



Legionella Management Plan

(Supporting the Legionella Management Policy)

If you have difficulty with reading this management plan, including any difficulties with sight or hearing, or if you require this document translated into another language, please contact us and we will be happy to provide this information in a format that suits your needs.

Our Vision, Our Values, Our Strategic Objectives

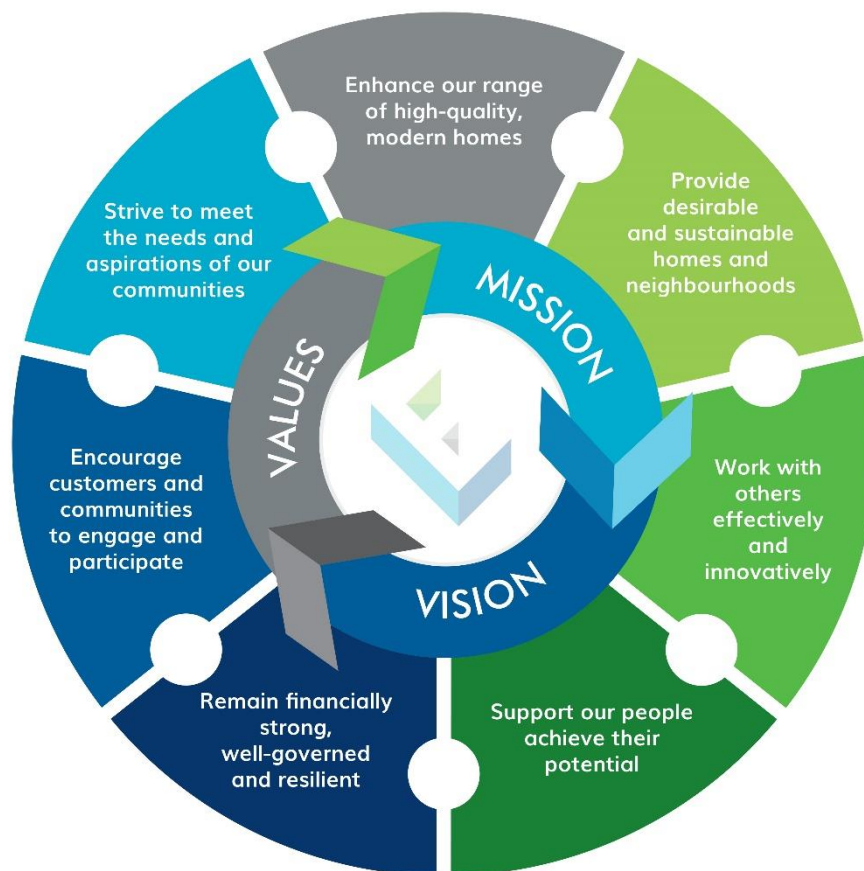
Our Vision

A vibrant neighbourhood where everyone can prosper.

Our Values

Caring, Reliable, Fair, Open and Adaptable

Our Strategic Objectives



Equality and Diversity Statement

Elderpark Housing are committed to ensuring people or communities do not face discrimination or social exclusion due to any of the following protected characteristics: age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion and belief; sex or sexual orientation.

This document complies with our Equality and Diversity Policy.

We will regularly review this Management Plan and consider any equalities implications taking the necessary action to address any inequalities (either directly or indirectly) that result from the implementation of this Management Plan.

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1. Introduction and Link to Legionella management Policy

- 1.1 Elderpark Housing has a statutory duty as an employer, a landlord and registered provider of social housing to ensure the health, safety and wellbeing of its employees, customers and “other” stakeholders in respect of managing the risks associated with the exposure of Legionella bacteria within its properties and workplaces (this can include contractors, visitors and members of the public).
- 1.2 This management plan should be read in conjunction with the Legionella Management Policy which defines our overall approach to minimising the risk of exposure to Legionella bacteria within our relevant properties to the required legislation. The Policy defines the scope in terms of relevant properties, work streams and people to whom it applies.
- 1.3 This management plan underpins the Legionella management Policy and contains additional detail of the management arrangements we have in place, to enable Elderpark Housing to comply with all Legislation and standards relating to Legionella management and the policy.
- 1.4 All Elderpark Housing staff who have any responsibility for the management of Legionella across the organisation, will be required to have read and understood both this Legionella Management Plan and the Legionella management Policy. They will need to ensure that all relevant staff within their team have read both documents.

Background to Legionella and legionnaires disease

- 1.5 Legionella pneumophila is the bacterium responsible for a group of pneumonia-type diseases collectively termed ‘Legionellosis’. This is known as Legionnaires Disease. The diseases can be fatal or permanently debilitating..
- 1.6 Legionnaires’ Disease is usually contracted by inhaling the legionella bacteria in aerosol form, such as airborne droplets of water created by a shower, fire hose, spray tap or even a standard tap.
- 1.7 The Legionella bacteria is widespread in nature. It mainly lives in water, for example ponds, where it does not usually cause problems. Outbreaks occur from purpose-built water systems where temperatures are warm enough to encourage growth of the bacteria, e.g. in cooling towers, evaporative condensers and whirlpool spas and from hot and cold-water systems.
- 1.8 Water temperatures in the range of 20 – 45 degrees C. favour the growth of Legionella in water systems. At temperatures below 20 degrees C. the bacteria will lie dormant until more favourable conditions occur, at which point they begin to multiply. It will not survive above 60 degrees C therefore to kill the bacteria the water must be heated

above 60 degrees C. In addition to temperature control, other methods of protection include ionisation, UV light, chlorine dioxide, ozone treatment or thermal disinfection

- 1.9 A supply of nutrients is also necessary for the bacteria to thrive. These can commonly be found in water systems that are not routinely inspected or cleaned and are ageing. Nutrients include other bacteria – amoebae and algae. Sediment, scale, sludge and biofilms may help to harbour Legionella; therefore, it is prudent not to allow these to build up.
- 1.10 The main risk to residents is exposure to an aerosol of Legionella infected water. Certain groups of people are known to be at higher risk of contracting Legionnaires' disease. These include immune-suppressed people e.g. cancer patients, those with chronic kidney disease, those with chronic lung disease, smokers, diabetics and alcoholics. There is a greater tendency for men to catch the disease than women, especially those over 45 years of age. (Ref: New ACOP L8 2013 Legionnaires' disease). The disease cannot be passed from one person to another.

