



Legionella Risk Assessment and Legionella Control Specialists

Legionella Bacteria Risk Assessment

Client: Arches Housing

Site Contact: Jamie Taylor

Premises: Burns Court
Burns Drive
Sheffield
South Yorkshire
S35 1TP

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Risk Assessor: M. Glossop

Date: 03.04.2017



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1. **EXPLANATION OF LEGIONELLA RISK, SITE INTRODUCTION AND SCOPE OF WORK**

What is Legionnaires' disease?

Legionnaires' disease is a potentially fatal form of pneumonia and everyone is susceptible to infection. The risk increases with age but some people are at higher risk including:

- People over the age of 45
- Smokers and heavy drinkers
- People suffering from chronic respiratory or kidney disease, diabetes, lung or heart disease
- Anyone with an impaired immune system

The bacterium *Legionella pneumophila* and related bacteria are common in natural water sources such as rivers, lakes and reservoirs, but usually in low numbers.

Outbreaks of the illness occur from exposure to legionella growing in purpose-built systems where water is maintained at a temperature high enough to encourage growth, e.g. cooling towers, evaporative condensers, hot and cold water systems and spa pools used in all sorts of premises.

How do people get legionnaires' disease?

People contract Legionnaires' disease by inhaling small droplets of water (aerosols), suspended in the air, containing the bacteria. Certain conditions increase the risk from legionella if:

- The water temperature in all or some parts of the system are between 20-45 °C, which is suitable for legionella bacteria growth
- It is possible for breathable water droplets to be created and dispersed e.g. aerosol created by a cooling tower, spa pool or water outlets including showers and taps
- If water is stored and/or re-circulated in cold water tanks, hot water heaters, cooling towers or spa pools for example
- If there are deposits that can support bacterial growth providing a source of nutrients for the organism e.g. rust, sediment, scale, organic matter and biofilms. These can be commonly found on shower heads, on filters, in TMVs, in cold water storage tanks, hot water heaters, cooling towers and spa pools

How is the risk controlled?

If conditions are favorable, the bacteria may grow, thus increasing the risks of Legionnaires' disease and it is therefore important to control the risks by introducing appropriate measures outlined in ACoP - L8 *Legionnaires' disease - The Control of Legionella bacteria in water systems* and the technical guidance in HSG274.

This guidance gives clear instructions on controlling and managing the risks associated with legionella bacteria in water systems.

This guidance states that a legionella bacteria risk assessment should be undertaken to identify the risks present. From there, the risks can be properly managed and controlled.

Site Introduction

This legionella risk assessment has been undertaken on behalf of Arches Housing at Burns Court, Sheffield. It is a 2 storey building consisting of communal areas with water facilities and 8 private flats.

Members of staff, residents and visitors are male and female of all ages; some may be over the age of 45, be in poor health and may include smokers, so they fall into the susceptible risk group regarding legionella.

Communal Water Facilities

There is a kitchen, laundry room and toilet facilities on site. Cold water services to all areas are provided by the direct mains supply. Hot water services are provided by Combi Boiler 1.

Private Flats

There are 8 private flats on site. As part of this risk assessment, access was gained to Flat 7. The water services in that flat have been included in this assessment and we assume all the other flats have the same or a similar water system. The recommendations given in this assessment, will therefore apply to all of the flats in the building. Cold water services are provided by the direct mains supply. Hot water services are provided by individual Combi Boilers.

Scope of Work

The scope of work has been agreed with the client and includes the following elements:

- A full survey and risk assessment of the site (all communal water facilities and 1 private flat)
- A schematic drawing, showing the pipe work layout, cold water tanks and hot water vessels.
- A full outlet register and temperature profile (all communal water facilities and 1 private flat)
- A review of the current monitoring paperwork and written schemes
- Recommendations for remedial and monitoring actions required

In accordance with the ACOP(L-8) and the associated technical guidance in part 2 and 3 of the HSG274 and based on the level of risk on this site, we recommend this risk assessment is reviewed on a biennial basis. However, if any changes are made to the water services and the current assessment is no longer valid, the Responsible Person will require the assessment to be reviewed immediately.

We recommend that any remedial or monitoring actions identified in this risk assessment in section 15 should be addressed in order to comply with your obligations under ACOP L8, HSG274 and more specifically obligations under the Control of Substances Hazardous to Health Regulations 2002, the Health and Safety at Work Act 1974 and Management of Health and Safety at Work Regulations 1999.

