

**Plumbing Board  
Meeting Minutes  
November 18, 2013 at 9:30 a.m.  
Minnesota Room – Department of Labor and Industry  
443 Lafayette Road North, St. Paul, MN 55155**

**Members**

John Parizek (Chair)  
Pete Moulton  
John Flagg  
Jim Kittelson  
Chad Filek  
Grant Edwards  
Phillip Sterner  
Larry Justin  
Ron Thompson  
Jim Lungstrom

**Members Absent**

Joe Beckel  
Grant Edwards  
Gale Mount  
Mike McGowan

**DLI Staff & Visitors**

Pat Munkel-Olson (DLI)  
Cathy Tran (DLI)  
Jim Peterson (DLI)  
Lyndy Lutz (DLI)  
Suzanne Todnem (DLI)  
Brian Noma (MDH)  
David Rindal (MDH)  
Jim Gander (Superior Mech)  
Matt Marciniak (IAPMO)  
Rick Hauffe (ICC)  
Laura Millberg (MPCA)  
Luke Westman (PHCC)  
Gary Thaden (MMCA)  
Jami Sehm (City of Blaine)  
Tim Power (MNLA)  
Brian Soderholm (Soderholm & Assoc. /  
Water Control Corp.)  
Mitchell Cookas (Solution Blue)  
Mark Wespetal (MPCA)  
Ryan Anderson (MPCA)  
Mike Findorff (MPCA)  
David Ybarra (MPTA)

**I. Call to Order**

The meeting was called to order by Chair Parizek at 9:36 a.m. Introductions and housekeeping announcements were made. Attendance was taken, a quorum was met.

**II. Approval of Meeting agenda**

A motion was made by Filek to approve the agenda, seconded by Flagg. The majority vote ruled; motion carried.

**III. Approval of Previous Meeting Minutes**

**A. Board of Plumbing 10/15/2013 Meeting Minutes**

The addition of Jim Lungstrom to board members that were present at the meeting was noted. A motion was made by Justin to delay review and approval of the 10/15/2013 meeting minutes until after lunch break, seconded by Kittleson; the vote was unanimous and the motion carried.

**IV. Regular Business**

Approval of Expense Reports –Parizek approved the expenses as presented.

**V. Committee Reports**

**A. Executive Committee**

The Executive Committee met this morning and reviewed today's agenda and discussed what exhibits were to be discussed.

**VI. Special Business**

**A. National Code Review Committee Recommendation**

Continue review of 2012 amendments to the UPC, beginning with exhibit 14, which deals with language on heat exchangers.

***Refer to attachment A for discussion on recommendations from the National Code Review Committee.***

**VII. Complaints**

**VIII. Open Forum**

None brought forward.

**IX. Board Discussion**

Nothing brought forth.

**X. Announcements**

**Next Regularly Scheduled Meetings**

i. January 21, 2014 @ 9:30 – Minnesota Room, DLI

ii. April 15, 2014 @ 9:30 – Minnesota Room, DLI

**Notification regarding special meeting to be held on December 10, 2013 will be emailed to all board members and interested parties.**

**XI. Adjournment**

**A motion was made by Kittelson, seconded by Moulton to adjourn. The vote was unanimous and the meeting was adjourned at 3:50 p.m.**

Respectfully submitted,



John Parizek  
Chair

Requester/ Meeting Date	Section	Motion To	Exhibit	Accept or Deny to move forward, or Tabled for future meeting	Carried – Majority, Unanimous, or Fail Yes or No
Parizek 4/16 & 9/17	505.4.1, 603.5.4 to 603.5.4.2 (Heat Exchangers)  <i>Board requested Marciniak to provide the board IAPMO's position regarding toxicity; what is and what is NOT allowed – Need a list of actual fluids</i>	Moved 505.4.1 to 603.5.4 <b>Shifting language from chapter 5 to 6</b>  <b>Toxicity rating of propylene glycol (rated 2? – depends on the additive – need to check with author), ethylene glycol (rated 3), and ethanol (rated 2) discussed. The Health Dept. allows propylene glycol and geothermal – require it to be USP grade or pharmaceutical grade, basically pure propylene glycol without other additives although they have allowed some other additives. Propylene glycol is allowed under FDA standards and recognized as non-toxic. The standard that the UPC references are more specific, listing products. New language, items (3a) and (4) were discussed.</b>	14	Moulton / Justin Motion to table until request for information is received from IAPMO, or until December meeting	Majority, carries
<sup>1</sup> DLI 7/16/13	<b>601.0.2</b> (Water supply near pollution)	Accept with mod/move – see attached exhibit Move 601.0.2 to 609.6.1 <b>SECTIONS THAT WERE PREVIOUSLY DENIED SHOULD BE REMOVED FROM EXHIBIT 16</b> <b>601.0.2 – recommended language requires a minimum of 10 feet separation between a source of pollution and a water supply pipe. Does not include sewer piping.</b>	16	Justin / Lungstrom to accept language/move	Unanimous, carries
<sup>1</sup> DLI 7/16/13	601.0.4 (Hot Water Required)	Accept with mod-keep last sentence – see attached exhibit <b>“Hot Water Required” language was denied, however, last sentence, new recommended language was accepted to move forward with the following friendly amendment, striking the word “and” and inserting “or”, as follows: <u>Hot water supply systems in four-story buildings or higher, and or buildings where the developed length of hot water piping from the source of hot water supply to the farthest fixture supplied exceeds 100 feet shall be of the return circulation type.</u></b>	16	Justin / Filek to accept new language, with friendly amendment to strike and insert <b>or</b>	Unanimous, carries
<sup>1</sup> DLI 7/16/13	603.2 (Approval of Devices or Assemblies)	Accept <b>Strike language “or otherwise approved by the Authority Having Jurisdiction.”</b>	16	Justin / Flagg to accept	Unanimous, carries
<sup>1</sup> DLI 7/16/13	608.5 (Drains)	Accept <b>Language allows discharge relief valve to terminate within 18 inches of the floor or a safe place of disposal, not allowing relief valves to be discharged outside. Consistent with UPC chapter 507.5.</b>	16	Justin / Lungstrom to accept inserted and stricken language	Unanimous, carries

Requester/ Meeting Date	Section	Motion To	Exhibit	Accept or Deny to move forward, or Tabled for future meeting	Carried – Majority, Unanimous, or Fail  Yes or No
<sup>1</sup> DLI 7/16/13	610.3 – Table (Water Supply Fixture Units)	<b>Accept: Lavatory (each basin) or hand sink Dishwasher – domestic and commercial were discussed.</b>	16	Justin / Flagg to accept revised Lavatory language	Majority, 2 opposed, carries
<sup>2</sup> MDH 7/16/13	Chapter 6; 601.3, 601.3.1, 601.3.2, 603.3 (Water Supply & Distribution)	<b>The UPC requires connection to public sewer, if it's available, but does not require connection to public water if it's available. Existing MN Plumbing Code requires connection to both if they are available but allows the administrative authority to allow other connections. Lengthy discussion on water quality, potable water, well codes, testing requirements, and public health. Thompson stated that MDH would be responsible for doing follow-up to ensure a well is potable. Health Dept. would do the well up to the building control valve and pressure tank; interior plumbing would be DLI or the local administrative authority with the water line between the well and the building would fall to both DLI and MDH.</b>	17	Flagg / Kittelson to accept  <i>The language in Exhibit 17 replaces the proposed language in DLI's Exhibit 16 – 601.0 and 601.01</i>	Majority, 2 opposed, carries
<i>The meeting broke at 10:45 a.m. and resumed at 11:10 a.m.</i>					
<sup>2</sup> MDH 7/16/13	602.2 (Cross-Contamination: Add language referencing heat exchangers)	Accept with modification  <b>Existing MN code with the addition of adding heating applications, as well as cooling. Designed to protect potable water systems from contaminants.</b>  <b>Contamination possibility with even small increases in the temperature of the water and, in addition, it is not known if the materials used are consistent with the standard set for potable water.</b>  <b>Recommendation that this should be revisited with language for heat exchangers included.</b>	18  <hr/> 18	Justin to accept the language as presented and revisit once the heat exchanger language is dealt with; <b>no second</b>  <b>Kittelson / Flagg to accept language as presented</b>	<b>MOTION FAILS</b>  <hr/> <b>Majority, 1 opposed, carries</b>
<sup>2</sup> MDH 7/16/13	603.5.12 (Beverage Dispensers)	Accept <b>Specifies piping materials shall not be made of copper, which is not compatible with carbon dioxide gas.</b>	19	Justin / Flagg to accept	Unanimous, carries

