

Procedure: Water Management Procedure

Approved by: Leadership Group

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Version

The table below shows the history of the document and the changes that were made at each version.

Version	Date	Summary of changes
1	16/06/20	Implementation of written scheme
2	23/07/20	Updated 'responsible person' to 'competent person' and added WRAS approved product use
3	03/02/23	Empty homes revised guidance

1. Introduction

- 1.1 Broadland Housing Association (BHA) has a duty with respect to legionella under the Health and Safety at Work etc. Act 1974, COSHH regulations 2002 and the Management of Health and Safety at Work regulations 1999 to consider the risks that may affect its residents, staff, visitors and members of the public and take suitable managed precautions. To this end, BHA has commissioned comprehensive legionella risk assessments.

2. Definitions

- 2.1 “*Contractor*” means anyone the Association employs to do work of any kind who is not an employee. Such person or company will have membership of the Legionella Control Association (LCA).
- 2.2 “*Duty Holder*” mean the organisation with the control of premises. The duty holder is the employer where the risk is from their undertakings to their staff or others, the self-employed person where the risk is from undertaking to themselves or others, or the person in control of the premises where the risk is present from the systems in the building (e.g. a landlord who remains responsible for the maintenance of the systems). In most cases there will only be one duty holder, but in cases of shared accommodation there could be a shared responsibility. The duty holder cannot delegate this duty, but can delegate managerial responsibility to the Competent person.
- 2.3 “*Competent person*” is an individual appointed with, and who has responsibility under, the authority of the duty holder for ensuring that the organisation’s responsibilities for the control of legionella are met and that all individuals and organisations assigned to carry out tasks in the preventative scheme are competent to do so.
- 2.4 “*Competent Person*” refers to all persons who are suitably informed, instructed and trained with their suitability assessed in relation to ensuring that their assigned tasks are performed in a safe and technically competent manner. Competence is viewed by the HSC as a combination of sufficient training, experience, knowledge and other qualities which are needed.
- 2.5 “*Nominated Person*” is an individual appointed with, and who has responsibility under, the authority of the duty holder for ensuring that the organisation’s day to day responsibilities for the control of legionella are met.
- 2.6 “*HSE*” means the Health and Safety Executive.
- 2.7 “*ACoP*” means Approved Code of Practice. An ACoP is issued by the Health and Safety Executive and gives guidance on how to comply with the regulations to which it applies. Following an ACoP is not mandatory, but in a court of law failure to adopt the advice in an ACoP will be regarded as having failed to comply with the law.
- 2.8 “*Calorifier*” means an apparatus used for the transfer of heat to water in a vessel, the source of heat being contained within a pipe or coil immersed in the water.
- 2.9 “*Legionella Risk Assessment*” is the process of identifying and evaluating the risk of exposure to legionella bacteria from work activities and from water systems or equipment.

- 2.10 “L8” is the Approved Code of Practice and guidance document ‘Legionnaires’ Disease: The control of legionella bacteria in water systems’. It is supplemented by HSG274 which provides technical guidance.
- 2.11 “*Sentinel*” outlets/sample points refers to the first and last taps on a recirculating hot water system. For cold water systems or non-recirculating hot water systems, sentinel refers to the nearest and furthest tap from the storage vessel. This can also include intermediate sentinels depending on complexity and size of the system. Also there may be more than one far point in some systems

3. Purpose

- 3.1 This plan has been developed to fulfil the requirements and obligations under current legislation and also to provide the means from which exposure to legionella bacteria can be prevented.
- 3.2 It is BHAs intention to manage all its operations regarding the design and maintenance of domestic water systems in compliance with all current and relevant guidelines and legislation.

4. Scope

- 4.1 This document provides information, procedures and guidance relevant to the management and control of legionella bacteria. It is designed to be a dynamic document that will be updated as BHAs procedures, or regulatory requirements change. It considers all existing regulations and guidance documents pursuant to the control of legionella.
- 4.2 To enable the duty holder to discharge his responsibility this document describes the requirements and procedures for controlling the proliferation of legionella bacteria. These procedures cover:
- ensuring that a suitable and sufficient legionella risk assessment is in place for schemes and offices;
 - ensuring that a written preventative scheme is in place;
 - ensuring that the measures taken to ensure that the preventative regime is being suitably implemented and that the control measures are remaining effective;
 - ensuring that the legionella risk assessment is regularly reviewed;
 - the promotion of legionella awareness and the Legionella Management Plan through training and induction of staff, maintenance and contractors etc.; and
 - the review of the Legionella Written Scheme.

5. Specific Roles

5.1 Duty Holder

- 5.1.1 Broadland Housing Association unless explicitly stated otherwise as part of a lease or management agreement with a third party.

