Meeting Minutes: Plumbing Board

Date: March 17, 2026
Time: 9:30 a.m.
Minutes by: Lyndy Logan
Location: Minnesota Room, DLI, 443 Lafayette Rd. No., St. Paul, MN 55155

Members

1. Karl Abrahamson (Chair)
2. Sam Arnold – WebEx
3. Richard Becker
4. Kent Erickson (Vice Chair)
5. Adam Johnson
6. Jonathan Lemke (Secretary) – WebEx
7. Justin Parizek – WebEx
8. Bruce Pylkas – WebEx
9. Scott Stewart – WebEx
10. Rick Wahlen
11. Philip Wood – WebEx

Non-voting member

David Weum (MDH CO's Designee, Non-V)

Members Absent

- Shane Willis
- Mike Westemeier (DLI CO's Designee)

DLI Staff & Visitors

- Paul Enger (Board Counsel, DLI)
- Ken McGurran (Board Counsel, DLI)
- Sean Callanan (DLI)
- Lyndy Logan (DLI)
- Brad Jensen (DLI)
- Thomas Eisert (DLI) – WebEx
- Steve Neubel (DLI) – WebEx
- Anita Anderson (MDH) – WebEx
- Lewis Anderson (City of MPLS) – WebEx
- Jeremy Brown (NSF) – WebEx
- Andy Campeau (MN Pipetraders)
- Dan Engsberg (DSI Reps) – WebEx
- John Galt (MDH) – WebEx
- Eric Gander (Superior Mechanical) – WebEx
- Chris Hempel (City of IGH)
- Nancy Rice (MDH) – WebEx
- Cody Robinson (MPCA) – WebEx
- Scott Yarwood (City of MPLS) – WebEx

1. Call to Order, Chair

A. **Chair Karl Abrahamson ("Abrahamson")** called the meeting to order at 9:32 AM. Vice Chair Erickson took roll call, and a quorum was declared with 11 of 13 voting members present in person or via WebEx.

B. Announcements – Introductions (members and attendees) – Chair Abrahamson
   - Everyone present in person and remotely can hear all discussions.
   - All votes will be taken by roll call if any member attends remotely.
   - All handouts discussed and WebEx instructions are posted on the Board's website.
   - WebEx instructions/procedures can be found on the board's website at: https://www.dli.mn.gov/about-department/boards-and-councils/plumbing-board

2. Approval of meeting agenda

A motion was made by Wahlen**,** seconded by Becker, to approve the agenda as presented. The roll call vote passed unanimously with 11 votes in favor; the motion carried.

3. Approval of previous meeting minutes

A. A motion was made by Becker, seconded by Wahlen, to approve the Feb. 24, 2026, special Plumbing Board meeting minutes as presented. The vote passed unanimously with 11 votes in favor; the motion carried.

B. A motion was made by Pylkas, seconded by Becker, to approve the Feb. 18, 2026, special UPC Chapter 15 Rulemaking Committee meeting minutes as presented. The vote passed unanimously with 11 votes in favor; the motion carried.

4. Regular Business

Lyndy Logan will submit expense reports to DLI's Financial Services.

5. Special Business

A. RFI and RFA forms: Motion to approve formatting revisions for accessibility and readability

Lyndy will bring forward revised forms at the meeting on April 21, 2026.

B. RFA PB0227, Section 812.1 – Cody Robinson

- Cody Robinson, representing the SSTS Subsurface Treatment System Program, revisited a previously tabled proposal following a meeting with Bruce Pylkas. During the last meeting, there was a discussion about the appropriate location within the UPC for the proposed language. He reminded the group that the original proposal would allow an exception permitting multiple receptors for different types of discharges—specifically backwash and condensate—so that these discharges would not be required to enter the building drain. After reviewing the code with Bruce, Cody suggested that Section 304.1 might be the most suitable location for the exception. Sections 304.0 and 304.1 contain the general requirement that all liquid waste discharges be connected to the building's drainage system. While acknowledging that final placement should be determined by the Plumbing Board, Cody felt this section was a reasonable fit. Several updates were made to the proposed language:
  - The text was reformatted to clearly read as an exception.
  - The original reference to "clear water wastes," which has a specific definition, was replaced with "backwash and condensate producing equipment" for clarity and accuracy.
- Cody then summarized two additional proposed changes:
  - **Section 306.1 (Industrial Waste):** The proposal adds "subsurface sewage treatment system" to the existing language. Currently, detrimental industrial waste may be separated from the public sewer or treatment plant, but SSTS systems are not referenced. This addition would allow industrial facilities handling non-sewage waste streams to route those discharges outside their septic system when appropriate.
  - **Section 813.1 (Swimming Pools):** While reviewing formatting, Cody noted that the section discusses swimming pool drainage and backwash as indirect waste but does not clearly prohibit pool wastewater from being discharged to a septic system. Because such discharges are not allowed, he suggested adding a statement to ensure plumbers do not misinterpret the provision.

- Cody emphasized that the first proposal—regarding multiple receptors for backwash and condensate—is the primary item for discussion.
- Board members discussed the proposal developed by Cody Robinson and refined with input from Pylkas and Westemeier. The primary goal is to clarify plumbing code language regarding where backwash and condensate discharges from certain equipment may be directed, particularly for residential dwellings served by subsurface sewage treatment systems (SSTS).
- Placement in the Code: Options included creating a new section, placing it in 812, 303, 305, or 611.2. Robinson suggested 304.1 as an appropriate location. Several board members expressed concerns about placement, consistency, and ease of use.
- Purpose of the Exception: The intent is to allow an alternative to discharging these waste streams into SSTSs when appropriate and acceptable to the AHJ and MPCA. This would reduce misinterpretation by local officials who sometimes require these discharges to enter septic systems.
- SSTS Concerns: MPCA clarified that certain waste streams—especially iron filter discharge—are detrimental to septic systems, causing premature drain-field failure due to sediment loading. Other waste streams (e.g., condensate, softener brine) can create a chemical imbalance or additional hydraulic loading. Current SSTS rules (7080) do not explicitly address these discharges, but MPCA guidance advises against directing them into septic systems.
- Weather and Disposal Challenges: Concerns were raised about exterior disposal in winter and the potential cost impacts on homeowners if alternative disposal systems are required. Members noted inconsistent decisions among AHJs statewide.
- Potential Conflicts With Future Rulemaking: MPCA anticipates addressing these issues in future rulemaking. There is concern that overly prescriptive plumbing code language could conflict with future SSTS regulations.
- General Support but Need for Revision: Board members agreed on the value of providing an avenue in the plumbing code that allows for alternative disposal methods without being overly restrictive. However, the proposed language is considered too detailed, and several members prefer more general wording referencing AHJ and MPCA approval.
- Decision: The board agreed that the proposal needs more refinement and should be tabled for further work. Members support continuing development of language that provides flexibility, avoids conflicts with SSTS rules, and ensures statewide uniformity.
    - **A motion was made by Becker, seconded by Wahlen, to table RFA PB0227 and direct the submitter, Cody Robinson, to work with board members, Wahlen, Johnson, Pylkas, and Jensen (DLI) to prepare and submit a revised RFA by April 13, 2026. The vote passed unanimously with 10 votes in favor; the motion carried.** (Parizek was no longer present via WebEx)

C. 2024 UPC ad hoc Rulemaking Committee recommendations: (time constraints may limit discussion to a portion of these items)

- Review recommendations from the 2024 UPC Ad Hoc Rulemaking Committee, including:
    - **Appendix K**
        - **A motion was made by Becker, seconded by Erickson, not to adopt Appendix K of the 2024 UPC. The vote passed unanimously with 10 votes in favor; the motion carried**.

