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INTRODUCTION

Client Address	Hampshire County Council PBRs Three Minsters House 76 High Street Winchester Hampshire SO23 8UL
Site Name	Cranleigh Paddock Resource Centre OPH
Site Address	Calpe Avenue Lyndhurst Hampshire SO43 7AT
Site contact	Jenny Parsons
Site telephone number	02380 283602
Last risk assessment carried out by	Freeston Water Treatment Limited
Date of risk assessment	April 2011
Date of previous review	N/A
Date of new review	29th March 2012
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The Assessment should be reviewed regularly (at least every two years) and whenever there is reason to suspect it is no longer valid.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 original Risk Assessment was seen filed within the admin office.
Is there a domestic water systems logbook in place?	Yes	A water systems log book is in place and was being used at the time of this Review; this was located within the main 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 and hot water storage vessel flow temperatures being taken and results recorded within the logbook documentation?	Yes	Monthly temperature monitoring of the hot water calorifiers flow is 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 calorifiers return is 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 were 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?	Yes	Schematic diagrams are filed within the Risk Assessment. It is thought that no changes have been made to the systems.
Are schematic drawings suitable and show all relevant storage and system details?	Yes	Schematic diagrams were seen to show relevant storage areas and system details. Copies should be 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. I was informed that an outside contractor carried out servicing an adjustment on the TMV's on 26 th March 2012 but no records were found within the logbook.

SAMPLING

<p>Has any Legionella or bacteriological water sampling been carried out on the domestic water systems?</p>	<p>Yes</p>	<p>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.</p>
<p>Have Legionella or bacteriological water sampling test results if taken been filed within the logbook documentation?</p>	<p>Yes</p>	<p>Documentation within the logbook stated that Hampshire Scientific Service had taken water samples on 23rd March 2012 but no results had yet been received. Ensure all water sampling test results if taken are filed within the relevant section of the water systems logbook.</p>

REMEDIAL WORKS

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

<p>Is there any ancillary equipment on site?</p>	<p>Yes</p>	<p>Main Kitchen - water softener for the dishwasher.</p> <p>Boiler Room - water softener for the calorifiers.</p> <p>Boiler Room - inline filter on the softened water pipe.</p> <p>Boiler Room - chlorine dioxide dosing system.</p> <p>Sensory Room - bubble tube.</p>
<p>Is ancillary equipment being serviced and maintained to the manufacturer's recommendations?</p>	<p>Yes</p>	<p>Main Kitchen – water softener for the dishwasher.</p> <p>This may require servicing and disinfecting; this has not been carried out. I would recommend that the manufacturer is contacted for maintenance recommendations.</p> <p>Boiler Room - water softener for the calorifiers.</p> <p>This should be cleaned / disinfected, serviced and maintained in line with the manufacturer's recommendations. It is not thought that this is being carried out.</p> <p>Boiler Room - boiler room - inline filter on the softened water pipe.</p> <p>It is unknown if this has been cleaned / disinfected. I would recommend that the manufacturer is contacted for maintenance recommendations.</p>

		<p>Boiler Room - chlorine dioxide dosing system.</p> <p>Monthly chemical level checks and external visual checks of the equipment are being carried out by Freeston Water Treatment Limited and the documentation is sent to Hampshire County Councils Property, Business and Regulatory Services Dept.</p> <p>Sensory Room - bubble tubes</p> <p>It is unknown if this has been cleaned / disinfected and is dosed with a biocide. I would recommend that the manufacturer is contacted for maintenance recommendations.</p>
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HOT WATER STORAGE

Hot water storage at Cranleigh Paddock Resource Centre - OPH is by two calorifiers located within the Boiler Room. The calorifiers were manufactured by AO Smith BFM and are supplied by the mains cold water supply via a pressure reducer, a water softener and a chlorine dioxide dosing unit. The calorifiers have insulation under the factory fitted metal outer casings, are of a steel construction and are directly heated by gas.