5.2 Competent person

- 5.2.1 The Competent person is the Assistant Director of Assets.

5.3 Nominated Person

5.3.1 The Nominated Person is the Deputy Head of Assets charged with overseeing the day to day control of water systems.

6. Allocation of responsibilities

6.1 Directors

6.1.1 The Executive Operations Director has overall responsibility for implementing this procedure and for providing sufficient resources to enable implementation of this procedure.

6.2 Senior Management

6.2.1 Senior Management are responsible for ensuring that residents and staff, where reasonably practicable, are not exposed to significant risk to their health and safety and seeking professional advice where there is concern that exposure to hazards might present such a risk to health.

6.3 All employees

6.3.1 All Employees must adhere to the advice given in relation to health and safety requirements. Where they are concerned about any hazards or defects, they must report their concerns to their Line Manager.

6.4 Water Hygiene Contractor

6.4.1 The Water Hygiene Contractor is responsible for:

- completing building surveys and risk assessments in relation to legionella;
- inspecting all accessible parts of the systems for damage or contamination;
- disinfecting systems and ensuring treatment regimes are complied with;
- recording all such inspections, assessments and maintenance regimes and updating log books accordingly;
- providing all documentation and certification of inspections for insertion into the appropriate log books; and
- advising the Competent person (orally if appropriate and always in writing) of the outcome of any inspections and areas of concern so that the recommended preventative work can be implemented to maintain appropriate standards for preventing or controlling Legionella in the associations premises.

6.5 Residents

6.5.1 Residents are responsible for ensuring that they are familiar with the health and safety requirements within their home. Residents are responsible for ensuring their own safety, and any persons who may be affected by their actions.

6.6 Competent Person

6.6.1 The Competent person has responsibility for:

- ensuring adequate procedures are in place for the overall management of legionella;
- taking day-to-day responsibility for controlling any identified risk from legionella bacteria;
- specifying the requirements of any tender or contract required (whether directly or through the services of others) for the provision of water hygiene services;
- ensuring that the water hygiene service provided is in line with the requirements of HSE guidance and this document; and
- ensuring that any necessary remedial action identified through either the Legionella Risk Assessment or the maintenance programme is taken at all sites for which they have a responsibility.

7. Training

7.1 Persons with a responsibility for legionella control will receive training to an adequate standard of basic awareness of legionella management. The minimum level of training deemed adequate is attendance of a Legionella Awareness Course. The following topics will be covered:

- Background to Legionellosis and legionella bacteria including the signs and symptoms of the disease and the methods of transmission.
- A brief epidemiology of the bacteria including conditions which allow the bacteria to develop.
- Overview as to how the proliferation of legionella bacteria is controlled within the association's buildings.
- Necessary information on safe water system management and maintenance to ensure that control measures and monitoring practices are correctly implemented.

7.2 In the case of Competent persons, the following additional training is recommended:

- Further explanation of the current ACoP L8 and details/methods of testing for the tasks required under the scheme.
- Preventative scheme tasks/checks required for properties under both temperature control and biocide control.
- Record keeping and the importance of correct and accurate documentation of results.
- Advised remedial actions to be taken in the event of out of specification results to be communicated, particularly with regards to legionella detection, reduced hot water storage/delivery temperatures, chlorine dioxide leakages, and elevated/reduced chlorine dioxide levels.
- Duty holder responsibilities for those in managerial roles according to this water management plan.

7.3 Where a member of staff has to undertake operational monitoring, maintenance or the commissioning of water services has not received an adequate level of training, such training will be arranged at the earliest convenience.

- 7.4 Water hygiene contractors selected for conducting Legionella Risk Assessments, maintenance of water systems, microbial monitoring, etc. must have up to date membership of the Legionella Control Association for the category of work they undertake. Copies of membership and training records of employees engaged on the work are to be appended to the LRA.
- 7.5 Where a contractor is delivering a service on behalf of BHA, the contractor must have health and safety procedures in place at least equivalent to those in this procedure. The Competent Person must ensure that sound mechanisms are in place within the Operations Directorate for specifying and monitoring the requirements of this contractor in delivering such a service.
- 7.6 All microbial analysts used for bacteriological sampling must have United Kingdom Accreditation Service (UKAS) accreditation.

8. Schematic drawings and record keeping

- 8.1 The schematic drawing for the domestic water system will take the form of a simplified but accurate illustration of the layout of the water system and must include parts that are out of service, all plant and equipment, including servicing and control valves, as well as detailing all outlets, strainers, filters, thermostatic valves, etc.
- 8.2 The schematic drawing must indicate sentinel points to assist in the routine temperature monitoring programme.
- 8.3 An up to date schematic drawing of the building's water system will be compiled by the water service engineer/consultant carrying out the legionella risk assessment (LRA). This drawing will be checked by the Competent person for accuracy to the best of that person's ability and within the limits of their training and competence.
- 8.4 The schematic drawing will be reviewed with each legionella risk assessment and when any change is made to the domestic water system and incorporated within each LRA.