2. Legal and Regulatory Framework

- 2.1 The Legionella management Policy sets out the Scottish Housing Regulators framework, including the 7 Regulatory standards and how they apply to Legionella management within Elderpark Housing.
- 2.2 The Legionella management Policy explains the key legislation in place which Elderpark must comply with as an employer and registered landlord of social housing, which is listed below:
 - Health and Safety at Work act 1974
 - The Management of Health and Safety at Work Regulations 1999
 - The Control of Substances Hazardous to Health Regulations 2002
 - Approved Code of Practice (ACoP) and Guidance L8 2013 (4th Edition) - Legionnaire's Disease - The control of legionella bacteria in water systems
 - HSG274: Legionnaires disease. Part 2: The control of legionella bacteria in hot and cold-water systems.
- 2.3 In addition to these key pieces of legislation there are other associated regulations, standards and guidance which are applicable to Legionella management, these are:
 - Housing Scotland Act 2006
 - The Tolerable Standard (under the Housing (Scotland) Act 2006)
 - Water Supply (Water Quality) (Scotland) Regulations 2016
 - The Water Supply (Water Fittings) (Scotland) Byelaws 2014
 - INDG458 - Legionnaires' disease: A brief guide for duty holders
 - BS 8580-1:2019 Water Quality – Risk assessments for legionella control. Code of practice

- Building Standards (Scotland) Regulations 2014
- Right to Repair Regulations (under the Housing (Scotland) Act 2006)
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR 2013)
- The Workplace (Health, Safety & Welfare) Regulations 1992
- Construction, (Design and Management) Regulations 2015
- Scottish Health Technical Memorandum 04-01

3. Roles and Responsibilities

3.1 The Legionella management Policy contains details of key roles and responsibilities associated with managing risks associated with Legionella bacteria for Elderpark Housing. In addition to the main management responsibilities set out in the Policy, some further detailed responsibilities are set out below:

Duty Holder

3.2 **Elderpark's Chief Executive** – is the appointed Duty Holder for the management of Legionella for all properties owned and managed by the association. The Chief Executive needs to ensure that there is sufficient resources, training and experience within the staff team to manage the legionella control on his behalf.

Responsible Person

3.3 **Director of Maintenance Services** – is the Responsible Person responsible for:

- Monitoring and reviewing the actions arising from water hygiene risk assessments
- Ensuring that all actions identified are undertaken within appropriate timescales and that necessary remedial works to installed systems are completed.
- Confirming completion of all such identified works/actions to the Chief Executive officer and Elderpark's Management Committee.

Deputy Responsible Person

3.4 **Maintenance Services Manager** – is the Deputy Responsible Person who will undertake the tasks listed above for the Responsible Person (DMS) in their absence.

3.5 **Competent Legionella Risk Assessor** –Elderpark's has an externally appointed Water Hygiene consultant (Bradley Environmental Consultants) [RH1] who carry out the risk assessments and provide recommendations that mitigate risks from legionella to the Responsible Person (DMS).

3.6 **Approved Appointed Water Hygiene Remedial Contractor** – The appointed Water Hygiene contractor will undertake remedial works to ensure that control measures are sustained in order to reduce the risk of a Legionella growth and outbreak.

3.7 **All employees** - It is the responsibility of all employees to ensure that these policies and guidelines are followed and as such:

- Provide such assistance to their line manager as is necessary to ensure they are able to meet their responsibilities; and
- Report to their line manager immediately any safety hazard or defects relating to water systems, which they suspect or consider to be likely to endanger the safety of themselves or any other person.

3.8 **Water Hygiene Specialist** - It is also important that where a contractor is appointed, that the Associations Water Hygiene consultant operates an audit plan to ensure that those designated to carry out control measures on behalf of Elderpark Housing.

- informed, instructed and trained
- Assessed as to their competency
- Accreditation is relevant, current and not expired

3.9 The contractor will be required to provide evidence of suitable training and competence for their staff, evidence of refresher training and be members of the Legionella Control Association which has additional competency requirements. Although training is an essential element of ensuring competence, it should be viewed within the context of experience, knowledge and other personal qualities that are needed to work safely. Competence is dependent on specific needs of individual installations and the nature of risk.

3.10 Appendix 1 provides a Legionella Management Organisational Structure.

4. Aims and Objectives of this Management Plan

4.1 The aim of this management plan is to support the Legionella management Policy in giving more detailed arrangements that Elderpark Housing will have in place to enable us to meet all legal and regulatory obligations and ensure best practice is followed in relation to Legionella management. We aim to:

- Keep the general public, tenants, and employees aware of the risks associated with hot and cold-water systems and the risk of exposure to Legionella bacteria, and as far as reasonably practicable, ensure their health, safety and wellbeing in relation to Legionella management.
- Set out a clear approach to assessing, controlling, and monitoring the risks associated with Legionella bacteria within hot and cold-water systems within Elderpark's properties and office premises.

- Communicate with tenants and staff the importance of Legionella bacteria management including providing guidance, training and emergency procedures.
- Ensure that all procedures relating to the Legionella management Policy support the fair treatment of all tenants with respect to their different needs, circumstances, and lifestyle.