There is a return system fitted to the calorifiers. There are two return pipes which each have a circulation pump. The two return pipes connect together into one pipe and then split into two pipes again to feed each calorifier. This means that there are two return pipes that need temperatures taken monthly but the returns to the calorifiers themselves are common and therefore the individual return temperatures are not pertaining to any individual calorifier. I have referred to them in this report as the 'top pump' and 'bottom pump' as they are sited on top of each other.

At the time of the survey both return circulation pumps were in service and appeared to be working correctly.

Each calorifier is fitted with an anti-stratification pump to circulate the water around the calorifier. At the time of the survey the pump on calorifier no. 1 (the furthest calorifier from the entrance) was not working and this should be rectified as soon as is practicable. The pump on calorifier no. 2 appeared to be working correctly.

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

ACoP L8 recommends that calorifiers are checked internally for scale and sludge on an annual basis. I was informed that Freeston Water Treatment descaled both calorifiers in Dec 2011.

There is a temperature gauge on each unit to show the storage temperature. There are sensors with 'K type' connectors fitted to the two return pumps to allow a digital thermometer to be plugged in to take monthly temperature readings.

ACoP L8 recommends hot water storage to be a minimum of **60°C** 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	68.0°C	Satisfactory
Calorifier No 2	Storage	66.0°C	Satisfactory
Top Return Pump		63.0°C	Satisfactory
Bottom Return Pump		62.0°C	Satisfactory

COLD WATER STORAGE

There is no domestic cold water storage at Cranleigh Paddock Resource Centre – OPH.

There is small feed and expansion water storage tank for the heating boilers. As this is a ‘closed system’ it does not pose a legionella risk in normal operation and is therefore not covered by this survey.

ADDITIONAL PHOTOGRAPHS

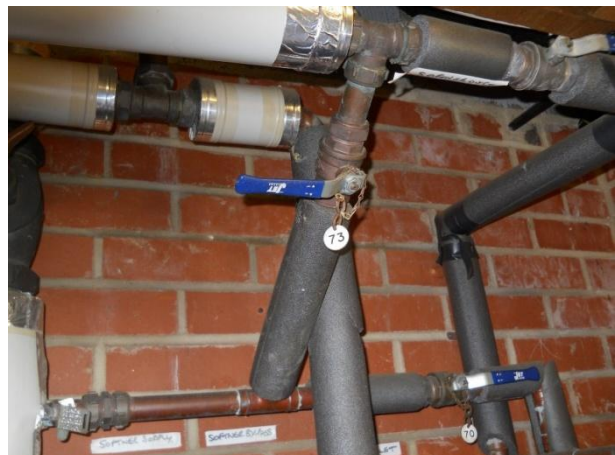
Boiler Room

Dead leg on the mains cold water riser. This has replaced the inoperable valve dead leg as a temporary measure (as the water could not be shut off for long) and requires weekly flushing.



Boiler Room

Dead leg on the water softener bypass pipe.



Boiler Room

Dead leg on the water filter bypass pipe.



Oakwood Wing

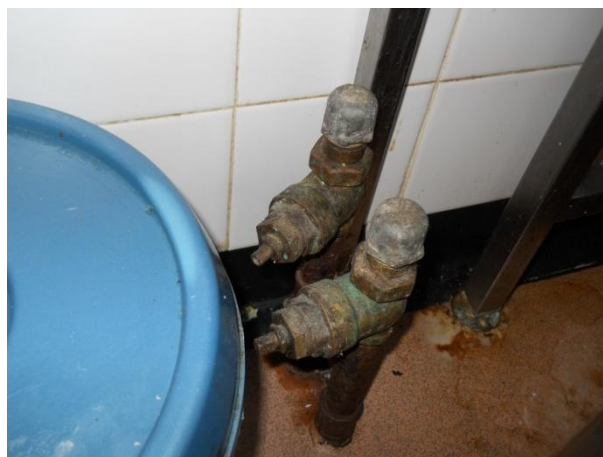
Toilet next to Room 57

Dead legs in ceiling.



