external standpipe casing.</p> <p>The hose and trigger gun must be kept clear of immersion when in use and be detached completely from the hose union tap once the wash down process has been completed. The connecting hose to the hose union tap must be of a non-permeable type and stored away appropriately by the end user once the wash-down activity is complete.</p> <p>Inline double check valves are also required as 'zone' protection to protect the private water supply system from potential cross contamination, for example contaminated water caused through backflow, travelling from one area of the site to another.</p>
Boat building/ repair shed/ dry stack	Water not pumped or under pressure. The rinsing down of the floor and washing down vessels during the build/repair process. Small amounts of chemicals, oils and paints may be present.	3/4	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water pipework shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be installed in a 'workmanlike' manner and shall be adequately supported and protected against sunlight and frost.</p> <p>All pipework to be readily identifiable, for example labeled 'mains cold water supply'.</p>	<p>All non-domestic wash down/rinsing activities can be undertaken using either;</p> <ol style="list-style-type: none"> 1) a pressure washer which incorporates a Fluid Category 5 – type AA AB or AD air gap, or 2) a non-permeable hose fitted with a handheld automatic shut off trigger gun. <p>All standpipe arrangements to be labelled 'Drinking Water' as well as further guidance to the end user on its intended use. This will be achieved through effective onsite management and a revised induction process. The introduction of an indelible label must be displayed on the external standpipe casing.</p> <p>The hose shall be detached completely from the hose union tap once the wash down process has been completed. The hose should be drained and stored safely clear of the floor. The hose connecting to the hose union tap shall be of a non-permeable type.</p> <p>Inline double check valves are also required as 'zone' protection to protect the private water supply system from potential cross contamination, for example contaminated water caused through backflow, travelling from one area of the site to another.</p>

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Marina – floating pontoon – cleaning pontoon surface	Non-domestic washing down/ rinsing and cleaning	5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water supply pipe shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed within an insulated duct approved by the water undertaker.</p> <p>All pipework shall be readily identifiable, for example labelled 'mains cold water supply'.</p>	<p>All non-domestic wash down/rinsing activities must be undertaken using a pressure washer which incorporates a Fluid Category 5 - type AA AB or AD air gap.</p> <p>The pressure washer hose must only be connected to a Regulation 4 approved standpipe located in the boatyard or hard standing. A standalone hose must not be connected to a standpipe marked for drinking water purposes under any circumstances.</p> <p>This will be achieved through effective onsite management and a revised induction process. The introduction of an indelible label must be displayed on the external standpipe casing.</p> <p>The hose and trigger gun must be kept clear of immersion when in use and be detached completely from the hose union tap once the wash down process has been completed. The connecting hose to the hose union tap must be of a non-permeable type.</p> <p>Inline double check valves are also required as 'zone' protection to protect the private water supply system from potential cross contamination, for example contaminated water caused through backflow, travelling from one area of the site to another.</p>

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Public / sailing club slipway(s)	Commercial washing down/ rinsing and cleaning of surface area	5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water supply pipe shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed within an insulated duct approved by the water undertaker.</p> <p>All pipework shall be readily identifiable, for example labelled 'mains cold water supply'.</p>	<p>All non-domestic wash down/rinsing activities must be undertaken using a pressure washer which incorporates a Fluid Category 5 - type AA AB or AD air gap.</p> <p>An exception to this would be a pressure washer directly drawing water from the sea in a closed loop system which is not directly connected to the mains drinking water system.</p> <p>There must be a designated area for rinsing down of vessels adjacent to the hose union tap. This should be clearly marked or signed and well clear of the high tide mark. It is recommended that a demarcation line is painted on the slipway.</p> <p>All standpipe arrangements to be labelled 'Drinking Water' as well as further guidance to the end user on its intended use.</p> <p>The hose and trigger gun must be kept clear of immersion when in use and be detached completely from the hose union tap once the wash down process has been completed. The connecting hose to the hose union tap must be of a non-permeable type.</p> <p>Inline double check valves are also required as 'zone' protection to protect the private water supply system from potential cross contamination, for example contaminated water caused through backflow, travelling from one area of the site to another.</p>