9. Safe operation of the system

- 9.1 The water services systems operate under the following conditions of temperature:
- Cold water storage cisterns: below 20°C
 - Hot water storage: between 60 and 65°C
 - Hot water distribution (flow): between 60 and 65°C
 - Hot water service return: at least 50°C
 - Hot water outlets with thermostatic valves: nominally 43°C and not greater than 46°C
- 9.2 Temperature will be used as the primary means for controlling legionella bacteria, hot water is to be stored at 60°C or above at all times and distributed to all outlets at temperatures above 50°C within one minute of flow. Calorifier returns greater than 50°C (55°C in healthcare premises

where the association has responsibility). For the cold water systems, storage and distribution temperatures should be maintained below 20°C, with this being achieved at all outlets within 2 minutes of flow. In accordance with L8, which clearly specifies specific routine checks, it is the association's policy to perform monthly checks on hot and cold distribution temperatures at sentinel outlets as well as monthly checks on hot water storage/flow and return temperatures (where applicable).

9.3 Additionally, it is necessary to control temperature variations in the building below 2°C. This could prove difficult where cold water pipes have been routed adjacent to hot water pipework or within sealed risers or ductwork. As part of the risk assessment process, the risk assessor will also make an assessment of the historic records for each building in order to ascertain if such criteria are being consistently attained.

9.4 Where considered necessary by the risk assessment, supplementary forms of legionella control such as biocides including chlorine dioxide shall be implemented.

10. Precautions in place to minimise risk

10.1 Design and construction of new systems and the alteration of existing systems will be in accordance with **BS 8558:2015 Guide to the design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages-Complementary guidance to BS EN 806, and relevant statutory provisions.**

10.2 **New and modified pipework is to be disinfected and sampled in accordance with BS8558 and BS EN 806.**

10.3 Hot water outlets which pose a scalding risk will be fitted with thermostatic mixing valves within 2 metres of point of draw-off or mechanical mixing valves with high temperature limit stops, depending on the risk assessment for the particular outlet and persons at risk.

10.4 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.

10.5 Cold water storage tanks will be examined for pipework configurations, water flow pattern and turnover as these factors all can contribute to the formation of stagnant water and thus may result in the proliferation of legionella bacteria within the vessels.

10.6 Internal inspections of calorifiers and hot water storage vessels will be performed annually unless otherwise advised as part of the risk assessment. Where internal inspection is not possible, borescope inspections should be performed. In the last resort, drain valves on each vessel should be purged in lieu of internal or borescope inspection. The colour of the drain water may give an indication of the internal conditions. The colour of the drain water will therefore be recorded as part of the assessment documentation.

- 10.7 Showers and spray outlets will be dismantled and inspected for cleanliness and usage. This shall include all emergency showers, eyebaths and face wash stations where installed.
- 10.8 Full details of routine monitoring and maintenance of systems are contained in Appendix A with guidance for Premises Officers in Appendix B.
- 10.9 Microbiological sampling of the water systems may be necessary; especially should an unfamiliar equipment or process be in use. Additionally it may be necessary for samples to be taken in order to verify the effectiveness of the current preventative regime.
- 10.10 Where possible and practicable water fittings and components will be used which comply with the Water Regulations Advisory Scheme (WRAS).

11. Risk Assessment

- 11.1 Controlling the risk will be achieved by:
- the identification and evaluation of potential sources of risk from legionellosis in all premises for which the Association has responsibility;
 - development of a written scheme for preventing or controlling the risks within those premises;
 - implementation, managing and monitoring precautionary measures; and
 - maintaining records of the precautions.
- 11.2 The means by which the risk from exposure to the bacteria is to be controlled will be a joint function of external expertise and in-house management and will be formulated upon completion of individual premises risk assessments and resultant written schemes.
- 11.3 The specific requirements of the risk assessment can be found in the HSE publication 'Legionnaires' Disease: The Control of Legionella Bacteria in Water Systems' (L8) and in British Standard BS 8580 Water quality – Risk Assessments for Legionella Control – Code of Practice.
- 11.4 Risk assessments will be carried out by a competent contractor as identified in paragraph 7.3 (above)
- 11.5 Where the risk assessment shows there is a reasonably foreseeable risk, steps should be taken to mitigate this risk wherever possible. The Competent person will review the risk assessments to identify any remedial actions required ensuring that appropriate steps are taken to address them.
- 11.6 When all the risks cannot be totally avoided there must be a written scheme for controlling the risk.
- 11.7 Where a risk assessment demonstrates that there is no reasonably foreseeable risk or that the risks are insignificant and unlikely to increase, (e.g. a small office without showers, spray head taps, air conditioning etc.) no further assessment or measures are necessary.
- 11.8 The risk assessment for premises (including those that have been previously identified as little or no risk) should be reviewed by a competent

water hygiene contractor at least every two years and, whenever there is a reason to suspect it is no longer valid. An example of this would be changes to the water system or its use such as installing a shower.

