CONTENTS

INTRODUCTION

Client Address	**Hampshire County Council** **PBRS** **Three Minsters House** **76 High Street** **Winchester** **Hampshire** **SO23 8UL**
Site Name	**Malmesbury Lawn OPH**
Site Address	**Woolston Road** **Leigh Park** **Havant** **Hampshire** **PO9 4JY**
Site contact	**Filip Baginski**
Site telephone number	**02392 244900**
Last risk assessment carried out by	**Jasun Envirocare PLC**
Date of risk assessment	**28th June 2011**
Date of previous review	**N/A**
Date of new review	**1st April 2014**
Review carried out by	**Mr Chris Wilson**

This Review has been carried out in accordance with ACoP L8 'The control of Legionella bacteria in water systems' (APPROVED CODE OF PRACTICE & GUIDANCE) and BS 8580 (RISK ASSESSMENTS FOR LEGIONELLA CONTROL-CODE OF PRACTICE).

REVIEW COMPLIANCE

The Review was commissioned in order to identify and assess the risk of Legionellosis from the water sources on the premises using the previous Risk Assessment. General and specific observations on the systems made during the course of the Survey are also recorded and the more general requirements of L8 are also commented on where applicable.

The specific observations made in this Review, together with the most recent Risk Assessment should be read in conjunction with the practices and procedures detailed in the recommendations section and also with ACoP L8.

The Assessment should be reviewed regularly (at least every two years) and whenever there is reason to suspect it is no longer valid. An indication of when to review the Assessment and what needs to be reviewed should be recorded.

This may result from example:

Changes to the water system or its use.
Changes to the use of the building in which the water system is installed.
The availability of new information about risks or control measures.
The results of checks indicating that control measures are no longer effective.
A case of Legionnaires disease/Legionellosis is associated with the system.

SITE REVIEW

This Review relates to observations made and information supplied from the existing Risk Assessment together with information supplied by others.

LOG BOOK

Is there a copy of the last Risk Assessment carried out on the domestic water system?	Yes	A copy of the Risk Assessment was seen filed within the Office.
Is there a domestic water systems logbook in place?	Yes	A water systems log book is in place and this was located within the Office.
Are the management structure duty holder, responsible person and deputies nominated in writing?	Yes	The Duty Holder and Responsible person have been nominated in writing but no Deputy Responsible Persons have been nominated.
Are contact details written in writing within the logbook documentation?	Yes	The contact details for the Duty Holder and Responsible person was seen written within the logbook documentation.

MONITORING

Is hot water temperature monitoring being carried out on a monthly basis and results recorded within the logbook documentation?	Yes	Monthly temperature monitoring of the domestic hot water system is being carried out and recorded in the relevant section of the logbook.
Is cold water temperature monitoring being carried out on a monthly basis and results recorded within the logbook documentation?	Yes	Monthly temperature monitoring of the domestic cold water system is being carried out and recorded in the relevant section of the logbook.
Are hot water calorifier flow temperatures being taken and results recorded within the logbook documentation?	Yes	Monthly temperature monitoring of the hot water calorifier storage temperatures are being carried out and recorded in the relevant section of the logbook.
Are hot water calorifier return temperatures being taken and results recorded within the logbook documentation?	Yes	Monthly temperature monitoring of the hot water calorifier return temperatures are being carried out and recorded in the relevant section of the logbook.
Are monitoring records recorded within the logbook documentation up to date?	Yes	Monitoring was up to date at the time of this Review.
Is weekly flushing of infrequently used outlets being carried out and recorded within the logbook documentation?	Yes	It should be ensured that all infrequently used outlets are flushed through at least on a weekly basis; record in logbook documentation when carried out.

COLD WATER STORAGE

Have cold water storage tanks where fitted been cleaned and disinfected annually?	N/A	There are no domestic cold water storage tanks on site.
Have storage tank cleaning and disinfection certification been filed within the logbook documentation?	N/A	There are no domestic cold water storage tanks on site.
Storage tank cleaning and disinfection was last carried out on?	N/A	There are no domestic cold water storage tanks on site.
Are water storage tanks being inspected on a six monthly basis and temperatures recorded within the logbook documentation when carried out?	N/A	There are no domestic cold water storage tanks on site.

SHOWERS

Are showerheads being cleaned and descaled on a quarterly basis or as required?	Yes	All showerheads and hoses are being inspected / cleaned and descaled at least quarterly or as required.
Is it being recorded within the logbook documentation when showerheads are cleaned and descaled?	Yes	Showerheads are being inspected /cleaned and descaled and documented within the logbook documentation when carried out.
Is showerhead cleaning and descaling up to date?	Yes	Showerhead inspection / cleaning and descaling was up to date at the time of this Review.