All information contained in this report, including any engineering conclusions, is based on information made available to Legionella Solutions Limited during our investigations. Because this report is based on available and possibly incomplete information, some of its conclusions could be different if the information on which it is based is determined to be false, inaccurate, or contradicted by additional information. This report represents a good faith effort conducted in a professional manner consistent with applicable environmental engineering standards.

This Legionella Bacteria Risk Assessment is in accordance with ACoP (L8), HSG274 and BS8580:2010 water quality risk assessments for Legionella.



M. Glossop
Legionella Risk Assessor
Legionella Solutions Ltd.

2. SUMMARY OF SYSTEMS INSPECTED AS PART OF THIS LEGIONELLA BACTERIA RISK ASSESSMENT

SITE DETAILS	Burns Court, Sheffield	
SITE CONTACT NAME	Jamie Taylor	
DATE OF RISK ASSESSMENT	03.04.2017	
RISK ASSESSOR	M. Glossop - Legionella Solutions Ltd	
DESCRIPTION	PRESENT YES / NO	DETAILS / LOCATION
Hot and Cold Water Systems		
Mains water supply	Yes	All areas. Stop taps in the communal area and each of the flats.
Non-Storage Water Heaters	Yes	Combi Boiler 1 - Laundry Room Combi Boilers - 1 in each flat
Showers and Spray Taps	Yes	Spray Taps - 1 x Office Kitchen Showers - Possible in some of the flats
Thermostatic Mixing Valves/Thermotaps (TMVs)	Yes	1 Thermotap TMV in the Unisex Toilet
Other Risk Systems		
Miscellaneous Equipment	Yes	Washing machines and dishwashers possible in some of the flats

3. RISK ASSESSMENT SCORING KEY

Each section is divided into the various factors under consideration; in general terms and specifically related to the equipment or system under assessment.

On completion of the above, each parameter will be allocated a risk score which will be commented on individually.

The key to risk scores is set out below:-

Individual items scoring 0 are considered low risk and therefore no further action is required. Individual items scoring 1 require further clarification or regular monitoring to control the risk. Individual items scoring 2 require remedial action to reduce the risk and comply with current guidelines - these are highlighted in red in the risk assessment.

Individual items are totalled to produce a total risk score for each section and the following priority category is then applied.

TOTAL RISK SCORE	RISK CATEGORY
8 and above	HIGH
5 - 7	MEDIUM
0 - 4	LOW

Please see Section 15 for any risks identified and the recommended actions to take.

4. **MANAGEMENT RESPONSIBILITIES AND TRAINING**

In 2013 the Health and Safety Executive issued the revised ACOP(L-8) and in 2014 the associated technical guidance notes HSG274 part 1, 2 and 3. This guidance gives practical advice on the legal requirements of the Health and Safety at Work Act 1974, the Control of Substances Hazardous to Health Regulations 2002 concerning the risk from exposure to legionella, and guidance on compliance with the relevant parts of the Management of Health and Safety at Work Regulations 1999.

This guidance is for Duty Holders, which includes employers, those in control of premises and those with health and safety responsibilities for others, to help them comply with their legal duties as specified in the *ACOP (L-8) Legionnaires' disease: The control of legionella bacteria in water systems*. It gives specific information on the health and safety law that applies.

The guidance includes identifying and assessing sources of risk, preparing a scheme to prevent or control the risk, implementing, managing and monitoring precautions, keeping records of precautions and appointing a manager responsible for others.

Following the guidance is not compulsory, unless specifically stated, and you are free to take other action. But if you follow the guidance, you will normally be doing enough to comply with the law. Health and Safety Inspectors seek to secure compliance with the law and may refer to this guidance.

Under general health and safety law, Duty Holders, including employers or those in control of premises, must ensure the health and safety of their employees or others who may be affected by their undertaking.

They must take suitable precautions to prevent or control the risk of exposure to legionella. They need to appoint somebody competent, who knows how to identify and assess sources of risk, manage those risks, prevent or control any risks, keep records and carry out any other legal duties that they may have.

In the Approved Code of Practice L-8, there is a requirement to prepare a Legionella Bacteria Risk Assessment and a Written Scheme of Control. It is essential they remain up to date as required under Health and Safety law.

In the management of risks from legionella bacteria, the Duty Holder must appoint a competent person known as the Responsible Person to take day-to-day responsibility for managing the control scheme. The responsible person should prepare a Written Scheme of Control for legionella bacteria and ensure that all operational procedures are carried out in a timely and effective manner. The responsible person should ensure adequate records are maintained and available for inspection and auditing, for at least five years. A Deputy Responsible person should also be appointed to take care of the day-to-day responsibilities should the Responsible person be absent due to holidays and illness etc. The Duty Holder should also ensure that all employees involved in work that may expose an employee or other people to legionella are given suitable and sufficient information instruction and training.