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Marina / harbour floating pontoon or dock wall	Filling the onboard water tank(s)	3/4/5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water supply pipe shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed within an insulated duct approved by the water undertaker.</p> <p>All pipework shall be readily identifiable, for example labelled 'mains cold water supply'.</p>	<p>If the intended use of the water supply is for domestic usage, ie the fitting is only to be subjected to the onboard potable cold-water storage tank - intended for human consumption, then a compliant, Regulation 4 approved drinking water standpipe arrangement would be considered acceptable.</p> <p>The mains drinking water filling point must be labelled 'drinking water'. The hose shall be suitably secured to the vessel when in use, and not be immersed in seawater. The hose must be detached completely from the hose union tap once the onboard filling process has been completed.</p> <p>All drinking water hoses to be of a suitable food grade standard quality, and where applicable supplied directly by the marina concerned. All hoses supplied directly by the marina shall be signed for by the end user who must be made aware of their correct method of use.</p> <p>Inline double check valves are also required as 'zone' protection to protect the private water supply system from potential cross contamination, for example contaminated water caused through backflow, travelling from one area of the site to another.</p>
Marina / harbour – floating pontoon or wharf pump out station and drinking water filling point	Filling the onboard water tank(s)	3/4/5	<p>The mains cold water supply pipe shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed within an insulated duct approved by the water undertaker.</p> <p>All pipework shall be readily identifiable, for example labelled 'mains cold water supply'.</p> <p>The standpipe and mains cold water pipework shall be located a minimum of 5m (Recommended 10m) away from any risk of permeation or ingress from the pump out station.</p>	<p>A dedicated break feed tank which incorporates Fluid Category 5 backflow protection in the form of a type AA, AB or AD air gap maybe feasible as long as the system is regularly checked by marina staff to reduce any risk of stagnation caused by the lack of turnover.</p> <p>The mains drinking water filling point must be labelled 'drinking water'. The hose shall be suitably secured when in use and be detached completely from the hose union tap once the onboard filling process has been completed.</p> <p>All drinking water hoses to be of a suitable food grade standard quality and where applicable supplied directly by the marina concerned. All hoses supplied directly by the marina shall be signed for by the end user to understand the correct use of the private water supply system and shall form part of the revised induction process.</p> <p>Inline double check valves shall also be required as 'zone' protection to protect the water supply arrangement from potential cross contamination, for example, to prevent potential contaminated water travelling from one area of the plumbing system to another through backflow.</p>

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Mobile pump out	For pumping out black water and grey water tanks on board vessels	3/4/5		There must either be a dedicated pontoon or area where the HUT is either removed or has Cat 5 air gap protection. If it is to be used in different locations then the minimum distance it can be operated is 5m from a HUT, it is recommended where possible. that a distance of 10m is maintained.

Inland waterways table of activities

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Water points located on canal and riverside inland	Filling the onboard water tank(s)	3/4/5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water pipework shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed below ground floor level at a depth between 750mm – 1350mm, or through an insulated duct approved by the water undertaker.</p> <p>All pipework to be readily identifiable, for example labeled 'mains cold water supply'.</p> <p>Where applicable, the supply pipe material shall be constructed of an approved 'barrier' type pipe suitable for installation in contaminated land to reduce any risk of permeation from hydrocarbon penetration.</p>	<p>If the intended use of the water supply is for domestic usage, ie the fitting is only to be subjected to the onboard potable cold water storage tank - intended for human consumption, then a compliant, Regulation 4 approved drinking water standpipe arrangement would be considered acceptable.</p> <p>The mains drinking water filling point must be labelled 'drinking water'. The hose shall be suitably secured (Retaining clip to prevent the hose being submerged in canal, See digram.1) when in use and be detached completely from the hose union tap once the onboard filling process has been completed.</p> <p>All drinking water hoses to be of a suitable food grade standard quality. All hoses supplied directly by any inland marina shall be signed for by the end user in order to understand the correct use of the private water supply system as part of the revised induction process.</p> <p>Inline double check valves shall also be required as 'zone' protection to protect the water supply arrangement from potential cross contamination, for example, to prevent potential contaminated water travelling from one area of the plumbing system to another through backflow.</p>