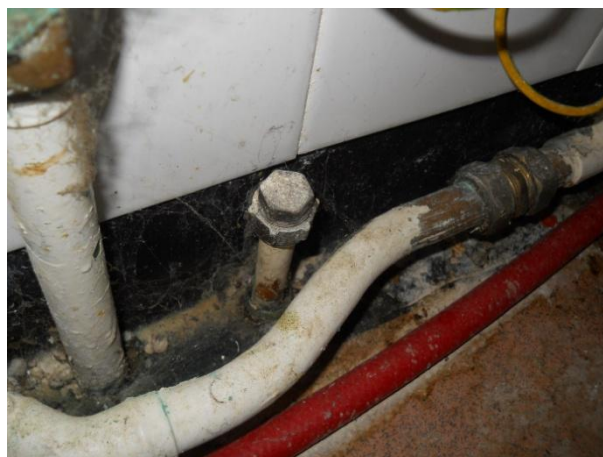
Main Kitchen

Dead legs behind the water softener.



Main Kitchen

Dead leg behind the sinks.



Laundry

Dead leg.



Medical Room

Dead legs in ceiling.



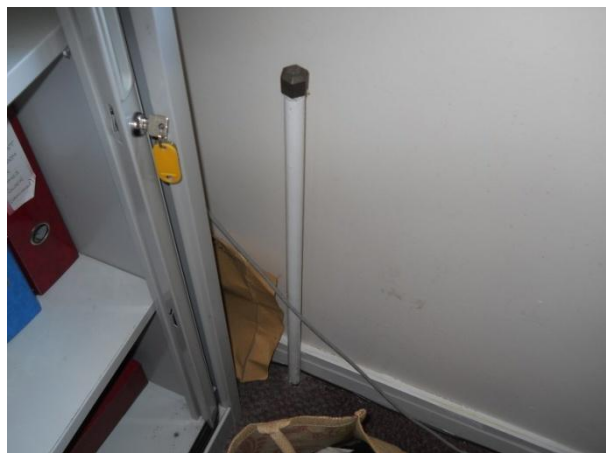
Medical Room

Dead leg in ceiling.



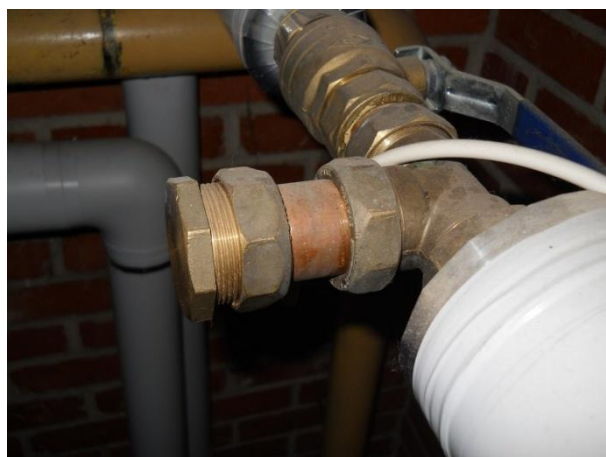
Receptionists Room

Dead leg



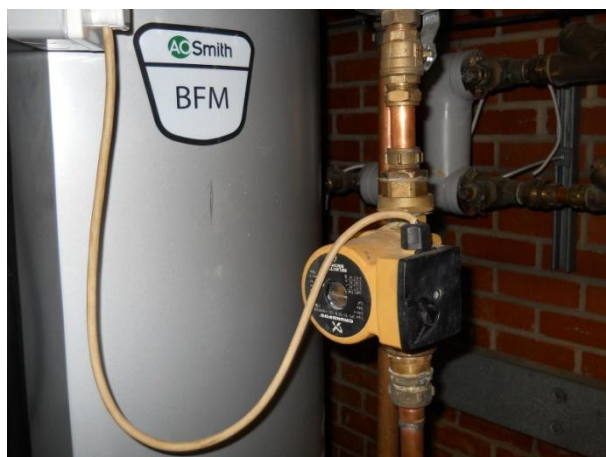
Boiler Room

Dead leg on the common return pipe.



