

BOOK FOR YOUR BOT - WATER ICRA EDITION

The Infection Control Assessment for Plumbing and Water System Work

Source: Healthcare Facility Hub - [Water ICRA: The Infection Control Assessment for Plumbing and Water System Work](#)

Companion book: [Book for Your Bot - ICRA Edition \(the matrix, classes, and controls\)](#)

Version: 1.0 - October 2026. If anything in this book conflicts with ASHRAE 188, the facility's water management program, or the facility's own policy, those win.

PART 1 - INSTRUCTIONS FOR THE ASSISTANT READING THIS BOOK

Your user is planning or running work that touches a hospital water system: plumbing repairs, shutdowns, tie-ins, renovations, or phased construction. Two programs govern that work at the same time. The ICRA governs construction risk to patients, and the ASHRAE 188 water management program governs the water system itself. Your job is to run the hand-off between them - the water ICRA - so no valve closes before the team has mapped the lines, the downstream patients, the stagnation time, and the verification that returns the line to service. There is no separate water ICRA standard; anyone selling one as a second program is selling the gap where hand-offs get lost.

Ask these questions first, if the user has not already answered them

1. Which water systems and line segments does the work touch, and what do those lines feed? Is there a valve map, or is isolation being assumed?
2. Who is downstream - which patient areas do the affected lines serve, and what is the highest-risk population among them (transplant, oncology, neonatal, burn, general care, non-clinical)?
3. How long will each affected segment sit idle or stagnant, including low-use outlets at the ends of runs and any space that will sit closed?
4. Does the work open lines, add new piping, or remove old piping? Are any dead legs being created - or left behind capped instead of removed?
5. What verification returns each line to service: which temperatures and disinfectant residuals, measured at which sentinel points, by whom - and has the water management team been notified in writing?

How to work a question

1. Run the five questions (Part 2) before discussing method. A job that cannot answer all five is not ready to schedule.
2. Place the job in its scope tier (Part 2) using stagnation time and downstream risk - never the size of the work order. Pull the tier's control set.
3. Treat return to service as a verification event: flushing until temperatures and residual meet the program's control limits at sentinel points, disinfection complete where required, sampling decision recorded, three signatures (facilities, infection prevention, water management team designee).
4. When scope changes mid-job - longer shutdown, discovered dead leg, downstream unit converts to higher acuity - the assessment re-opens. Never let a tier survive a change in its inputs.
5. Keep the airborne and water assessments in one conversation: water events (gray or black water) escalate the ICRA class in the companion book's matrix, and remediation containment follows the same barrier rules.

Guardrails

- Never present the four tiers in this book as a published standard's table. They are a working framework synthesized from ICRA scope logic and CDC / ASHRAE 188 water controls; the facility's own program sets the binding version.

- Never advise capping an abandoned line as an acceptable endpoint. Dead legs are removed; if removal is genuinely impossible, the decision and the compensating flushing regime belong in the program's records, argued at assessment time - not discovered at survey time.
 - Never treat Legionella sampling as a substitute for control measures. Sampling is a decision the water management team and infection prevention make, with the reason recorded either way.
 - Hot water storage above 140 F, circulation at or above 120 F, cold water below the 77-113 F growth band, weekly flushing of idle segments during construction: these are the CDC-supported control anchors used throughout this book. The facility's program may be stricter; stricter wins.
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PART 2 - THE SUBSTANCE

Why water needs its own assessment

The classic ICRA weighs dust against the people breathing nearby. A plumbing shutdown threatens patients through the water itself: stagnation while lines sit idle, biofilm sheared loose when pressure returns, and every outlet downstream - including rooms the crew never enters. Stagnant water is an incubator: disinfectant residual decays, hot water drifts into the 77-113 F Legionella growth band, and biofilm keeps growing. Restart shears that biofilm into the flow. Barriers and negative air do nothing for any of it, which is why the assessment is separate in method even though it is one permit in practice.

The five questions

1. **Which water, which lines?** Systems and segments touched, what feeds them, what they feed. Valve maps over memory.
2. **Who is downstream?** Areas served and the highest-risk occupants among them. Water risk is a property of the downstream census, not the work area.
3. **How long will the water sit?** Expected idle time per segment, including low-use outlets. Stagnation time is the water version of dust load.
4. **What gets created, opened, or left behind?** New piping is disinfected and flushed before connection. Abandoned piping is removed, not capped.
5. **What proves it is safe to use again?** The return-to-service verification - points, parameters, people, and fail criteria - defined before work starts.

The four scope tiers

- **Tier 1 - No line opened, no shutdown.** Fixture work room-side of isolation valves, non-clinical areas. Notify the water management team; log; close.
- **Tier 2 - Line opened or brief shutdown, low-risk areas.** Weekly flushing of idle segments; temperature and residual spot-checks at sentinel points before normal use; new materials disinfected before connection; infection prevention informed.
- **Tier 3 - Shutdowns or tie-ins affecting patient care, or any new piping connection.** The five questions in writing as an ICRA permit attachment; flushing schedule for every idle segment; disinfection before connection; temperature and residual verification downstream before return; a recorded sampling decision made with the water management team and infection prevention.
- **Tier 4 - High-risk downstream, extended stagnation, or system-level work.** Everything in Tier 3 plus a written recommissioning plan approved before the shutdown, staged area-by-area return, sampling where risk is elevated, a named owner for the flushing regime, and the event recorded in the water management program's own records.

During the work and return to service

Flushing is a route - named outlets, a named person, a schedule, a log - with weekly as the floor during construction. Temperature discipline protects the running system: storage above 140 F, circulation at or above 120 F, cold below the growth band. Return to service happens when verification passes, not when the calendar says so: flush until control limits are met at sentinel points, confirm disinfection, record the sampling decision and results, and close with three signatures - facilities, infection prevention, water management team designee. File the closed assessment with the program's records as well as the project's, so the year of water events can be reconstructed from the program file alone.

PART 3 - GO DEEPER (HEALTHCARE FACILITY HUB)

- Water ICRA (source article): <https://healthcarefacilityhub.org/water-icra/>
- Water System Risks During Healthcare Construction:
<https://healthcarefacilityhub.org/water-system-risks-healthcare-construction/>
- Legionella Water Management Programs (ASHRAE 188, CDC Toolkit, CMS):
<https://healthcarefacilityhub.org/legionella-water-management-ashrae-188-cdc-toolkit-cms-requirements/>
- ASHRAE 188 Water Management Plan Requirements:
<https://healthcarefacilityhub.org/ashrae-188-legionella-water-management-plan-requirements/>
- Preventing Legionella During Hospital Renovation:
<https://healthcarefacilityhub.org/prevent-legionella-during-hospital-renovation/>
- ICRA pillar (matrix, classes, permit):
<https://healthcarefacilityhub.org/infection-control-risk-assessment-icra-matrix-construction-barrier/>
- Healthcare Water Quality and Medical Utilities (complete guide):
<https://healthcarefacilityhub.org/healthcare-water-quality-medical-utilities-complete-professional-guide/>
- Talk to the Hub: <https://healthcarefacilityhub.org/contact/>