- **RFA PB0161**
  - **A motion was made by Becker, seconded by Erickson, to accept RFA PB0161 with revisions shown below. The vote passed unanimously with 11 votes in favor; the motion carried**. [Parizek re-joined via WebEx]
    - ✓ **Chapter 3, Section 309.7 Inactive Plumbing**:
      - **309.7.1 Removal of Waste Plumbing.** All plumbing piping located within the building, including waste, vent, and rain leader/roof drain piping to be disconnected, discontinued, or demolished, shall be removed back to the main or stack. The connection point shall be capped or plugged, meet the requirements for air and water tightness, and be of an approved material.
      - **309.7.2 Removal of Water Piping.** Water piping dead legs shall be removed and capped at the main within 4 times the diameter, but in no case longer than 24".
      - **Exception:** Underground sanitary and storm piping shall be removed back to the horizontal branch and capped below the floor. Water piping installed for future use and valved at the main.
    - ✓ **Chapter 2, add at the end of the definition of dead leg:** If the section of pipe is greater than 4 times the diameter of the pipe served with a maximum of 24-inches, it is considered a dead leg and would require a method of flushing.
- Revisit **PB0154, PB0158, PB0223, and PB0225** to evaluate past Final Interpretations and determine if code modifications are warranted
  - **PB0154:**
    - ✓ Question 1: **A motion was made by Becker, seconded by Pylkas, that additional or revised language is not necessary to address RFI PB0154. The vote passed unanimously with 11 votes in favor; the motion carried**.
    - ✓ Question 2: **A motion was made by Becker, seconded by Erickson, that additional or revised language is not necessary to address RFI PB0154. The vote passed unanimously with 11 votes in favor; the motion carried**.
  - **PB0158: A motion was made by Becker, seconded by Erickson, that additional or revised language is not necessary to address RFI PB0158. The vote passed unanimously with 11 votes in favor; the motion carried**.

The meeting was recessed from 11:50 a.m. to 1 p.m. Jonathan Lemke and Justin Parizek were no longer in attendance, resulting in 9 voting members.

  - **PB0223 and PB0225:** Tabled until the meeting on April 21, 2026
    - ✓ **A motion was made by Becker, seconded by Erickson, to table the items until the April 21, 2026, meeting. Becker will present revised language addressing RFI PB0223 and RFI PB0225, along with corresponding diagrams. The vote passed unanimously with 9 votes in favor; the motion carried**.
- **Chapter 15: A motion was made by Wahlen, seconded by Becker, to accept the Chapter 15 UPC Rulemaking Committee's recommendations as revised at the meeting – see Attachment A.**
  - **1501.1.1 Allowable Use of Alternate Water.** Where ~~approved or required~~ expressly approved by the Authority Having Jurisdiction, alternate water sources [reclaimed (recycled)

water, ~~gray water~~, and on-site treated nonpotable water] ~~shall be permitted to~~ may be used instead of potable water for the applications identified in this chapter. On-site treated nonpotable water for outdoor use is not allowed ~~for single family dwellings.~~ Alternate water sources shall not be stormwater. In jurisdictions that do not allow alternate water sources, potable water shall be required.

- **Chapter 2, definition of alternate water source:** Alternate Water Source. Nonpotable source of water that includes but not limited to ~~gray water,~~ on-site treated nonpotable water, rainwater, and reclaimed (recycled) water.
- **Appendix S (stormwater systems) –** The Committee agreed not to adopt Appendix S.

- Discuss rulemaking proceedings for the next version of the Minnesota Plumbing Code – **tabled until the meeting on April 21, 2026.**

- **A motion was made by Wahlen, seconded by Erickson, to amend the language of Section 1505.1 General as presented in Chapter 15 recommendations to match RFA 216 as submitted, see below language.**
  - **1505.1 General.** The provisions of this section shall apply to the installation, construction, alteration, and repair of reclaimed (recycled) water systems intended to supply uses ~~such as water closets, urinals, trap primers for floor drains and floor sinks, aboveground and subsurface irrigation, industrial or commercial cooling or air conditioning and other uses approved~~ as allowed by the Authority Having Jurisdiction and the reclaimed water purveyor.

6. Open Forum

At the Board's discretion, Open Forum comments related to past RFAs and recommendations of the 2024 UPC ad hoc Rulemaking Committee may be addressed during the Special Business portion of the meeting.

7. Announcements

Next regular quarterly meeting, 9:30 a.m., on the 3rd Tuesday of each quarter, at DLI / WebEx

- Regular: April 21, 2026
- Regular: July 21, 2026
- Regular: Oct. 26, 2026

8. Adjournment

A motion was made by Becker, seconded by Erickson, to adjourn the meeting at 2:26 p.m. The vote was unanimous, with 9 votes in favor of the motion; the motion passed.

Respectfully submitted,

Jonathan Lemke

Jonathan Lemke
Secretary

2024 ad hoc CHAPTER 15 Rulemaking Committee Recommendations

Revised 3/17/2026

ALTERNATE WATER SOURCES FOR NONPOTABLE APPLICATIONS

1501.1 Applicability. The provisions of this chapter shall apply to the construction, alteration, and repair of alternate water source systems for non-potable applications.

- **Keep as shown in the 2024 UPC**

RFA PB0211 Keep proposed language.

RFA PB0215 Proposed Change #1:

1501.1.1 Allowable Use of Alternate Water. Where ~~approved or required~~ expressly approved by the Authority Having Jurisdiction, alternate water sources [reclaimed (recycled) water, ~~gray water~~, and on-site treated nonpotable water] ~~shall be permitted to~~ may be used instead of potable water for the applications identified in this chapter. On-site treated nonpotable water for outdoor use is not allowed ~~for single family dwellings~~. Alternate water sources shall not be stormwater. In jurisdictions that do not allow alternate water sources, potable water shall be required.

Chapter 2, definition of alternate water source: Alternate Water Source. Nonpotable source of water that includes but not limited to ~~gray water,~~ on-site treated nonpotable water, rainwater, and reclaimed (recycled) water.

- **Committee agreed with the changes noted above.**

RFA PB0215 Proposed Change #2:

1501.2 System Design. Alternate water source systems shall be designed in accordance with this chapter by a licensed plumbing contractor or a registered design professional. ~~and a registered professional engineer.~~ An operation and maintenance ~~engineering~~ report that specifies necessary operating conditions and identifies surrogate parameters requiring continuous or periodic monitoring to demonstrate treatment effectiveness must be submitted along with the plumbing plans. The ~~engineering~~ report must show that required log reduction targets listed in Table 1501.7 are achieved by the treatment process(es). Components, piping, and fittings used in any alternate water source system shall be listed.

~~Exceptions:~~

~~1. A registered design professional is not required to design gray water systems having a maximum discharge capacity of 250 gallons per day (gal/d) (0.011 L/s) for single family and multi-family dwellings.~~

~~A registered design professional is not required to design an on-site treated nonpotable water system for single-family dwellings having a maximum discharge capacity of 250 gallons per day~~ (gal/d) (0.011 L/s).

- **RFA PB0213 withdrew 11.5.25.**
- **RFA PB0215 Change #2 committee agrees with changes noted. 11.5.25.**

RFA PB0215 Proposed Change #3:

1501.3 Operating Permit. It s~~hall be unlawful for a person to construct, install, alter or cause to be constructed, installed, or altered an alternate water source system in a building or on a premise without first obtaining a permit to do such work from the Authority Having Jurisdiction~~. The building owner must have an operating permit issued by the Authority Having Jurisdiction before operating an on-site treated nonpotable water system. The operating permit must include system-specific conditions authorizing and controlling the storage, treatment, distribution and permitted end uses of the treated nonpotable water in a manner that protects public health and the environment. The owner must notify the Authority Having Jurisdiction of any change in ownership.

- **RFA PB0215 Change #3 Accepted as presented.**

1501.4 Component Identification. System components shall be properly identified as to the manufacturer.

- **Keep As Shown in the 2024 UPC**

1501.5 Maintenance and Inspection. Alternate water source systems and components shall be inspected and maintained in accordance with Section 1501.5.1 through Section 1501.5.3.

- **Keep As Shown in the 2024 UPC**

RFA PB0215 Change #4:

1501.5.1 Frequency. Alternate water source systems and components shall be inspected and maintained in accordance with Table 1501.5 unless more frequent inspection and maintenance are required by the manufacturer. , designer, or the A~~u~~thority Having Jurisdiction.

- **RFA PB0215 Change #4 Accepted as presented.**

RFA PB0215 Change #5:

1501.5.2 Maintenance Log. A maintenance log for ~~gray water and~~ on-site treated non-potable water systems is required ~~to have a permit in accordance with Section 1501.3~~ and shall be maintained by the property owner and be available for inspection. The property owner or designated appointee shall ensure that a record of testing, inspection, and maintenance in accordance with Table 1501.5 and any requirements of the manufacturer, designer or the Authority Having Jurisdiction is maintained in the log. The log will indicate the frequency of inspection and maintenance for each system.