DRAWINGS

Are schematic drawings up to date with any changes made to the domestic water systems?	No	Schematic diagrams were not seen filed within the Risk Assessment or logbook.
Are schematic drawings suitable and show all relevant storage and system details?	No	Schematic diagrams are not filed within the Risk Assessment or logbook. Schematic drawings should be produced and filed within the logbook documentation.

TMV's

Are TMV's where fitted being serviced and maintained?	Yes	TMV's should be serviced and maintained as directed by the manufacturers.
Is documentation available to indicate when TMV's were last serviced / maintained?	No	TMV's should be serviced and maintained as directed by the manufacturers; and recorded within the logbook documentation when carried out. No records were seen within the logbook but records within the site maintenance folder stated that this was last carried out in March 2014.

SAMPLING

Has any Legionella or bacteriological water sampling been carried out on the domestic water systems?	No	Legionella water sampling should be carried out on the domestic water systems if the relevant water temperatures as recommended in the ACoP L8 and BS8580 are not constantly maintained. No records of sampling being carried out were seen within the logbook.
Have Legionella or bacteriological water sampling test results if taken been filed within the logbook documentation?	No	No records of sampling being carried out were seen within the logbook.

REMEDIAL WORKS

Has any remedial works identified within previous Risk Assessments / Reviews been carried out?	Yes	Remedial works highlighted within the Risk Assessment have been carried out in some areas.

ANCILLARY EQUIPMENT

Is there any ancillary equipment on site?	Yes	Water Softener Room - Duplex water softener Main Kitchen - Water softener for the dishwasher.
Is ancillary equipment being serviced and maintained to the manufacturer's recommendations?	Unknown	Boiler Room - Duplex water softener I was informed that it is unknown if this is disinfected , serviced and maintained in line with the manufacturers recommendations. Main Kitchen - Water softener for the dishwasher. I was informed that it is unknown if this is disinfected , serviced and maintained in line with the manufacturers recommendations.

HOT WATER STORAGE

Calorifier no. 1 (on the left side) and Calorifier no. 2 are combi boilers and were both manufactured by Hoval, they are TKOR 100-500 models and are supplied by the mains cold water supply via pressure reducers. The calorifiers have insulation under the factory fitted metal outer casings, are of a steel construction and are directly heated by gas.

The return pipework from the building returns to the two calorifiers via a circulation pump which at the time of the survey appeared to be working correctly.

ACoP L8 recommends that calorifiers be purged to drain to check the water quality on at least an annual basis and recorded within a water systems logbook when carried out. I was informed that it is not thought that this is being carried out.

ACoP L8 recommends that calorifiers are checked internally for scale and sludge on an annual basis. I was informed that it is not thought that this is being carried out.

There are temperature gauges on the calorifiers to show the storage temperatures and also on the hot flow and hot return pipes.

ACoP L8 recommends hot water storage to be a minimum of **60°C** at all times and the return to be maintained at a minimum of **50°C** at all times.

The temperature of the water at the time of the Survey was:-

Calorifier No. 1	Storage	64.0°C	Satisfactory
Calorifier No. 1	Return	46.9°C	Not Satisfactory
Calorifier No. 2	Storage	62.0°C	Satisfactory
Calorifier No. 2	Return	46.9°C	Not Satisfactory

COLD WATER STORAGE

There is no domestic cold water storage at Malmesbury Lawn- OPH. There is a water storage tank for the fire sprinkler system but as this a 'closed system' it does not pose a legionella risk in normal operation and is therefore not covered by this survey.

ADDITIONAL PHOTOGRAPHS

DL1 Boiler Room

There is a bib tap on the mains cold water pipe which is never used and has therefore been rendered a dead leg.

DL2 Boiler Room

There is dead leg at height on the mains cold water pipe.

DL3 Boiler Room

There is a dead leg on the hot flow pipe behind calorifier no. 2.

DL4 Boiler Room

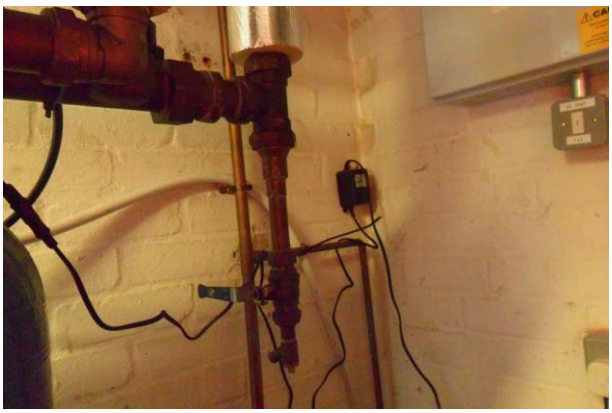
On the hot return pipe to the calorifier there is a vent pipe arrangement that consists of a large pipe. This should be replaced with a smaller conventional auto vent.