Requester/ Meeting Date	Section	Motion To	Exhibit	Accept or Deny to move forward, or Tabled for future meeting	Carried – Majority, Unanimous, or Fail Yes or No
<sup>2</sup> MDH 7/16/13	603.5.18 (Potable Water Outlets and Valves)	Accept <b>There are two kinds of frost proof yard hydrants – configuration that drains into the soil and canister type buried at frost. Allows drain back if criteria are met: located 2 feet above the water table and at least 10 feet from a sewer. Existing Minnesota plumbing code also has a 3<sup>rd</sup> criteria and that’s where it is approved by the administrative authority. Canister types are safer as long as they work but they are very expensive and have a tendency to spit and cough with a greater ability to freeze which causes the canister to break and leak back into the soil. The drain back portion would be above the water table but not above the ground. Discussion on backflow and administrative authority.</b>	20	Justin / Kittelson to accept	3 favor, 4 opposed <b>MOTION FAILS</b>
<i>The meeting broke at 12:02 p.m. and resumed at 1:15 p.m.</i>					
<sup>2</sup> MDH 7/16/13	603.5.22 (Barometric Loop)	Accept <b>Current UPC does not address barometric loops whereas existing Minnesota plumbing code (part 2170) does.</b>	21	Justin / Flagg to accept	Unanimous, carries
<sup>2</sup> MDH 7/16/13 & 9/17/213	603.5.23 to 603.5.23.4 (Installation of Reduced-Pressure Principle Backflow Prevention Assembly)	<b>Friendly amendments:</b> <b>All Testable Devices:</b> Insert language that all of these ASSE <b>devices-assemblies</b> be included: 1013, 1015, 1020, 1047, 1048, & 1056. <ul style="list-style-type: none"> <li>• <b>603.5.23.2:</b> Strike “...and overhaul intervals shall not exceed five years.”</li> <li>• <b>603.5.23.4</b> to read: “The authority having jurisdiction, in addition to” the public water supplier, must be notified.....”</li> </ul> <b>Some of the language in 603.5.23.2 is repetitive and already addressed in the UPC 603.2</b>	22	Flagg / Kittelson to accept with friendly amendments as stated; strike the word <b>devices</b> and replace with <u>assemblies</u>	Unanimous, carries
<sup>2</sup> MDH 7/16/13	604.11 (Lead Content)	Accept <b>Federal law to be effective in 2014 reduces the allowable amount of lead from 8 percent to .25 percent. IAPMO is set to make this change in January 2014, officially amending the 2012 UPC; therefore the question was asked if there were a need to amend this language? Marciniak read the federal language including exemptions 1 and 2. Legal Counsel stated that if we know what the federal requirements are going to be, it would not be harmful to repeat this language, regardless of what the UPC says as a model</b>	23	Flagg / Moulton to accept	Unanimous, carries

Requester/ Meeting Date	Section	Motion To	Exhibit	Accept or Deny to move forward, or Tabled for future meeting	Carried – Majority, Unanimous, or Fail Yes or No
<sup>2</sup> MDH 6/18/13	609.11 (Water Meters)	Accept <b>Exact language in present Minnesota Rules</b>	24	Justin / Flagg to accept	Unanimous, carries
<sup>2</sup> MDH 9/17/13	610.3 (Quantity of Water)	Accept the language as written, no amendments  <b>This was an exemption that was proposed to deal with well water systems that were physically or hydrologically incapable of supplying the quantity of water.</b>  <b>Parizek’s new language recommendation to read as follows: “The quantity of water required to be supplied to every plumbing fixture shall be represented by fixture units, as shown in Table 610.3, <u>except for single family residential well water systems that are incapable of supplying the calculated quantity due to hydrologic conditions.</u> Equivalent fixture values shown in Table 610.3 include both hot and cold water demand.”</b>	25	Flagg / Moulton to table until next meeting and include new language by Parizek	Unanimous, 1 abstention, carries
<sup>3</sup> MWQA 8/26/13 & 9/17/13	611.0 to 611.4 (Drinking Water Conditioning Equipment)	Accept with language amendment: <b>611.1.2:</b> Wetted materials used in drinking water conditioning equipment <del>meet</del> shall comply with ANSI/NSF61 standards, or the equipment shall comply with the applicable NSF standards as listed in Table 1401.1. <b>Tabled due to McGowan’s absence from the meeting.</b>	26	Parizek / Kittelson to table for future discussion	Majority, 1 opposed
<sup>2</sup> MDH 5/21/13	702.1 – Table (Drainage Fixture Unit Values)	Accept <b>Language is from existing Minnesota code, part 2300, subpart 3, which requires the 2” minimum sized trap arm for the commercial dishwasher and sinks due to large quantities of food particles and the need for a larger diameter pipe to prevent plugging.</b>	27	Flagg / Filek to accept	Unanimous, carries
Greenway 5/21/13	704.2 (Single Vertical Drainage Pipe)	Accept with addition of last paragraph of 4715.1000 <b>Friendly amendment to move 704.2 language to section 707.4.1 and include last paragraph of 4715.1000.</b>	28	Flagg / Lungstrom Accept and move 704.2 language to 707.4.1 including last paragraph of 4715.1000	Unanimous, carries
Greenway 5/21/13	705.10.2 (Expansion Joints)	Accept with modified language <b>to read as follows:</b> <b>Expansion joints shall be accessible, <del>except where in vent piping or drainage stacks,</del> and shall be permitted to be used where necessary to provide for expansion and contraction of the pipes.</b>	28	Justin / Flagg to accept modified language	Unanimous, carries

Requester/ Meeting Date	Section	Motion To	Exhibit	Accept or Deny to move forward, or Tabled for future meeting	Carried – Majority, Unanimous, or Fail Yes or No
<sup>2</sup> MDH 5/21/13	704.3 (Commercial Dishwashing Machines & Sinks)	Accept <b>This is taking language from existing Minnesota plumbing code, part 4715, part 1250, and adding commercial kitchen sinks to the list of sinks that the UPC covers and adding that the floor drain and the fixture branch shall be constructed without a backwater valve.</b>	29	Moulton / Flagg to accept	Unanimous, carries
<sup>2</sup> MDH 5/21/13	724.0 (Recreational Vehicle Sanitary)	Accept <b>New language applies to facilities at gas stations, restaurants and campgrounds that allow RVs to dump their sewage holding tanks. Issues with sewage - intent is to prevent backflow into the water system. Appendix in UPC is not part of the UPC itself. This would be in the body of the UPC. Concerns were raised on the concrete and whose work this actually was - a plumber or someone else. The administrative authority would be responsible for inspections.</b>	30	Justin / Flagg to accept	Unanimous, carries
<i>The meeting broke at 2:40 p.m. and resumed at 2:58 p.m.</i>					
<sup>1</sup> DLI 5/21/13	Ch. 7, Sanitary Drainage – various	<b>Accept all; Exception: 712.1 is changed to reflect the word “shall” instead of “may” as suggested</b>  <b>704.3 – include “<u>beverage service sinks</u>” however, “<del>commercial food preparation sinks</del>” language not necessary as similar language is present in MDH’s exhibit 29)</b>  <b>710.13: Do NOT strike the language: “where approved by the Authority Having Jurisdiction.”</b>  <b>712.0 to 712.6: No issues (exception 712.1 addressed above)</b>  <b>715.3 – Leave language as currently written in UPC</b>	31	Section 710.13 Justin / Kittelson Leave language as written in the UPC <hr/> Section 710.13 Parizek / Sterner Table until December <hr/> Section 715.3 Justin / Kittelson Leave language as written in the UPC <hr/> Section 715.3 Parizek / Kittelson Table until December <hr/> Sterner / Flagg to approve and move remainder forward	Section 710.13 Motion tied 4/4, FAILS <hr/> Section 710.13 Unanimous, carries <hr/> Section 715.3 Motion tied 4/4, FAILS <hr/> Majority, 1 opposed, carries <hr/> Unanimous, carries