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Water points located on canal and riverside – floating pontoons	Filling the onboard water tank(s)	3/4/5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water pipework shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed below ground floor level at a depth between 750mm – 1350mm, or through an insulated duct approved by the water undertaker.</p> <p>Connections to the bank must be able to be flexible enough to allow for tidal and boat wash movement and be of an approved material suitable for the circumstances with which it is used.</p> <p>All pipework to be readily identifiable, for example labeled 'mains cold water supply'.</p> <p>Where applicable, the supply pipe material shall be constructed of an approved 'barrier' type pipe suitable for installation in contaminated land to reduce any risk of permeation from hydrocarbon penetration.</p>	<p>If the intended use of the water supply is for domestic usage, ie the fitting is only to be subjected to the onboard potable cold water storage tank - intended for human consumption, then a compliant, Regulation 4 approved drinking water standpipe arrangement would be considered acceptable.</p> <p>The mains drinking water filling point must be labelled 'drinking water'. The hose shall be suitably secured (retaining clip to prevent the hose being submerged in canal) when in use and be detached completely from the hose union tap once the onboard filling process has been completed.</p> <p>All drinking water hoses to be of a suitable food grade standard quality. All hoses supplied directly by any inland marina shall be signed for by the end user in order to understand the correct use of the private water supply system as part of the revised induction process.</p> <p>Inline double check valves shall also be required as 'zone' protection to protect the water supply arrangement from potential cross contamination, for example, to prevent potential contaminated water travelling from one area of the plumbing system to another through backflow.</p>

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Elsan disposal points – chemical toilet disposal	Washing out and rinsing cassettes	5	<p>Rinse hoses shall be fed from an existing dedicated break tank (cistern used for flushing) or via a Regulation 4 approved tap incorporating a Type DC backflow prevention device that is installed directly onto the end of the tap.</p> <p>In addition to the DC backflow prevention device an inline double check valve shall also be installed on the cold water pipework supplying water to the tap.</p> <p>It is understood that the majority of chemical waste disposal points are located either within buildings or as standalone units.</p> <p>Therefore, in these scenarios they do not have any additional drinking water standpipes.</p> <p>The rinse tap forms part of the unit or is located within the building.</p> <p>The hose shall be no longer than 600mm and must end 150mm above spill over level of the Elsan tank.</p> <p>The standpipe and mains cold water pipework shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed below ground floor level at a depth between 750mm – 1350mm, or through an insulated duct approved by the water undertaker.</p> <p>All pipework to be readily identifiable, for example labeled 'mains cold water supply'.</p> <p>Where applicable, the supply pipe material shall be constructed of an approved 'barrier' type pipe suitable for installation in contaminated land to reduce any risk of permeation from hydrocarbon penetration.</p>	<p>All standpipe arrangements and/or rinse taps to be labelled 'Non-Drinking Water' as well as further guidance to the end user on its intended use.</p> <p>Inline double check valves shall be required as 'zone' protection to protect the private water supply system from potential cross contamination, for example contaminated water caused through backflow, travelling from one area of the site to another.</p> <p>The hoses must not be connected to a domestic cold water storage tank supplying water for tea and toilet facilities.</p> <p>All pipework shall be labelled as a Fluid Category 5 Risk.</p>