- **RFA PB0215 Change #5 Accepted as presented.**

RFA PB0215 Change #6:

Table 1501.5, MINIMUM ALTERNATE WATER SOURCE TESTING, INSPECTION, AND MAINTENANCE FREQUENCY

Discussion at meeting: After the Committee and MDH agreed on the changes shown below, Lemke rescinded RFA PB0212.

Proposed Change #6:

DESCRIPTION	MINIMUM FREQUENCY
Inspect and clean debris filters and screens, and replace (where necessary).	Every 3 months
Inspect and verify that disinfection, filters, and water quality treatment devices and systems are operational and maintaining minimum water quality requirements as determined by the Authority Having Jurisdiction.	In accordance with the manufacturer's Instructions, operations and maintenance manual, and the Authority Having Jurisdiction.
Inspect pumps and verify operation.	After initial installation and ~~every 12 months~~ daily thereafter
Inspect valves and verify operation.	After initial installation and every ~~12~~ 3 months thereafter
Inspect pressure tanks and verify operation.	After initial installation and every ~~12~~ 3 months thereafter
Clear debris from, clean and inspect storage tanks, locking devices, and verify operation.	After initial installation and every ~~12~~ 3 months thereafter
Inspect caution labels and marking.	After initial installation and every ~~12~~ 3 months thereafter
~~Inspect and maintain mulch basins for gray water irrigation systems.~~	~~As needed to maintain mulch depth and prevent ponding and runoff.~~
Cross connection inspection and test*	After initial installation and every 12 months thereafter**
Test water quality of Alternative water systems required by section 1501.7 to maintain a minimum water quality.**	Every 12 months. After system renovation or repair.

~~*The cross-connection test shall be performed in the presence of the Authority Having Jurisdiction~~ in ~~accordance with the requirements of this chapter.~~

***The cross-connection inspection and test shall be performed in accordance with this chapter by a plumber licensed under Minnesota Statutes, section 326B.46, and certified to ASSE Standard 5120.**

**** Testing may be required more frequently due to the manufacturer's instructions, operations, and maintenance manual, or the Authority having Jurisdiction**

- **The Committee agreed to accept Proposed Change #6 with the changes noted.**

1501.5.3 Maintenance Responsibility. The required maintenance and inspection of alternate water source systems shall be the responsibility of the property owner unless otherwise required by the Authority Having Jurisdiction.

- **Keep As Shown in the 2024 UPC**

RFA PB0215 Change #7:

1501.6 Operation and Maintenance Manual. An operation and maintenance manual for ~~gray water and~~ on-site treated water systems ~~required to have a permit in accordance with Section 1501.3~~ shall be supplied to the building owner by the system designer. The building owner must keep the manual on the premises in one or more locations specified in the O&M manual. The owners must review the manual annually and update it as appropriate and/or upon request by the Authority Having Jurisdiction. The operation and maintenance manual must include the following:

1) Detailed diagram of the entire system and the location of system components including: location of approved air gaps, other approved backflow prevention assemblies, flow meters, treatment components, sample ports, and diversion location(s); makeup water source and; public access restrictions in place to minimize human contact with treated nonpotable water.
2) Instructions for operating and maintaining the system including: treatment process operations, instruments and alarms, and any chemicals used; equipment and instrument product manufacturer literature that specifically addresses product installation, recommendations, and maintenance; and end use water management plan.
3) Details on maintaining the required water quality for on-site nonpotable systems including: a compliance monitoring plan including treatment system monitoring, pathogen reduction compliance, and water quality sampling; and provisions for monitoring and managing failure of treatment unit processes.
4) Details on deactivating the system for maintenance, repair, or other purposes.
5) Applicable testing, inspection, and maintenance frequencies in accordance with Table 1501.5 and any requirements of the manufacturer, designer or the Authority Having Jurisdiction.
6) A method of contacting the manufacturer(s)., key personnel, qualified operator(s), the installer and designer of the primary treatment system.
7) ~~For district-scale projects, a copy of the district-scale agreement. The agreement must be an executed, enforceable, legal agreement defining the roles and responsibilities of each property owner or entity in relation to the maintenance and use of the system.~~
8) **Renumber to item (7):** Any additional information or changes needed to protect public health and the environment that the Authority Having Jurisdiction or the commissioner of health may require.
    - The Committee agreed to accept Proposed Change #7 with the changes noted.

RFA PB0215 Change #8:

1501.7 Minimum Water Quality Requirements. ~~The minimum water quality for alternate water source systems shall~~ Reclaimed (recycled) water systems shall meet the applicable water quality requirements ~~for the intended application~~ as determined by the Minnesota Pollution Control Agency for the intended application. ~~Authority Having Jurisdiction~~. On-site treated nonpotable water systems must have a treatment process design that achieves the log reduction targets for pathogens and water quality limits listed in Table 1501.7. Treated nonpotable water must continuously achieve the log reduction targets and any inadequately treated nonpotable water not meeting log reduction targets or water quality limits in Table 1501.7 must divert to sanitary or storm sewer as appropriate for the source of inadequately treated water. ~~In the absence of water quality requirements, for on-site treated nonpotable systems, the water quality requirements of IAPMO IGC 324 or NSF/ANSI 350 shall apply.~~

~~**Exception:** Water treatment is not required for gray water used for subsurface irrigation.~~

TABLE 1501.7 PATHOGEN LOG$_{10}$ REDUCTION TARGETS (LRT) AND WATER QUALITY LIMITS FOR ON-SITE TREATED NONPOTABLE WATER SYSTEMS

PATHOGEN LOG$_{10}$ REDUCTION TARGETS (LRT) FOR INDOOR USE[1]			
Source Water	Virus	Protozoa	Bacteria
Untreated Onsite Wastewater[2]	10.0	6.5	5.5
Gray Water[2]	7.5	4.0	3.5
~~Stormwater (.1% Wastewater)[2]~~	~~6.0~~	~~4.0~~	~~3.5~~
Foundation Drainage[3]	5.0	3.0	2.5
AC Condensate[4]	N/A	N/A	3.5
~~PATHOGEN LOG$_{10}$ REDUCTION TARGETS (LRT) FOR OUTDOOR USE[5]~~			
~~Source Water[2]~~	~~Virus~~	~~Protozoa~~	~~Bacteria~~
~~Untreated Onsite Wastewater[2]~~	~~8.5~~	~~6.5~~	~~5.5~~
~~Gray Water[2]~~	~~6.5~~	~~4.0~~	~~3.0~~
~~Stormwater (.1% Wastewater)[2]~~	~~5.5~~	~~3.0~~	~~2.5~~
~~Foundation Drainage[3]~~	~~4.5~~	~~2.0~~	~~1.5~~
~~AC Condensate[4]~~	~~0.0~~	~~0.0~~	~~3.5~~
WATER QUALITY LIMITS			
	Parameter	Limit	
All	pH	6.0 – 9.0	
~~PATHOGEN LOG$_{10}$ REDUCTION TARGETS (LRT) FOR INDOOR USE[1]~~			
Gray Water and On-site Wastewater	5-day Biological Oxygen Demand (BOD_5)	30 mg/L	

[1] Indoor use includes toilet flushing, clothes washing, decorative fountains, trap primers for floor drains and floor sinks, and fire suppression.

[2] U.S. Environmental Protection Agency. 2025. Risk-Based Framework for Developing Microbial Treatment Targets for Water Reuse. U.S. Environmental Protection Agency, Office of Research and Development, EPA/600/R-25/009, p. 39.

[3] The LRTs for foundation drainage are based on the assumption that foundation drainage will be of similar quality to stormwater containing a small amount of wastewater (.01% dilution).

[4] The LRTs for AC Condensate are assumed to be the same as for rainwater.

[5] ~~Outdoor use includes unrestricted spray irrigation of ornamental or non-food plants, vehicle washing, dust suppression, and fire suppression.~~

- **The Committee agreed to accept Proposed Change #8 with the changes noted.**

1501.8 Material Compatibility. Alternate water source systems shall be constructed of materials that are compatible with the type of pipe and fitting materials, water treatment, and water conditions in the system and listed within the plumbing code.