4.2 To meet our aims, we have set the following objectives to be achieved:

- We will carry out an initial desktop risk assessment of all properties owned and managed by Elderpark to categorise the risk against each property considering the complexity of the water system and any customer vulnerabilities that are known to us. This will inform where we need to carry out further site risk assessments.
- Develop and maintain a register of all properties requiring a site risk assessment to ensure these are completed and any risk assessment reviews required are carried out to the appropriate frequency.
- We will identify vulnerable customers who could be at risk of being scalded and assess the risks associated with their needs and the hot and cold-water systems within their properties. Where required, we will take appropriate actions to mitigate and control the risks of scalding.
- In the first instance, we will attempt to eliminate risks associated with water hygiene, Legionella and scalding which have been identified within the risk assessment. Where these risks cannot be eliminated we will put in place a written scheme of control. In order to achieve control over the entire water system and maintain a suitable schedule of controls. The written scheme clearly identifies the measures required to control the risks from exposure to legionella bacteria and scald risks.
- We will ensure that hot and cold-water systems are safe for new customers by managing risks associated with Legionella bacteria effectively at the void stage of the property being re-let (e.g. flushing regimes and tank inspections as required).
- We will appoint a Duty Holder and Responsible Person in line with L8 and HSG274. The responsible person will ensure that any remedials or controls specified within risk assessments (or risk assessment reviews) are verified and implemented and the written scheme of control is updated.
- Only appoint competent Legionella contractors registered with the Legionella Control Association (LCA) who have evidenced their competency and qualifications.
- Ensure that contracts with external contractors are managed effectively and robust contract monitoring is in place to monitor performance and promote continuous improvement.

- Identify an appropriate staff training programme to be implemented so that staff are aware of their responsibilities in relation to Legionella management
- Respond to any amendments in the legislation and guidance with regards to Legionella management to ensure that legislative standards are met
- Report regularly to the Management Committee of performance measures associated with Legionella management.
- Identifying, assessing, and managing any potential sources of risk associated with exposure to Legionella bacteria and scald risks.
- Communicating Legionella management tips and information to our customers via our website, social media, and written communication.

5. Legionella Asset Register

- 5.1 Elderpark will operate and maintain a robust Legionella asset register of all properties which contain hot and cold-water systems and where it has been identified that they require a site risk assessment by our competent Legionella risk assessing contractor.

Properties Falling within scope of the Policy and Management Plan

- 5.2 We will maintain a record of all owned and managed properties which will be defined within the system as to whether the Legionella management responsibilities belong to Elderpark or another party (e.g. where we are leasing the building from the freeholder). The list of properties to which the policy and management plan apply are listed below:
- Domestic properties with hot and cold-water systems where Legionella bacteria could proliferate (rapidly grow) e.g. properties with tank fed cold or hot water.
 - Communal properties with shared hot and cold-water systems where Legionella bacteria could proliferate (rapidly grow) e.g. communal blocks with shared tanks in an attic space feeding cold or hot water supplies.
 - Offices (workplaces)

6. Legionella Risk Assessment Process

- 6.1 A suitable and sufficient risk assessment of the water system must be undertaken to assess the risk of exposure to legionella by residents, employees and others who may be affected, for example, employees of other companies who share the premises, contractors, visitors and members of the public.

- 6.2 The risk assessment will include an assessment of pipe work to its storage point (both hot and cold), water storage tanks and the furthest outlet, pipe work to deliver water to the outlet (tap, shower, hose, toilet, etc.) and condition of the source of outlet.
- 6.3 Responsibility for water quality to the point of the town cold mains inlet to the premises is that of Scottish Water.
- 6.4 In conducting the assessment, the responsible person(s) must appoint an approved contractor, to support Elderpark in meeting their health and safety duties. The assessment must:
- consider the individual nature of each site.
 - identify potential sources i.e. an asset register.
 - evaluate potential sources.
 - consider prevention of exposure to Legionella.
 - include the means of controlling any residual risk.
 - consider the factors affecting the risk such as:
 - the presence of Legionella.
 - the means of distributing aerosols.
 - the population that may be affected.
 - the location of the system.
 - conditions for proliferation such as temperature, scale, sludge, corrosion, algae, organic matter, etc.; or the water supply quality.
 - the possibility of contamination.
 - normal and unusual operating conditions that are 'reasonably foreseeable'; and
 - Contain a complete system schematic to include dead legs and parts used intermittently.
- 6.5 If the risk assessment concludes there is no reasonably foreseeable risk, or the risks are insignificant and are managed, the assessment is complete. Although no further action may be required at this stage, existing controls must be maintained.

7. Actions From The Legionella Risk Assessment

- 7.1 The risk assessor will list any associated hazards that are likely to cause the introduction and growth of legionella, within the premises water systems by means of an action plan.
- 7.2 This action plan forms part of the overall risk assessment and identifies, during the inspection, those measures needed to eliminate or control the hazards identified. Each hazard identified is given a risk rating of high, medium or low to assist in the setting of priorities. It will include an indication of who is responsible for the management of the action, and the expected time within which the required works need to be completed. Copies of the risk assessment including the action plan will be held on/ accessible by sites and filed electronically against the appropriate property in The Bradley Teams Database.

7.3 The action points will fall into two categories:

- **Management** - carried out by staff designated by the Responsible Person. These are mainly tasks such as recording temperatures (within the water log book) or arranging non water associated tasks (signage, collating paperwork). These actions must be recorded and signed off as complete by the Responsible Person.
- **Specialist Work** - carried out by appointed contractors. This should be arranged in consultation with the Water Hygiene Consultants and the Responsible Person, who will ensure that the action plan held on/accessible by the site, is evidenced to confirm that the specialist works have been completed.

8. Legionella Written Scheme of Control

8.1 Once the risk is identified and assessed, where any risks cannot be eliminated, a written control scheme must be prepared, implemented and properly managed for preventing or controlling legionella.

8.2 The scheme will specify the various control measures required, how to use and carry out those measures, describe the water treatment regimens and the correct operation of the water system. The scheme will be specific and tailored to the system covered by the risk assessment.

8.3 The information that will be included within the legionella written control scheme is:

- purpose.
- scope.
- risk assessment.
- management structure:
 - Duty Holder(s).
 - Responsible Person(s) and communication pathways.
- training.
- allocation of responsibilities, i.e. to the Duty Holder(s), Responsible Person(s) and water Hygiene contractors service provider.
- up-to-date schematic plan showing the layout of the system(s) and its location within and around the premises - this should identify piping routes, storage and header tanks, calorifiers and relevant items of plant, especially water softeners, filters, strainers, pumps, stand by equipment, and all water outlets.
- source of water supply, for example whether from a mains supply or not.
- The correct and safe operation of the system.
- Precautions in place to prevent or minimise risk associated with the system.
- Analytical tests, including microbiological testing, other operational checks, inspections and calibrations to be carried out, their frequency and any resulting corrective actions.