<sup>1</sup>DLI = Department of Labor & Industry

<sup>2</sup>MDH = Minnesota Department of Health

<sup>3</sup>MWQA = Minnesota Water Quality Association

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**LABOR & INDUSTRY**

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## NATIONAL CODE COMMITTEE COMMENT FORM FOR PROPOSED AMENDMENTS TO THE UPC

(This form must be submitted electronically)

Author/requestor: John Parizek

Email address: jparizek@dunwoody.edu

Telephone number: 612-581-1314

Firm/Association affiliation, if any: Plumbing Board

### Proposed Code Change - Language

Please provide your proposed UPC amendment in ~~strikeout~~/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

~~505.4.1 Single-Wall Heat Exchanger. Indirect-fired water heater that incorporate a single-wall heat exchanger shall meet the following requirements:~~

- ~~(1) Connected to a low-pressure hot water boiler limited to a maximum of 30 pounds-force per square inch gauge (psig) (207 kPa) by an approved safety or relief valve.~~
- ~~(2) Heater transfer medium is either potable water or contains fluids having a toxicity rating of Class of 1.~~
- ~~(3) Bear a label with the word "Caution," followed by the following statements:~~
  - ~~(a) The heat transfer medium shall be water or other nontoxic fluid having a toxic rating or Class of 1 as listed in Clinical Toxicology of Commercial Products, 5th edition.~~
  - ~~(b) The pressure of the heat transfer medium shall be limited to a maximum of 30 psig (207 kPa) by an approved safety or relief valve.~~

~~The word "Caution" and the statements in letters shall have an uppercase height of not less than 0.120 of an inch (3.048 mm). The vertical spacing between lines of type shall be not less than 0.046 of an inch (1.168 mm). Lowercase letters shall be compatible with the uppercase letter size specification.~~

~~603.5.4 Heat Exchangers. Heat exchangers used for heat transfer, heat recovery, or solar heating shall protect the potable water system from being contaminated by the heat-transfer medium. Single-wall heat exchangers used in indirect-fired water heaters shall meet the requirements of Section 505.4.1.~~

~~603.5.4.1 Single-Wall Heat Exchanger. Indirect-fired water heater that incorporate a installation of a single-wall heat exchanger shall meet all of the following requirements:~~

- ~~(1) Connected to a low-pressure hot water boiler limited to a maximum of 30 pounds-force per square inch gauge (psig) (207 kPa) by an approved safety or relief valve.~~
- ~~(2) Heater transfer medium is either potable water or contains fluids having a toxicity rating of Class of 1.~~
- ~~(3) Bear a label with the word "Caution," followed by the following statements:~~
  - ~~(a) The heat transfer medium shall be water or other nontoxic fluid having a toxic rating or Class of 1 as listed in Clinical Toxicology of Commercial Products, 5th edition.~~
  - ~~(b) The pressure of the heat transfer medium shall be limited to a maximum of 30 psig (207 kPa) by an approved safety or relief valve.~~

- The word "Caution" and the statements in letters shall have an uppercase height of not less than 0.120 of an inch (3.048 mm). The vertical spacing between lines of type shall be not less than 0.046 of an inch (1.168 mm). Lowercase letters shall be compatible with the uppercase letter size specification.
- (4) A reduced-pressure principle backflow prevention assembly shall be installed on the building supply before the first branch.

**603.5.4.2 Double-Wall Heat Exchanger.** Double-wall heat exchangers shall separate the potable water from the heat-transfer medium by providing a space between the two walls that are vented to the atmosphere.

#### **Proposed Code Change – Need and Reason**

Please provide a thorough explanation of the need for this amendment and why this proposed amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its proposed changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

Section 603.5.4 addresses requirements for heat exchangers and refers to section 505.4.1 for single-wall heat exchangers. Section 505.4.1 has been blended into section 603.5.4 to avoid repetition and 505.4.1 deleted. A concern with single-wall heat exchangers has always been the replacement of the heat transfer medium with a higher toxicity rated substance after the initial installation. By requiring the installation of a properly maintained reduced-pressure principle backflow prevention assembly on the building water supply, upstream of the first branch, the possible contamination of the potable water supply will be eliminated. Any contamination of the potable water due to failure of a single-wall heat exchanger will be contained within the building.

#### **Proposed Code Change – Cost/Benefit Analysis**

Please consider whether this proposed amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this proposed code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

There would be no additional cost since installation of a single-wall heat exchanger is an optional. This amendment to the UPC is also less restrictive than existing Minnesota Plumbing Code, part 4715.1941, subpart 3 and more cost effective. In addition, the potable water supply will have added protection.

# NATIONAL CODE REVIEW COMMITTEE SUGGESTION FORM

(This form must be submitted electronically)

*Author/requestor:* Cathy Tran

*Email address:* cathy.tran@state.mn.us

*Telephone number:* 651/284-5898

*Firm/Association affiliation, if any:* DLI

## **Suggested Code Change - Language**

Please provide your suggested change using a strikeout and underline format. Provide the *specific* language you would like to see changed, with new words underlined and ~~strikeout~~ the words to be deleted. Tell us whether the language you are suggesting or changing is from a code book or from Minnesota Rules, chapter 4715. (You may provide the language (electronically) on a separate attached sheet).

***2012 UPC Chapter 6, Water Supply and Distribution***-See attached documents.

## **Suggested Code Change – Need and Reason**

Please provide a thorough explanation of the need for the suggested changed and why the change is a reasonable one. During the rulemaking process, the Board must defend the need for and reasonableness of all its proposed changes. (You may provide the need and reason (electronically) on a separate attached sheet).

See attached documentation.

## **Suggested Code Change – Cost/Benefit Analysis**

Please explain whether the change you suggest will increase or decrease costs, or that the change will not have any cost implications. If there is an increased cost, will this cost be offset somehow by a life-safety or other benefit? If so, please explain. Are there any cost increases or decreases to enforce or comply with the suggested change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate attached sheet).

No cost implications.

**Please explain:**

1. Is the suggested change meant to:

change language contained in a published code book? If so, list section(s).

change language contained in an existing Minnesota Rule in chapter 4715? If so, list the Rule part(s).

delete language contained in a published code book? If so, list section(s).

delete language contained in an existing Minnesota Rule in chapter 4715? If so, list Rule the part(s).

neither; the suggested change is new language and is not in a code book or in Minnesota Rules, chapter 4715.

2. Is the suggested change required by a federal requirement or regulation, state statute or new legislation? If so, please explain and provide the citation to the regulation, statute or legislation.  
MN Statutes 326b.43

3. Will the suggested change impact other sections of a published code book or the Minnesota State Building Code or other administrative rules? If so, please list the affected sections or rule parts.

4. Who are the parties affected or segments of industry that might be affected by the suggested change?

5. Can you think of other means or methods to achieve the purpose of the suggested change? If so, please explain what they are and why your suggested change is the preferred method or means to achieve the desired result.

no

6. Are you aware of any federal requirement or regulation related to this recommended code change? If so, please list the regulation or requirement.

No

## CHAPTER 6 - 2012 UPC DLI Recommended changes

### Chapter 6 suggestions:

***(Accept with modification: Move section 601.0.2 to 609.6.1)***

**601.0.2 Water Supply near sources of pollution.** Potable water supply pipes must not be located in, under, or above cesspools, septic tanks, septic tank drainage fields, seepage pits, soil treatment systems, contaminated soil, sewer manholes, catch basins, storm water storage tanks, buried tanks containing chemicals or petroleum products, or any other source of pollution that in the judgment of the administrative authority might contaminate the potable water supply. A horizontal separation of ten feet must be maintained between the outer edge of the water supply pipe and the outer edge of the contamination source.

**SONAR:** The recommended added language requires a minimum of 10 feet separation between a source of pollution and a water supply pipe. This is necessary to protect the potable water supply.