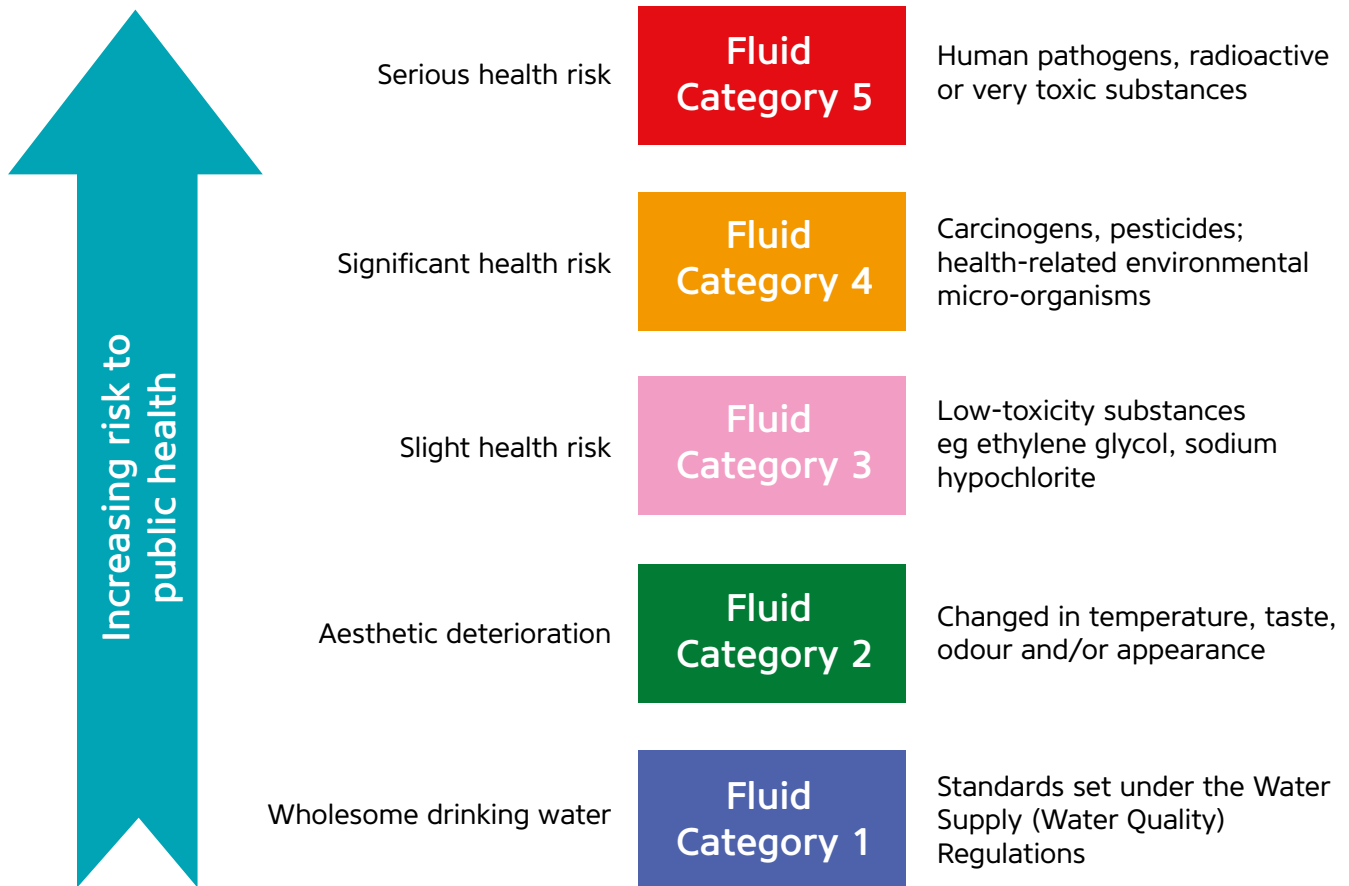
Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Pump out area – rinse facilities	Washing out and rinsing	5	<p>Bespoke 'Rolec' mains water bollard (See Appendix 2) with built in Type DC backflow prevention device, installed within protective insulated casing with lockable door.</p> <p>The water bollard and mains cold water pipework shall be located away from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed below ground floor level at a depth between 750mm – 1350mm, or through an insulated duct approved by the water undertaker.</p> <p>All supply pipe shall be readily identifiable, for example labeled 'mains cold water supply'.</p> <p>Where applicable, the supply pipe material shall be constructed of an approved 'barrier' type pipe suitable for installation in contaminated land to reduce any risk of permeation from hydrocarbon penetration.</p>	<p>All bespoke 'water bollard' arrangements to be labelled 'Non-Drinking Water' on the front of the external casing as well as further guidance to the end user on its intended use.</p> <p>The hose shall be suitably secured when in use and be either retracted or secured to the unit.</p> <p>Inline double check valves shall be required as 'zone' protection to protect the private water supply system from potential cross contamination, for example contaminated water caused through backflow, travelling from one area of the site to another.</p> <p>Where there is no rinse facility, mains drinking water standpipes must be located at least 5m away (recommended 10m) from the pump out area and be suitably labeled.</p>