- **Keep As Shown in the 2024 UPC as amended.**

1501.9 Commercial, Industrial, and Institutional Restroom Signs. A sign shall be installed in restrooms in commercial, industrial, and institutional occupancies using reclaimed (recycled) water and on-site treated water, for water closets, urinals, or both. Each sign shall contain 1⁄2 of an inch (12.7 mm) letters of a highly visible color on a contrasting background. The location of the sign(s) shall be such that the sign(s) are visible to users. The location of the sign(s) shall be approved by the Authority Having Jurisdiction and shall contain the following text: TO CONSERVE WATER, THIS BUILDING USES *_____* TO FLUSH TOILETS AND URINALS.

- **Keep as shown in the 2024 UPC.**

1501.9.1 Equipment Room Signs. Each room containing reclaimed (recycled) water and on-site treated water equipment shall have a sign posted in a location that is visible to anyone working on or near non-potable water equipment with the following wording in 1 inch (25.4 mm) letters: CAUTION: NONPOTABLE *_____*, DO NOT DRINK. DO NOT CONNECT TO DRINKING WATER SYSTEM. NOTICE: CONTACT BUILDING MANAGEMENT BEFORE PERFORMING ANY WORK ON THIS WATER SYSTEM. *_____*Shall indicate RECLAIMED (RECYCLED) WATER or ON-SITE TREATED WATER, accordingly.

- **Keep as shown in the 2024 UPC.**

1501.10 System Controls. Controls for pumps, valves, and other devices that contain mercury that come in contact with alternate water source water supply shall not be permitted.

- **Keep as shown in the 2024 UPC.**

RFA PB0215 Change #9:

1501.11 Operator Qualifications and Duties. The alternate water system owner must directly employ or maintain a service contract with a qualified operator who will be in charge of the daily and ongoing operations and maintenance of the alternate water source system.

- **The committee agreed to accept Proposed Change #9 as presented.**

1502.0 Inspection and Testing.

1502.1 General. Alternate water source systems shall be inspected and tested in accordance with Section 1502.2 through Section 1502.3.4. The installation of alternate water source systems shall only be permitted when a periodic testing and inspection program conducted by qualified personnel will be provided by an agency acceptable to the Authority Having Jurisdiction. All alternate water source systems shall be registered with and inspection reports submitted to the Authority Having Jurisdiction.

- **RFA210 Approved as presented.**

1502.2 Supply System Inspection and Test. Alternate water source systems shall be inspected and tested in accordance with this code for testing of potable water piping.

- **Keep as shown in the 2024 UPC.**

RFA PB0215 Change #10:

1502.3 Annual Cross-Connection and Water Quality Inspection and Testing. An initial and subsequent annual inspection and test shall be performed on both the potable and alternate water source systems. The potable and alternate water source system shall be isolated from each other and independently inspected and tested to ensure there is no cross-connection in accordance with Section 1502.3.1 through Section 1502.3.4. An initial and subsequent annual inspection and test shall be performed to determine compliance with the log reduction targets for pathogens and applicable water quality limits in accordance with Section 1502.3.5.

- **The Committee agreed to accept Proposed Change #10 as revised**

1502.3.1 Visual System Inspection. Before commencing the cross-connection testing, a dual system inspection shall be conducted by the Authority Having Jurisdiction and other authorities having jurisdiction as follows: (1) Meter locations of the alternate water source and potable water lines shall be checked to verify that no modifications were made and that no cross-connections are visible. (2) Pumps and equipment, equipment room signs and exposed piping in equipment room shall be checked. (3) Valves shall be checked to ensure that the valve lock seals are still in place and intact. Valve control door signs shall be checked to verify that no signs have been removed.

- **Keep as shown in the 2024 UPC.**

1502.3.2 Cross-Connection Test. The procedure for determining cross-connection shall be followed by the ~~applicant~~ plumbing contractor in the presence of the Authority Having Jurisdiction and other authorities having jurisdiction to determine whether a cross-connection has occurred as follows: (1) The potable water system shall be activated and pressurized. The alternate water source system shall be shut down, depressurized, and

drained. (2) The potable water system shall remain pressurized for a minimum period specified by the Authority Having Jurisdiction while the alternate water source system is empty. The minimum period the alternate water source system is to remain depressurized shall be determined on a case-by-case basis, taking into account the size and complexity of the potable and the alternate water source distribution systems, but in no case shall that period be less than 1 hour. (3) The drain on the alternate water source system shall be checked for flow during the test and fixtures, potable and alternate water source, shall be tested and inspected for flow. Flow from an alternate water source system outlet indicates a cross-connection. No flow from a potable water outlet shall indicate that it is connected to the alternate water source system. (4) The potable water system shall then be depressurized and drained. (5) The alternate water source system shall then be activated and pressurized. (6) The alternate water source system shall remain pressurized for a minimum period specified by the Authority Having Jurisdiction while the potable water system is empty. The minimum period the potable water system is to remain depressurized shall be determined on a case-by-case basis, but in no case shall that period be less than 1 hour. (7) Fixtures, potable, and alternate water source shall be tested and inspected for flow. Flow from a potable water system outlet indicates a cross-connection. No flow from an alternate water source outlet will indicate that it is connected to the potable water system. (8) The drain on the potable water system shall be checked for flow during the test and at the end of the test. (9) Where there is no flow detected in the fixtures which would indicate a cross-connection, the potable water system shall be repressurized.

- **Keep as shown in the 2024 UPC as amended.**

1502.3.3 Discovery of Cross-Connection. If a cross-connection is discovered, the following procedure, in the presence of the Authority Having Jurisdiction, shall be activated immediately: (1) The alternate water source piping to the building shall be shut down at the meter, and the alternate water source riser shall be drained. (2) Potable water piping to the building shall be shut down at the meter. (3) The cross-connection shall be uncovered and disconnected. (4) The building shall be retested in accordance with Section 1502.3.1 and Section 1502.3.2. (5) The potable water system shall be chlorinated with 50 parts-per-million (ppm) chlorine for 24 hours. (6) The potable water system shall be flushed after 24 hours, and a standard bacteriological test shall be performed. Where test results are acceptable, the potable water system shall be permitted to be recharged.

- **Keep as shown in the 2024 UPC.**

1502.3.4 Annual Inspection. An annual inspection of the alternate water source system, following the procedures listed in Section 1502.3.1 shall be required. Annual cross-connection testing, following the procedures listed in Section 1502.3.2 shall be required by the Authority Having Jurisdiction, unless site conditions do not require it. In no event shall the test occur less than once in 4 years. Alternate testing requirements shall be permitted by the Authority Having Jurisdiction.

- **Keep as shown in the 2024 UPC.**

RFA PB0215 Change #10:

1502.3.5 Water Quality Inspection. A property served by on-site treated nonpotable water is subject to inspection by the Authority Having Jurisdiction and**/or** the commissioner of health. An inspection to verify compliance with the log reduction targets for pathogens and applicable water quality limits must be conducted a minimum of annually by the Authority Having Jurisdiction or the commissioner of health.

- **The Committee agreed to accept Proposed Change #10.**

1502.4 Separation Requirements. Underground alternate water source service piping other than gray water shall be separated from the building sewer in accordance with this code. Pipes carrying treated non-potable water shall be permitted to be run or laid in the same trench as potable water pipes with a 12 inch (305 mm) minimum vertical and horizontal separation where both pipe materials are approved for use within a building. Where horizontal piping materials do not comply with this requirement, the minimum separation shall be increased to 60 inches (1524 mm). The potable water piping shall be installed at an elevation above the treated non-potable water piping.

- **Keep as shown in the 2024 UPC.**

RFA PB0215 Change #11:

1502.5 Abandonment. Alternate water source systems that are no longer in use or fail to be maintained in accordance with Section 1501.5 shall be abandoned. Abandonment shall comply with Section 1502.5.1 and Section 1502.5.2. Written notice of the abandonment must be made to the Authority Having Jurisdiction.