***(601.0.4 new language "Hot Water Required" is denied; last sentence is accepted with modification to move to 601.1)***

### **601.0.4 Hot Water Required**

In occupancies where plumbing fixtures are installed for private use, hot water shall be required for bathing, washing, laundry, cooking purposes, dishwashing or maintenance. In occupancies where plumbing fixtures are installed for public use, hot water shall be required for bathing and washing purposes. This requirement shall not supersede the requirements for individual temperature control limitations for public lavatories, bidets, bathtubs, whirlpool bathtubs and shower control valves. ***(Move this last sentence to 601.1)*** Hot water supply systems in four-story buildings or higher, and buildings where the developed length of hot water piping from the source of hot water supply to the farthest fixture supplied exceeds 100 feet shall be of the return circulation type.

**SONAR:** The recommended change adds a title to this part to clarify the content for easy location of the content and requirements when hot water is required for certain types of fixtures. In addition, language is added to required recirculation of hot water systems for buildings of four stories or higher, and systems where the develop length of hot water supply exceeds 100 feet must be provided with return circulation system to conserve water and maintain adequate hot water demand within a reasonable time period.

***(603.2 Recommendation accepted)***

**603.2 Approval of Devices or Assemblies.** Before a device or an assembly is installed for the prevention of backflow, it shall have first been approved by the Authority Having Jurisdiction. Devices or assemblies shall be tested in accordance with recognized standards or other standards acceptable to the Authority Having Jurisdiction. Backflow prevention devices and assemblies shall comply with Table 603.2, except for specific applications and provisions as stated in Section 603.5.1 through Section 603.5.21.

Devices or assemblies installed in a potable water supply system for protection against backflow shall be maintained in good working condition by the person or persons having control of such devices or assemblies. Such devices or assemblies shall be tested at the time of installation, repair, or relocation and not less than on an annual schedule thereafter, or more often where required by the Authority Having Jurisdiction. Where found to be defective or inoperative, the device or assembly shall be repaired or replaced. No device or assembly shall be removed from use or relocated or other device or assembly substituted, without the approval of the Authority Having Jurisdiction.

Testing shall be performed by a certified backflow assembly tester in accordance with ASSE Series 5000 ~~or otherwise approved by the Authority Having Jurisdiction.~~

**SONAR:** the recommended deletion is to clarify that testing requirements for backflow preventers and certification of backflow testers are established by the MN Plumbing Board and state rules, and not by any other approved authorities.

***(606.8 Recommendation denied – new language not accepted)***

**606.8 Valves for sill cocks.** All sill cocks and wall hydrants shall be separately controlled by a valve inside the building.

**SONAR:** The recommended language is necessary for winterization of these fixtures in Minnesota.

**(608.5 Recommendation accepted)**

**608.5 Drains.** Relief valves located inside a building shall be provided with a drain, not smaller than the relief valve outlet, of galvanized steel, hard-drawn copper piping and fittings, CPVC, PP, or listed relief valve drain tube with fittings that will not reduce the internal bore of the pipe or tubing (straight lengths as opposed to coils) and shall terminate within 18 inches of the floor or a safe place of disposal ~~extend from the valve to the outside of the building, with the end of the pipe not more than 2 feet (610 mm) nor less than 6 inches (152 mm) aboveground or the flood level of the area receiving the discharge and pointing downward. Such drains shall be permitted to terminate at other approved locations.~~ Relief valve drains shall not terminate in a building's crawl space. No part of such drain pipe shall be trapped or subject to freezing. The terminal end of the drain pipe shall not be threaded.

**SONAR:** Discharging to the outside of the building is not an approved method statewide and would not meet MPCA discharge regulations. This amendment would require a more specific and safer location for the discharge of a water heater relief valve which is consistent with UPC Chapter 507.5.

(At 4/16/13 National Committee Mtg: Members voted to change 507.5 as "Discharge from a relief valve into a water heater pan shall be prohibited. Discharge relief valve shall terminate within 18 inches of the floor or a safe place of disposal.)

**TABLE 610.3  
WATER SUPPLY FIXTURE UNITS (WSFU) AND MINIMUM FIXTURE BRANCH PIPE SIZES<sup>3</sup>**

APPLIANCES, APPURTENANCES OR FIXTURES <sup>2</sup>	MINIMUM FIXTURE BRANCH PIPE SIZE <sup>1,4</sup> (inches)	PRIVATE	PUBLIC	ASSEMBLY <sup>6</sup>
Bathtub or Combination Bath/Shower (fill)	1/2	4.0 <sup>1,4</sup>	4.0	—
3/4 inch Bathtub Fill Valve	3/4	10.0	10.0	—
Bidet	1/2	1.0	—	—
Clothes Washer	1/2	4.0	4.0	—
Dental Unit, cuspidor	1/2	—	1.0	—
Dishwasher, domestic	1/2	1.5	<del>1.5</del> 4.0	—
Dishwasher, commercial	3/4	—	4.0	—
Drinking Fountain or Water Cooler	1/2	0.5	0.5	0.75
Hose Bibb	1/2	2.5	2.5	—
Hose Bibb, each additional <sup>8</sup>	1/2	1.0	1.0	—
Lavatory (each basin) or hand sink	1/2	1.0	1.0	1.0
Lawn Sprinkler, each head <sup>5</sup>	—	1.0	1.0	—
Mobile Home, each (minimum)	—	12.0	—	—
Sinks	—	—	—	—
Bar	1/2	1.0	2.0	—
Clinic Faucet	1/2	—	3.0	—
Clinic Flushometer Valve with or without faucet	1	—	8.0	—
Kitchen, domestic with or without dishwasher	1/2	1.5	1.5	—
Laundry	1/2	1.5	1.5	—
Service or Mop Basin	1/2	1.5	3.0	—
Washup, each set of faucets	1/2	—	2.0	—
Commercial, prep, pot, or scullery sink	3/4	—	4	—
Shower, per head	1/2	2.0	2.0	—
Urinal, 1.0 GPF Flushometer Valve	3/4	See Footnote <sup>7</sup>		—
Urinal, greater than 1.0 GPF Flushometer Valve	3/4	See Footnote <sup>7</sup>		—
Urinal, flush tank	1/2	2.0	2.0	3.0
Wash Fountain, circular spray	3/4	—	4.0	—
Water Closet, 1.6 GPF Gravity Tank	1/2	2.5	2.5	3.5
Water Closet, 1.6 GPF Flushometer Tank	1/2	2.5	2.5	3.5
Water Closet, 1.6 GPF Flushometer Valve	1	See Footnote <sup>7</sup>		—
Water Closet, greater than 1.6 GPF Gravity Tank	1/2	3.0	5.5	7.0
Water Closet, greater than 1.6 GPF Flushometer Valve	1	See Footnote <sup>7</sup>		—

For SI units: 1 inch = 25 mm

**Notes:**

- <sup>1</sup> Size of the cold branch pipe, or both the hot and cold branch pipes.
- <sup>2</sup> Appliances, appurtenances, or fixtures not referenced in this table shall be permitted to be sized by reference to fixtures having a similar flow rate and frequency of use.
- <sup>3</sup> The listed fixture unit values represent their load on the cold water building supply. The separate cold water and hot water fixture unit value for fixtures having both hot and cold water connections shall be permitted to be each taken as three-quarter of the listed total value of the fixture.
- <sup>4</sup> The listed minimum supply branch pipe sizes for individual fixtures are the nominal (I.D.) pipe size.
- <sup>5</sup> For fixtures or supply connections likely to impose continuous flow demands, determine the required flow in gallons per minute (gpm) (L/s), and add it separately to the demand in gpm (L/s) for the distribution system or portions thereof.
- <sup>6</sup> Assembly [Public Use (See Table 422.1)].
- <sup>7</sup> Where sizing flushometer systems, see Section 610.10.
- <sup>8</sup> Reduced fixture unit loading for additional hose bibbs is to be used where sizing total building demand and for pipe sizing where more than one hose bibb is supplied by a segment of water distribution pipe. The fixture branch to each hose bibb shall be sized on the basis of 2.5 fixture units.

**SONAR:**

1. Domestic dishwasher use in public facilities (breakroom) and uses in commercial (licensed facilities) demand frequent uses and more water and therefore, must be sized using a 4 water supply fixture unit, similar to commercial dishwasher and a clothes washer.
2. Another type of sink common in licensed facilities are commercial kitchen sink (prep, pot or scullery) which demand a large quantity of water and the use is a high frequencies and must be added to the proper for proper water sizing.
3. Hand sink is added to the same category a lavatory. This is reasonable as both are used for hand washing purposes.