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
Pump out area – no rinse facilities	Filling the onboard water tank(s)	3/4/5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.</p> <p>The standpipe and mains cold water pipework shall be located a minimum of 5m away (recommended 10m) from any risk of permeation or ingress.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed below ground floor level at a depth between 750mm – 1350mm, or through an insulated duct approved by the water undertaker.</p> <p>Connections to the bank must be able to be flexible enough to allow for tidal and boat wash movement and be of an approved material suitable for the circumstances with which it is used.</p> <p>All pipework to be readily identifiable, for example labeled 'mains cold water supply'.</p> <p>Where applicable, the supply pipe material shall be constructed of an approved 'barrier' type pipe suitable for installation in contaminated land to reduce any risk of permeation from hydrocarbon penetration.</p>	<p>If the intended use of the water supply is for domestic usage, ie the fitting is only to be subjected to the onboard potable cold water storage tank - intended for human consumption, then a compliant, Regulation 4 approved drinking water standpipe arrangement would be considered acceptable.</p> <p>The mains drinking water filling point must be labelled 'drinking water'. The hose shall be suitably secured when in use and be detached completely from the hose union tap once the onboard filling process has been completed.</p> <p>All drinking water hoses to be of a suitable food grade standard quality. All hoses supplied directly by any inland marina shall be signed for by the end user to understand the correct use of the private water supply system and shall form part of the revised induction process.</p> <p>Inline double check valves shall also be required as 'zone' protection to protect the water supply arrangement from potential cross contamination, for example, to prevent potential contaminated water travelling from one area of the plumbing system to another through backflow.</p> <p>No drinking water bollard shall be located within 5m of any pump out facility.</p>

Location	Operation	Fluid category (based on RA)	Equipment	ISCG comments/requirements
House boats which have access to permanent water connections	Filling the onboard water tank(s)	3/4/5	<p>Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory.</p> <p>All pipework shall be adequately supported and protected against sunlight and extreme temperatures with waterproof insulation.</p> <p>All pipework shall be installed below ground floor level at a depth between 750mm – 1350mm, or through an insulated duct approved by the water undertaker.</p> <p>Connections to the bank must be able to be flexible enough to allow for tidal and boat wash movement and be of an approved material suitable for the circumstances with which it is used.</p> <p>All pipework shall be readily identifiable, for example labeled 'mains cold water supply'.</p> <p>Where applicable, the supply pipe material shall be constructed of an approved 'barrier' type pipe suitable for installation in contaminated land to reduce any risk of permeation from hydrocarbon penetration.</p>	<p>All permanent mains cold water connections to the public drinking water network intended to supply potable drinking water to a house boat or permanently moored craft shall be treated the same as any other land based domestic premises.</p> <p>All permanent water and waste water connections shall be applied for and approved by either the local water undertaker or local authority.</p> <p>All water connections and private plumbing systems must be designed and installed to cope with tidal and boat wash movement.</p> <p>The water supply system must also have to be demountable with non-return valves if the craft needed to be relocated for any reason.</p> <p>Inline double check valves shall also be required as 'zone' protection to protect the water supply arrangement from potential cross contamination, for example, to prevent potential contaminated water travelling from one area of the plumbing system to another through backflow.</p>