- remedial action to be taken in the event that the scheme is shown not to be effective, including control scheme reviews and any modifications made.
 - health and safety information, including details on storage, handling, use and disposal of any chemical used in both the treatment of the system and testing of the system water.
 - Incident plan, which covers the following situations:
 - major plant failure, for example chemical system failure.
 - very high levels or repeat positive water analyses for legionella.
 - an outbreak of Legionellosis, suspected or confirmed as being centred at the site; and
 - an outbreak of Legionellosis, the exact source of which has yet to be confirmed, but which is believed to be centred in an area which includes the site.
- 8.4 This management plan and each site's specific water log book, sets out the control measures and the management systems utilised by Elderpark (known also as the legionella written control scheme), to manage and control the risk of Legionellosis and Legionnaires Disease and complies with the 'ACoP L8'.

9. Legionella Risk Assessment Review Process

- 9.1 Legionella risk is to be managed via a programme of works scheduled by the Responsible Person, where every year each property identified on the contractual program of works, will require a six-monthly interim inspection and an annual interim audit including a desktop review.
- 9.2 The following tasks are undertaken during each of the following inspections.
Six-month interim inspections:
- check tank water temperature remote from ball valve and mains temperature at ball valve.
 - Note maximum temperature recorded by fixed max/min thermometers where fitted.
 - auditing of the water log book; and
 - Engineer's site visit report.
- 9.3 Annual interim audit:
- From onsite meeting, understanding of existing Risk Assessment.
 - Check for additional water systems work to property.
 - auditing of existing water log book.
 - check tank water temperature remote from ball valve and mains temperature at ball valve.
 - Note maximum temperature recorded by fixed max/min thermometers where fitted.
 - Engineers site visit report.
 - visual inspection of cold-water storage tanks for compliance to Approved Code of Practice L8, risk assess as required.

- Calorifiers - drain off water inspected for colour, scale and debris; risk assess as required.
- Random outlet temperature checks.
- composition of necessary remedial works report.
- Production of follow-up risk assessment report if required.
- Schedule of works by mandatory and recommended works if required.
- Engineer's site visit report; and
- Authorised certificate of follow-up risk assessment.

9.4 The assessment of risk is an ongoing process and not merely a paper exercise. Responsible Persons should arrange to review the assessment regularly and specifically when there is reason to suspect it is no longer valid. An indication of when to review the assessment and what to consider should be recorded and this may result from:

- A change to the water system or its use.
- A change to the use of the building where the system is installed.
- New information available about risks or control measures
- The results of checks indicating that control measures are no longer effective.
- Disease/Legionellosis associated with the system; and/or
- if the assessment is thought to be no longer valid

9.5 Where there is a change to key personnel particularly related to the management of legionella, the newly appointed individual must be immediately informed of their duties and be aware of the risk assessments applicable to the properties being managed.

10. Remedial Action

10.1 Remedial actions may arise from a new or revised water hygiene assessment, local monitoring (e.g. temperature monitoring), or routine servicing by the appointed contractor. In all cases actions will be allocated a priority code, as shown below. Actions will be managed and monitored by the responsible person.

Rating	Description	Compliance period
Low	Slight risk under exceptional operating conditions	12 months
Medium	Slight risk under normal operating conditions	6 months
High	Serious risk present	1 month

10.2 In all cases where a risk is categorised as High, immediate measures will be put into place to reduce that risk, these measures may be short term compensatory measures such as taking a communal shower room out of use, which are intended to reduce risk to a low or medium level whilst a longer-term solution is investigated. These measures

will be put into place after advice has been obtained from the appointed water hygiene consultant via the responsible person and a record made in the water hygiene risk assessment.

- 10.3 In all cases where a risk is categorised as Medium or Low remedial actions will be raised within 10 days of the receipt of the recommendation and will be completed in line with consultation with the Water Hygiene consultants and as stated in the individual quotation timescales.

11. Controlling The Risk

- 11.1 Legionnaires' disease is a potentially fatal form of pneumonia, and everyone is susceptible to infection. There are a number of factors that increase susceptibility including increasing age (particularly those over 50 years); those with existing respiratory diseases or certain illnesses and conditions such as cancer, diabetes, kidney disease; alcoholics; smokers; and those with an impaired immune system.
- 11.2 Duty Holders are required to prevent or control the risk from exposure to Legionella. For control measures to be effective, it is essential to keep the whole system clean, as biofilms or inorganic matter such as scale can reduce the efficacy of any type of control measure significantly.
- 11.3 Flushing of outlets - The risk from legionella is increased in peripheral parts of the hot and cold-water system where there are remote outlets such as hand washbasins, and dead legs, and outlets which have minimal use. Where reasonably practicable, dead legs should be removed, or the risk minimised by regular use of these outlets.
- 11.4 Flushing involves the regular movement of hot and cold water in distribution pipework and outlets, particularly those that are little used, and must be conducted weekly for several minutes to ensure water cannot stagnate in the hot and cold-water systems.
- 11.5 If there has been a lapse in the flushing regime, the stagnant and potentially contaminated water from within the shower or tap and associated dead leg should be purged to drain without discharge of aerosols before the appliance is used.
- 11.6 Temperature control - is the traditional strategy for reducing the risk of legionella in water systems. Cold water systems should be maintained, where possible, at a temperature below 20°C. Hot water should be stored at least at 60°C and distributed so that it reaches a temperature of 50°C.
- 11.7 Where temperatures present outside the ranges quoted above, the Responsible Person must make the necessary evidential recording and process a request for investigation/remedial action through the repairs process.