## NATIONAL CODE COMMITTEE COMMENT FORM FOR RECOMMENDED AMENDMENTS TO THE UPC

(This form must be submitted electronically)

*Author/requestor:* Minnesota Department of Health

*Email address:* ronald.thompson@state.mn.us

*Telephone number:* (651) 201-3658

*Firm/Association affiliation, if any:*

### **Recommended Code Change - Language**

Please provide your recommended UPC amendment in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

XXXX.XXXX CHAPTER 6, WATER SUPPLY AND DISTRIBUTION

UPC section 601.3 is amended as follows:

**(Accept all recommended language below)**

#### **601.3 Public Water Required.**

**601.3.1 Where Required.** A building in which plumbing fixtures are installed and premises having water distribution piping thereon shall have a connection to a public or private water supply system except as provided in Section 101.8, Section 601.3.2, and Section 601.3.3.

**601.3.2 Private Water System.** Where no public water system intended to serve a lot or premises is available, the water distribution piping shall be connected to a private water system meeting the requirements of Minnesota Rules, Chapter 4725.

**601.3.3 Public Water Connection Required.** Where a public water supply system intended to serve a lot or premises is available in a throughfare or right of way abutting such lot or premises, water distribution piping from a building or works shall be connected to the public water supply system unless otherwise permitted by the administrative authority.

**Recommended Code Change – Need and Reason**

Please provide a thorough explanation of the need for this amendment and why this recommended amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its recommended changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

The existing Minnesota Plumbing code, part 4715.0310 requires that if a public water system is accessible, the water distribution system must be connected unless otherwise permitted by the administrative authority. The rule goes on to require that if public water is not available, an individual (private) water supply system must be provided meeting the standards of the administrative authority. Minnesota Statutes, Chapter 103I and Minnesota Rules, Chapter 4725 regulate the construction of wells for private and public water systems. The recommended amendment, keeps the basic requirement, but simplifies and modifies the language in part 4715.0310 in a form paralleling UPC Section 713.0 which requires connection to public sewer.

**Recommended Code Change – Cost/Benefit Analysis**

Please consider whether this recommended amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this recommended code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

The recommended amendment does not change existing requirements.

### Other Factors to Consider Related to Recommended Amendment

7. Is this recommended code change meant to:

change language contained in a published code book? If so, list section(s).

This proposal amends Section 601.3.

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in a published code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

neither; this language will be new language, not found in the code book or in Minnesota Rule.

8. Is this recommended code change required by a Minnesota Statute or new legislation? If so, please provide the citation to the Statute or legislation.

no

9. Will this recommended code change impact other sections of a published code book or of an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

no

10. Will this recommended code change impact other parts of the Minnesota State Building Code? If so, please list the affected parts of the Minnesota State Building Code.

no

11. Who are the parties affected or segments of industry affected by this recommended code change?

This does not change existing requirements.

12. Can you think of other means or methods to achieve the purpose of the recommended code change? If so, please explain what they are and why your recommended change is the preferred method or means to achieve the desired result.

no

13. Are you aware of any federal requirement or regulation related to this recommended code change? If so, please list the regulation or requirement.

no

## NATIONAL CODE COMMITTEE COMMENT FORM FOR RECOMMENDED AMENDMENTS TO THE UPC

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*Email address:* ronald.thompson@state.mn.us

*Telephone number:* (651) 201-3658

*Firm/Association affiliation, if any:*

### **Recommended Code Change - Language**

Please provide your recommended UPC amendment in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

XXXX.XXXX CHAPTER 6, WATER SUPPLY AND DISTRIBUTION

UPC Section 602.2 is amended as follows:

**602.2 Cross-Contamination.** No person shall make a connection or allow one to exist between pipes or conduits carrying domestic water supplied by a public or private building supply system, and pipes, conduits, or fixtures containing or carrying water from any other source or containing or carrying water that has been used for a purpose whatsoever, or piping carrying chemicals, liquids, gasses, or substances whatsoever, unless there is provided a backflow prevention device approved for the potential hazard and maintained in accordance with this code. Each point of use shall be separately protected where potential cross-contamination of individual units exists. Water used for cooling or heating of equipment or other purposes shall not be returned to the potable water system. Such water shall be discharged into the drainage system through an air gapped indirect waste or other approved method of disposal.

### **Recommended Code Change – Need and Reason**

Please provide a thorough explanation of the need for this amendment and why this recommended amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its recommended changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

The proposed language is contained in Minnesota Rules, part 4715.1912, except that water used for heating has been added to water used for cooling. The rule is designed to protect potable (drinking and other human-contact) water systems from contaminants including oil, grease, other petroleum products, refrigerants, materials not approved for potable water contact, and metal particles in water-cooled waste streams.

### **Recommended Code Change – Cost/Benefit Analysis**

Please consider whether this recommended amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this recommended code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

This is a requirement of existing rule.

**Other Factors to Consider Related to Recommended Amendment**

14. Is this recommended code change meant to:

change language contained in a published code book? If so, list section(s).

This proposal amends Section 602.2.

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in a published code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

neither; this language will be new language, not found in the code book or in Minnesota Rule.

15. Is this recommended code change required by a Minnesota Statute or new legislation? If so, please provide the citation to the Statute or legislation.

no

16. Will this recommended code change impact other sections of a published code book or of an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

no

17. Will this recommended code change impact other parts of the Minnesota State Building Code? If so, please list the affected parts of the Minnesota State Building Code.

no

18. Who are the parties affected or segments of industry affected by this recommended code change?

This does not change existing requirements.

19. Can you think of other means or methods to achieve the purpose of the recommended code change? If so, please explain what they are and why your recommended change is the preferred method or means to achieve the desired result.

no

20. Are you aware of any federal requirement or regulation related to this recommended code change? If so, please list the regulation or requirement.

no

## NATIONAL CODE COMMITTEE COMMENT FORM FOR RECOMMENDED AMENDMENTS TO THE UPC

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*Email address:* ronald.thompson@state.mn.us

*Telephone number:* (651) 201-3658

*Firm/Association affiliation, if any:*

### **Recommended Code Change - Language**

Please provide your recommended UPC amendment in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

XXXX.XXXX CHAPTER 6, WATER SUPPLY AND DISTRIBUTION

**(Accept new language recommendation)**

UPC Section 603.5.12 is amended to read as follows:

**603.5.12 Beverage Dispensers.** Potable water supply to beverage dispensers, carbonated beverage dispensers, or coffee machines shall be protected by an airgap or vented backflow preventer in accordance with ASSE 1022. For carbonated beverage dispensers, piping materials installed downstream of the backflow preventer shall not be made of copper and not be affected by carbon dioxide gas.

### **Recommended Code Change – Need and Reason**

Please provide a thorough explanation of the need for this amendment and why this recommended amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its recommended changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

The current Minnesota Plumbing Code, part 4715.2163 prohibits copper downstream of the backflow preventer for carbonated beverage machines. Copper reacts strongly with carbon dioxide to dissolve copper often greatly exceeding the federal Maximum Contaminant Level goal of 1.3 milligrams per liter, a standard established to prevent short term gastrointestinal illness and long term liver or kidney damage.

### **Recommended Code Change – Cost/Benefit Analysis**

Please consider whether this recommended amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this recommended code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

Existing Minnesota rules prohibit the use of copper, so no change is expected.

**Other Factors to Consider Related to Recommended Amendment**

21. Is this recommended code change meant to:

change language contained in a published code book? If so, list section(s).

This changes the language in section 603.5.12 similar to existing Minnesota rules, part 4 715.2163

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in a published code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

neither; this language will be new language, not found in the code book or in Minnesota Rule.

22. Is this recommended code change required by a Minnesota Statute or new legislation? If so, please provide the citation to the Statute or legislation.

no

23. Will this recommended code change impact other sections of a published code book or of an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

no

24. Will this recommended code change impact other parts of the Minnesota State Building Code? If so, please list the affected parts of the Minnesota State Building Code.

no

25. Who are the parties affected or segments of industry affected by this recommended code change?

Plumbers, food and beverage service owners and operators

26. Can you think of other means or methods to achieve the purpose of the recommended code change? If so, please explain what they are and why your recommended change is the preferred method or means to achieve the desired result.

no

27. Are you aware of any federal requirement or regulation related to this recommended code change? If so, please list the regulation or requirement.