Appendix 1

Fluid categories

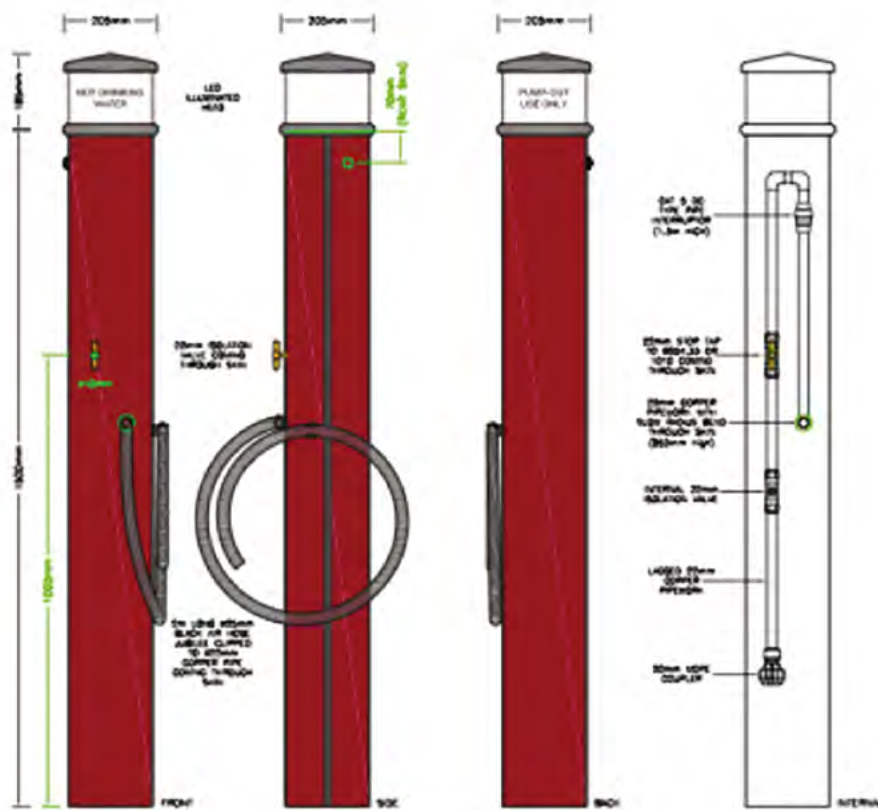


The Water Supply (Water fittings) Regulations 1999 identify each of the five fluid category risks and subsequent risk to public health, ranging from slight to significant hazards.

The fluid category risk is influenced by those fluids downstream of the apparatus and the impact this may have to public health should those fluids contaminate the wholesome drinking water supply. For each of the five fluid categories, there is a minimum level of backflow protection necessary to mitigate the risk.

Appendix 2

Water bollard



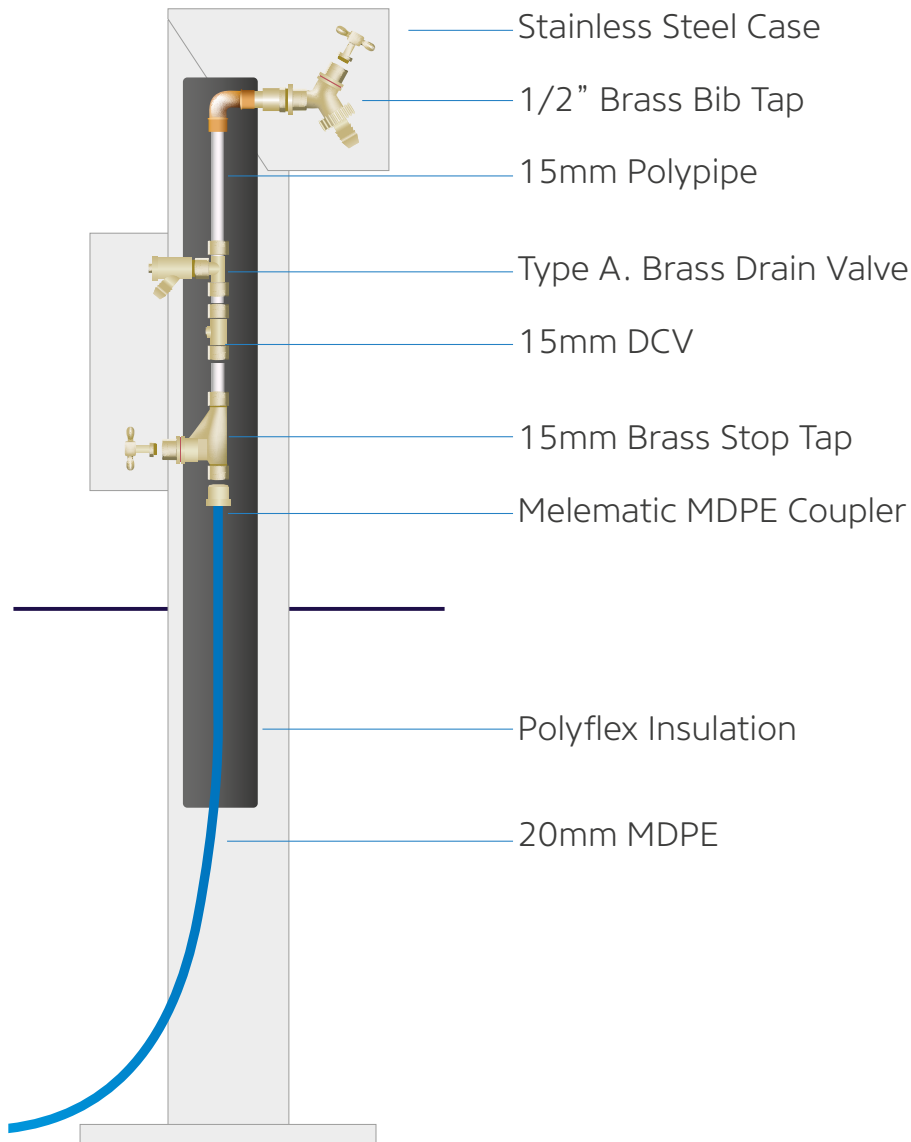
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1500mm CLASSIC WATER PEDESTAL
 1x CAT 5 DC TYPE PIPE INTERRUPTOR
 1x 22mm STOP TAP COMING THROUGH SKIN
 1x INTERNAL 20mm ISOLATION VALVE
 1x 20mm MDPE COUPLER
 1x PHOTO-CELL CONTROLLED LED ILLUMINATION