- **The Committee agreed to accept Proposed Change #11.**

1502.5.1 General. An abandoned system or part thereof covered under the scope of this chapter shall be disconnected from remaining systems, drained, plugged, and capped in an approved manner.

- **Tabled until PB Board discusses RFA161 9.9.25.**

1502.5.2 Underground Tank. An underground water storage tank that has been abandoned or otherwise discontinued from use in a system covered under the scope of this chapter shall be completely drained and filled with earth, sand, gravel, concrete, or other approved material or removed in a manner satisfactory to the Authority Having Jurisdiction.

- **Keep as shown in the 2024 UPC.**

1502.6 Sizing. Unless otherwise provided for in this chapter, alternate water source piping shall be sized in accordance with Chapter 6 for sizing potable water piping.

- **Keep as shown in the 2024 UPC.**

~~1503.0 Gray Water Systems.~~

~~1503.1 General. The provisions of this section shall apply to the construction, alteration, and repair of gray water systems.~~

~~1503.2 System Requirements. Gray water shall be permitted to be diverted away from a sewer or private sewage disposal system, and discharge to a subsurface irrigation or subsoil irrigation system. The gray water shall be permitted to discharge to a mulch basin for single-family and multi-family dwellings. Gray water shall not be used to irrigate root crops or food crops intended for human consumption that comes in contact with soil.~~

~~1503.2.1 Surge Capacity. Gray water systems shall be designed to have the capacity to accommodate peak flow~~

~~rates and distribute the total amount of estimated gray water on a daily basis to a subsurface irrigation field, subsoil irrigation field, or mulch basin without surfacing, ponding, or runoff. A surge tank is required for systems that are unable to accommodate peak flow rates and distribute the total amount of gray water by gravity drainage. The water discharge for gray water systems shall be determined in accordance with Section 1503.8.1 or Section 1503.8.2.~~

~~1503.2.2 Diversion. The gray water system shall connect to the sanitary drainage system downstream of fixture traps and vent connections through a gray water diverter valve. The gray water diverter valve shall comply with IAPMO PS 59 and be installed in an accessible location and clearly indicate the direction of flow.~~

~~1503.2.3 Backwater Valves. Gray water drains subject to backflow shall be provided with a backwater valve so located as to be accessible for inspection and maintenance.~~

~~1503.3 Connections to Potable and Reclaimed (Recycled) Water Systems. Gray water systems shall have no direct connection to a potable water supply, on-site treated nonpotable water supply, or reclaimed (recycled) water systems. Potable, on-site treated nonpotable, or reclaimed (recycled) water is permitted to be used as makeup water for a non-pressurized storage tank provided the connection is protected by an air gap in accordance with this code.~~

~~1503.4 Location. No gray water system or part thereof shall be located on a lot other than the lot that is the site of the building or structure that discharges the gray water, nor shall a gray water system or part thereof be located at a point having less than the minimum distances indicated in Table 1503.4.~~

~~TABLE 1503.4 LOCATION OF GRAY WATER SYSTEM7~~

~~1503.5 Plot Plan Submission. No permit for a gray water system shall be issued until a plot plan with data satisfactory to the Authority Having Jurisdiction has been submitted and approved~~

~~1503.6 Prohibited Location. Where there is insufficient lot area or inappropriate soil conditions for adequate absorption to prevent the ponding, surfacing, or runoff of the gray water, as determined by the Authority Having Jurisdiction, no gray water system shall be permitted. A gray water system is not permitted on a property in a geologically sensitive area as determined by the Authority Having Jurisdiction.~~

~~1503.7 Drawings and Specifications. The Authority Having Jurisdiction shall require the following information to be included with or in the plot plan before a permit is issued for a gray water system, or at a time during the construction thereof: (1) Plot plan drawn to scale and completely dimensioned, showing lot lines and structures, direction and approximate slope of surface, location of present or proposed retaining walls, drainage channels, water supply lines, wells, paved areas and structures on the plot, number of bedrooms and plumbing fixtures in each structure, location of private sewage disposal system and expansion area or building sewer connecting to the public sewer, and location of the proposed gray water system. (2) Details of construction necessary to ensure compliance with the requirements of this chapter, together with a full description of the complete installation, including installation methods, construction, and materials in accordance with the Authority Having Jurisdiction. (3) Details for holding tanks shall include dimensions, structural calculations, bracings, and such other pertinent data as required. (4) A log of soil formations and groundwater level as determined by test holes dug in proximity to proposed irrigation area, together with a statement of water absorption characteristics of the soil at the proposed site as determined by approved percolation tests. Exception: The Authority Having~~

~~Jurisdiction shall permit the use of Table 1504.2 instead of percolation tests. (5) Distance between the plot and surface waters such as lakes, ponds, rivers or streams, and the slope of the plot and the surface water, wherein close proximity.~~

~~1503.8 Procedure for Estimating Gray Water Discharge. Gray water systems shall be designed to distribute the total amount of estimated gray water on a daily basis. The water discharge for gray water systems shall be determined in accordance with Section 1503.8.1 or Section 1503.8.2.~~

~~1503.8.1 Single Family Dwellings and Multi-Family Dwellings. The gray water discharge for single family and multi-family dwellings shall be calculated by water use records, calculations of local daily per person interior water use, or the following procedure:~~

~~1503.8.2 Commercial, Industrial, and Institutional Occupancies. The gray water discharge for commercial, industrial, and institutional occupancies shall be calculated by utilizing the procedure in Section 1503.8.1, water use records or other documentation to estimate gray water discharge.~~

~~1503.9 Gray Water System Components. Gray water system components shall comply with Section 1503.9.1 through Section 1503.9.7.~~

~~1503.9.1 Surge Tanks. Where installed, surge tanks shall be in accordance with the following: (1) Surge tanks shall be constructed of solid, durable materials not subject to excessive corrosion or decay and shall be watertight. Surge tanks constructed of steel shall be approved by the Authority Having Jurisdiction, provided such tanks are in accordance with approved applicable standards. (2) Each surge tank shall be vented in accordance with this code. The vent size shall be determined based on the total gray water fixture units as outlined in this code. (3) Each surge tank shall have an access opening with lockable gasketed covers or approved equivalent to allow for inspection and cleaning. (4) Each surge tank shall have its rated capacity permanently marked on the unit. Also, a sign stating GRAY WATER, DANGER — UNSAFE WATER shall be permanently marked on the holding tank. (5) Each surge tank shall have an overflow drain. The overflow drains shall have permanent connections to the building drain or building sewer, upstream of septic tanks. The overflow drain shall not be equipped with a shutoff valve. (6) The overflow drainpipes shall not be less in size than the inlet pipe. Unions or equally effective fittings shall be provided for piping connected to the surge tank. (7) Surge tank shall be structurally designed to withstand anticipated earth or other loads. Surge tank covers shall be capable of supporting an earth load of not less than 300 pounds per square foot (lb/ft2) (1465 kg/m2) where the tank is designed for underground installation.~~

~~(8) Where a surge tank is installed underground, the system shall be designed so that the tank overflow will gravity drain to the existing sewer line or septic tank. The tank shall be protected against sewer line backflow by a backwater valve installed in accordance with this code. (9) Surge tanks shall be installed on dry, level, well-compacted soil where underground or on a level 3 inch (76 mm) thick concrete slab where aboveground. (10) Surge tanks shall be anchored to prevent against overturning where installed aboveground. Underground tanks shall be ballasted, anchored, or otherwise secured, to prevent the tank from floating out of the ground where empty. The combined weight of the tank and hold down system shall meet or exceed the buoyancy forces of the tank.~~

~~1503.9.2 Gray Water Pipe and Fitting Materials. Aboveground and underground building drainage and vent pipe and fittings for gray water systems shall comply with the requirements for aboveground and underground~~

~~sanitary building drainage and vent pipe and fittings in this code. These materials shall extend not less than 2 feet (610 mm) outside the building.~~

~~1503.9.3 Subsoil Irrigation Field Materials. Subsoil irrigation field piping shall be constructed of perforated high-density polyethylene pipe, perforated ABS pipe, perforated PVC pipe, or other approved materials, provided that sufficient openings are available for distribution of the gray water into the trench area. Material, construction, and perforation of the pipe shall be in accordance with the appropriate absorption field drainage piping standards and shall be approved by the Authority Having Jurisdiction.~~

