



**Legionella Risk Assessment Reviewer Guidance – Building Hot & Cold Water Systems**  
**Reference: HSE Control of Legionella Bacteria in Water Systems: Audit Checklists C200**

# **Highfield C of E Primary School**

## **Risk Assessment Review**

### **9<sup>th</sup> February 2017**



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<b>Property Name &amp; Description: Highfield C of E Primary School</b>			<b>Review Date: 9<sup>th</sup> February 2017</b>
<b>Responsible Person(s) Name &amp; SCC Appointment: Mr Allan King (Head) Mr Rob Dunbar (Site Manager)</b>			<b>Last Review: 27<sup>th</sup> January 2015</b>
<b>Compliance &amp; Control Measure Checks</b>	<b>Yes</b>	<b>No</b>	<b>Comments/Observations</b>
Have there been changes (or being proposed) to the use of the property in which the water systems are installed?		NO	
Have there been changes (or being proposed) to the water systems or their use?		NO	
Is there new information about potential risks or control measures?		NO	
Do the results of monitoring indicate that control measures are no longer effective?		NO	
Are the roles & responsibilities of all staff involved in control measures clearly defined in writing including responsible persons(s) & contractors?		NO	Responsible persons and deputies have been nominated in writing within section 2 of the logbook documentation but requires updating to correct personnel.
Have the persons nominated to carry out control measures including responsible person(s) received appropriate training?		NOT KNOWN	
Has there been a legionella bacteria incident associated with the water systems in the property?		NOT KNOWN	



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<b>Risk Assessment, Written Scheme &amp; Property/System Change Checks</b>			
<b>Risk Assessment</b>	<b>Yes</b>	<b>No</b>	<b>Comments/Observations</b>
Does the Risk Assessment identify foreseeable risks & include an up to date schematic of the water systems?		NO	Drawings have been updated at the time of this 2017 review. The original risk assessment was not seen within the logbook documentation at the time of this 2017 review.
Does the Risk Assessment include the measures & precautions to be taken to control foreseeable risks?		NO	The original risk assessment was not seen within the logbook documentation at the time of this 2017 review.
<b>Written Scheme</b>			
Are inspection & maintenance measures identified in the Risk Assessment being carried out?	YES		Temperature Monitoring is being carried and up to date as of January 2017.
Have remedial works identified in the Risk Assessment & subsequent reviews to minimise foreseeable risks been completed?	YES		
Are the records of water system temperature monitoring & flushing representative of control measures, & up-to-date?	YES		Temperature monitoring is up to date as of January 2017. No flushing is carried out as all outlets are used daily.
<b>Property &amp; System Changes</b>			
Have changes to property occupancy resulted in fewer occupants, intermittent occupation, or partial closure?		NO	School assumed at full capacity.
Have changes or modifications to the water systems resulted in low use outlets; dead legs; redundant service equipment or additional fittings e.g. TMV's?	YES		TMVs fitted. Deadleg pipe work.
Are there any other aspects of the water system including its design, operation & maintenance that have increased foreseeable risks?	YES		Church Lane first floor calorifier storage temperature should be monitored monthly and recorded in the logbook.



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<b>Risk Was (Circle)</b>	Insignificant	Low	Medium	High	Uncertain
<b>Risk Now (Circle)</b>	Insignificant	Low	Medium	High	Uncertain

<b>Remedial action to be taken</b>	<b>By Whom</b>	<b>By When</b>
<p>Ensure the Church Lane first floor calorifier when switched on stores hot water at 60.0c; record storage temperature in the logbook documentation on a monthly basis. High</p> <p>This was still switched off and no records seen for monitoring at the time of this 2017 review. High</p>		
<p>Ensure the main school water heaters maintain at least 50.0c in the hot water flow and return system; the return temperature should be monitored and recorded on a monthly basis in the logbook documentation. High</p> <p>The main school water heaters have now been replaced with two new water heaters and have good temperatures which are now recorded. Medium.</p>		
<p>Continue to flush shower weekly if not used; consider removal. Medium</p> <p>I was informed the shower is now used on a daily basis. Medium</p>		
<p>Continue to clean and disinfect showerhead on a quarterly basis or as required. Medium</p> <p>The showerhead is cleaned on a quarterly basis this was last carried out in January 2017. Medium</p>		
<p>Clean inline strainers fitted prior to TMVs on a regular basis. Medium</p> <p>No records seen to indicate this is carried out. Medium</p>		