- 11.9 The management of water systems can create other health and safety hazards. For example:
- The use of chemicals required to treat water systems may require a COSHH risk assessment.
 - Access to parts of the water system might involve working at height or working in confined spaces.
- 11.10 These issues must be considered as part of the general risk assessment process undertaken and are unlikely to be identified in a Legionella specific risk assessment.

12. Written Scheme of Control

- 12.1 As part of the water hygiene risk assessment, a site-specific written scheme of control will be established to minimise the risks of legionella bacteria and ensure good water hygiene for each premises. The scheme will include:
- a detailed schematic of the hot and cold-water system;
 - a description of the correct and safe operation of the system;
 - precautions to be taken;
 - the required routine water hygiene tasks and checks for the building to ensure the system is functioning efficiently;
 - remedial action to be taken in the event that the scheme is shown not to be effective; and
 - whether routine water testing/monitoring is required for the system e.g. legionella bacteria, other general bacterial testing, e.g. Total Viable Count (TVC) etc.

13. Water hygiene Site Logbook

- 13.1 A digital version of the water hygiene logbook is established via the water hygiene contractors via an on-line Client Portal. The logbook contains details/frequency of the necessary water hygiene tasks that must be completed by the appointed person at the site or the water hygiene contractor.

The Nominated Person is to ensure that the log book is updated following any testing or site attendance of the water hygiene contractor (updated by the water hygiene contractor). A hard copy of the water hygiene risk assessment and log book will also be made available at the scheme.

14. Analytical tests

- 14.1 Legionella monitoring should be carried out where there is doubt about the efficacy of the control regime or it is known that recommended temperatures, disinfectant concentrations or other precautions are not being consistently achieved throughout the system. The risk assessment should also consider where it might also be appropriate to monitor in some high risk situations, such as where healthcare staff use the premises.

14.2 Where monitoring for legionella is considered appropriate in hot and cold water systems, sampling should be carried out in accordance with BS 7592 Sampling for Legionella in water systems – Code of practice. The complexity of the system will need to be taken into account to determine the appropriate number of samples to take. To ensure the sample is representative of the water flowing around the system and not just of the area downstream of the fitting, samples should be taken from separate hot and cold outlets rather than through mixer taps or outlets downstream of TMVs or showers. Samples should be clearly labelled with their source location and whether collected pre- or post-flushing.

14.3 In cold water systems, as a minimum, samples should be taken:

- from the point of entry (or nearest outlet) if the water is supplied from a private water supply or where the temperature of the incoming mains supply is above 20 °C from the cold water storage tank or tanks;
- from the furthest and nearest outlet on each branch of the system (far and near sentinel outlets).

14.4 In hot water systems, as a minimum, samples should be taken:

- from the calorifier hot water outlet and from the base of the calorifier, if safe to do so, as some systems are under considerable pressure;
- from the furthest and nearest outlet on each branch of a single pipe system (far and near sentinel outlets);
- from the furthest and nearest outlet on each loop of a circulating system (far and near sentinel outlets).

14.5 Analysis of water samples for legionella should be performed in UKAS accredited laboratories with the current ISO standard methods for the detection and enumeration of legionella included within the scope of accreditation. These laboratories should also take part in a water microbiology proficiency testing scheme (such as that run by PHE or an equivalent scheme accredited to ISO 17043).

15. Remedial action in the event of failure

15.1 In the event of either failure of a measure required to control Legionella (e.g. temperature control regime) or routine monitoring reveals inadequate controls (e.g. water outlet temperature is inappropriate) it is essential that action is taken at the earliest opportunity to rectify the situation. These out of specification results include:

- Cold water tap temperatures above 20°C after two minutes of flow (tap not supplied by a thermostatic mixing valve).
- Confirmed hot water tap temperature less than 50°C after one minute of flow (tap not supplied by a thermostatic mixing valve).
- Reduced hot water storage temperatures of less than 60°C.
- Detection of E. coli or coliform from drinking or domestic water systems.

- Detection of legionella bacteria from domestic water systems.