~~1503.9.4 Subsurface Irrigation Field and Mulch Basin Supply Line Materials. Materials for gray water piping outside the building shall be polyethylene or PVC. Drip feeder lines shall be PVC or polyethylene tubing.~~

~~1503.9.5 Valves. Valves shall be accessible.~~

~~1503.9.6 Trap. Gray water piping discharging into the surge tank or having a direct connection to the sanitary drain or sewer piping shall be downstream of an approved water seal type trap(s). Where no such trap(s) exists, an approved vented running trap shall be installed upstream of the connection to protect the building from possible waste or sewer gases.~~

~~1503.9.7 Backwater Valve. A backwater valve shall be installed on gray water drain connections to the sanitary drain or sewer.~~

- **All of 1503 Deleted and refer to Minnesota Rule 7080. MPCA governs this.**

~~1504.0 Subsurface Irrigation System Zones.~~

~~1504.1 General. Irrigation or disposal fields shall be permitted to have one or more valved zones. Each zone shall be of a size to receive the gray water anticipated in that zone.~~

~~1504.2 Required Area of Subsurface Irrigation Fields, Subsoil Irrigation Fields, and Mulch Basins. The minimum effective irrigation area of subsurface irrigation fields, subsoil irrigation fields, and mulch basins shall be determined by Table 1504.2 for the type of soil found in the excavation, based upon a calculation of estimated gray water discharge under Section 1503.8. For a subsoil irrigation field, the area shall be equal to the aggregate length of the perforated pipe sections within the valved zone multiplied by the width of the proposed subsoil irrigation field.~~

~~1504.3 Determination of Maximum Absorption Capacity. The irrigation field and mulch basin size shall be based on the maximum absorption capacity of the soil and determined using Table 1504.2. For soils not listed in Table 1504.2, the maximum absorption capacity for the proposed site shall be determined by percolation tests or another method acceptable to the Authority Having Jurisdiction. A gray water system shall not be permitted, where the percolation test shows the absorption capacity of the soil is unable to accommodate the maximum discharge of the proposed gray water irrigation system.~~

~~1504.4 Groundwater Level. No excavation for an irrigation field, disposal field, or mulch basin shall extend within 3 feet (914 mm) vertical of the highest known seasonal groundwater level, nor to a depth where gray water contaminates the groundwater or surface water. The applicant shall supply evidence of groundwater depth to the satisfaction of the Authority Having Jurisdiction.~~

~~TABLE 1504.2 DESIGN OF SIX TYPICAL SOILS~~

~~1504.5 Subsurface and Subsoil Irrigation Field Design and Construction. Subsurface and subsoil irrigation field design and construction shall be in accordance with Section 1504.5.1 through Section 1504.7.3. Where a gray water irrigation system design is predicated on soil tests, the subsurface or subsoil irrigation field or mulch basin shall be installed at the same location and depth as the tested area.~~

~~1504.5.1 Subsurface Irrigation Field. A subsurface irrigation field shall comply with Section 1504.5.2 through Section 1504.5.7.~~

~~1504.5.2 Minimum Depth. Supply piping, including drip feeders, shall be not less than 2 inches (51 mm) below finished grade and covered with mulch or soil.~~

~~1504.5.3 Filter. Not less than 140 mesh (105 microns) filter with a capacity of 25 gallons per minute (gpm) (1.58 L/s), or equivalent shall be installed. Where a filter backwash is installed, the backwash and flush discharge shall discharge into the building sewer or private sewage disposal system. Filter backwash and flush water shall not be used.~~

~~1504.5.4 Emitter Size. Emitters shall be installed in accordance with the manufacturer's installation instructions. Emitters shall have a flow path of not less than 1200 microns (μ) (1200 μm) and shall not have a coefficient of manufacturing variation (Cv) exceeding 7 percent. Irrigation system design shall be such that emitter flow variation shall not exceed 10 percent.~~

~~1504.5.5 Number of Emitters. The minimum number of emitters and the maximum discharge of each emitter in an irrigation field shall be in accordance with Table 1504.5.5.~~

~~1504.5.6 Controls. The system design shall provide user controls, such as valves, switches, timers, and other controllers, to rotate the distribution of gray water between irrigation zones.~~

~~1504.5.7 Maximum Pressure. Where pressure at the discharge side of the pump exceeds 20 pounds-force per square inch (psi) (138 kPa), a pressure-reducing valve able to maintain downstream pressure not exceeding 20 psi (138 kPa) shall be installed downstream from the pump and before an emission device.~~

~~TABLE 1504.5.5 SUBSURFACE IRRIGATION DESIGN CRITERIA FOR SIX TYPICAL SOILS~~

~~1504.6 Mulch Basin Design and Construction. A mulch basin shall comply with Section 1504.6.1 through Section 1504.6.4.~~

~~1504.6.1 Single Family and Multi-Family Dwellings. The gray water discharge to a mulch basin is limited to single family and multi-family dwellings.~~

~~1504.6.2 Size. Mulch basins shall be of sufficient size to accommodate peak flow rates and distribute the total amount of estimated gray water on a daily basis without surfacing, ponding or runoff. Mulch basins shall have a depth of not less than 10 inches (254 mm) below finished grade. The mulch basin size shall be based on the maximum absorption capacity of the soil and determined using Table 1504.2.~~

~~1504.6.3 Minimum Depth. Gray water supply piping, including drip feeders, shall be not less than 2 inches (51 mm) below finished grade and covered with mulch.~~

~~1504.6.4 Maintenance. The mulch basin shall be maintained periodically to retain the required depth and area, and to replenish the required mulch cover.~~

~~1504.7 Subsoil Irrigation Field. Subsoil irrigation fields shall comply with Section 1504.7.1 through Section 1504.7.3.~~

~~1504.7.1 Minimum Pipe Size. Subsoil irrigation field distribution piping shall be not less than 3 inches (80 mm) diameter.~~

~~1504.7.2 Filter Material and Backfill. Filter material, clean stone, gravel, slag, or similar material acceptable to the Authority Having Jurisdiction, varying in size from 3⁄4 of an inch (19.1 mm) to 21⁄2 inches (64 mm) shall be placed in the trench to the depth and grade in accordance with Table 1504.7.3. The perforated section of subsoil irrigation field distribution piping shall be laid on the filter material in an approved manner. The perforated section shall then be covered with filter material to the minimum depth in accordance with Table 1504.7.3. The filter material shall then be covered with porous material to prevent the closure of voids with earth backfill. No earth backfill shall be placed over the filter material cover until after inspection and acceptance.~~

~~1504.7.3 Subsoil Irrigation Field Construction. Subsoil irrigation fields shall be constructed in accordance with Table 1504.7.3. Where necessary on sloping ground to prevent excessive line slopes, irrigation lines shall be stepped. The lines between each horizontal leaching section shall be made with approved watertight joints and installed on the natural or unfilled ground.~~

~~TABLE 1504.7.3 SUBSOIL IRRIGATION FIELD CONSTRUCTION~~

~~1504.8 Gray Water System Color and Marking Information. Pressurized gray water distribution systems shall be identified as containing nonpotable water in accordance with Section 601.3 of this code.~~

~~1504.9 Other Collection and Distribution Systems. Other collection and distribution systems shall be approved by the local Authority Having Jurisdiction, as allowed by Section 301.3 of this code.~~

~~1504.9.1 Higher Requirements. Nothing contained in this chapter shall be construed to prevent the Authority Having Jurisdiction from requiring compliance with higher requirements than those contained herein, where such higher requirements are essential to maintaining a safe and sanitary condition.~~

~~1504.10 Testing. Building drains and vents for gray water systems shall be tested in accordance with this code. Surge tanks shall be filled with water to the overflow line prior to and during the inspection. Seams and joints shall be left exposed, and the tank shall remain watertight. A flow test shall be performed through the system to the point of gray water discharge. Lines and components shall be watertight up to the point of the irrigation perforated and drip lines.~~

~~1504.11 Maintenance. Gray water systems and components shall be maintained in accordance with Table 1501.5.~~

- **1504 deleted in its entirety.**

1505.0 Reclaimed (Recycled) Water Systems.

1505.1 General. The provisions of this section shall apply to the installation, construction, alteration, and repair of reclaimed (recycled) water systems intended to supply uses ~~such as water closets, urinals, trap primers for floor drains and floor sinks, aboveground and subsurface irrigation, industrial or commercial cooling or air conditioning and other uses approved~~ as allowed by the Authority Having Jurisdiction and the reclaimed water purveyor.

