

**REDDITCH BOROUGH COUNCIL**

**WATER SERVICES LOG BOOK**

Name of Premises .....

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Water Quality guidance document – Management Arrangements for the Control of Legionella and Maintenance of Wholesome Water Quality in Redditch Borough Council Buildings

Legionella Risk Assessment for the Premises

Schematic diagram of the water services

**Any other relevant documents may be filed in this log, such as:**

- Maintenance Contractor's reports
- Disinfection and cleaning certificates
- Completed temperature record sheets

## REDDITCH BOROUGH COUNCIL

### WATER QUALITY POLICY

WRITTEN SCHEME FOR CONTROLLING THE RISK OF EXPOSURE TO LEGIONELLA BACTERIA IN REDDITCH BOROUGH COUNCIL PREMISES

**The following written scheme is issued in accordance with HSC Approved Code of Practice L8, and contains a summary of the requirements of the Redditch Borough Councils Water Quality Policy, 2009, to which reference should also be made.**

(a) Schematic Diagram

**The schematic diagram for the particular premises is contained in the Water Services Log Book, located at the premises. A further copy is held by the Asset maintenance Team/ Housing Capital team**

(b) Description of correct and safe operation of systems

**The water services systems at the premises operate under the following conditions of temperature:**

**Cold water storage cisterns: below 20°C**

**Hot water storage: 60–65°C**

**Hot water distribution: 60–65°C**

**Hot water service return: 50°C or above**

**Hot water to be heated to 60–65°C before first draw-off takes place**

**All outlets to be flushed weekly unless used more frequently**

**Hot water outlets with blending valves set to 41-46°C as appropriate**

(c) Precautions to be taken

**Design and construction of new systems and alterations to be in accordance with HSC ACoP L8, BS6700, WCC Water Quality Policy and WCC Standard Mechanical Technical Clauses/Trade Preambles appropriate to the contract.**

**New and modified pipework to be disinfected and sampled as per BS6700 and WCC Water Quality Policy.**

**Hot water outlets which pose a scalding risk to be fitted with thermostatic mixing valves within 2 metres of point of draw-off.**

Showers and outlets shall be flushed in a manner that removes the possibility of creating an aerosol. With flexible shower hoses, the spray head should be lowered temporarily into a bucket placed on a stool, and the water run to drain that way without creating an aerosol. In the case of fixed high-level shower heads, the most simple and practical way of achieving safe flushing is to fabricate a length of rigid plastic piping, of the required length to suit the shower, fitted with a tundish at the upper end. The tundish is positioned underneath the shower head and the discharged water is conveyed safely into the shower tray/outlet without generating an aerosol. With careful selection of the length of the pipe, the system can be made self-supporting.

(d) Checks to be carried out to ensure efficacy of scheme

**Checks, their frequency and the persons responsible for carrying them out are in accordance with Table 1 of this document.**

(e) Remedial actions to be taken

**The expected results of the checks set out in Table 1, and the actions to be taken in the event of non-compliance, are listed below under the reference number for each check.**

## Appendix 2

- (1) No reporting appropriate.
- (2) Temperature at blended outlets should be nominally 43°C but specifically in the range 39°C for bidets, 41-43°C for showers, washbasins and unattended baths, and 46°C for attended baths. Record discrepancies, call in Maintenance Contractor and request adjustment or replacement.
- (3) Temperatures at sentinel taps should be within range and times stated in Table 1. Record discrepancies and report to Water Management Officer at Asset Maintenance/ Housing Capital, for investigation and remedial action.
- (4) Temperatures at calorifiers should be within range stated in Table 1. Record discrepancies and report to Water Management Officer at Asset Maintenance/ Housing Capital, for investigation and remedial action.
- (5) If shower roses and hoses cannot be cleaned or descaled effectively, call in Maintenance Contractor and request replacement.
- (6) Temperatures at incoming main and storage tanks should be below 20°C in all cases. Record discrepancies and report to Water Management Officer at Asset Maintenance/ Housing Capital, for investigation and remedial action.
- (7) Cold water temperature rise should be less than 2-3°C under constant flow conditions. Record discrepancies and report to Water Management Officer at Asset Maintenance/ Housing Capital, for investigation and remedial action.
- (8) Water from calorifier drains should be clean and free from visible debris. Record discrepancies and report to Water Management Officer at Asset Maintenance/ Housing Capital, for investigation and remedial action.
- (9) Calorifiers should be clean internally and free from sludge or heavy scaling. Record discrepancies and report to Water Management Officer at Asset Maintenance/ Housing Capital, for investigation and remedial action.
- (10) Compare temperature of water from taps checked with original values measured at Risk Assessment. If any differ by more than 5 degrees or fall outside the control parameters in Table 1 (3) above, record discrepancies and report to Water Management Officer at Asset Maintenance/ Housing Capital, for investigation and remedial action.
- (11) Cold water storage cisterns should be serviced in accordance with the requirements of the Mechanical Maintenance Service Contract. Record work done and discrepancies, and report to Water Management Officer at Asset Maintenance/ Housing Capital, for investigation and remedial action.
- (12) Report any discrepancies between the schematic drawing and the physical arrangements of water services found on site to Water Management Officer at Asset Maintenance/ Housing Capital, for investigation and remedial action.