Federal Safe Drinking Water Act.

## NATIONAL CODE COMMITTEE COMMENT FORM FOR RECOMMENDED AMENDMENTS TO THE UPC

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*Email address:* ronald.thompson@state.mn.us

*Telephone number* (651) 201-3658

*Firm/Association affiliation, if any:*

### **Recommended Code Change - Language**

Please provide your recommended UPC amendment in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

XXXX.XXXX CHAPTER 6, WATER SUPPLY AND DISTRIBUTION

**(Accept new language recommendation)**

UPC Section 603.5.18 is amended as follows:

**603.5.18 Potable Water Outlets and Valves.** Potable water outlets, freeze-proof yard hydrants, combination stop-and-waste valves, or other fixtures that incorporate a stop and waste feature that drains into the ground shall not be installed underground except for a freeze-proof yard hydrant that is located at least two feet above the water table and at least 10 feet from any sewer or similar source of contamination.

### **Recommended Code Change – Need and Reason**

Please provide a thorough explanation of the need for this amendment and why this recommended amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its recommended changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

The current Minnesota Plumbing Code part 4715.1800, subpart 1 allows an underground combination stop and waste valve or cock, including a yard hydrant, if the device is approved by the administrative authority, is located two feet above the water table, and is located at least 10 feet from a sewer. Frost-free yard hydrants, are in very common use in Minnesota and have been approved under the rule by the Department of Labor and Industry and local governments. The concern for underground discharge is rightly based on back flow considerations. However, the alternative canister-type hydrants create operational problems, freezing issues in Minnesota winters, and when the canisters fail create a backflow concern if not located above the water table and isolated from contamination sources. The proposal extends the separation requirement to other sources of contamination, and establishes a standard.

**Recommended Code Change – Cost/Benefit Analysis**

Please consider whether this recommended amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this recommended code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

This proposal is consistent with existing Minnesota rule part 4715.1880, subpart 1 and will not affect costs. The UPC requirement if not amended will increase costs.

**Other Factors to Consider Related to Recommended Amendment**

28. Is this recommended code change meant to:

- change language contained in a published code book? If so, list section(s).  
This changes the language similar to existing Minnesota Rules, part 4715.1800, subpart 1.
- change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).
- delete language contained in a published code book? If so, list section(s).
- delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).
- neither; this language will be new language, not found in the code book or in Minnesota Rule.

29. Is this recommended code change required by a Minnesota Statute or new legislation? If so, please provide the citation to the Statute or legislation.  
no

30. Will this recommended code change impact other sections of a published code book or of an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.  
no

31. Will this recommended code change impact other parts of the Minnesota State Building Code? If so, please list the affected parts of the Minnesota State Building Code.  
no

32. Who are the parties affected or segments of industry affected by this recommended code change?  
Farmers, property owners, water system operators, plumbers

33. Can you think of other means or methods to achieve the purpose of the recommended code change? If so, please explain what they are and why your recommended change is the preferred method or means to achieve the desired result.  
no

34. Are you aware of any federal requirement or regulation related to this recommended code change? If so, please list the regulation or requirement.  
no

## NATIONAL CODE COMMITTEE COMMENT FORM FOR RECOMMENDED AMENDMENTS TO THE UPC

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*Author/requestor:* Minnesota Department of Health

*Email address:* ronald.thompson@state.mn.us

*Telephone number:* (651) 201-3658

*Firm/Association affiliation, if any:*

### **Recommended Code Change - Language**

Please provide your recommended UPC amendment in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

XXXX.XXXX CHAPTER 6, WATER SUPPLY AND DISTRIBUTION

**(Accept new language recommendation)**

UPC Section 603.5.22 is amended as follows:

**603.5.22 Barometric Loop.** Water connections where an actual or potential backflow or backsiphonage hazard exists not subject to backpressure may be protected with a barometric loop. A barometric loop is a section of pipe in the shape of an inverted “u” located upstream and rising 35 feet above the highest fixture it supplies.

### **Recommended Code Change – Need and Reason**

Please provide a thorough explanation of the need for this amendment and why this recommended amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its recommended changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

Barometric loops are a permitted form of cross connection control in Minnesota rules. Barometric loops are permitted in Minnesota Rules part 4715.2170, defined in Minnesota Rules, part 4715.0100, subpart 14, and illustrated in the Minnesota Plumbing Code illustrations and supplemental materials for part 4715.0100, subpart 14. A barometric loop is a very simple, non-mechanical, almost failure-proof solution for certain installations including warehouses and other tall buildings.

**Recommended Code Change – Cost/Benefit Analysis**

Please consider whether this recommended amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this recommended code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

This recommended amendment does not change existing requirements.

### Other Factors to Consider Related to Recommended Amendment

35. Is this recommended code change meant to:

change language contained in a published code book? If so, list section(s).

This proposal adds new section 603.5.22

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in a published code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

neither; this language will be new language, not found in the code book or in Minnesota Rule.

36. Is this recommended code change required by a Minnesota Statute or new legislation? If so, please provide the citation to the Statute or legislation.

no

37. Will this recommended code change impact other sections of a published code book or of an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

no

38. Will this recommended code change impact other parts of the Minnesota State Building Code? If so, please list the affected parts of the Minnesota State Building Code.

no

39. Who are the parties affected or segments of industry affected by this recommended code change?

Property owners and plumbers

40. Can you think of other means or methods to achieve the purpose of the recommended code change? If so, please explain what they are and why your recommended change is the preferred method or means to achieve the desired result.

no

41. Are you aware of any federal requirement or regulation related to this recommended code change? If so, please list the regulation or requirement.

no

## NATIONAL CODE COMMITTEE COMMENT FORM FOR RECOMMENDED AMENDMENTS TO THE UPC

(This form must be submitted electronically)

Author/requestor: Minnesota Department of Health

Email address: ronald.thompson@state.mn.us

Telephone number: (651) 201-3658

Firm/Association affiliation, if any:

Motion to accept with friendly amendments:

- **All Testable Devices:** Insert language that all of these ASSE **assemblies** devices be included: 1013, 1015, 1020, 1047, 1048, & 1056.
- **603.5.23.2:** Strike "...and overhaul intervals shall not exceed five years."
- **603.5.23.4** to read: "The authority having jurisdiction, in addition to" ~~the~~ public water supplier, must be notified....."
- *Revise anywhere in the language that is specific to RPZ valves, that all of these ASSE **assemblies** be included*

### Recommended Code Change - Language

Please provide your recommended UPC amendment in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

XXXX.XXXX CHAPTER 6, WATER SUPPLY AND DISTRIBUTION

UPC section 603.5 is amended as follows:

**603.5.23 Installation of Reduced-Pressure Principle Backflow Prevention Assembly.** A reduced-pressure principle backflow prevention assembly must be installed, tested, maintained, and removed in accordance with Section 603.5.22.1 through Section 603.5.22.4.

**603.5.23.1 Notification of installation.** The administrative authority must be notified before installation of a reduced-pressure principle backflow prevention assembly. The public water supplier must be notified of the installed reduced-pressure principle backflow preventer assembly within 30 days following installation on a community public water system.

**603.5.23.2 Testing and maintenance.** The installation of a reduced-pressure principle backflow prevention assembly shall be permitted only when a periodic testing and inspection program conducted by qualified personnel will be provided by an agency acceptable to the administrative authority. Inspection intervals shall not exceed one year, and overhaul intervals shall not exceed five years. The administrative authority may require more frequent testing if deemed necessary to assure protection of the potable water. A reduced-pressure principle backflow prevention assembly must be inspected after initial installation to assure that it has been properly installed and that debris resulting from the piping installation has not interfered with the functioning of the assembly.

**603.5.23.3 Inspection and records.** A test and inspection tag must be affixed to the reduced-pressure principle backflow prevention assembly. The tester shall date and sign the tag and include the tester's backflow prevention tester certification number. Written records of testing and maintenance must be maintained and submitted to the administrative authority, and to the public water supplier within 30 days of testing if installed on a community public water system.