- **Keep as presented in RFA PB0216. (**RFA PB0217).

1505.2 Permit. It shall be unlawful for a person to construct, install, alter, or cause to be constructed, installed, or altered a reclaimed (recycled) water system within a building or on premises without first obtaining a permit to do such work from the Authority Having Jurisdiction.

- **RFA0218**

1505.2.1 Plumbing Plan Submission. No permit for a reclaimed (recycled) water system shall be issued until complete plumbing plans, with data satisfactory to the Authority Having Jurisdiction, have been submitted and approved.

- **RFA0218**

1505.3 System Changes. No changes or connections shall be made to either the reclaimed (recycled) water system or the potable water system within site containing a reclaimed (recycled) water system without approval by the Authority Having Jurisdiction.

- **RFA0219**

1505.4 Connections to Potable or Reclaimed (Recycled) Water Systems. Reclaimed (recycled) water systems shall have no connection to a potable water supply or alternate water source system. Potable water is permitted to be used as makeup water for a reclaimed (recycled) water storage tank provided the water supply inlet is protected by an air gap or reduced-pressure principle backflow preventer in accordance with this code.

- **Keep as shown in the 2024 UPC.**

1505.5 Water Pressure. Reclaimed (recycled) water systems supplying water to water closets, urinals, and trap primers shall be capable of delivering not less than 15 pounds-force per square inch (psi) (103 kPa) residual pressure at the highest and most remote outlet served. Where the water pressure in the reclaimed water supply system within the building exceeds 80 psi (552 kPa), a pressure reducing valve reducing the pressure to 80 psi (552 kPa) or less to water outlets in the building shall be installed.

- **Keep as shown in the 2024 UPC.**

1505.6 Initial Cross-Connection Test. A cross-connection test is required in accordance with Section 1502.3. Before the building is occupied or the system is activated, the installer shall perform the initial cross-connection test in the presence of the Authority Having Jurisdiction and other authorities having jurisdiction. The test shall be ruled successful by the Authority Having Jurisdiction before final approval is granted.

- **Keep as shown in the 2024 UPC.**

1505.7 Reclaimed (Recycled) Water System Materials. Reclaimed (recycled) water supply and distribution system materials shall comply with the requirements of this code for potable water supply and distribution systems unless otherwise provided for in this section.

- **Keep as shown in the 2024 UPC.**

1505.8 Reclaimed (Recycled) Water System Color and Marking Information. Reclaimed (recycled) water systems shall have a colored background and marking information in accordance with Section 601.3 of this code.

- **Keep as shown in the 2024 UPC.**

1505.9 Valves. Valves, except fixture supply control valves, shall be equipped with a locking feature.

- **Keep as shown in the 2024 UPC.**

1505.10 Hose Bibbs. Hose bibbs shall not be allowed on reclaimed (recycled) water piping systems located in areas accessible to the public. Access to reclaimed (recycled) water at points in the system accessible to the public shall be through a quick-disconnect device that differs from those installed on the potable water system. Hose bibbs supplying reclaimed (recycled) water shall be marked with the words: "CAUTION: NONPOTABLE RECLAIMED WATER, DO NOT DRINK," and the symbol in Figure 1505.10.

- **Keep as shown in the 2024 UPC.**

1505.11 Required Appurtenances. The reclaimed (recycled) water system and the potable water system within the building shall be provided with the required appurtenances (e.g., valves, air/vacuum relief valves, etc.) to allow for deactivation or drainage as required for a cross-connection test in accordance with Section 1502.3.

- **Keep as shown in the 2024 UPC.**

1505.12 Same Trench as Potable Water Pipes. Reclaimed (recycled) water pipes shall be permitted to be run or laid in the same trench as potable water pipes with 12 inches (305 mm) minimum vertical and horizontal separation where both pipe materials are approved for use within a building. Where piping materials do not meet this requirement, the minimum horizontal separation shall be increased to 60 inches (1524 mm). The potable water piping shall be installed at an elevation above the reclaimed (recycled) water piping. Reclaimed (recycled) water pipes laid in the same trench or crossing building sewer or drainage piping shall be installed in accordance with this code for potable water piping.

- **Keep as shown in the 2024 UPC.**

1505.13 Signs. Signs in rooms and water closet tanks in buildings using reclaimed (recycled) water shall be in accordance with Section 1501.9 and Section 1501.9.1.

- **Keep as shown in the 2024 UPC.**

1505.14 Inspection and Testing. Reclaimed (recycled) water systems shall be inspected and tested in accordance with Section 1502.1.

- **Keep as shown in the 2024 UPC.**

1506.0 On-Site Treated Nonpotable Water Systems.

- **Look at RFA 217 Committee accepted new language for 1506.**

RFA PB0215 Change #12:

1506.1 General. The provisions of this section shall apply to the installation, construction, alteration, and repair of on-site treated nonpotable water systems intended to supply uses such as water closets, urinals, clothes washers, trap primers for floor drains and floor sinks, ~~above and belowground irrigation~~, dust suppression, decorative fountains, vehicle washing, fire suppression, and other uses approved by the Authority Having Jurisdiction and the commissioner of health.

- **The Committee agreed to accept per RFA 215 Proposed changes #12**

1506.2 Plumbing Plan Submission. No permit for an on-site treated nonpotable water system shall be issued until complete plumbing plans, with data satisfactory to the Authority Having Jurisdiction, have been submitted and approved.

- **Keep as shown in the 2024 UPC.**

1506.3 System Changes. No changes or connections shall be made to either the on-site treated non-potable water system or the potable water system within a site containing an onsite treated non-potable water system without approval by the Authority Having Jurisdiction.

- **Keep as shown in the 2024 UPC.**

1506.4 Connections to Potable or Reclaimed (Recycled) Water Systems. On-site treated non-potable water systems shall have no connection to a potable water supply or reclaimed (recycled) water source system.

Potable or reclaimed (recycled) water is permitted to be used as makeup water for a non-pressurized storage tank provided the makeup water supply is protected by an air gap in accordance with this code.

- **Keep as shown in the 2024 UPC.**

1506.5 Water Pressure. On-site treated non-potable water systems supplying water to water closets, urinals, and trap primers shall be capable of delivering not less than 15 pounds-force per square inch (psi) (103 kPa) residual pressure at the highest and most remote outlet served. Where the water pressure in the on-site treated non-potable water supply system within the building exceeds 80 psi (552 kPa), a pressure reducing valve reducing the pressure to 80 psi (552 kPa) or less to water outlets in the building shall be installed.

- **Keep as shown in the 2024 UPC.**

1506.6 Initial Cross-Connection Test. A cross-connection test is required in accordance with Section 1502.3. Before the building is occupied or the system is activated, the installer shall perform the initial cross-connection test in the presence of the Authority Having Jurisdiction and other authorities having jurisdiction. The test shall be ruled successful by the Authority Having Jurisdiction before final approval is granted.

- **Keep as shown in the 2024 UPC.**

1506.7 On-Site Treated Non-potable Water System Materials. On-site treated non-potable water supply, and distribution system materials shall comply with the requirements of this code for potable water supply and distribution systems unless otherwise provided for in this section.

- **Keep as shown in the 2024 UPC.**

1506.8 On-Site Treated Nonpotable Water Devices and Systems. Devices or equipment used to treat on-site treated non-potable water to maintain the minimum water quality requirements in section 1501.7 ~~determined by the Authority Having Jurisdiction~~ shall be listed and labeled (third-party certified) by a listing agency (accredited conformity assessment body) or approved for the intended application. ~~Devices or equipment used to treat on-site treated non-potable water for use in the water closet and urinal flushing, surface irrigation, and similar applications shall comply with IAPMO IGC 324,~~ For example, certification to NSF/ANSI 350 Annex N-2 is appropriate for commercial graywater treatment systems. ~~or approved by the Authority Having Jurisdiction.~~

- **RFA 0215 from MDH Proposed change #13 revised 2/18/26: Amend to read the last sentence to read: Annex N-2 is appropriate for commercial graywater treatment systems.**

1506.9 On-Site Treated Non-potable Water System Color and Marking Information. On-site treated water systems shall have a colored background and marking information in accordance with Section 601.3 of this code.