## Appendix 2

Table 1

Frequency	Action	Responsibility
1. Weekly	Flush little-used outlets to drain without release of aerosols. Record.	Occupier
2. Weekly	Check and record blended water temperatures from thermostatic mixing valves where fitted. Confirm that stable temperature is attained within one minute.	Occupier (2)
3. Monthly	Check water temperatures at sentinel taps. Hot water >50°C after 1 minute, cold water <20°C after 2 minutes. Record.	Occupier (2)
4. Monthly	Check calorifier temperatures. Flow 60°C, return >50°C. Record.	Occupier (3)
5. Quarterly or as necessary	Dismantle, clean and descale shower heads and hoses. Record.	Occupier (1)
6. Six monthly	Measure incoming water temperature to cold water cisterns and water temperature remote from float valve. Record.	Maintenance Contractor
7. Six monthly (January and July)	Measure cold water temperature rise between incoming main and most distant outlet. Should be less than 2-3°C. Record.	Occupier (4)
8. Annually	Take sample and record condition of water from HWS calorifier drains.	Maintenance Contractor
9. Annually	Open and inspect internal surfaces of HWS calorifiers for scale and sludge and clean or descale as necessary. Record.	Maintenance Contractor
10. Annually	Check and record temperatures at a representative number of taps throughout the system, on a rotational basis.	Occupier (2)
11. Annually	Inspect cold water cisterns and carry out remedial work as necessary. Record work done and report outstanding defects.	Maintenance Contractor
12. Annually	Physically inspect the hot and cold water systems and check accuracy of schematic drawings. Note changes. Check for under-used fittings and report recommendations.	Scientific Services and/or Specialist Contractors

Notes

## Appendix 2

- 1) **May be undertaken by competent Caretaker or maintenance operative using proprietary domestic kettle descaler (COSHH Regulations apply to use of chemicals at work), or by Maintenance Contractor. However, the person responsible must be clearly defined by the Occupier**
- 2) **Shall be done using a simple digital thermometer with immersion probe.**
- 3) **Readings to be taken from fitted temperature gauges.**
- 4) **Should be done using digital thermometer as in (2). Sample points can be the nearest tap to the incoming main, and the most distant tap. These points should be labelled permanently to identify them.**
- 5) **Water samples for analysis, where appropriate, are to be taken at the same time as the visual survey is undertaken. In addition samples will be taken at a greater frequency, to be agreed with Asset Maintenance where the water supply is obtained from a private source**

### Definitions and explanations

**Sentinel tap:** a 'sentinel' is a sentry who stands guard over something, watching and keeping an eye on safety, and the term is used to describe the taps which are used regularly to monitor, sample and check the water quality and temperature. Basically, the sentinel taps are defined as the first and last ones on the system. For the cold water, they will be the taps nearest to and furthest from the incoming cold water main, and for the hot water, they will be the nearest to and furthest from the hot water source, be it calorifier, tank, vessel or water heater. All buildings will have at least two cold and two hot sentinel taps, and they are usually easy to identify. For larger buildings, and campuses with several blocks, there may be more sentinel taps, which can be identified by reference to the water services schematic diagram for the site. Once identified and labelled, they will not change unless some major alterations are done to the water systems. Schematic diagrams are prepared when a formal Risk Assessment is undertaken

**Calorifier:** a calorifier is nothing more than an industrial-size version of the indirect domestic hot water cylinder found in houses. Calorifiers tend to be fitted in larger premises, whereas smaller properties often have point-of-use electric water heaters, which pose fewer risks. Calorifiers rely on thermal stratification where the hot water collects at the top and is drawn off for use. A pumped circulation main is often fitted in larger premises, and the returning slightly cooler water is injected back into the calorifier cylinder part way up. Cold feed water from a tank enters at the bottom. Close control and monitoring of the temperatures in and around the calorifier and pipework is necessary to ensure that water is heated to and held at 60degC before being drawn off, in order to kill any bacteria present in the feed water.