Appendix 3

Regulation 4 approved standpipe arrangement

Example Tower Standpipe with 1/2" Brass Bib Tap



ED2012 Shell

Material	Brushed Stainless Steel (Grade 304 - 1.5mm Thickness)
Unit Length	1470mm (720mm above ground profile - 750mm installed below ground)
Unit Section	106mm x 106mm
Outlet Tap Cover	225mm x 180mm x 120mm
Stop Tap Cover	70mm x 260mm x 110mm
Stabilising Base Plate	255mm x 205mm

ED2012 Plumbing

Double Check Valve	15mm DCV (WRAS Approved)
Outlet Tap	1/2" Brass Bib Tap (BS 1010-2)
Stop Tap	15mm Brass Stop Tap (EN 1213)
Drain Off Tap	Type A. Brass Drain Valve
Mains Connection	20mm MDPE
Internal Rising Main	15mm Polypipe
Insulation	Polyflex expanded foam or equivalent insulator, giving protection down to -5 degrees Celsius

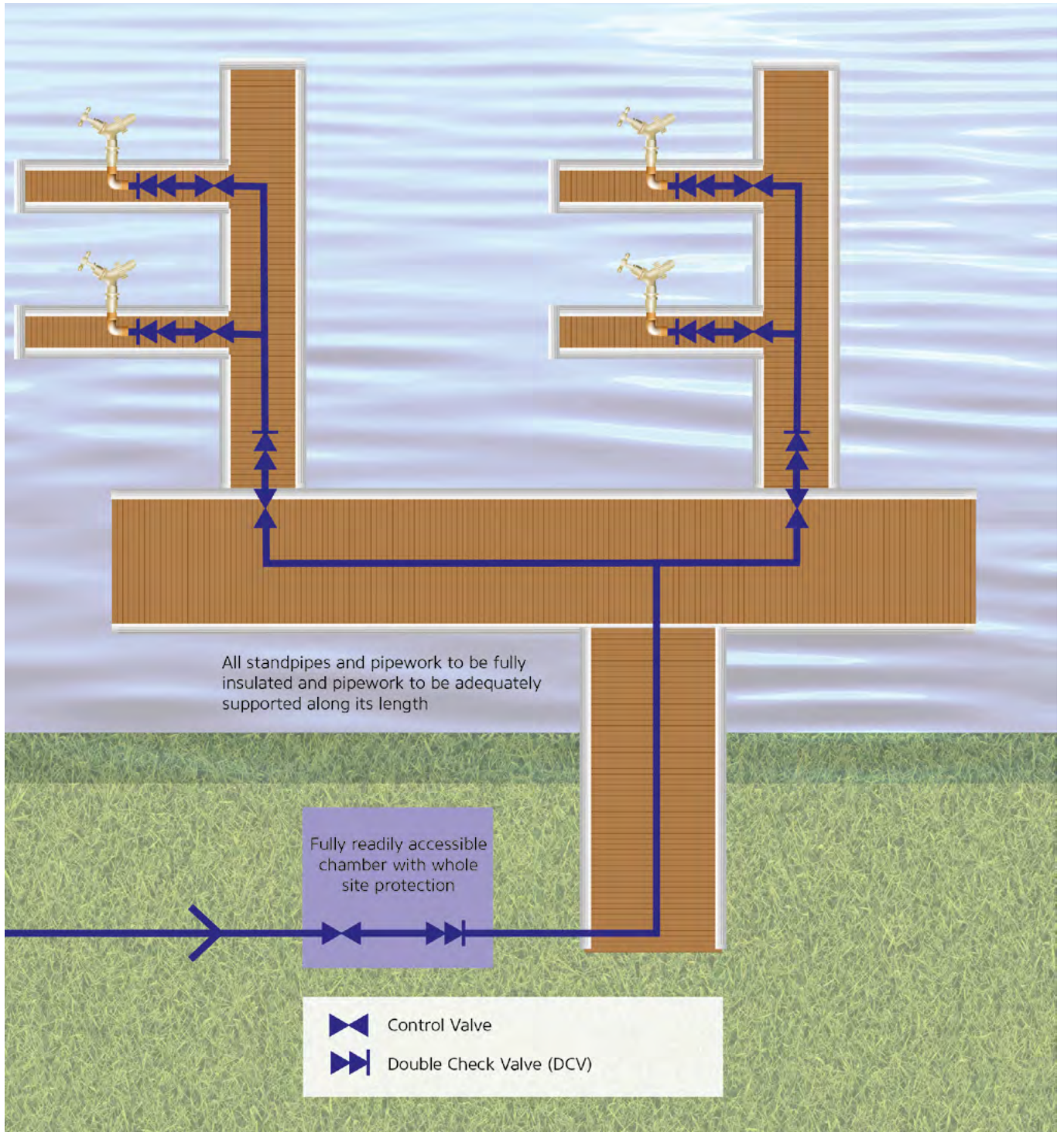
Appendix 4

Chemical toilet waste discharge point with Fluid Category 5 backflow prevention



Appendix 5

Example of 'zone' backflow protection



Appendix 6

Example installations



A. Hose union tap on secure pedestal



B. In-line Double Check Valve (DCV)
(insulation removed)



C. Pump out station



D. Fuel dock with HUT for hose use

Glossary of terms

BA backflow device

See RPZ (Reduce Pressure Zone) valve

Backflow

The flow of water/liquid travelling in the opposite direction to that intended. Backflow can occur under back siphonage or back pressure conditions.

Backflow protection

A mechanical device or physical air gap installed on the plumbing system to prevent the flow of contaminated fluid returning back in the opposite direction to that intended.

Backflow – point of use protection

A mechanical device or physical air gap installed at the point of connection to the terminal water fitting.

Backflow – whole-site protection

A mechanical device or physical air gap installed as close as reasonably practicable to the highway boundary or point of entry. ‘Whole-site’ backflow protection is in addition to any other zone or point of use backflow protection installed downstream of the apparatus. Wholesite backflow protection safeguards the public drinking water supply as an interim measure where the local water undertaker has concerns regarding the potential risk of contamination through backflow.

Backflow – zone protection