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<b>Risk Now (Circle)</b>	Insignificant	Low	Medium	High	Uncertain

<b>Remedial action to be taken</b>	<b>By Whom</b>	<b>By When</b>
<p>Flush all infrequently used outlets weekly and record when carried out. Continue during shut down periods and school holidays. Medium</p> <p>Flushing is not carried out as I was informed all outlets are used daily. Medium</p>		
<p>Clean and disinfect Church Lane fortic calorifier cold water header tank on an annual basis if required. Medium</p> <p>No records seen to indicate this is carried out. Medium</p>		
<p>Maintain and service TMVs (blender valves) as per manufacturer's recommendations. Medium</p> <p>No records seen to indicate this is being carried out. Medium</p>		
<p>Audit logbook at least on an annual basis; consider archiving old log sheets which are filed in the logbook documentation. Medium</p> <p>The logbook appears to have not been audited since February 2013. Medium</p>		



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Compliance & Control Checks	Reviewer notes
Have responsible person(s) considered whether foreseeable risks could be eliminated?	Refer to Southampton City Council.
Have the responsible person(s) & deputies been nominated in writing?	Responsible person and deputies have been nominated in writing but this requires updating to correct personnel.
Are responsible person(s)/deputies contact details available in the event of an emergency?	No responsible person or deputies contact details were seen within the logbook documentation.
Are the roles & responsibilities of all Council staff, & contractors involved in control & compliance measures identified in writing?	No roles and responsibilities of council and contractors involved in control and compliance measures were seen in writing within the log book documentation.
Have they all received appropriate training?	No training records were seen for any staff or contractors. Refer to Southampton City Council
Has the competence of contractors been checked and appropriate documentation held on file?	Refer to Southampton City Council.
Have other Health & Safety issues been actioned e.g. COSHH/MHSWR assessments for treatment chemicals and flushing routines?	Refer to Contractors used by Southampton City Council.
Do responsible person(s) keep a log of water system defects and follow up on progress?	All system defects are phoned through to Southampton Property Services.
Do the responsible person(s) have a budget for remedial works and are they aware of the programme for completion?	Refer to Southampton City Council.



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<b>Risk Assessment, Written Scheme &amp; Property/System Change Checks</b>	<b>Reviewer notes</b>
Does the risk assessment include all water systems in the building(s) including e.g. fire hose reels, spray fountains, dehumidifiers etc?	The original risk assessment was not seen within the logbook documentation at the time of this 2017 review.
Does the water system schematic show and identify all equipment & outlets including water softeners, TMV's, pumps, principal valves, standby equipment, showers, washbasins, water supply origin & systems out of use etc?	Drawings have been updated at this 2017 review.
Does the Written Scheme contain the following: •System operating instructions? •Precautions to be taken when operating the system? •Details of the monitoring checks to be carried out on the system?	NO YES YES
Have changes to the system been recorded in the water system logbook?	No records seen for any changes made.
How are changes to the system managed & approved including approval by the responsible person(s)?	Refer to Southampton City Council.
How are remedial works co-ordinated, funded and approved including programme priorities?	Refer to Southampton City Council.



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System Design & Construction	Reviewer notes
Are the water systems designed in accordance with BS6700: 1997 & the Water Supply (Water Fittings) Regulations 1999 as amended by latest WRAS guidance?	Pipe work appeared to be copper.
Do any of the materials used in pipe systems & fittings support bacterial growth or corrosion?	None visible.
If TMV's are fitted are they sited within 2m of the outlet(s) served?	TMVs are fitted all appear to be within 2 meters of the outlets.
Cold Water System	
Have low use outlets been installed upstream of high use outlets?	Flushing should be carried out weekly on infrequently used outlets and during school holidays and shut down periods.
Has cold water storage volumes been assessed for turnover (ideally 12 hours) & stagnation risk?	N/A
Is cold & hot water pipe work kept separated and adequately insulated?	Good insulation on main pipe runs in the main school but little insulation seen on domestic pipe work in church lane school.
Are cold water tanks fitted with covers & insect screens, located in a cool well-insulated space, & safely accessible?	N/A
Are multiple CWST's configured in duty/stand-by mode and not operated in parallel?	N/A





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System Design & Construction	Reviewer notes
<b>Hot Water Systems</b>	
Is Calorifier storage capacity capable of maintaining a DHW distribution temperature of at least 50°C during maximum demand periods?	2 x Andrews gas fired water heaters appear capable of maintaining temperatures.  Church lane calorifier storage temperature should be monitored monthly and recorded.
Are multiple calorifiers connected in parallel?	Yes x 2 water heaters in main school boiler room
Is the calorifier(s) fitted with the following: <ul style="list-style-type: none"> <li>•Functioning drain valve?</li> <li>•Temperature gauges on the flow &amp; return?</li> <li>•An access panel?</li> <li>•A shunt pump and timer, timed to heat the calorifier to over 60°C for at least an hour a day?</li> <li>•Adequate primary &amp; secondary pipe work insulation?</li> </ul>	Water Heaters  Fitted on return pipe work No No Yes
Do electrically heated hot water heaters deliver water instantaneously at 50°C or above?	Refer to contractors temperature monitoring records.
Is there a risk of scalding e.g. in buildings used by infants (under 5 years) the disabled or the elderly?	Possible risk to young children.
Have 'Very Hot' water labels been fitted to outlets used by the public including school children?	No hot water warning labels are fitted.



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Operation & Maintenance	Reviewer notes
Are low use outlets flushed at least weekly and records kept in the Written Scheme logbook?	No flushing is being carried out as informed all outlets are used daily.
What are the procedures for bringing stand-by equipment into service?	N/A
If TMV's are fitted, are they being maintained on a 6 monthly basis and records kept in the system logbook?	No records seen for the servicing and maintenance of TMVs in either school buildings.
Are CWST's inspected at least annually to include a check that there is cross flow of water and records kept in the system logbook?	N/A.
Are calorifier drains checked on a monthly basis for operation and drained water conditions checked and records kept in the system logbook?	No record of church lane calorifier be purged to drain.
How is calorifier internal condition assessed and what is the periodicity of internal inspection?	Refer to Southampton City Council.
Have outlets that are no longer required been cut back to the nearest main pipe branch?	Deadleg seen on main cold water pipe run in mains school outside disabled toilet. Possible deadleg seen in cleaners cupboard at height in the lower school.
Are up-to-date O&M manuals for the water system plant held including system valve lists, and pre-start, running, and stopping check off lists?	No records seen.
Are showers & other outlets being cleaned at least quarterly and records kept in the system logbook?	Showerhead last cleaned and disinfected in January 2015 this is carried out on a quarterly basis and recorded.



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<b>Monitoring</b>	<b>Reviewer notes</b>
Do system users carry out daily temperature monitoring checks and place records in the system logbook?	No
Are the temperatures of sentinel hot & cold-water outlets checked on a monthly basis and records kept in the system logbook?	Yes sentinel outlets recorded in the logbook documentation for both school buildings.
Are the hot & cold-water temperatures from all other water system outlets checked on an annual basis and records kept in the system logbook?	Yes additional outlets are checked monthly.
Is the temperature of the hot water supply to TMV's checked on a monthly basis and records kept in the system logbook?	Yes records of temperature monitoring of the TMVs was seen within the logbook documentation.
Are calorifier flow & return temperatures checked on a monthly basis and records kept in the system logbook?	The flow and return is now being monitored and recorded for the main school water heaters. No temperature monitoring is being carried out on the calorifier in the lower school first floor toilet area.
Are calorifier temperatures checked at the base mid-level and top to check for primary heating efficiency and records kept in the system logbook?	No temperature monitoring is being carried out on the calorifier in the lower school first floor toilet area.
Are CWST inlet & outlet temperatures checked on a 6 monthly basis and records kept in the system logbook?	N/A