Contacts and further advice may be obtained from:

**Redditch Borough Council Asset Maintenance 01527 64252**  
**Redditch Borough Housing Capital Team 01527 64252**

# REDDITCH BOROUGH COUNCIL

## WATER QUALITY POLICY

### Advice to building occupiers concerning regular flushing of showers

The statutory requirement relating to the above is the Health and Safety Commission's Approved Code of Practice L8 'Legionnaire's Disease - The control of legionella bacteria in water systems' which states as follows:

"...consideration should be given to removing infrequently used showers..." (Clause 164)

"... When outlets are not in regular use, weekly flushing of these devices for several minutes can significantly reduce the number of legionella discharged from the outlet. Once started, this procedure has to be sustained and logged..." (Clause 165)

"Where it is difficult to carry out weekly flushing, the stagnant and potentially contaminated water from the shower and associated dead-leg needs to be purged to drain before the appliance is used. It is important that this procedure is carried out with the minimum production of aerosols, eg. additional piping may be used to purge contaminated water to drain." (Clause 166)

### Practical measures

Showers which are used less than once a week should strictly be considered as unnecessary, and be disconnected and removed in accordance with the Approved Code of Practice Clause 164.

If showers are required to remain installed for occasional use, it is important that the occupier institutes a programme of weekly flushing. So long as showers are flushed weekly, there are no special safety requirements other than to turn the shower fully on and allow to run to drain for a few minutes (five minutes is a reasonable period). However, it is important to make a written record of the date, time and name of the person who carried out the procedure. This could be kept in a simple log book.

If a shower has been unused for more than a week, for example at the start of the football season, then the water inside it could potentially be contaminated. In such cases, however, it is a wise precaution to avoid the creation of an aerosol or excessive splashing.

With flexible shower hoses, the spray head could be lowered temporarily into a bucket placed on a stool, and the water run to drain that way without creating an aerosol. In the case of fixed high-level shower heads, the most simple and practical way of achieving safe flushing is to fabricate a length of rigid plastic piping, of the required length to suit the shower, fitted with a tundish at the upper end. The tundish is positioned underneath the shower head and the discharged water is conveyed safely into the shower tray/outlet without generating an aerosol. With careful selection of the length of the pipe, the system can be made self-supporting.

### Cleaning shower heads

This is no different to a shower in a domestic residence, with which most people are familiar and capable of keeping clean. Over time, scale may build up on the outlet plate but this can be removed by regular cleaning or scrubbing, or the use of a proprietary chemical descaler where a prolonged build-up has been allowed to occur (the COSHH Regulations apply to use of this at work). Public buildings and Communal showers in sheltered accommodations covered by the Redditch Borough Council will receive a six-monthly service to all showers, which includes cleaning and descaling of all shower heads. Normal domestic cleaning during the intervening period should prevent undue build-up of scale.

Record Sheet for Legionella Precautions – From ..... to .....

Name of Premises .....

Name and Position of person undertaking checks .....

<b>Week starting:</b>												
<p><b>Weekly</b> Flush little-used outlets to drain, without release of aerosols. <b>Record date done</b></p> <p><b>Check and record blended water temperatures</b> from thermostatic mixing valves, where fitted. <b>Initial to confirm</b> that stable temperature is attained within 1 minute.</p>	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	...	...	...	...	...	...	...	...	...	...	...	...
<p><b>Monthly</b> Check and record water temperatures at sentinel taps. Hot water to be &gt;50°C after 1 minute. Cold water to be &lt;20°C after 2 minutes.. <b>Check and record calorifier temperatures.</b> Flow to be 60°C, return to be &gt;50°C.</p>	<b>Hot:</b>		°C	<b>Hot:</b>		°C	<b>Hot:</b>		°C			
	<b>Cold:</b>		°C	<b>Cold:</b>		°C	<b>Cold:</b>		°C			
	<b>Flow:</b>		°C	<b>Flow:</b>		°C	<b>Flow:</b>		°C			
	<b>Return:</b>		°C	<b>Return:</b>		°C	<b>Return:</b>		°C			

<p align="center"><b>Three Monthly</b> Dismantle, clean and descale shower heads and hoses. <b>Initial and record date done.</b></p>		<p>..... ... ..... ...</p>
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over / ....