12. Scalding Risk and Thermostatic Mixing Valves

- 12.1 Much higher temperatures should be avoided because of the risk of scalding. Potential scalding risk should be assessed and controlled in the context of the vulnerabilities of users. At 50°C, the risk of scalding is low for most people, but the risk increases with higher temperatures and for longer exposure times. However, the risk particularly to the elderly, disabled, young children, and those with sensory loss who may not be able to recognise high temperatures and respond quickly, will be greater.
- 12.2 TMVs are valves that use a temperature sensitive element and blend hot and cold water to produce water at a temperature that safeguards against the risk of scalding, typically between 38°C and 46°C depending on outlet use.
- 12.3 The most serious risk of scalding is where there is whole body immersion, such as with baths and showers and TMVs should be fitted at these outlets.
- 12.4 For most people, the scalding risk is minimal where water is delivered up to 50°C, where a TMV is not fitted, however where a risk assessment identifies a significant scalding risk is present, fitting the appropriate TMVs at outlets, such as hand washbasins and sinks, is also required.
- 12.5 Where the risk assessment considers fitting TMVs appropriate, to maintain protection against scald risk, they require regular routine maintenance carried out by competent individuals in accordance with the manufacturer's instructions, as the blended water downstream of TMVs may provide an environment in which legionella can multiply, thus increasing the risks of exposure.
Strainers or filters should be inspected, cleaned, descaled and disinfected annually or on a frequency defined by the risk assessment, taking account of any manufacturers' recommendations.

13. Operational Requirements

- 13.1 Checks, testing and inspections - For precautions to remain effective, the condition and performance of the system will need to be monitored. The Responsible Person will oversee and manage this. Management should involve:
- checking the performance and operation of the system.
 - inspecting the accessible parts of the system for damage and signs of contamination;
- and
- monitoring to ensure that the treatment regime continues to control to the required standard.
- 13.2 Routine checks, inspections and testing will be completed by a combination of Water Hygiene consultants and identified Elderpark Staff designated with specific responsibilities and tasks relating to the management of water hygiene on sites.

- 13.3 The frequency of checks and inspecting of hot and cold-water systems will depend on their complexity and the susceptibility of those likely to use the water. The risk assessment will define the frequency of inspection and monitoring depending on the type of use and user and particularly where there are adjustments made by the assessor.
- 13.4 Appendix 4 contains a check list for hot and cold-water systems with an indication of the frequencies of required checks and inspections.

14. Managing Legionella within Void Properties

- 14.1 The term 'void' relates to a property that remains unoccupied for a period i.e. following termination of a tenancy by the previous tenant and prior to a new tenancy commencing.
- 14.2 Where a building, part of a building or water system is taken out of use, it should be managed so that microbial growth, including legionella, in the water is appropriately controlled.
- 14.3 Guidance on the process for management of water hygiene in voids is contained within Appendix 3.

15. Commissioning of New Water Systems

- 15.1 The commissioning of a water system means the bringing of a new system into operation and applies to all component parts of a building water system including attached equipment. The aim of commissioning is to check the system is performing to design specifications, that there are no leaks and that the flow of the hot water system is balanced.
- 15.2 From a microbiological perspective, the period between filling the system and bringing it into normal use is potentially the most hazardous. A risk assessment should be performed before commissioning, to identify and take into account the potential for stagnation as this may lead to microbial growth where buildings are not to be fully occupied immediately or where systems are commissioned as occupation occurs, e.g. infrequently or intermittently used buildings.
- 15.3 Before commissioning, the nature of the incoming water supply must be determined. If it is a public water supply, the water supplier will be able to provide details of the testing carried out in the local water supply zone in which the building is situated. If the building has a private water supply, the local authority should be contacted to carry out a private water supply risk assessment, if this has not been done already.

- 15.4 The building owner is responsible for complying with the regulatory requirements as notified by the water supplier or the local authority, as appropriate, irrespective of whether it is a public or private water supply, or a combination of both.
- 15.5 Any new water system will require, as a minimum, flushing and disinfection before being brought into use, and larger more complex systems may also require disinfection. The building commissioning process should take into account the size and complexity of the water system. A new, correctly designed and installed water system should provide wholesome water at every outlet and where there are any problems, the design or installation defect should be identified and rectified.

16. Log Book (On Site Records)

- 16.1 Actions undertaken to remove hazards identified in the risk assessment and all ongoing management actions taken to control the risk of legionella arising must be recorded.
- 16.2 For this purpose, a water log book specific to the site as detailed in Appendix 4 must be held at the site and completed by the Responsible Person and Water Hygiene consultants, appointed contractors and other staff designated with specific responsibilities and tasks relating to water hygiene management. Appendices 6-15 provide some samples of log book requirements

17. Legionella Monitoring

- 17.1 There is a need to implement a monitoring system to ensure that action plans are being signed off and Legionella management logs are being completed.
- 17.2 The Water Hygiene consultant will also inspect both the risk assessment action plan and site water log book six monthly.
- 17.3 Microbiological monitoring, sampling, for legionella is conducted in hot and cold-water systems annually by the Water Hygiene consultant in all properties where a full legionella risk assessment has been completed. The risk assessment should specifically consider systems supplied from sources other than the mains, such as private water supplies, where sampling and analysis may be appropriate.
- 17.4 Microbiological monitoring will be carried out in accordance with BS 7592 Sampling for Legionella organisms in water and related materials 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.
- 17.5 The circumstances when monitoring for legionella would be appropriate include:

- Water systems where the control levels of the treatment regime, for example temperature or disinfectant concentrations, are not being consistently achieved. In addition to a thorough review of the system and treatment regimes, frequent testing, for example weekly, should be carried out to provide early warning of loss of control. Once the system is brought back under control as demonstrated by monitoring, the frequency of testing should be reviewed.
- Where risk assessment considers it appropriate to monitor in high-risk areas or where there is a population with increased susceptibility, for example in healthcare premises including care homes.
- Water systems suspected or identified in a case or outbreak of Legionellosis where it is probable that it will be required for samples to be taken for analysis; and
- Water systems treated with biocides where water is stored, or distribution temperatures are reduced. Initial testing should be carried out monthly to provide early warning of loss of control. The frequency of testing should be reviewed and continued until such a time as there is confidence in the effectiveness of the regime.