**603.5.23.4 Notification of removal.** The public water supplier must be notified within 30 days following removal of a reduced-pressure principle backflow prevention assembly from a community public water system.

### **Recommended Code Change – Need and Reason**

Please provide a thorough explanation of the need for this amendment and why this recommended amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its recommended changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

The recommended change adopts existing part 4715.2161 of the Minnesota Plumbing Code with amendments specific to reduced pressure principle backflow prevention assemblies. Reduced pressure principle backflow prevention assemblies are installed to protect potable water systems from the most dangerous and toxic contaminants. The Uniform Plumbing Code (UPC) requires approval and annual testing of all devices or assemblies installed for the prevention of backflow in sections 603.2 and 603.4.2. However, the UPC does not address reduced-pressure principle backflow prevention assembly oversight, rebuilding (overhaul every 5 years), inspection tags, and reporting as required in current Minnesota rules. In addition to adopting the existing Minnesota rule language, the proposal adds a requirement that a community public water supplier (typically a municipal water utility) be notified when a reduced pressure backflow prevention assembly is installed, tested, or removed on their community public water system. The recommended language does not require community public water supplier approval, but does require notification, so that the public water supplier is aware of changes to the public water system that could negatively affect water quality and safety of the entire public system. The terminology is changed from “reduced pressure backflow preventer” as used in the current Minnesota Plumbing Code, to “reduced pressure principle backflow prevention assembly” consistent with the term as used in the UPC.

### **Recommended Code Change – Cost/Benefit Analysis**

Please consider whether this recommended amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this recommended code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

The recommended change adopts current requirements in Minnesota Rules. A very minimal increase in time/cost will be incurred to contact the public water supplier for assemblies on public water supplies. This nominal effort will help protect the integrity of the entire public water system.

**Other Factors to Consider Related to Recommended Amendment**

1. Is this recommended code change meant to:

change language contained in a published code book? If so, list section(s).  
The proposal amends Section 603.5

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in a published code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

neither; this language will be new language, not found in the code book or in Minnesota Rule.

2. Is this recommended code change required by a Minnesota Statute or new legislation? If so, please provide the citation to the Statute or legislation.

no

3. Will this recommended code change impact other sections of a published code book or of an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

no

4. Will this recommended code change impact other parts of the Minnesota State Building Code? If so, please list the affected parts of the Minnesota State Building Code.

no

5. Who are the parties affected or segments of industry affected by this recommended code change?

The public, community public water suppliers, and plumbers

6. Can you think of other means or methods to achieve the purpose of the recommended code change? If so, please explain what they are and why your recommended change is the preferred method or means to achieve the desired result.

no

7. Are you aware of any federal requirement or regulation related to this recommended code change? If so, please list the regulation or requirement.

no

## NATIONAL CODE COMMITTEE COMMENT FORM FOR RECOMMENDED AMENDMENTS TO THE UPC

(This form must be submitted electronically)

*Author/requestor:* Minnesota Department of Health

*Email address:* ronald.thompson@state.mn.us

*Telephone number:* (651) 201-3658

*Firm/Association affiliation, if any:*

### **Recommended Code Change - Language**

Please provide your recommended UPC amendment in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

XXXX.XXXX CHAPTER 6, WATER SUPPLY AND DISTRIBUTION

UPC section 604.11 is amended as follows:

604.11 Lead Content. Water pipe and fittings with a lead content which exceeds a weighted average of 0.25 ~~8~~ percent in the wetted surface material, as established in the Safe Drinking Water Act, section 1417(d) shall be prohibited in piping systems used to convey potable water.

### **Recommended Code Change – Need and Reason**

Please provide a thorough explanation of the need for this amendment and why this recommended amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its recommended changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

The federal Reduction of Lead in Drinking Water Act, signed by President Obama in January of 2011, effective in 2014, reduces the allowable amount of lead from 8% (currently in the Plumbing Code, Minnesota rules part 4715.0500) to 0.25 percent.

**Recommended Code Change – Cost/Benefit Analysis**

Please consider whether this recommended amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this recommended code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

This is required by federal law.

### **Other Factors to Consider Related to Recommended Amendment**

1. Is this recommended code change meant to:
  - change language contained in a published code book? If so, list section(s).  
This proposal amends Section 604.111.
  - change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).
  - delete language contained in a published code book? If so, list section(s).
  - delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).
  - neither; this language will be new language, not found in the code book or in Minnesota Rule.
2. Is this recommended code change required by a Minnesota Statute or new legislation? If so, please provide the citation to the Statute or legislation.  
no
3. Will this recommended code change impact other sections of a published code book or of an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.  
no
4. Will this recommended code change impact other parts of the Minnesota State Building Code? If so, please list the affected parts of the Minnesota State Building Code.  
no
5. Who are the parties affected or segments of industry affected by this recommended code change?  
The public and plumbers
6. Can you think of other means or methods to achieve the purpose of the recommended code change? If so, please explain what they are and why your recommended change is the preferred method or means to achieve the desired result.  
no
7. Are you aware of any federal requirement or regulation related to this recommended code change? If so, please list the regulation or requirement.  
Federal Lead Reduction Act of 2011

## NATIONAL CODE COMMITTEE COMMENT FORM FOR RECOMMENDED AMENDMENTS TO THE UPC

(This form must be submitted electronically)

*Author/requestor:* Minnesota Department of Health

*Email address:* ronald.thompson@state.mn.us

*Telephone number:* (651) 201-3658

*Firm/Association affiliation, if any:*

### **Recommended Code Change - Language**

Please provide your recommended UPC amendment in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

XXXX.XXXX CHAPTER 6, WATER SUPPLY AND DISTRIBUTION

UPC section 609 is amended to read as follows:

**609.11 Water Meters.** Water meters shall be located inside a building and installed at least 12 inches above the finished floor and shall be readily accessible. All water meter installations shall be rigidly supported with a permanent support in order to prevent the meter from vibrating when the water is passing through it. Exceptions: Where installation inside a building is not possible, the water meter may be installed in an enclosed structure not subject to flooding, high groundwater, or surface drainage runoff, provided the meter is protected from freezing. Provisions shall be made to install the meters above grade when possible. When installed below grade, the top of the structure shall be located at least 12 inches above the finished grade, be secured, and accessible. This structure shall not be connected to any storm or sanitary sewer system.

### **Recommended Code Change – Need and Reason**

Please provide a thorough explanation of the need for this amendment and why this recommended amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its recommended changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

The recommended amendment to the UPC is the exact rule requirement in existing Minnesota Rules, part 4715.2280. The rule is designed to prevent flooding and corrosion of meters if located in a pit, depression, or at floor level, and allow for access to safely repair, replace, and read the meter.

**Recommended Code Change – Cost/Benefit Analysis**

Please consider whether this recommended amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this recommended code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

This is an existing requirement of Minnesota Rules, part 4715.2280.

**Other Factors to Consider Related to Recommended Amendment**

1. Is this recommended code change meant to:

change language contained in a published code book? If so, list section(s).

This proposal adds new section 609.11.

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in a published code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

neither; this language will be new language, not found in the code book or in Minnesota Rule.

2. Is this recommended code change required by a Minnesota Statute or new legislation? If so, please provide the citation to the Statute or legislation.

no

3. Will this recommended code change impact other sections of a published code book or of an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

no

4. Will this recommended code change impact other parts of the Minnesota State Building Code? If so, please list the affected parts of the Minnesota State Building Code.

no

5. Who are the parties affected or segments of industry affected by this recommended code change?

The amendment does not change existing requirements.

6. Can you think of other means or methods to achieve the purpose of the recommended code change? If so, please explain what they are and why your recommended change is the preferred method or means to achieve the desired result.

no

7. Are you aware of any federal requirement or regulation related to this recommended code change? If so, please list the regulation or requirement.