A mechanical device or physical air gap installed as ‘zone’ backflow protection is in

addition to any other point of use backflow protection installed downstream of the apparatus to prevent any further risk of cross contamination from occurring.

Contamination

Refers to the quality of the water which is altered when subjected to non-compliant materials, ingress and/or permeation of a contaminated fluid no longer fit for human consumption.

Double Check Valve (DCV)

An inline mechanical backflow prevention device installed on the supply pipe, suitable for Fluid Category 3.

Hose Union Tap (HUT)

A mechanical water fitting, with integrated double check valve with provisions to attach a hose pipe.

Reduce Pressure Zone (RPZ) valve

Also referred to as a BA backflow prevention device, an RPZ valve is a mechanical backflow prevention device installed on the supply pipe, suitable for Fluid Category 4. Once installed, an RPZ valve requires an annual calibration test (or on a more frequent basis depending on the risk) to be undertaken by a suitably qualified and accredited tester to demonstrate the device is working as designed.

SOP

Standard Operating Procedure

Standpipe

Regulation 4 approved product (ie WRAS, Kiwa or NSF certified) as listed under their respective approved fittings and materials directory. External standpipe arrangement incorporating a controlling stop tap, drain off cock, inline double check valve, insulation, hose union bib tap, protective casing and lockable hood where applicable.

Water undertaker (wholesaler)

Water companies who manage and maintain the public drinking water network are also referred to as water undertakers. The water undertaker is responsible for carrying out physical inspections and where applicable the serve enforcement notices on owner/occupiers who contravene the Water Supply (Water Fittings) regulations 1999.

References

- The Water Industry Act 1991
- The Water Supply (Water Fittings) Regulations 1999

Industry Specialist Consulting Group Participating members

- Anglian Water
- British Marine
- Canal & River Trust
- Jersey Water
- Royal National Lifeboat Institution
- Royal Yachting Association
- The Yacht Harbour Association
- Severn Trent
- Southern Water

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