- **Keep as shown in the 2024 UPC.**

1506.10 Design and Installation. The design and installation of on-site treated non-potable systems shall be in accordance with Section 1506.10.1 through Section 1506.10.5.

- **Keep as shown in the 2024 UPC.**

RFA PB0215 Change #14:

1506.10.1 Listing Terms and Installation Instructions. On-site treated nonpotable water system~~s~~ components shall be installed in accordance with the terms of ~~its~~ their listing and the manufacturer's installation instructions.

- **Committee agreed to accept Change #14**

RFA PB0215 Change #15:

1506.10.2 ~~Minimum Water Quality~~ Disinfection Required. On-site treated nonpotable water supplied to toilets or urinals or for other uses in which it is sprayed or exposed to the public shall carry a free or total chlorine residual. A free chlorine residual of 0.2 mg/L or a total chlorine residual of 0.5 mg/L must be maintained at all points of the distribution system. Potable water shall be supplied to personal hygiene devices (bidets and bidet seats). ~~be disinfected. Acceptable disinfection methods shall include chlorination, ultraviolet sterilization, ozone, or other methods as approved by the Authority Having Jurisdiction. The minimum water quality for on-site treated nonpotable water systems shall meet the applicable water quality requirements for the intended applications as determined by the public health Authority Having Jurisdiction~~.

- **Committee agreed to accept Change #15**

1506.10.3 Deactivation and Drainage. The on-site treated non-potable water system and the potable water system within the building shall be provided with the required appurtenances (e.g., valves, air/vacuum relief valves, etc.) to allow for deactivation or drainage as required for a cross-connection test in accordance with Section 1502.3.

- **Keep as shown in the 2024 UPC.**

1506.10.4 Near Underground Potable Water Pipe. On-site treated non-potable water pipes shall be permitted to be run or laid in the same trench as potable water pipes with a 12 inch (305 mm) minimum vertical and horizontal separation where both pipe materials are approved for use within a building. Where piping materials do not meet this requirement the minimum separation shall be increased to 60 inches (1524 mm). The potable water piping shall be installed at an elevation above the on-site treated non-potable water piping.

- **Keep as shown in the 2024 UPC.**

1506.10.5 Required Filters. A filter permitting the passage of particulates no larger than 100 microns (100 µm) shall be provided for on-site treated non-potable water supplied to water closets, urinals, trap primers, and drip irrigation system.

- **Keep as shown in the 2024 UPC.**

1506.11 Valves. Valves, except fixture supply control valves, shall be equipped with a locking feature.

- **Keep as shown in the 2024 UPC.**

1506.12 Signs. Signs in buildings using on-site treated non-potable water shall comply with Section 1501.9 and Section 1501.9.1.

- Keep as shown in the 2024 UPC.

1506.13 Inspection and Testing. On-site treated non-potable water systems shall be inspected and tested in accordance with Section 1502.1.

- Keep as shown in the 2024 UPC.

RFA PB 0215 Change #16:

1506.14 Monitoring and Sampling. An operator must monitor water quality parameters at the locations and frequencies outlined in the operations and maintenance report to ensure compliance with the log reduction targets for pathogens and any water quality limits. The operator must also monitor any parameters required by the Authority Having Jurisdiction.

- **Accept as presented in RFA**

RFA PB 0215 Change #17:

1506.15 Reporting. The owner must notify the Authority Having Jurisdiction and building users within 24 hours

when inadequately treated nonpotable water enters the treated nonpotable water distribution system.

- **Accept as presented in RFA**

RFA PB0217 The Committee agreed to accept RFA PB0217 with the changes noted below.

1506.X*:* Adopt a new provision stating that on-site treated nonpotable water systems must not discharge into or through an SSTS. **Proposed language*:*** *Prohibited Discharge to Subsurface Sewage Treatment Systems (SSTS):* On-site treated nonpotable water systems shall not discharge, directly or indirectly, to a Subsurface Sewage Treatment System regulated under Minnesota Rules, chapters 7080 to 7083, including any disposal above or below the ground surface. Such systems shall be designed and constructed so that all treated nonpotable water remains within the internal plumbing of the structure or is discharged to a municipal wastewater collection system.

1506.X: Include a provision clarifying that all components of an on-site treated nonpotable water system must remain within the dwelling or building footprint. **Proposed language:** *System Location:* All components of an on-site treated nonpotable water system shall be located within the dwelling or building structure it serves. No tanks, treatment devices, or appurtenances associated with the on-site treated nonpotable water system may be installed outside the building footprint.

1506.X: Clarify that removal of any accumulated solids or liquids from within a plumbing-based reuse system constitutes septage and must comply with existing SSTS handling and disposal requirements. **Proposed language:** *Sewage removal during Operation and Maintenance:* Any solids or liquids removed from an on-site treated nonpotable water system shall be considered domestic septage and be disposed according to Minnesota Rules, part 7080.2450, subpart 6. Collection, transportation, and disposal shall be performed only by a licensed Subsurface Sewage Treatment System. Maintainer in accordance with Minnesota Rules, part 7083.0770.

RFA PB0215 Change #18 Additions to Chapter #2 Definitions:

- **The Committee agreed to accept Proposed Change #18 as presented.**

Addition to 203.0: Air conditioning condensate (AC condensate). Water extracted from atmospheric water vapor due to the operation of air conditioning or refrigeration.

- **The Committee agreed to accept the language for 203.0 as presented.**

Addition to 205.0: Continuous monitoring. Ongoing confirmation of system performance with the use of sensors, analyzers, meters, and other instrumentation, no less than once every 15 minutes for the continuous observation of selected parameters, including surrogate parameters correlated with pathogen log reduction targets.

- **The Committee agreed to accept the language for 205.0 as presented.**

Additions to 206.0: Disability adjusted life years (DALYs). The measure of the health burden of a disease, calculated as the sum of years of life lost (YLL) due to premature death and years of life lived with disability (YLD) from illness (DALY=YLL+YLD).

- **The Committee agreed to accept the language for 206.0 as presented.**

Addition to 207.0: Engineering report. A technical document prepared under the direction, and bearing the seal, date, and signature of a professional engineer, describing an on-site treated nonpotable water system.

- **The Committee agreed to NOT accept 207.0 as presented.**

Addition to 208.0: Foundation drainage. Shallow groundwater collected from the drainage around building foundations or sumps. Foundation drainage does not include nonpotable groundwater extracted for beneficial use.

- **The Committee agreed to accept the language for 208.0 as presented.**

Addition to 209.0: Gray water. Liquid effluent collected from sources such as bathroom sinks, showers, bathtubs, clothes washers, and laundry sinks. Gray water does not include flow from toilets or urinals and does not include liquid effluent from kitchen sinks or dishwashers.

- The Committee agreed to accept the language for 209.0 as presented.

Additions to 214.0: Log reduction. The reduction in the concentration of infective pathogens or surrogate parameters through a treatment process expressed in $\log_{10}$ units. For example, a 1-log reduction equates to 90-percent removal, 2-log reduction to 99-percent removal, and 3-log reduction to 99.9-percent removal.

- **The Committee agreed to accept the language for 214.0 as presented.**

Additions to 214.0: Log reduction target (LRT). The required degree of pathogen reduction needed to achieve a risk of 10-6 DALYs per person per year (PPY) through exposure to treated nonpotable water.

- The Committee agreed to accept the language for 214.0 as presented.

Additions to 222.0: Treatment process. A combination of treatment unit processes, also known as a treatment train.

- **The Committee agreed to accept the language for 222.0 as presented.**

Additions to 222.0: Treatment unit process. A physical, chemical, or biological system intended to improve water quality. Examples include filtration, oxidation, adsorption, disinfection, and membrane separation.

- **The Committee agreed to accept the language for 222.0 as presented.**
- **Appendix S (stormwater systems) – The Board agreed not to adopt Appendix S.**