If you decide to employ contractors to carry out water treatment works, it is still the responsibility of the Responsible Person to ensure that the treatment is carried out to the required standards.

Staff responsibilities and lines of communication must be properly defined in writing and clearly set out. Staff responsibilities must be understood by all concerned. Staff must be properly trained and competent. Arrangements should be made to allow for staff that leave or are absent.

Shared premises

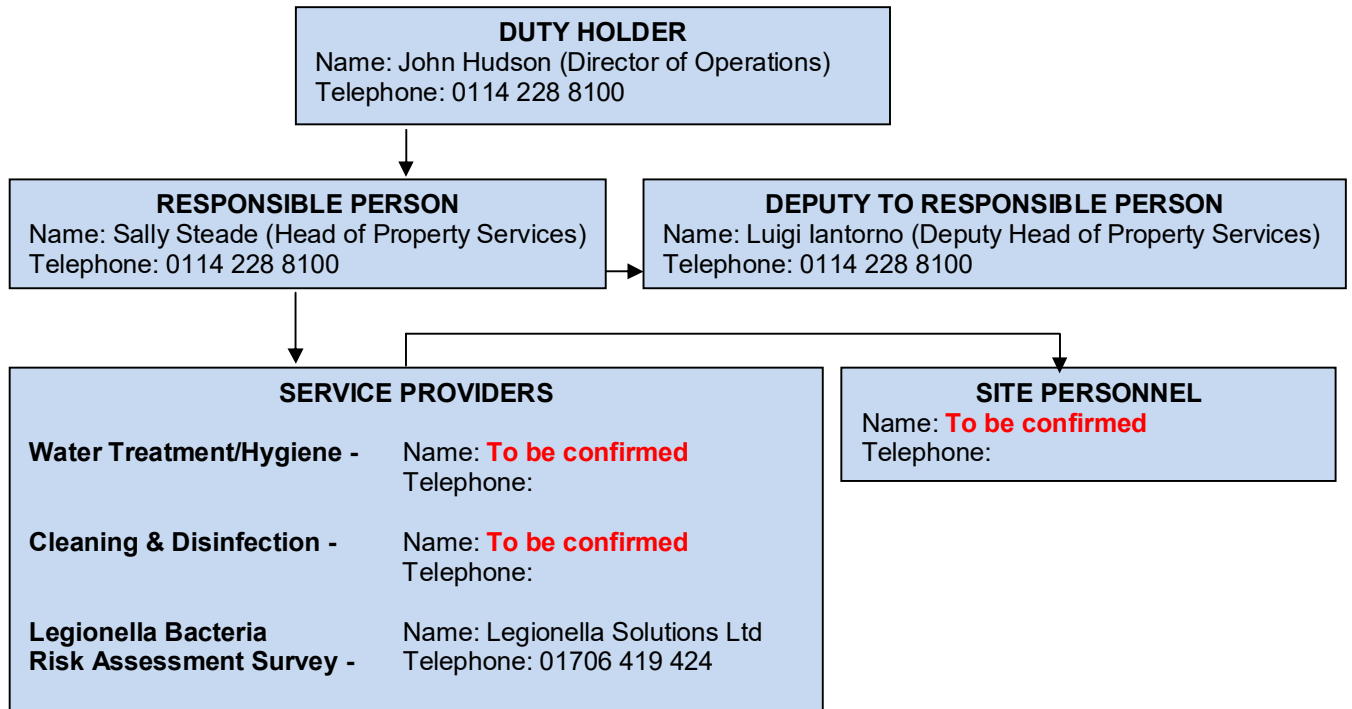
Those who have, to any extent, control of premises for work-related activities or the water systems in the building, have a responsibility to those who are not their employees, but who use those premises.

In estate management, it is increasingly common for there to be several duty holders in one building. In such cases, duties may arise where persons or organisations have clear responsibility, through an explicit agreement, such as a contract or tenancy agreement. The extent of the duty will depend on the nature of that agreement.

For example, in a building occupied by one lease holder, the agreement may be for the owner or lease holder to take on the full duty for the whole building or to share the duty. Alternatively, it might be that the duty is shared where, e.g. the owner takes responsibility for the common parts while the leaseholder takes responsibility for the parts they occupy.

In other cases, there may be an agreement to pass the responsibilities to a managing agent. Where a managing agent is used, the management contract should clearly specify who has responsibility for maintenance and safety checks, including managing the risk from Legionella.