15.2 Where the problem is identified by the water hygiene contractor during routine monitoring, they will advise the Competent person who will arrange appropriate remedial action.

15.3 In the event that the problem is identified by staff, arrangements should be made to contact the persons responsible to arrange the necessary actions to be completed.

16. Health and safety information

16.1 BHA will provide such information as is necessary to ensure the safety of staff, members of the public and contractors engaged in water hygiene works.

16.2 Chemical safety data sheets can be found in Appendix D.

17. Incident plan

17.1 General

17.1.1 Communication has been identified in the L8 and HSG274 documents as a major contributory factor in legionella outbreaks. Should out of specification microbiological results been obtained by the Water Hygiene Contractor the sites responsible team must be immediately contacted via email. This reporting structure will allow an agreed course of remedial action to be taken.

17.1.2 The primary investigating officer responsible for ensuring a suitable and sufficient investigation has taken place will be the Head of Health and Safety. Any accident/incident or near miss that affects the health and safety of an individual or group of individuals must be reported via the association's accident reporting system and any investigation undertaken will be led by the Head of Health & Safety.

17.1.3 Appendix C details the Associations notification procedure.

17.2 High levels or repeat legionella positives

17.2.1 In the event of legionella being detected the following actions must be taken:

Legionella bacteria	Recommended actions
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>100 cfu/l and up to 1000	<p>Either:</p> <ul style="list-style-type: none"> ■ if the minority of samples are positive, the system should be resampled. If similar results are found again, a review of the control measures and risk assessment should be carried out to identify any remedial actions necessary or ■ if the majority of samples are positive, the system may be colonised, albeit at a low level. An immediate review of the control measures and risk assessment should be carried out to identify any other remedial action required. Disinfection of the system should be considered
>1000 cfu/l	<p>The system should be resampled and an immediate review of the control measures and risk assessment carried out to identify any remedial actions, including possible disinfection of the system. Retesting should take place a few days after disinfection and at frequent intervals afterwards until a satisfactory level of control is achieved.</p>

17.2.2 In the case of areas where healthcare or an increased risk applies:

Legionella bacteria	Recommended actions
Not detected or up to 100 cfu/l	<p>The primary concern is protecting susceptible residents, so any detection of legionella should be investigated and, if necessary, the system resampled to aid interpretation of the results in line with the monitoring strategy and risk assessment.</p>
>100 cfu/l and up to 1000 cfu/l	<p>Either:</p> <ul style="list-style-type: none"> ■ if the minority of samples are positive, the system should be resampled. If similar results are found again, review the control measures and risk assessment to identify any remedial actions necessary or ■ if the majority of samples are positive, the system may be colonised, albeit at a low level. An immediate review of control measures and a risk assessment should be carried out to identify any other remedial action required. Disinfection of the system should be considered
>1000 cfu/l	<p>The system should be resampled and an immediate review of the control measures and risk assessment carried out to identify any remedial actions, including possible disinfection of the system. Retesting should</p>

17.3 Outbreak of legionellosis

- 17.3.1 Legionnaires' disease is notifiable under the Health Protection (Notification) Regulations 2010. Under these Regulations, human diagnostic laboratories must notify Public Health England (PHE) of microbiologically confirmed cases of legionnaires' disease.
- 17.3.2 An outbreak is defined as two or more cases where the onset of illness is closely linked in time (weeks rather than months) and where there is epidemiological evidence of a common source of infection, with or without microbiological evidence. An incident/outbreak control team should always be convened to investigate outbreaks. It is the responsibility of the Statutory Duty Holder to declare an outbreak.
- 17.3.3 HSE may be involved in the investigation of outbreaks, their aim being to pursue compliance with health and safety legislation. Any infringements of relevant legislation may be subject to a formal investigation by the appropriate enforcing authority.
- 17.3.4 There are published guidelines (by PHE, PHW and HPS) for the investigation and management of incidents, clusters, and outbreaks of legionnaires' disease in the community. These are, for England and Wales, Guidance on the Control and Prevention of Legionnaires' Disease in England.
- 17.3.5 If a water system is implicated in an outbreak of legionnaires' disease, emergency treatment of that system should be carried out as soon as possible.
- 17.3.6 As part of the investigation and control of the outbreak, BHA must assist and comply with the requests and recommendations given by the relevant enforcing authority. Such requests and recommendations may include:
- To shut down any processes which are capable of generating and disseminating airborne water droplets and keep them shut down until sampling procedures and any remedial cleaning or other work has been done. Final clearance to restart the system may be required.
 - To take water samples from the system before any emergency disinfection being undertaken. This will help the investigation of the cause of the illness. The investigating officers from the local authority may take samples or require them to be taken.
 - To provide staff health records to discern whether there are any further undiagnosed cases of illness and to help prepare case histories of the persons affected.
 - To co-operate fully in an investigation of any plant that may be suspected of being involved in the cause of the outbreak. This may involve, for example:
 - a) Tracing of all pipework runs
 - b) Detailed scrutiny of all operational records
 - c) Statements from plant operatives and managers
 - d) Statements from water treatment contractors or consultants

Appendix A - Routine maintenance of the hot and cold water systems

NB: all maintenance check timescales are used as a guide unless specifically stated differently within the measure controls as part of the risk assessment.