17.6 Guidance notes on the action post confirmation of a positive sampling can be found at Appendix 5.

17.7 Cleaning and disinfection - the risk from exposure to legionella must be controlled by keeping the water system and water within it clean and free from nutrients, including those arising from contamination and corrosion, and maintaining its cleanliness.

17.8 Where necessary hot and cold-water systems should be cleaned, flushed and disinfected in the following situations, as specified by BS 8558:

- on completion of a new water installation or refurbishment of a hot and cold-water system.
- On installation of new components, especially those which have been pressure tested using water by the manufacturer.
- Where hot and cold water is not used for a prolonged period and has not been flushed as recommended or the control measures have not been effective for a prolonged period.
- On routine inspection of the water storage tanks, where there is evidence of significant contamination or stagnation.
- If the system has been substantially altered or entered for maintenance purposes that may introduce contamination.
- following water sampling results that indicate evidence of microbial contamination of the water system.
- During or following an outbreak or suspected outbreak of Legionellosis linked to the system; or
- Where indicated by the risk assessment.

17.9 Disinfection of the water services when the system is offline may be by:

- Thermal Disinfection - for example, by raising the hot water system temperature to a level at which legionella will not survive, drawing it through to every outlet, and then flushing at a slow flow rate to maintain the high temperature for a suitable period of time (the contact time).
- Chemical Disinfection - for example, by adding an effective agent such as chlorine or chlorine dioxide, drawing it through to every outlet, then closing the outlets and allowing it to remain in contact for a suitable period (contact time). This method is commonly used when it is necessary to disinfect the cold-water storage tanks and the whole system.

17.10 Evidence of the competence of individuals undertaking these forms of disinfection should be confirmed by the Water Hygiene consultants and the responsible person, indicating that the knowledge and experience of the operatives is satisfactory for undertaking the proposed works.

17.11 A suitable safe system of work, or for more complex systems, a site-specific method statement should be obtained before the start of any cleaning and/or disinfection of a water system. The documentation should clearly define the process to be undertaken and should be derived from risk assessments of the typically encountered hazards, which may include:

- access/egress, storage and special site hazards such as asbestos.
- Machinery and equipment isolation.
- working in confined spaces.
- Manual handling.
- Work at height.
- slip, trips and falls.
- Electrical equipment.
- Chemicals to be used.
- Personal protective equipment required; and/or
- Waste disposal and chemical neutralising process (a discharge permit may be required from the water utility).

18. Training and Competence

18.1 Elderpark must ensure that those appointed to carry out the risk assessment, draw up the written control scheme and assist in the management of water hygiene have the ability, experience, instruction, information, training and resources to enable them to carry out their tasks competently and safely. This will be ensured by the association's procurement and contractor approval process.

- 18.2 Responsible Persons — The Chartered Society for Worker Health Protection (BOHS), P901 Control of Legionella in Domestic Hot and Cold-Water Systems, provides an overview of legionella bacteria risk, and how it can be controlled in hot and cold-water systems in compliance with regulatory requirements. This is a one-day course with a written theory examination, successful completion of which achieves a qualification equivalent to NVQ Level 4 and HNC level.
- 18.3 The responsible person appointed by Elderpark Housing to take day to day responsibility for controlling any identified risk from legionella bacteria must have sufficient authority, competence and knowledge of the installation to ensure that all operational procedures are carried out effectively and in a timely manner.
- 18.4 Staff members - The Chartered Society for Worker Health Protection (BOHS), P900 Control of Legionella in Domestic Hot and Cold-Water Systems provides a foundation level of knowledge on identifying and controlling legionella risk to identify the risks posed by legionella bacteria and understand how to manage the risks in domestic water systems, to a standard which minimises the risk of exposure and ill health. This is a level 3 qualification in the BOHS qualifications framework.

19. Record Keeping

- 19.1 The Responsible Person must ensure that the significant findings of the risk assessment are recorded; this should include details of any persons identified as being particularly at risk and the steps taken to prevent or control the risks. Appropriate records must be kept, both centrally by the Responsible person and on site for tasks completed locally by competent and identified persons.
- 19.2 Records should include details of the following.
- The person or people responsible for conducting the risk assessment, managing, and implementing the written scheme.
 - Any significant findings of the risk assessment.
 - The written control scheme and its implementation; and
 - The results of any inspection, test or check carried out, and the dates.
- 19.3 The Association will utilise Bradley Environmental TEAMS [RH2] database for legionella management as well as uploading the same data to a Legionella Management Control database located centrally within the maintenance Departments electronic filing system.
- 19.4 Both shall have links to each sites legionella Control scheme and will track any completed risk assessments and follow up risk assessments, remedial works issued along with completions, certificates and schedule of visits. It shall also provide information on any changes to the condition of the tanks and outlets within the system.

19.5 Regulations require that records are to be retained throughout the period for which they remain current and for at least two years after that period. Records kept in accordance with inspection, test or checks carried out should be retained for at least five years.

19.6 All Shared cold-water tanks within our non-domestic, communal and domestic properties shall be held in the associations Tank risk register.

20. Performance and Assurance

20.1 Section 9 of the Legionella management Policy contains details relating to the implementation of the policy and what levels of Governance and oversight we have in place. Section 10 of the Legionella management Policy contains information of who is responsible for providing operational assurance information and how this will be reported.