DL5 Boiler Room

The drain valves on both calorifiers are too long and creating dead legs and should be shortened back as far as possible.

DL6 Boiler Room

The drain on the water softener is too long and creating a dead leg and should be shortened back as far as possible.



DL7 Boiler Room

There is a water softener bypass pipe with a valve on it that is in the shut position and creating small dead legs either side of it.

DL8 Kitchen

There is a dead leg pipe at low level by the dishwasher.

Rear Garden

The water feature / pond is creating an aerosol.

SELECTED HOT & COLD WATER TEMPERATURES TAKEN AT REVIEW

Domestic water services should operate at temperatures that prevent the proliferation of Legionella.

ACoP L8 specifies that hot water should be stored at no less than 60°C and distributed at no less than 50°C, obtainable at user outlets within one minute of opening.

Cold water should be stored and distributed at no more than 20°C, obtainable at user outlets within two minutes of opening.

The temperature of mixed/ blended water from Thermostatic Mixing Valves should be no more than 43°C to prevent scalding and ideally no less than 39°C.

The following hot and cold water temperatures were taken at selected outlets as follows:-

Location	Hot °C	Cold °C	Mixed °C	Comments
Laundry Sink	56.3	10.8	N/A	Satisfactory
Room 23 Wash Basin	41.5	12.7	41.1	Not Satisfactory
Main Kitchen Sink	55.1	10.8	N/A	Satisfactory

HAMPSHIRE COUNTY COUNCIL

ACoP L8 DOCUMENTATION/LOGBOOK AND RISK ASSESSMENT / REVIEW AUDIT

SITE NAME:	Malmesbury Lawn OPH
LOCATION:	Woolston Road Leigh Park Havant Hampshire PO9 4JY
CONTACT ON SITE:	Filip Baginski
DATE OF AUDIT:	1-4-2014
NAME OF AUDITOR:	Mr Chris Wilson# Freeston Water Treatment Limited

ITEM	TASKS		COMMENTS
		YES / NO	
1.	Audit Date	1-4-2014	
2.	Site Management Audit signed	YES	
3.	Contact details complete and up to date	YES	
4.	Responsibility details complete and up to date	YES	No Deputy Responsible Person listed
5.	6 monthly water tank inspections up to date	N/A	There are no domestic cold water storage tanks on site.
6.	Training records present and up to date	NO	The site maintenance operative has not received any Legionella training.
7.	Contractor visits recorded	NO	
8.	Monthly boiler/calorifier temps checked	YES	
9.	Monthly temperature – taps checked	YES	
10.	Weekly all outlets flushed and recorded	YES	
11.	Weekly low use outlets flushed and recorded	YES	
12.	Weekly shower disinfection and clean and recorded	YES	
13.	Quarterly shower descale and recorded	YES	
14.	Monthly sentinel taps temps checked and recorded	YES	
15.	Six monthly temperature probe calibration	YES	Last carried out on 1-2-2014.

16.	Defects entry made when test off spec	NO	There is no records page within the logbook for this to be recorded.
17.	Appropriate corrective action undertaken for Item 16	NO	See above.
18.	Each task dated	YES	
19.	Each task signed for	YES	
20.	Laboratory TVC certificates up to date	NO	No records seen.
21.	Laboratory LP certificates up to date	NO	No records seen.
22.	Disinfection certificates up to date	NO	No cleaning and disinfection certificates were seen within the logbook.

ACoP L8 RISK ASSESSMENT / REVIEW AUDIT

Risk Assessment / Review Date		31-3-2014		
REF	**Risk Assessment Summary of Recommendations**	**COMPLETE? YES / NO**	**COMMENTS**	**PIC REF**
1	Produce a training plan for each operative with Legionella control tasks.	NO		
2	Label all main equipment, main valves and cisterns.	Partially	This has not been carried out in all areas.	
3	All infrequently used outlets to be flushed on a weekly basis.	YES		
4	Fit temperature gauges to the flow and return pipes of calorifiers	YES		
5	Initiate annual visual checks on internal surfaces of water heaters for scale and sludge.	NO		
6	Take a microbiological water sample from the base of calorifiers annually	N/A	This is not an ACoP L8 requirement.	
7	Clean and disinfect spray taps on a quarterly basis	YES		
8	All showers to be descaled and disinfected on a quarterly basis	YES		
9	All infrequently used outlets to be flushed on a weekly basis.	YES		
10	Remove all dead legs.	Partially	Some dead leg pipes have been removed. Some dead legs remain and are listed and photographed within the 2014 Review report.	