Boiler Room

The faulty anti-stratification pump on calorifier no. 1.



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
Oakwood Wing Room 51 Hand Basin	59.0	14.1	42.7	Satisfactory
Cedarwood Wing Room 41 Hand Basin	60.2	13.8	40.9	Satisfactory
Birchwood Wing Room 30 Hand Basin	59.9	16.0	41.3	Satisfactory
Main Kitchen Sink	67.2	11.6	42.7	Satisfactory
Laundry Sink	65.4	11.6	45.6	Not Satisfactory

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:-
 - Boiler Room - There is a drain pipe on the mains cold water rising main. The pipe is too long and is therefore a dead leg. This has replaced the inoperable valve dead leg as a temporary measure (as the water could not be shut off for long) and requires weekly flushing.
 - Boiler Room - There is a valve on the mains cold water, water softener bypass pipe that is closed and this is creating a dead leg either side of it.
 - Boiler Room - There is a valve on the softened cold water, water filter bypass pipe that is closed and this is creating a dead leg either side of it.
 - Oakwood Wing toilet next to room 57 - There are two capped dead leg pipes protruding through the ceiling.
 - Main Kitchen - There are two dead legs behind the water softener.
 - Main Kitchen - There is a dead leg behind the sinks.
 - Laundry - There is a dead leg on the wall between the washing machines and the sinks.
 - Medical Room - There are two dead legs protruding through the ceiling on the left side of the room.
 - Medical Room- There is dead leg protruding through the ceiling on the right side of the room.
 - Receptionists Room - There is a dead leg from the floor.
 - Boiler Room - There is a dead leg on the common return pipe to the right side of calorifier no. 1.
- Purge the calorifier and hot water storage vessel to drain on at least an annual basis and record when carried out.

- ACoP L8 recommends that destratification / shunt pumps are operated automatically by a time clock and run for one hour every day before first use. I would recommend that this be carried out as it will become a dead leg if not used within a week.
- Repair or replace the faulty anti-stratification pump on calorifier no. 1.
- Commence monthly temperature monitoring of inlet pipe to the TMV's (not just the blended water outlet) and record in the water systems logbook.
- There is a water softener for the calorifiers within the Boiler Room. This should be cleaned / disinfected, serviced and maintained in line with the manufacturer's recommendations. It is not thought that this is being carried out.
- There is an inline filter on the softened cold water pipe in the Boiler Room. This should be cleaned / replaced in line with the manufacturer's recommendations. It is not thought that this is being carried out.
- The bubble tube in the Sensory Room should be dosed with an appropriate and safe biocide, cleaned and maintained in line with manufacturer's recommendations. I was informed that it is not known if this being carried out.
- Main Kitchen Water Softener may require servicing and disinfecting; this has not been carried out. I would recommend that the manufacturer is contacted for maintenance recommendations.
- I would recommend Bacteriological and Legionella water samples be taken if the temperatures fall out of the recommended limits.
- Ensure deputy responsible persons are appointed and are competent and adequately trained.
- Ensure the new maintenance operative on site is competent and adequately trained in Legionella management.

SUMMARY

Since the Risk Assessment was carried out a new water systems logbook has been put in place for 2012.

A new maintenance operative has been appointed since the Risk Assessment and I would recommend that he be adequately trained in Legionella management as soon as is practicable.

Some remedial works have been carried out by Freeston Water Treatment Limited since the last Risk Assessment and this is an ongoing planned maintenance agreement between Freeston and Hampshire County Council.

Completed remedial work carried at Cranleigh Paddock Resource Centre OPH includes some dead leg removal.

Legionella management including temperature monitoring of outlets and calorifiers; flushing of infrequently used outlets and showerhead and hose descaling is being carried out and recorded.

The hot outlet temperatures are only being taken from the outlets and not on the inlet pipework to the TMV's. I was informed that this will be carried out and recorded within the logbook in future.

Annual purging of the calorifiers is not being carried out but descaling is being carried out.