1. Annually; Cold water storage tank inspections - General requirements

- Check outside of tank for damage, including insulation.
- Check lid fits well and check for damage
- Check overflows and vents have suitable screens fitted
- Check ball valve operation
- Inspect the inside of the tank including; Tank wall condition, Debris on base, Appearance of water.
- Re-site cover and insulation
- Complete and sign the record sheet in the Legionella Risk Assessment document/log book retained on site

2. 6 Monthly; Cold water systems

- Check tank water temperature remote from the ball valve and the mains temperature at the ball valve. (Summer & Winter).
- To be carried out at the time of the regular boiler servicing

3. Annually; Cold water storage tank temperature monitoring procedure

- Ensure the thermometer to be used is calibrated
- Remove the tank lid
- Put the thermometer probe in the tank water at a suitable point close to the outlet and allow the temperature to stabilise, record the result on the record sheet
- Take the temperature of the incoming mains at the ball valve and record the result
- Replace the lid and ensure the insulation is re-sited
- Ensure all records are signed
- All non conformance's must be recorded in the remedial actions section of the Legionella Log Book and corrective action taken
- Recommended temperatures 20 degrees Celsius.

4. Annually; Hot water systems

- Visually inspect calorifiers and carry out remedial works where necessary.
- To be carried out during the regular boiler servicing.
- Complete and sign the record sheet in the Legionella Risk Assessment document/log book retained on site

5. Annual; Mixing valve procedure

- Turn on the outlet that is run from the mixer valve at full flow
- Measure the temperature from the outlet at 1 minute of running. Adjust to recommended temperature if required and record new temperature

- Isolate cold feed and note if the water supply is shut off. Record the answer on the record sheet in the Legionella Risk Assessment/log book retained on site
- Restore full flow and recheck mixed water temperature
- Sign and date the record sheet
- Recommended temperatures
 - Shower = 41 degrees C
 - Washbasin = 41 degrees C
 - Bath = 44 degrees C

6. **6 monthly; Calorifier/Water heater inspection procedure**

- Visually check the calorifier for leaks and report
- Visually check the calorifier's insulation and report
- Check recirculation pumps for working order and operation
- Check shunt pumps for working order and operation
- Check flow and return temperatures
- Ensure Calorifier is offline and isolated to prevent debris from entering the system. Open drain to calorifier. Ensure water released enters directly to waste with no splashing (Use additional hose if necessary). Run until draining water is clear.
- Close drain, allow to refill and check temperatures
- Once temperature reaches 60 degrees C, open isolation valves slowly to minimise disturbance to the system. If water temperature is below 45 degrees C, allow temperatures to rise to 60 degrees C and leave for 1 hour before opening isolation valves
- Instantaneous electric water heaters: Run for 1 minute, and ensure that the water flow temperature achieves 50 degrees C or over. Ensure that any mixing valves are inspected in accordance with Mixing valve inspection procedures above.

7. **Quarterly; Shower clean and de-scale procedure**

- Turn on shower and check for blocked or impeded flow
- If blocked, dismantle showerhead and hose as appropriate
- Thoroughly clean and de-scale following manufacturers guidelines for de-scale chemical used
- Fill in the record sheet in the Legionella Risk Assessment/log book retained on site.

8. **Annually; Tap temperature monitoring procedure**

- Ensure the thermometer to be used is calibrated
- Run the cold tap at a representative number of outlets for 2 minutes and take the temperature of the water. Record the result in the record sheet in the Legionella Risk Assessment Log book retained on site
- Run the hot tap at a representative number of outlets for 1 minute and take the temperature of the water. Record the result on the record sheet in the Legionella Risk Assessment Log book retained on site
- All non conformances must be recorded in the remedial actions section of the Legionella log book and corrective action taken

- Recommended temperatures
 - On or below 20 degrees C for cold taps
 - On or above 50 degrees C for hot taps.

9. **Annually: Water Sampling and Analysis**

Please see contract requirements specification extract below:-

9.1 ***Water Sampling Requirements***

9.1.1 The Water Hygiene Contractor shall carry out the Services to each Establishment as described in Section Two of this Specification.