4. **MANAGEMENT RESPONSIBILITIES AND TRAINING** continued



REF.	MANAGEMENT RESPONSIBILITIES AND TRAINING	RISK SCORE
4A	Has a Duty Holder been nominated and clearly defined in writing?	0
	Yes	
4B	Has a Responsible Person been nominated and clearly defined in writing?	0
	Yes	
4C	Has a Deputy Responsible Person been nominated and clearly defined in writing?	0
	Yes	
4D	Are the roles and responsibilities of all staff involved in the control regime clearly defined in writing?	0
	Yes	
4E	Are the roles and responsibilities of external contractors clearly defined in writing?	2
	No, to be confirmed	
4F	Have all staff involved in the control regime received appropriate training within the last 2 years?	2
	No training records found	
TOTAL RISK SCORE		4
RISK CATEGORY		LOW

5. **HOT AND COLD WATER SYSTEM DESIGN AND CONSTRUCTION**

Temperature control is the traditional strategy for reducing the risk of legionella in water systems. Cold water temperatures 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 within one minute at the outlets (55°C in healthcare premises).

Water fittings and components should be used that comply with the Water Regulations Advisory Scheme (WRAS) and compliant with BS6920.

All parts of the hot and cold water services should be in regular use with all outlets being used at least weekly (twice weekly in healthcare premises). Pipe work should be insulated and free from dead legs. All water based equipment, pipe work, fittings and outlets should be free from scale and corrosion.

The following section is intended to survey all of the domestic hot and cold water distribution services to evaluate the risk of proliferation by legionella bacteria.

REF.	HOT AND COLD WATER SYSTEM DESIGN AND CONSTRUCTION	RISK SCORE
5A	Dead leg identification	0
	Have any dead legs been identified? No	
5B	Little used outlets	1
	Have any little used outlets been identified? Yes	
	Location of little used outlets	
	External tap	
5C	Materials in use	0
	Based on available information, are all materials used WRAS approved? Yes	
	Are there any signs of scale or corrosion on any of the hot and cold water pipe work or outlets? No	
5D	Hot and cold distribution pipe work insulation	2
	Is the hot and cold distribution pipe work fully insulated where possible? No, all pipe work inspected was not insulated	
5E	Potential for droplet formation	1
	Possible	
5F	Are there any users in the susceptible category	1
	Yes, staff, residents and visitors over 45 years of age, possible smokers and people of ill health	
5G	Routine sampling for legionella required	0
	No	
TOTAL RISK SCORE		5
RISK CATEGORY		MEDIUM

5.1 **COLD WATER SYSTEM OVERVIEW AND DESIGN**

There are separate direct mains supplies to the communal area and to each of the flats.

DESCRIPTION	LOCATION	SERVICES IT FEEDS
Direct Mains Supplies	All areas. Stop taps in the communal area and each of the flats.	Cold water supply to all cold water outlets in the building and the cold supply to Combi Boiler 1, and the Combi Boilers in each of the flats.

REF	COLD WATER SYSTEM DESIGN	RISK SCORE
5.1A	Are all cold taps inspected 20 ^o C or below within 2 minutes of running?	Yes 1
5.1B	Are any outlets on the cold water system out of service or faulty?	No 0
5.1C	Is the cold water system pumped?	No 0
5.1D	Are there any filters on the cold water system?	No 0
5.1E	Cold Water Storage Tank nearest and furthest points - location and temperatures (°C)	n/a
	Nearest points	
	N/a - No Cold Water Storage Tanks on site	
5.1F	Furthest points	n/a
	N/a - No Cold Water Storage Tanks on site	
TOTAL RISK SCORE		1
RISK CATEGORY		LOW

5.3 HOT WATER SYSTEM OVERVIEW AND DESIGN

There is 1 Combi Boiler in the Communal Laundry Room and 1 Combi Boiler in each of the private flats.

DESCRIPTION	LOCATION	FED BY	AREAS IT FEEDS
Combi Boiler 1	Laundry Room	Mains	Hot water supply to the Office Toilet, Unisex Toilet, Laundry Room and Kitchen.
Combi Boilers	1 in Each Flat	Mains	Hot water supply to each individual flat.