ACoP L8 AUDIT ADDITIONAL COMMENTS/FINDINGS/RECOMMENDATIONS

REF	COMMENTS	PIC REF
1	**Please refer to the RECOMMENDATIONS and also the SUMMARY sections within the main Review document below for all relevant further information and conclusions.**	

RECOMMENDATIONS

- Dead leg pipework are ideal areas for the proliferation of bacteria and should be removed or put on a weekly flushing regime (without creating an aerosol) and recorded. Dead legs were found in the following areas:-

  - DL1 - Boiler Room - There is a bib tap on the mains cold water pipe which is never used and has therefore been rendered a dead leg.
  - DL2 - Boiler Room - There is dead leg at height on the mains cold water pipe.
  - DL3 - Boiler Room - There is a dead leg on the hot flow pipe behind calorifier no. 2.
  - DL4 - Boiler Room - On the hot return pipe to the calorifier there is a vent pipe arrangement that consists of a large pipe. This should be replaced with a smaller conventional auto vent.
  - DL5 - Boiler Room - The drain valves on both calorifiers are too long and creating dead legs and should be shortened back as far as possible.
  - DL6 - Boiler Room - The drain on the water softener is too long and creating a dead leg and should be shortened back as far as possible.
  - DL7 - Boiler Room - There is a water softener bypass pipe with a valve on it that is in the shut position and creating small dead legs either side of it.
  - DL8 – Kitchen - There is a dead leg pipe at low level by the dishwasher.

- Purge the calorifiers to drain on at least an annual basis and record when carried out.

- If access allows, visually inspect the calorifiers internally for scale and sludge on an annual basis.

- Adjust the calorifiers to achieve a minimum return temperature of 50°C at all times and a minimum temperature of 50°C to the outlets / inlet pipe to TMV's.

- Monthly temperature monitoring of all the sentinel and a representative amounts of hot and cold outlets is being carried out and recorded. On non-sentinel outlets, where TMV's (Thermostatic Mixing Valves) are fitted, the temperature is only being taken from the blended water at the outlet. It should be ensured that it is taken from the hot pipe immediately before it enters the TMV.

- Ensure Deputy Responsible Persons are appointed and are competent and adequately trained.

- There is a water feature / pond in the garden that is creating an aerosol. I was informed that it is dosed with a biocide but the amount and intervals are sporadic. It should be ensured that the correct and safe biocide dosage for the total volume of water is used and at the correct intervals.

- It should be ensured that the two water softeners on site are disinfected, serviced and maintained in line with the manufacturer's recommendations and recorded within the logbook when carried out.

- I was informed that the maintenance operative on site has not had any Legionella training. I would recommend that **full** Legionella training be given to any staff involved with Legionella management.

- A Written Scheme should be prepared to ensure that all necessary controls are maintained, monitored and remain effective.

  BS8580 states – 'Note- the Risk Assessment does not involve the preparation of the written scheme but rather provides information that is critical to the preparation'.

  Regulations and guidance regarding the Written Scheme can be found in ACoP L8 Paragraphs 52-76.

SUMMARY

Since the 2011 Risk Assessment was carried out a new water systems logbook has been put in place for 2014 and is in use.

All routine Legionella management is carried out by one maintenance operative. The maintenance operative has not undertaken any Legionella training and I would recommend that **all** staff involved with Legionella management be fully trained in Legionella management as soon as is practicable.

I would recommend that a Deputy Responsible Person is appointed to carry out routine Legionella management during periods of annual leave and sickness. It must be ensured that all personnel who carry out legionella management are competent and adequately trained.

Some dead legs have been removed but others remain in place. Remedial work is part of an ongoing planned maintenance agreement between Freeston Water Treatment and Hampshire County Council.

Monthly temperature monitoring of the calorifiers, hot and cold outlets and sentinel outlets is being carried out and recorded. On non-sentinel outlets, where TMV's (Thermostatic Mixing Valves) are fitted, the temperature is only being taken from the blended water at the outlet. It should be ensured that it is taken from the hot pipe immediately before it enters the TMV.

Weekly flushing is being carried out and recorded on the infrequently used outlets but not on all the dead legs and this should commence as soon as is practicable.

Showerhead cleaning and descaling is being carried out quarterly or as necessary and recorded.

It is not thought that annual internal inspections of the calorifiers and purging of the drains is being carried out.

All Arjo / Malibu etc. type baths are being serviced and maintained in line with the manufacturer's recommendations e.g. seals and hoses changed, filters cleaned and disinfected etc. This is being recorded within a logbook.

The calorifiers should be adjusted to achieve a minimum return temperature of 50°C at all times and a minimum temperature of 50°C to the outlets / inlet pipe to TMV's.

A Written Scheme should be prepared to ensure that all necessary controls are maintained, monitored and remain effective.

BS8580 states – 'Note - The Risk Assessment does not involve the preparation of the written scheme but rather provides information that is critical to the preparation'.