9.1.2 All water systems serving the property shall be included. The Equipment Schedule at Appendix 2 of this Specification gives an indication of the water systems installed, but must not be regarded as comprehensive.

9.1.3 The Water Hygiene Contractor shall take identified water samples from each scheme in order to provide sufficient samples to comply with the requirements of item 4.1 of this Schedule 1 below, as follows:

- Samples to be taken from each cold water storage tank (where possible)
- Samples to be taken from a typical cold water outlet (one from each system, if served by separate cold water storage tanks).
- Samples to be taken from a typical hot water outlet (one from each system, if served by separate Hot water calorifiers/cylinders).
- Samples to be taken from a mains water outlet.
- Samples to be taken from the water heater or calorifier (where possible)

9.1.4 From time to time, Water hygiene Contractor may instruct that water sampling shall be carried out at particular schemes outside of the regular round of water testing.

9.2 ***Sample Analysis Requirements***

9.2.1 The Water Hygiene Contractor shall ensure that the samples taken are analysed under a UKAS accredited procedure so as to determine the presence of the following:

- Total Coliforms expressed as colony forming units per 100ml (cfu/100ml).
- Faecal Coliforms.
- Total Viable Counts (TVC) at 22 °C and 37 °C, expressed as colony forming units per millilitre (cfu/ml).
- Legionella Pnuemophila expressed as Units per 100ml (cfu/ml).

9.3 ***Written Records***

9.3.1 The Water hygiene Contractor shall forward a digital record of all water samples taken, and their analysis results to the Nominated person within 14 days of completion. In electronic format to the Nominated Person.

9.3.2 In addition, the Water Hygiene Contractor shall complete the relevant part of the Legionella Risk Assessment document kept on each scheme and insert

copies of actions into site log book with hard copies inserted into the site legionella log book.

9.4 **Remedial Actions**

9.4.1 Should the analysis indicate that the tanks or water systems require sterilisation, the Water Hygiene Contractor shall advise the Nominated Person with recommendations. In such cases that the Nominated Person produces a Purchase Order for Works to do so, the Water Hygiene Contractor shall revisit the scheme and carry out the sterilisation. This shall consist of local sterilisation or full system sterilisation of the water system. These Services shall be carried out by arrangement with the Scheme Manager. The Water hygiene Contractor shall refer to Item 1.9 of this Specification with respect to the definition of the term "sterilisation". And in accordance with ACOP L/8.

9.4.2 Should legionella be detected within any water system, the Water Hygiene Contractor shall notify the Nominated Person by email, with the following information:

- Location where the particular sample was taken.
- Recommendation as to whether local flushing, local sterilisation or full sterilisation is needed.

9.4.3 The Water Hygiene Contractor shall forward the information set out above to the Nominated Person on receipt of a presumptive legionella result with costs.

9.4.4 The email address of the Nominated Person will be advised to the Water Hygiene Contractor at the pre-contract meeting.

9.4.5 The Water Hygiene Contractor shall submit to the Nominated Person a report detailing the remedial actions carried out, and any necessary certification, within fourteen days of the remedial actions having been completed.

9.4.6 In some cases, these remedial actions will require an interruption of the water service provision to the property for the duration of the works. In these cases, the Water Hygiene Contractor shall inform the staff member in charge of the scheme and the Nominated Person of the likely duration of the interruption. Additionally, the Water Hygiene Contractor shall arrange a suitable time to commence the works with the Scheme Manager in charge of the scheme.

9.4.7 In some cases the remedial actions required may take the form of minor on-site actions, such as flushing of a tap. In these cases the Water Hygiene Contractor shall inform the Nominated Person of the recommended action, and the Water Hygiene Contractor shall not attend.

10. **Monthly: Water Temperature**

- Take water temperatures from the sentinel, hot and cold outlets, showers and TMV's (Thermostatic Mixing Valves), and outlets in-between. (Sentinel outlets are the nearest and farthest outlets to the cold water tanks and hot water cylinders). Enter the locations and temperatures into the log book in accordance with ACOP L8

11. **Weekly: Water Temperature and Flushing**

- Flush through all 'little used outlets', enter the locations and time flushed into the log book in accordance with ACOP L8.

- Record temperatures at sentinel outlets

All of the above checks will be carried out by the Water Hygiene Contractor with the exception of flushing of little used outlets.

If it is suspected any of these duties are not being carried out, it is also the duty of the Competent Person to ensure these elements are completed, and a record kept in the log book.

Appendix B – Flushing Guidance

Daily - Flush through all outlets **And enter the locations AND time flushed into the log book**

The protocol for this is to run the outlets for a minimum of 3 minutes to ensure a good turn over of water.