REF.	HOT WATER SYSTEM DESIGN		RISK SCORE
5.3A	Are all hot taps inspected 50 ^o C or above within 1 minute of running?	Yes	1
5.3B	Are any outlets on the hot water system out of service or faulty?	No	0
5.3C	Is the hot water system pumped?	No	0
5.3D	Are there any filters on the hot water system?	No	0
5.3E	Hot water system nearest and furthest point location and temperatures (°C)		1
	Nearest points		
	Combi Boiler 1 - Laundry Room Sink - 60		
	Combi Boilers - N/a Private flats		
5.3F	Furthest points		1
	Combi Boiler 1 - Office Toilet Wash Basin - 59 - Kitchen Sink - 55		
	Combi Boilers - N/a Private flats		
TOTAL RISK SCORE			3
RISK CATEGORY			LOW

5.4 **NON STORAGE WATER HEATER INSPECTION REPORT**

Combi Boiler 1 (Communal)

REF.	NON STORAGE WATER HEATER INSPECTION REPORT		RISK SCORE
5.4A	Location	Laundry Room	N/a
	Water heater type	Worcester Combi Boiler	
	Water heater usage	Hot water supply to the Office Toilet, Unisex Toilet, Laundry Room and Kitchen	
5.4B	Cold water supply	Direct mains	0
5.4C	Access to the water heater	Ok	0
5.4D	Is there an expansion vessel associated with the heater	No	0
5.4E	Is there a shower or spray tap associated with the water heater	No	0
5.4F	Water temperature (C)		1
	Flow temperature	60°C	
5.4G	Is the water heater used at least weekly?	Yes	1
5.4H	Nature of exposed persons using the Combi Boiler		1
	Users are male and female of all ages and may include smokers, persons over the age of 45, and persons possibly in poor health, who are in the susceptible category regarding legionella.		
TOTAL RISK SCORE			3
RISK CATEGORY			LOW



5.4 **NON STORAGE WATER HEATER INSPECTION REPORT**

Typical Combi Boiler (Assessed in Flat 7)

REF.	NON STORAGE WATER HEATER INSPECTION REPORT		RISK SCORE
5.4A	Location	1 in Each of the Flats	N/a
	Water heater type	Worcester Combi Boiler	
	Water heater usage	Hot water supply to each individual flat	
5.4B	Cold water supply	Direct mains	0
5.4C	Access to the water heaters	Ok	0
5.4D	Is there an expansion vessel associated with the water heaters	No	0
5.4E	Is there a shower or spray tap associated with the water heaters	Possible in some of the flats	1
5.4F	Water temperature (C)		1
	Flow temperature	50°C	
5.4G	Are the water heaters used at least weekly?	Yes when occupied	1
5.4H	Nature of exposed persons using the Combi Boilers		1
	Users are male and female of all ages and may include smokers, persons over the age of 45, and persons possibly in poor health, who are in the susceptible category regarding legionella.		
TOTAL RISK SCORE			4
RISK CATEGORY			LOW

6. SHOWERS AND SPRAY TAPS

Where showers and spray taps are fitted they should be in regular use (at least weekly) and all their removable parts, heads, inserts and hoses should be cleaned, descaled and disinfected on a 3 monthly basis. The risk associated with a shower or spray tap is affected by the quality of the hot and cold water supply.

REF.	SHOWERS AND SPRAY TAPS INSPECTION REPORT	RISK SCORE
6A	Location	n/a
	Showers - 1 in each flat	
6B	Hot water supply	0
	Combi Boiler or Electric	
6C	Cold water supply	0
	Mains	
6D	Condition of the spray heads	1
	Showers - Good condition in Flat 7, condition of the others is not known	
6E	Are the showers and spray tap in regular use (at least weekly) or flushed weekly if not in regular use?	1
	The showers in the flats are expected to be in regular use	
6F	Potential for droplet formation	1
	High	
6G	Nature of persons using the showers	1
	Users are male and female of all ages and may include smokers, persons over the age of 45, and persons possibly in poor health, who are in the susceptible category regarding legionella.	
TOTAL RISK SCORE		4
RISK CATEGORY		LOW

7. **THERMOSTATIC MIXING VALVES/THERMOTAPS (TMV'S)**

TMV's are fitted to reduce the risks of scalding to the vulnerable. Where TMV's are fitted they should be easily accessible and set between 38°C and 46°C. They should be located as close to the tap as possible. Where they serve multiple taps, the risk is increased. The filters and strainers associated with the TMVs should be descaled and disinfected on an annual basis.

REF.	TMV INSPECTION REPORT		RISK SCORE	
		YES		NO
7A	Are TMVs fitted on the system?	✓		1
	If yes, see locations:	1 Thermotap in the Unisex Toilet		
7B	Are all TMVs accessible?	✓		0
7C	Are the TMVs required? See footnote.	✓		0
7D	Are the TMVs in full working order?	✓		1
7E	Are they set to between 38°C and 46°C?	✓		1
7F	Do the TMVs serve multiple taps?		✓	0
7G	Are the TMVs located as close to the outlet as possible?	✓		0
7H	Are any outlets being double mixed?		✓	0
TOTAL RISK SCORE				3
RISK CATEGORY				LOW

12. **OTHER RISK SYSTEMS**

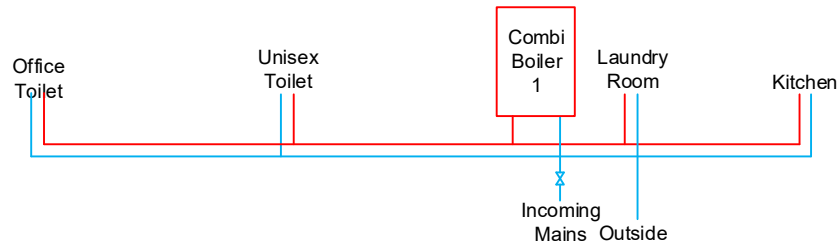
12.1 **MISCELLANEOUS EQUIPMENT**

REF.	MISCELLANEOUS EQUIPMENT INSPECTION REPORT	RISK SCORE
12.1A	Possible washing machines and dishwashers in the flats.	0
TOTAL RISK SCORE		0
RISK CATEGORY		LOW

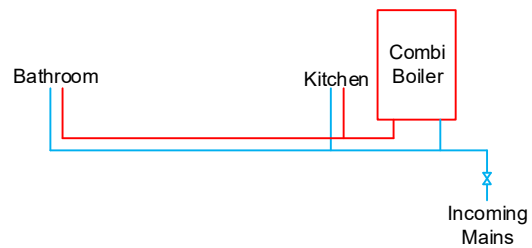
No action is required as long as kept in regular use and operated and maintained in accordance with the manufacturer's instructions.

13. SCHEMATIC DRAWING

Communal Water Facilities



Typical Flat (Flat 7)



 <p>Legionella Risk Assessment and Legionella Control Specialists</p>	
<p>Property: Arches Housing, Burns Court Date: 03.04.2017 Drawn by: M. Glossop</p>	
Mains cold water	—
Hot water flow	—
Isolation Valve	⊗

13. OUTLET REGISTER AND TEMPERATURE PROFILE

LOCATION	SINK	TMV	WHB	TMV	WC	URINAL	SHOWER/ POT SPRAY/ SPRAY TAP	TMV	BATH	BIB TAP	OTHERS	MAINS	TANK	HOT WATER SUPPLY	TEMPERATURE PROFILE °C		
															HOT	PRE TMV	COLD
Communal Water Facilities																	
Office Toilet			1		1							✓		Combi Boiler 1	59		12
Unisex Toilet			1	TT	1							✓		Combi Boiler 1	38	59	12
Laundry Room	1										1 Washing machine	✓		Combi Boiler 1	60		11
Outside										1		✓					11
Kitchen	1											✓		Combi Boiler 1	55		12
Typical Flat (Flat 7)																	
Kitchen	1											✓		Combi Boiler	50		13
Bathroom			1		1		1 Shower		1			✓		Combi Boiler	50		13

14. RECORD KEEPING

14.1 REVIEW OF THE EXISTING LOG BOOK AND MONITORING RECORDS

This section is a review of the current site log book. The following table indicates what records should be in place and whether the appropriate actions are being undertaken and recorded in accordance with the guidelines set out in ACOP L8 and parts 2 and 3 of the HSG274. **Records should be kept for 5 years.**

REF.	EXISTING LOG BOOK AND MONITORING INSPECTION REPORT				RISK SCORE
14.1A	Is there a log book in place?				2
	No				
Are the following actions being undertaken:		YES	NO	N/A	
14.1B	Weekly flushing and recording of little used outlets		To be instigated		2
14.1C	Monthly inspection and recording of the calorifier/water heater flow and return temperatures			✓	n/a
14.1D	Monthly inspection and recording of combination water heater temperature taken at an outlet			✓	n/a
14.1E	Monthly temperature inspection and recording of the hot water system nearest and furthest points (recorded pre TMV where applicable) (Communal areas only)		To be instigated		2
14.1F	Monthly temperature inspection and recording of the cold water tank nearest and furthest points on the system			✓	n/a
14.1G	Monthly temperature inspection and recording of the long branches on the tank cold water system			✓	n/a
14.1H	3 monthly dismantling, cleaning, descaling and disinfection of the showers (Communal areas only)			✓	n/a
14.1i	3 monthly cleaning, descaling and disinfection of the spray taps (Communal areas only)			✓	n/a
14.1J	3 monthly temperature inspection and recording of the hot water system subordinate loops			✓	n/a
14.1K	6 monthly inspection and recording of the POU water heater temperature taken at an outlet			✓	n/a
14.1L	6 monthly expansion vessel flushing and purging to drain			✓	n/a
14.1M	Annual expansion vessel bladder test			✓	n/a
14.1N	Annual tank inspection and recording of the water temperature			✓	n/a
14.1O	Annual calorifier/water heater internal inspection or drain water clarity test			✓	n/a
14.1P	Annual combination water heater header tank inspection			✓	n/a
14.1Q	Annual cleaning, descaling and disinfection of the filters and strainers associated with the TMVs/Thermotap TMVs		To be instigated		2
14.1R	Annual temperature inspection and recording of a representative number of hot and cold taps on a rotational basis (recorded pre TMV where applicable) (Communal areas only)		To be instigated		2
TOTAL RISK SCORE					10
RISK CATEGORY					HIGH

14. RECORD KEEPING

14.2 REVIEW OF THE EXISTING WRITTEN SCHEME

The risk from exposure will normally be controlled by measures which do not allow the proliferation of legionella bacteria in the system. Once the risk is identified and assessed, a written control scheme should be prepared, implemented and properly managed. The scheme should specify the various control measures and how to carry out those measures. The scheme should be specific and relate to the water services being operated on site.

The following table identifies which information has or has not been included in the current written scheme.

REF.	EXISTING WRITTEN SCHEME INSPECTION REPORT				RISK SCORE
14.2A	Is there a Written Scheme for controlling the risk from exposure to legionella bacteria?				2
	No				
Does the written scheme include the following sections:		YES	NO	N/A	
14.2B	An introduction into the system		✓		2
14.2C	Names and positions of those responsible for carrying out the tasks		✓		2
14.2D	Complete schematics, reviewed and updated annually		✓		2
14.2E	Cold water storage tanks			✓	n/a
14.2F	Calorifiers/water heaters			✓	n/a
14.2G	Point of use water heaters(POU's)			✓	n/a
14.2H	Non-Storage water heaters		✓		2
14.2 I	Hot and cold water systems		✓		2
14.2J	Thermostatic Mixing Valves (TMV's)		✓		2
14.2K	Temperature monitoring		✓		2
14.2L	Showers and Spray Taps		✓		2
14.2M	Expansion Vessels			✓	n/a
14.2N	Water softeners			✓	n/a
14.2O	Parts of site temporarily out of use			✓	n/a
14.2P	Water treatment			✓	n/a
14.2Q	Other risk systems			✓	n/a
14.2R	Escalation procedures for out of specification conditions		✓		2
14.2S	Details of record keeping		✓		2
TOTAL RISK SCORE					22
RISK CATEGORY					HIGH

15. **ASSESSMENT OF RISK AND RECOMMENDED ACTIONS**

REF.	DESCRIPTION	RISK SCORE AND CATEGORY	RECOMMENDED ACTIONS	DATE OF COMPLETION AND SIGNATURE
14.2	Review of the Existing Written Scheme	22 HIGH	<p>A written scheme of control for legionella should be created. It should be reviewed regularly, be kept up to date, and include the following information:</p> <p>An introduction to the system, the names and positions of those responsible in the control regime, complete schematic drawings, details of record keeping and escalation procedures for out of specification conditions.</p> <p>It should also include the maintenance, operating and control procedures for:</p> <p>Combi Boilers, Showers and Spray Taps, TMVs, Temperature Monitoring and Hot and Cold Water Systems.</p>	

15. **ASSESSMENT OF RISK AND RECOMMENDED ACTIONS** Continued.

REF.	DESCRIPTION	RISK SCORE AND CATEGORY	RECOMMENDED ACTIONS	DATE OF COMPLETION AND SIGNATURE
14.1	Review of the existing logbook and monitoring records	10 HIGH	<p>A Legionella control book should be created, be kept up to date and include the following records:</p> <p>Any outlets that aren't used at least weekly should be flushed for 2 minutes and recorded on a weekly basis. This includes the communal areas and any flats that become vacant.</p> <p>The temperature of the nearest and furthest hot water outlets (sentinels) to Combi Boiler 1 should be recorded on a monthly basis, to ensure the water heater is set to at least 50°C and hot water is delivered to the outlets at a minimum of 50°C, within 1 minute of running. The locations of these outlets can be found in section 5.3 E/F.</p> <p>The filters and strainers associated with the Thermostat TMV in the Unisex Toilet should be cleaned, descaled and disinfected annually.</p> <p>The temperature of all of the hot and cold water outlets in the communal areas should be recorded on an annual basis. This can be done on a rotational basis. Ensure the hot water is a minimum of 50°C within 1 minute of running and the cold water is a maximum of 20°C within 2 minutes of running.</p>	

15. **ASSESSMENT OF RISK AND RECOMMENDED ACTIONS** Continued.

REF.	DESCRIPTION	RISK SCORE AND CATEGORY	RECOMMENDED ACTIONS	DATE OF COMPLETION AND SIGNATURE
5.	Hot and cold water system design and construction	5 MEDIUM	The hot and cold pipe work should be fully insulated where possible.	
4.	Management responsibilities and training	4 LOW	<p>The roles and responsibilities of all staff and external contractors involved in the control regime should be clearly defined in writing.</p> <p>All staff involved in the control regime should have received appropriate legionella training within the last 2 years.</p>	
5.4	Combi Boilers (Private Flats)	4 LOW	<p>All of the Combi Boilers in the flats should be set to deliver hot water above 50°C within 1 minute of running. The tenants should be advised not to adjust the temperature control once it has been set.</p> <p>The tenants should be advised to use all of the water outlets at least weekly. If any of the outlets are not, they should be flushed for 2 minutes, once a week.</p> <p>If any flats become vacant, the outlets should be flushed for 2 minutes and recorded on a weekly basis.</p>	
6.	Showers and Spray Taps	4 LOW	<p>The tenants should be advised to regularly clean their shower heads and keep them free from scale.</p> <p>The tenants should be advised to use their showers at least weekly, or flush them for 2 minutes, once a week if not.</p>	

15. **ASSESSMENT OF RISK AND RECOMMENDED ACTIONS** Continued.

REF.	DESCRIPTION	RISK SCORE AND CATEGORY	RECOMMENDED ACTIONS	DATE OF COMPLETION AND SIGNATURE
5.3	Hot water system design	3 LOW	<p>No action required while the temperature remains above 50°C at the outlets.</p> <p>Monthly temperature monitoring should be undertaken to confirm this.</p> <p>The tenants should be advised to not adjust the temperature control of the Combi Boilers in their flats once they have been set above 50°C. Any faults should be reported immediately and rectified as soon as possible.</p>	
5.4	Combi Boiler 1 (Communal Areas)	3 LOW	<p>No action required while the temperature remains above 50°C.</p> <p>Monthly temperature monitoring should be undertaken to confirm this.</p>	
7.	Thermostatic Mixing Valves/Thermotaps (TMVs)	3 LOW	<p>No action required with the design or temperature setting. However, the filters and strainers associated with the Thermotap in the Unisex Toilet should be cleaned, descaled and disinfected annually.</p>	
5.1	Cold water system design	1 LOW	<p>No action required while the temperature of the cold water system remains below 20°C. Routine temperature monitoring in the Communal Areas should be undertaken to confirm this. If cold water temperatures begin to reach 20°C and above, additional flushing, sampling and possible disinfection of the system may be required.</p>	
12.1	Miscellaneous Equipment	0 LOW	<p>No action required as long as the equipment remains in regular use and is maintained in accordance with the manufacturer's instructions.</p>	

16. **INFORMATION FOR THE TENANTS**

The landlord should inform the tenant of the following:

All taps and showers should be in regular use. Any that are not used at least weekly should be flushed for 2 minutes, once a week.

All showers should be regularly cleaned and kept free from scale.

The temperature control of the Combi Boiler should not be adjusted once it has been set to a minimum of 50°C. If the tenant has a problem with low hot water temperatures at the outlets (below 50°C), or there is a fault with the Combi boiler, it should be reported immediately and rectified as soon as possible.

The cold water should be a maximum of 20°C. If the tenant is finding that the cold water is warm, it should be reported immediately.

Any faults found with the water system should be reported immediately to the landlord.

17. GLOSSARY

ACOP L-8	The control of Legionella bacteria in water system Approved Code of Practice
HSG 274	The Health and Safety Technical Guidance on the control of Legionella
BS8580:2010	British Standards Water Quality - Risk assessments for Legionella control - Code of practice
LRA	Legionella Risk Assessment
N/A	Not applicable
WH	Water Heater
POU	Point of use water heater
CWH	Combination water heater
IWH	Instant water heater
WHB	Wash Hand Basin
CO	Cold only
MO	Mixed only
HO	Hot only
WRAS	Water Regulations Advisory Scheme
EPDM	Ethylene Propylene Diene Monomer
GRP	Glass Re-enforced Plastic
MSG	Mild steel galvanized
DHWS	Domestic hot water services
DCWS	Domestic cold water services
BCWS	Boosted cold water services
TMV	Thermostatic mixing valve
TT	Thermotap TMV
AAV	Air Admittance Valve