**Record for six monthly and annual checks (if they fall within currency of record form)**

Date:	..... January 20.....	..... July 20.....																		
<p align="center"><b>Six monthly</b> Measure cold water temperature rise between incoming main and most distant outlet. Calculate and record temperature rise.</p>	<p><b>Cold water temperature at/near mains inlet =            °C</b></p> <p>Cold water temperature at furthest outlet = _____ °C</p> <p>Temperature rise (subtract) =            °C</p>	<p><b>Cold water temperature at/near mains inlet =            °C</b></p> <p>Cold water temperature at furthest outlet = _____ °C</p> <p>Temperature rise (subtract) =            °C</p>																		
<p align="center"><b>Annually</b> <b>Check and record temperatures</b> at a representative number of taps throughout the system on a rotational basis.</p>	<p>Location of taps:</p> <p>a) .....</p> <p>b) .....</p> <p>c) .....</p> <p>d) .....</p> <p>e) .....</p> <p>f) .....</p> <p>g) .....</p> <p>h) .....</p>	<table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left; padding: 5px;"><b>Water temperature</b></th> <th style="text-align: left; padding: 5px;"><b>Date</b></th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">= ..... °C .....</td> <td></td> </tr> <tr> <td style="padding: 5px;">= ..... °C .....</td> <td></td> </tr> <tr> <td style="padding: 5px;">= ..... °C .....</td> <td></td> </tr> <tr> <td style="padding: 5px;">= ..... °C .....</td> <td></td> </tr> <tr> <td style="padding: 5px;">= ..... °C .....</td> <td></td> </tr> <tr> <td style="padding: 5px;">= ..... °C .....</td> <td></td> </tr> <tr> <td style="padding: 5px;">= ..... °C .....</td> <td></td> </tr> <tr> <td style="padding: 5px;">= ..... °C .....</td> <td></td> </tr> </tbody> </table>	<b>Water temperature</b>	<b>Date</b>	= ..... °C .....		= ..... °C .....		= ..... °C .....		= ..... °C .....		= ..... °C .....		= ..... °C .....		= ..... °C .....		= ..... °C .....	
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**Appendix 2**

	i) .....	= ..... °C .....
	j) .....	= ..... °C .....

Duties to be undertaken by Service Contractor  
 Sheet 1 of 2

Record Sheet for Legionella Precautions - From ..... to .....

Name of Premises .....

Name and Position of person responsible or Officer-in-Charge .....

Action	Date	Signature	Date	Signature	Date	Signature	Date	Signature
<b>Six-monthly:</b> Measure incoming water temperature at storage cistern float-operated valve and cistern outlet. Inspect storage cisterns and report defects or undertake remedial work - Clause 3.21.1(a)	Notes		Notes		Notes		Notes	
<b>Annually:</b> Take sample and record	Date	Signature			Date	Signature		

condition of water from hot water system calorifier drains - Clause 3.21.18	Notes	Notes
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Duties to be undertaken by Service Contractor

Sheet 2 of 2

Action	Date	Signature		Date	Signature	
<b>Annually:</b> Open up and inspect internal surfaces of hot water system calorifiers (where possible) for scale or sludge. Clean or descale as necessary, heat up to 60°C and hold for 1 hour before putting back on line - Clause 3.21.18			Notes			Notes
<b>Annually:</b> Inspect cold water						

**Appendix 2**

<p>cisterns and carry out remedial work as necessary. Shut off incoming water and carry out 'drop test'. Record defects - Clause 3.21.1(b)</p>	<p>Notes</p>		<p>Notes</p>	
<p><b>Annually:</b> Physically inspect hot and cold water systems and check accuracy of schematic drawings. Note changes. Check for under-used water fittings and report - Clause 3.21.28</p>	<p>Date</p>	<p>Signature</p>	<p>Date</p>	<p>Signature</p>
	<p>Notes</p>		<p>Notes</p>	