Monthly - take water temperatures from the sentinel, hot and cold outlets, showers and TMV's (Thermostatic Mixing Valves), with a few random outlets in-between. (Sentinel outlets are the nearest AND farthest outlets to the cold water tanks and hot water cylinders). **And enter the locations AND temperatures into the log book.**

The procedure for taking temperatures is as follows:-

HOT TAPS - Run the tap for 1 minute then take temperature - **And enter the locations AND temperatures into the log book.**

COLD TAPS - Run the tap for 2 minutes then take temperature - **And enter the locations AND temperatures into the log book.**

TMV's - Run for 1 minute then take temperature at inlets to TMV - **And enter the locations AND temperatures into the log book.**

SHOWERS - Run for 1 minute and take temperature - **And enter the locations AND temperatures into the log book.**

3 Monthly - Descale shower heads - **And enter the locations AND time flushed into the log book**

Water Hygiene Contractors visiting site to take water samples, inspect your water tanks and calorifiers, (with the exception of the boilers ONLY) MUST sign in the log book and enter all information relating to the tasks carried out into the relevant sections, additionally, a copy of their job sheet should be kept with the log book for future reference.

It is the duty of the competent person to ensure this log book is kept up to date as this forms part of your building safety record and proves that you have control measures in place to minimise the risks of Legionella proliferation within our premises.

Appendix C - Procedure Following a Positive Identification

Legionella Risk Assessments are carried out and reviewed on a regular basis. (This was twice yearly until the recent change in legislation which now states is to be reviewed as recommended by the Risk Assessor). Any remedial actions identified/recommended are carried out where “reasonably practicable”. In addition to this, routine water sampling by an accredited water hygiene consultant, tank inspections, calorifier inspections, TMV inspections and monthly temperature monitoring regimes and flushing procedures, (Please note; Not all buildings’ monthly monitoring is carried out by our contractors as this onus usually falls to the premises officer), are carried out along with service and maintenance of all mechanical plant.

In the event of positive Legionella results, the following procedures are implemented:-

- As soon as notification is received, verbally in the first instance followed up with a written report and accompanying Laboratory analysis results, the site premises officer/business manager is verbally informed and advised to remove the affected outlets from service, and any spray generating outlets. This is then followed up with formal notification in writing to the Statutory Duty Holder
- Simultaneously, our water hygiene contractor is instructed to attend and carry out any remedial disinfection/pasteurisation works as advised/recommended within the written report, followed by re-sampling of the affected outlets.
- Should the re-samples continue to identify Positive Legionella results then the Legionella Risk Assessment is reviewed and a deeper investigation is carried out. This is then assessed and a more involved remedial approach is adopted. This can range from introducing a routine Silver Peroxide dosing regime, descaling of calorifiers, or modifications to the water services, (Tank refurbishment/replacement, pipe work modifications, calorifier replacement or even conversion to mains for example.

Appendix D – Overarching Water Management Procedure

Appendix E – Empty Homes Water Management Procedure

Local Delivery Team Identify homes that will be empty for longer than 14 days and identify the required water maintenance checks.
(refer to Annex B – Routine Maintenance Checks)

Local Delivery Team responsible for ensuring checks facilitated and completed dependant on the length of time the home is empty.
(NB: if the home is let within 14 days, flushing maintenance checks not required)

If the home is empty for over 14 days, utilise Operatives, Neighbourhood Officers and Scheme Managers to carry out maintenance checks to minimise travel.

Local Delivery Managers to ensure weekly maintenance checks are completed and recorded using Empty Home log – Annex F until home re-let.

Local Delivery Team to record relet date which will determine the last water management maintenance required.

Local Delivery Team to ensure the home is not re-let without confirmed water maintenance checks recorded.

Once the final water maintenance checks completed and documented, recorded details to be passed to Property Admin to be updated against the property within BBS.

Property Address	
Local Delivery Area	
Local Area Manager	
Team Leader/s	
Neighbourhood Officer	
Date property became empty	
Anticipated date of relet	

Water storage tanks checked with lid secured and robustly positioned.	Date Checked: Name: Signed:
Outside tap/s have double check valve fitted and protected from freezing.	Date Checked: Name: Signed:
All pipework has been checked for dog-legs and removed where appropriate.	Date Checked: Name: Signed:

System flush to be carried out every 2 weeks on re-lets facilitated by the respective Neighbourhood Officer

Date of first system flush (re-let team)	Date Checked: Name: Signed:
Date of system flush	Complete (print name and sign)
_ / _ / _	
Add lines where necessary	
Re-let date	Date Checked: Name: Signed:

