

# Feature 36: Water Treatment

## Part 4: Water Quality Maintenance

## Part 5: Legionella Control

WELL Building Standard™ (WELL)™  
WELL v1 with the Q1 2020

How to use this document:

This document is a guide for creating documentation for Part 4: Water Quality Maintenance and Part 5: Legionella Control Feature 36: Water Treatment. This document is meant to demonstrate an acceptable degree of detail for documentation submission. Ultimately, the level of detail provided by teams when creating documentation is up to their discretion.

- Part 4: An example operations schedule has been provided.
- Part 5: An example professional narrative has been provided in a letter format. This letter is one example of an acceptable format for a professional narrative. Note, the variable items are highlighted in yellow throughout the document.

The text is updated to the Q1 2020 version of the WELL Building Standard, which may vary from previous or future versions of WELL.

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## FEATURE 36: WATER TREATMENT

### PART 4: WATER QUALITY MAINTENANCE EXAMPLE OPERATIONS SCHEDULE

The below schedule addresses the requirements of Feature 36 Part 4 in the WELL Building Standard version 1.0. According to Manufacturer <<INSERT NAME>> the <<INSERT PRODUCT NAME>> filter should be replaced 4 times a year.

These records are kept for a minimum of 3 years and submitted annually to the International WELL Building Institute (IWBI).

Updated by: Jane S.

Date updated: 12/20/17

DATE	LOCATION	ACTION	RESPONSIBLE PARTY	EVIDENCE OF COMPLIANCE	DATE OF ANNUAL SUBMISSION TO IWBI
10-May-16	Pantry	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/16
10-May-16	Kitchen	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/16
10-Aug-16	Pantry	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/16
10-Aug-16	Kitchen	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/16
10-Nov-16	Pantry	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/16
10-Nov-16	Kitchen	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/16
10-Feb-17	Pantry	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/17
10-Feb-17	Kitchen	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/17
10-May-17	Pantry	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/17

10-May-17	Kitchen	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/17
10-Aug-17	Pantry	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/17
10-Aug-17	Kitchen	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/17
10-Nov-17	Pantry	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/17
10-Nov-17	Kitchen	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/17
10-Feb-18	Pantry	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/18
10-Feb-18	Kitchen	Sediment and carbon filters replaced	John Smith, Maintenance Co.	See attached image with date.	12/31/18

## PART 5: LEGIONELLA CONTROL EXAMPLE PROFESSIONAL NARRATIVE

**To:** GBCI WELL Assessor  
**From:** <<PROJECT TEAM MEMBER>>  
**Re:** <<PROJECT>>, WELL Building Certification for New and Existing Interiors  
Feature 36 Water Treatment, Part 5: Legionella Control Plan  
**Date:** September 1, 2017

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To Whom It May Concern:

<<EXPLANATION OF AUTHOR'S RESPONSIBILITY ON PROJECT>> I am writing to confirm that the project's water treatment plan adequately meets the requirements of the WELL Building Standard Feature 36, part 5.

Additionally, the Legionella Control Plan below was designed to fulfill all requirements of the WELL Building Standard for New and Existing Interiors Feature 36 part 5 and was instated on <<Date>>.

### Legionella Control Plan Narrative

Legionella Management Team <<INSERT PROJECT SPECIFIC INFORMATION>>:

The legionella management team is comprised of the following team members:

- Project Site Facilities Manager <<INSERT NAME>>: responsible for ensuring that all facets of the plan are implemented and maintains the water systems located within the project boundary.
- Cooling Tower Vendor <<INSERT NAME>>: employed by base building owner and is in charge of maintaining items in the plan that relate to the cooling tower and evaporative condenser related plan items.
- Base Building Owner <<INSERT NAME>>: maintains the contract with cooling tower vendor and is provided with updates from the project site facilities manager <<INSERT NAME>> and the base building facilities head engineer <<INSERT NAME>> on a quarterly basis.
- Base Building Facilities Head Engineer <<INSERT NAME>>: in charge of maintaining plan items including the humidifying systems and domestic hot water and cold water systems.

### Water System Inventory and Production of Process Flow Diagrams

The project includes the following water systems <<INSERT PROJECT SPECIFIC INFORMATION>>:

1. Cooling Tower – base building
2. Evaporative Condenser – base building
3. Humidifying System – base building
4. Domestic Hot and Cold Water Systems – base building

5. Showerheads in Bathrooms - <<SITE SPECIFIC INFORMATION>>
6. Water Sculpture Fountain – <<SITE SPECIFIC INFORMATION>>
7. Aerosol Generation from Art Installation - <<SITE SPECIFIC INFORMATION>>

Cooling tower vendor <<INSERT NAME>> is responsible for creating and maintaining the process flow diagrams for the cooling tower, evaporative condenser and water sculpture fountain. Base building facilities head engineer <<INSERT NAME>> is responsible for creating and maintaining the process flow diagrams for the humidifying system and domestic hot and cold-water systems. The facilities manager <<INSERT NAME>> is responsible for creating and maintaining the process flow diagrams for the showerheads in bathrooms and aerosol generation from art installations.

#### Hazards Analysis <<INSERT PROJECT SPECIFIC INFORMATION>>

As part of the integrated process, a sub-team (including cooling tower vendor <<INSERT NAME>>, base building facilities head engineer <<INSERT NAME>>, design team and WELL Consultant firm <<INSERT NAME>>) was assigned to perform a thorough Hazards Analysis in alignment with recommendations from ASHRAE 188-2015. As part of this analysis, the team considered “dry” system substitutions for each of the “wet” systems, looked at mitigation efforts, chemical treatment systems, mechanical methods of reducing aerosol production and operations protocols.

Of note, there were two hazards that the team determined could be mitigated:

1. Hazard 1: The east side and north sides of the building are served by the existing base building cooling tower and the south side is served by the existing evaporative condenser. Instead of introducing a second cooling tower or evaporative condenser for cooling of the project space on the west side of the building, the team decided to implement a “dry” cooling system. The MEP team confirmed that this methodology will work with the design.
2. Hazard 2: The team discovered that the art installation would have aerosol generation in a high traffic area, but had no chemical water treatment or regular maintenance. The team was able to contact the art dealer and specify requirements for both design and maintenance to ensure that the art installation complied with the legionella control plan.

#### Critical Control Points <<INSERT PROJECT SPECIFIC INFORMATION>>

The following critical control points have been identified:

1. Cooling Tower:
  - a. Check disinfectant levels. <<INSERT PROJECT DETAILS>>
  - b. Check temperature of water. <<INSERT PROJECT DETAILS>>
  - c. Visually inspect to ensure no build-up of debris and/or biofilm. <<INSERT PROJECT DETAILS>>
2. Evaporative Condenser
  - a. Check disinfectant levels. <<INSERT PROJECT DETAILS>>
  - b. Check temperature of water. <<INSERT PROJECT DETAILS>>
  - c. Visually inspect to ensure no build-up of debris and/or biofilm. <<INSERT PROJECT DETAILS>>
3. Humidifying System
  - a. Check disinfectant levels. <<INSERT PROJECT DETAILS>>
  - b. Check temperature of water. <<INSERT PROJECT DETAILS>>
  - c. Visually inspect to ensure no build-up of debris and/or biofilm. <<INSERT PROJECT DETAILS>>
4. Domestic Hot and Cold Water Systems
  - a. Check disinfectant levels of potable water provided by the municipality. <<INSERT PROJECT DETAILS>>
  - b. Check temperature at the water heater. <<INSERT PROJECT DETAILS>>

- c. Check temperature at cold water systems. <<INSERT PROJECT DETAILS>>
5. Showerheads in Bathrooms
  - a. Check disinfectant levels of potable water provided by the municipality. <<INSERT PROJECT DETAILS>>
  - b. Check temperature at the water heater. <<INSERT PROJECT DETAILS>>
  - c. Check temperature at the sinks / showers. <<INSERT PROJECT DETAILS>>
  - d. Visually inspect to ensure no build-up of debris and/or biofilm. <<INSERT PROJECT DETAILS>>
6. Water Sculpture Fountain
  - a. Check disinfectant levels. <<INSERT PROJECT DETAILS>>
  - b. Visually inspect to ensure no build-up of debris and/or biofilm. <<INSERT PROJECT DETAILS>>
7. Aerosol Generation from Art Installation
  - a. Check disinfectant levels. <<INSERT PROJECT DETAILS>>
  - b. Visually inspect to ensure no build-up of debris and/or biofilm. <<INSERT PROJECT DETAILS>>

#### Summary of Operations and Maintenance Monitoring and Verification Procedures <<INSERT PROJECT SPECIFIC INFORMATION>>

- Maintenance and Control Measures – Control measures are detailed in the section above. Cooling tower vendor <<INSERT NAME>>, project site facilities manager <<INSERT NAME>> and base building facilities head engineer <<INSERT NAME>> are responsible for setting up a regular maintenance schedule and ensuring that the schedule is followed on a regular basis.
- Monitoring – below is a summary of monitoring schedules. In addition to these regular schedules, when maintenance is being performed in or around these systems, their schedules change to daily monitoring (as opposed to weekly) to account for any unanticipated changes in water quality.
  - Cooling Tower –
    - Chemical and temperature levels are recorded by the base building facilities manager on a weekly basis.
    - Systems are inspected on a weekly basis for biofilms and cleaned as needed.
  - Evaporative Condenser –
    - Chemical and temperature levels are recorded by the base building facilities manager on a weekly basis.
    - Systems are inspected on a weekly basis for biofilms and cleaned as needed.
  - Humidifying System –
    - Chemical and temperature levels are recorded by the base building facilities manager on a weekly basis.
    - Systems are inspected on a weekly basis for biofilms and cleaned as needed.
  - Domestic Hot and Cold Water Systems –
    - Chemical levels are recorded by facilities manager on a weekly basis.
    - Temperatures are tracked continuously through the local BMS system.
    - Systems are inspected on a weekly basis for biofilms and cleaned as needed.
  - Showerheads in Bathrooms –
    - Chemical levels for all potable water in buildings are measured at a central location <<INSERT PROJECT DETAILS>> on a weekly basis.

- Temperature levels are tracked continuously through the local BMS system.
  - Water Sculpture Fountain –
    - Chemical levels for all potable water in buildings are measured at a central location <<INSERT NAME>> on a weekly basis.
    - Temperature levels are measured and tracked by the facilities team on a weekly basis.
    - The water feature is inspected on a weekly basis for debris and / or biofilm and cleaned if needed. The water feature is also cleaned on a monthly basis regardless of visual inspection results.
  - Aerosol Generation from Art Installation –
    - Chemical levels are recorded by facilities manager on a weekly basis. The art installation will have a chemical control system accessible by the facilities manager so that adjustments can be made if necessary.
    - The art installation is inspected on a weekly basis for debris and / or biofilm. If the installation is in need of cleaning, the facilities team contacts the art vendor and the art vendor sends their specialty cleaning team. The specialty cleaning team also cleans the art installation on a quarterly basis.
- Performance Limits:

Water System	Chemical Level Setpoints		Temperature Level Setpoints	
	Min	Max	Min	Max
Cooling Tower				
Evaporative Condenser				
Humidifying System				
Domestic Hot Water System				
Domestic Cold Water System				
Showerheads in Bathroom				
Water Sculpture Fountain				
Aerosol Generation from Art Installation				

- Corrective Actions – Corrective action begins with timely notification of appropriate personnel. If any of the set-points are not met during the continuous monitoring process, the facilities manager <<INSERT NAME>> will be notified immediately. The facilities manager will notify the correct parties required to adjust equipment settings. Adjustments will be made within 24 hours. Depending on the level of issue reported and corrected, the facilities manager may decide to also test for legionella bacteria.
- Documentation, Verification and Validation:
  - The facilities team keeps weekly logs per the monitoring requirements listed in this plan. They are entered into an online tracking tool on a quarterly basis. For items that are tracked through the local BMS, summaries are saved into the same online tracking tool also on a quarterly basis.
  - The local health department performs legionella tests on an annual basis.
  - Quarterly tracking logs are sent on an annual basis to the local health department for review. They are reviewed by an internal team in advance of submitting for review.



Sincerely,

<<SIGNATURE>>