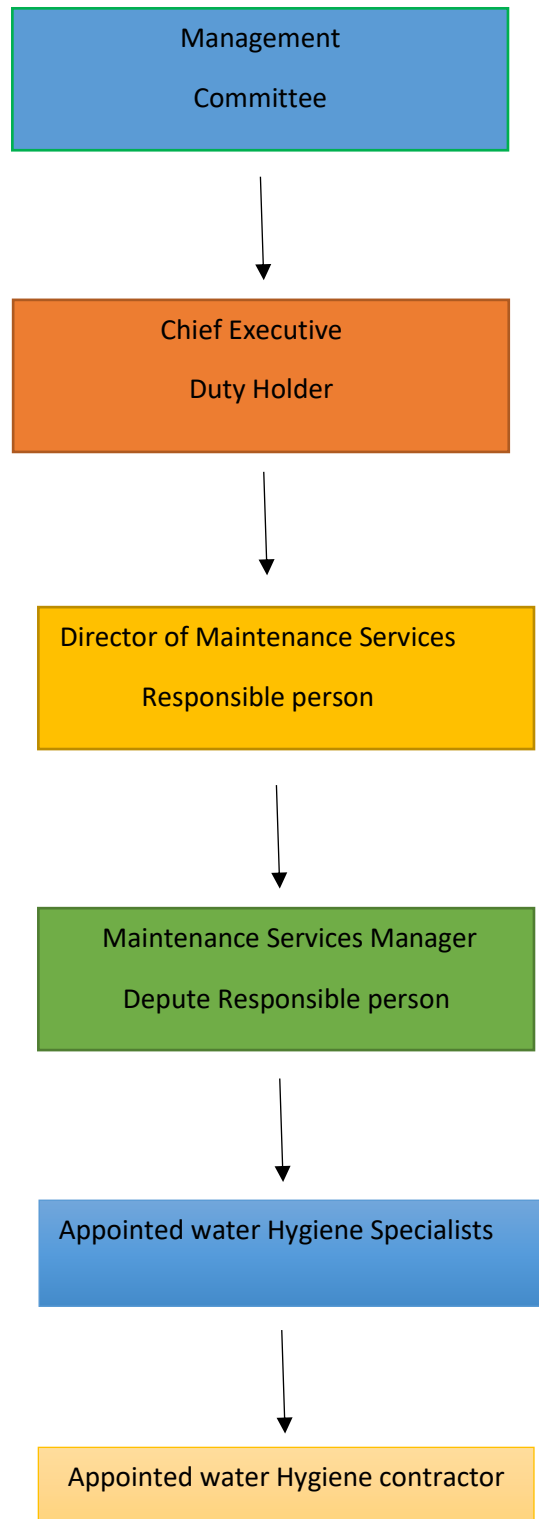
20.2 In addition to those two sections of the policy we will ensure that the Management Committee will receive regular updates on the implementation of the Legionella management Policy and any Legionella management Reviews so that they can have assurance that it is operating effectively.

20.3 Performance and compliance shall be reported by the Governance and Compliance Manager at quarterly Management Committee meetings and shall include the following:

- Performance relating to ensuring that all water storage have been identified and receive a legionella risk assessment and condition survey.
- Performance relating to carrying out continuous tests to record the temperature and the condition of the tends to determine if the temperature is not in the range of 20 – 45oC favour the growth of Legionella in water systems as this promotes the growth of legionella.
- Reports of any Legionella related incidents that has occurred.^[RH3]

21. Review

21.1 This management plan will be reviewed periodically and when changes in legislation, good practice or operational occur, which may affect the content of this document.



Appendix 2 – Checklist for hot and cold-water systems

Service	Action to take	Frequency
Calorifiers	Inspect calorifier internally by removing the inspection hatch or using a borescope and clean by draining the vessel. The frequency of inspection and cleaning should be subject to the findings and increased or decreased based on conditions recorded	Annually, or as indicated by the rate of fouling
	Where there is no inspection hatch, purge any debris in the base of the calorifier to a suitable drain. Collect the initial flush from the base of hot water heaters to inspect clarity, quantity of debris, and temperature	Annually, but may be increased as indicated by the risk assessment or result of inspection findings
	Check calorifier flow temperatures (thermostat settings should modulate as close to 60 °C as practicable without going below 60 °C). Check calorifier return temperatures (not below 50 °C)	Monthly
Hot water Services	For non-circulating systems: take temperatures at sentinel points (nearest outlet, furthest outlet and long branches to outlets) to confirm they are at a minimum of 50 °C within one minute.	Monthly
	For circulating systems: take temperatures at return legs of principal loops (sentinel points) to confirm they are at a minimum of 50 °C. Temperature measurements may be taken on the surface of metallic pipework	Monthly
	For circulating systems: take temperatures at return legs of subordinate loops, temperature measurements can be taken on the surface of pipes, but where this is not practicable, the temperature of water from the last outlet on each loop may be measured and this should be greater than 50 °C within one minute of running. If the temperature rise is slow, it should be confirmed that the outlet is on a long leg and not that the flow and return has failed in that local area	Quarterly (ideally on a rolling monthly rota)
	All HWS systems: take temperatures at a representative selection of other points (intermediate outlets of single pipe systems and tertiary loops in circulating systems) to confirm they are at a minimum of 50 °C, to create a temperature profile of the whole system over a defined time period	Representative selection of other sentinel outlets considered on a rotational basis to ensure the whole system is reaching satisfactory temperatures for legionella control

POU water heaters (no greater than 15 litres)	Check water temperatures to confirm the heater operates at 50–60 °C or check the installation has a high turnover	Monthly–six monthly, or as indicated by the risk assessment
Combination water heaters	Inspect the integral cold water header tanks as part of the cold-water storage tank inspection regime, clean and disinfect as necessary. If evidence shows that the unit regularly overflows hot water into the integral cold water header tank, instigate a temperature monitoring regime to determine the frequency and take precautionary measures as determined by the findings of this monitoring regime	Annually
	Check water temperatures at an outlet to confirm the heater operates at 50–60 °C	Monthly
Cold water tanks	Inspect cold water storage tanks and carry out remedial work where necessary	Annually
	Check the tank water temperature remote from the ball valve and the incoming mains temperature. Record the maximum temperatures of the stored and supply water recorded by fixed maximum/minimum thermometers where fitted	Annually (Summer) or as indicated by the temperature profiling
Cold Water Services	Check temperatures at sentinel taps (typically those nearest to and furthest from the cold tank but may also include other key locations on long branches to zones or floor levels). These outlets should be below 20 °C within two minutes of running the cold tap. To identify any local heat gain, which might not be apparent after one minute, observe the thermometer reading during flushing	Monthly
	Take temperatures at a representative selection of other points to confirm they are below 20 °C to create a temperature profile of the whole system over a defined time period. Peak temperatures or any temperatures that are slow to fall should be an indicator of a localised problem	Representative selection of other sentinel outlets considered on a rotational basis to ensure the whole system is reaching satisfactory temperatures for legionella control
	Check thermal insulation to ensure it is intact and consider weatherproofing where components are exposed to the outdoor environment	Annually
Showers and spray taps	Dismantle, clean and descale removable parts, heads, inserts and hoses where fitted	Quarterly or as indicated by the rate of fouling or other risk factors, e.g. areas of high risk
POU filters	Record the service start date and lifespan or end date and replace filters as recommended by the manufacturer (0.2 µm membrane POU filters should be used primarily as a temporary control measure while a permanent safe engineering solution is developed, although long-term use of such filters may be needed in some healthcare situations)	According to manufacturer's guidelines

Base exchange softeners	Visually check the salt levels and top up salt, if required. Undertake a hardness check to confirm operation of the softener	Weekly, but depends on the size of the vessel and the rate of salt consumption
	Service and disinfect	Annually, or according to manufacturer's guidelines
Multiple use filters	Backwash and regenerate as specified by the manufacturer	According to manufacturer's guidelines
Infrequently used outlets	Consideration should be given to removing infrequently used showers, taps and any associated equipment that uses water. If removed, any redundant supply pipework should be cut back as far as possible to a common supply (e.g. to the recirculating pipework or the pipework supplying a more frequently used upstream fitting) but preferably by removing the feeding 'T' Infrequently used equipment within a water system (i.e. not used for a period equal to or greater than seven days) should be included on the flushing regime Flush the outlets until the temperature at the outlet stabilises and is comparable to supply water and purge to drain Regularly use the outlets to minimise the risk from microbial growth in the peripheral parts of the water system, sustain and log this procedure once started For high risk populations, e.g. healthcare and care homes, more frequent flushing may be required as indicated by the risk assessment	Weekly, or as indicated by the risk assessment
TMVs	Risk assess whether the TMV fitting is required, and if not, remove Where needed, inspect, clean, descale and disinfect any strainers or filters associated with TMVs To maintain protection against scald risk, TMVs require regular routine maintenance carried out by competent persons in accordance with the manufacturer's instructions. There is further information in paragraphs 2.152– 2.168	Annually or on a frequency defined by the risk assessment, taking account of any manufacturer's recommendations
Expansion vessels	Where practical, flush through and purge to drain. Bladders should be changed according to the manufacturer's guidelines or as indicated by the risk assessment	Monthly–six monthly, as indicated by the risk assessment

Appendix 3 Management of water hygiene in voids

It is recognised that all void properties have the potential to exhibit increased risk of Legionella due to the possibility of stagnant water remaining undisturbed within pipework for prolonged periods.

To mitigate the increased potential risk associated with voids, the void contractor appointed to carry out repairs and re-decoration works on all void properties will receive a works order to carry out and record the following:

- Thoroughly flush all taps.
- Clean and disinfect, or replace, all shower heads.
- Inspect and report on water storage tank (where present).

SOR	Description
690001	Void: Drain down hot and cold domestic water system to void property.
690003	Void: Refill hot and cold domestic water system to void property and check incoming water supply.
690005	Void: Carry out safety check of complete hot and cold-water plumbing and waste installation to any void property and provide written report to the Client Representative.
631117	Shower head: Renew any rose spray shower head including disconnect and remove old and fix new head and reconnect existing pipework and remove waste and debris.
631121	Shower: Overhaul and clean out shower head including remove and refix as necessary.
665029	Tank: Access roof space and overhaul any cold-water storage tank, take off, set aside and later refix insulation and lid, overhaul all valves, repair any leaks, renew float operated diaphragm valve, clean out tank, clear all airlocks, drain and refill tank as necessary.

Appendix 5 Emergency Plan

Action to be taken in the event of an outbreak/suspected outbreak of Legionnaires Disease

Introduction

An outbreak of Legionnaires Disease will be confirmed by the Public Health Laboratory Service (PHLS) via the Designated Medical Officer for Greater Glasgow Public health.

The HSE and Glasgow City Council's Environmental and Regulatory Services will be notified of the outbreak. Then they will establish an Outbreak Committee to take any appropriate actions to prevent further infection of the public. This will be initially focused on the determination of the source of the Legionella bacterium.

If the HSE suspects an Elderpark premises is a possible source of the infection they have the legal authority to take action to halt any further spread of infection.

Action to be taken

1. The relevant "Responsible Person" and the Premises Manager will be required to ensure the water system is closed down to prevent further infections e.g. parts of process capable of disseminating airborne water droplets.
2. They will also co-operate with the HSE in their investigation by providing any details requested by them which may include details of all specialist contractors, records of all

Maintenance and monitoring programmes etc. The HSE will focus on the following actions in their investigation:

- Taking water samples from the suspect water systems
- Requesting health records of employees

- Investigation of any premises, infrastructure, procedures, contracts and records
- Taking statements from employees, contractors or consultants

3. The “Responsible Person”, will ensure the following actions are taken as appropriate:

- Switch off pumps and decommission plant as soon as practicable
- Keep all personnel away from source of infection
- When cleared by the HSE, instruct specialist contractors to undertake complete sterilisation of the infected system(s), if required
- Consult with enforcing authority before allowing water system to be re-used
- Ensure samples of water are taken for laboratory investigation, if required
- Test system to ensure free from infection prior to return to normal use



Appendix 6 Contractor Service Provider Visits

Site Name/Address 65 Golspie Street – Main Office

Date	Name	Company	Reason for visit	Documentation and Handover given	Signature

Sample Recording Sheets

Appendix 7 – Monthly Temperature Checks of hot water cylinders

Date	Outgoing water temperature from the hot water cylinder (should be at least 60 Degrees)									Comments/Concerns/Escalation
	Tank Reference Number									
	1	2	3	4	5	6	7	8	9	