No

## NATIONAL CODE COMMITTEE COMMENT FORM FOR RECOMMENDED AMENDMENTS TO THE UPC

(This form must be submitted electronically)

*Author/requestor:* Minnesota Department of Health

*Email address:* ronald.thompson@state.mn.us

*Telephone number:* (651) 201-3658

*Firm/Association affiliation, if any:*

### **Recommended Code Change - Language**

Please provide your recommended UPC amendment in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

XXXX.XXXX CHAPTER 6, WATER SUPPLY AND DISTRIBUTION

UPC Section 610.3 is amended as follows:

**610.3 Quantity of Water.** The quantity of water required to be supplied to every plumbing fixture shall be represented by fixture units, as shown in Table 610.3, except for single family residential well water systems that are incapable of supplying the calculated quantity due to hydrologic conditions. Equivalent fixture values shown in Table 610.3 include both hot and cold water demand.

### **Recommended Code Change – Need and Reason**

Please provide a thorough explanation of the need for this amendment and why this recommended amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its recommended changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

Some areas of Minnesota, typically in the northeast and southwest parts of the state have inadequate groundwater resources to supply sustained water yields. Wells may only produce 1 gallon per minute or less. In these cases, larger storage or pressure tanks can provide some relief but cannot practically or financially provide a sustained yield of 10 gallons per minute or more depending on the use.

**Recommended Code Change – Cost/Benefit Analysis**

Please consider whether this recommended amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this recommended code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

The recommended amendment will reduce costs in some instances.

### Other Factors to Consider Related to Recommended Amendment

1. Is this recommended code change meant to:

change language contained in a published code book? If so, list section(s).

The recommended change amends Section 610.3.

change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

delete language contained in a published code book? If so, list section(s).

delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

neither; this language will be new language, not found in the code book or in Minnesota Rule.

2. Is this recommended code change required by a Minnesota Statute or new legislation? If so, please provide the citation to the Statute or legislation.

no

3. Will this recommended code change impact other sections of a published code book or of an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.

no

4. Will this recommended code change impact other parts of the Minnesota State Building Code? If so, please list the affected parts of the Minnesota State Building Code.

no

5. Who are the parties affected or segments of industry affected by this recommended code change?

Persons with low yielding water supplies

6. Can you think of other means or methods to achieve the purpose of the recommended code change? If so, please explain what they are and why your recommended change is the preferred method or means to achieve the desired result.

no

7. Are you aware of any federal requirement or regulation related to this recommended code change? If so, please list the regulation or requirement.

no

Accept with language amendment: 611.1.2:

Wetted materials used in drinking water conditioning equipment ~~meet~~ shall comply with ANSI/NSF61 standards, or the equipment shall comply with the applicable NSF standards as listed in Table 1401.1.

**611.0 Drinking Water Conditioning Equipment.**

**611.1 Application.** ~~Drinking W~~water conditioning equipment shall comply with the standards requirements in this section.

**611.1.1 Definition.** ~~Drinking W~~water conditioning equipment means any appliance, appurtenance, or fixture, or any combination thereof, designed to treat potable water, so as to alter, modify, add, or remove any minerals chemicals, or bacteria contained in water. Drinking Wwater conditioning equipment includes but is not limited to ion exchange water softeners, backwashing water filters, oxidizing water filters, cartridge filters, chemical feed cartridges, ultraviolet lights, and equipment for reverse osmosis, ultrafiltration, nanofiltration, pH adjustment, nitrate and arsenic removal and adsorption onto activated carbon.

**611.1.2 ~~Design, Construction~~ Manufacture and Assembly.** ~~Drinking W~~water conditioning equipment may be manufactured as a complete system or ~~may be designed, constructed and assembled as a complete system from~~ by a licensed plumber or licensed water conditioning contractor using various types of drinking water conditioning equipment. Wetted materials used in drinking water conditioning equipment shall comply with ANSI/NSF61 standards, or the equipment shall comply with the applicable NSF standards as listed in Table 1401.1.

~~611.1.2.1 — **Safe Materials.** Water conditioning equipment shall be made of safe materials so as not to degrade the safety of water for human consumption.~~

~~611.1.2.2 — **Principal Standard.** The principal standard for materials safety is the requirement prohibiting the imparting of materials into potable water as defined in ANSI/NSF 61.~~

**611.1.3 Labeling.** All water conditioning equipment must be labeled by the manufacturer, licensed plumber or by the licensed water conditioning contractor who ~~designed, constructed~~ manufactured or assembled the equipment so as to clearly identify the type of equipment and the name and address of the manufacturer, licensed plumber or licensed contractor who ~~designed, constructed~~ manufactured or assembled the equipment.

**611.2 Airgap Discharge.** Any discharge from drinking water conditioning equipment shall enter the drainage system through an airgap in accordance with Table 603.3.1 or an airgap device in accordance with Table 603.2, NSF 58, or IAPMO PS 65. ~~Salt regenerating and backwashing water treatment equipment are low hazard devices and require no more backflow protection than provided by a properly sized airgap in accordance with Table 603.3.1.~~

**611.3 Connection Tubing.** The tubing to and from drinking water conditioning equipment shall be of a size and material as recommended by the manufacturer. The tubing shall comply with the requirements of NSF 14, NSF 42, NSF 44, NSF 53, NSF 55, NSF 58, NSF 62 or the appropriate material standards referenced in Table 1401.1.

**611.4 Sizing of Residential Softeners.** Residential-use water softeners shall be sized in accordance with Table 611.4.

**TABLE 611.4  
SIZING OF RESIDENTIAL WATER SOFTENERS<sup>4</sup>**

REQUIRED SIZE OF SOFTENER CONNECTION (inches)	NUMBER OF BATHROOM GROUPS SERVED <sup>1</sup>
3/4	Up to 2 <sup>2</sup>
1	Up to 4 <sup>3</sup>

For SI units: 1 inch = 25 mm

**Notes:**

- <sup>1</sup> Installation of a kitchen sink and dishwasher, laundry tray, and automatic clothes washer permitted without additional size increase.
- <sup>2</sup> An additional water closet and lavatory permitted.
- <sup>3</sup> Over four bathroom groups, the softener size shall be engineered for the specific installation.
- <sup>4</sup> See also Appendix A, Recommended Rules for Sizing the Water Supply System, and Appendix C, Alternate Plumbing Systems, for alternate methods of sizing water supply systems.

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**NATIONAL CODE COMMITTEE COMMENT FORM  
FOR PROPOSED AMENDMENTS TO THE UPC**

(This form must be submitted electronically)

Author/requestor: Minnesota Department of Health

Email address: ronald.thompson@state.mn.us

Telephone number: (651) 201-3658

Firm/Association affiliation, if any:

**Proposed Code Change - Language**

Please provide your proposed UPC amendment in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

XXXX.XXXX CHAPTER 7, SANITARY DRAINAGE

UPC section (table) 702.1 is amended as follows:

**TABLE 702.1  
DRAINAGE FIXTURE UNIT VALUES (DFU)**

<b>PLUMBING APPLIANCES, APPURTENANCES, OR FIXTURES</b>	<b>MINIMUM SIZE TRAP ARM<sup>7</sup> (inches)</b>	<b>PRIVATE</b>	<b>PUBLIC</b>	<b>ASSEMBLY<sup>8</sup></b>
Dishwasher, commercial	2	-	3	-
Sinks				
Commercial with food waste	<del>1 1/2</del> <u>2</u>	-	3	3

**Proposed Code Change – Need and Reason**

Please provide a thorough explanation of the need for this amendment and why this proposed amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its proposed changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

Minnesota Rules, part 4715.2300, subpart 3 requires a minimum 2-inch diameter trap arm to prevent plugging with the very large quantities and sizes of food particles and wastes rapidly disposed of in commercial dishwashers and sinks.

**Proposed Code Change – Cost/Benefit Analysis**

Please consider whether this proposed amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this proposed code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

This does not change requirements in existing Minnesota Rules.

704.2

Accept with addition of last paragraph of 4715.1000

**Friendly amendment to move 704.2 language to section 707.4.1 and include last paragraph of 4715.1000.**

705.10.2

Accept with modified language **to read as follows:**

**Expansion joints shall be accessible, except where in vent piping or drainage stacks, and shall be permitted to be used where necessary to provide for expansion and contraction of the pipes.**

*Comments from  
Arvella Greenway*

• Chapter 7

704.2 Single Vertical Drainage Pipe: A side by side installation would be hard to service.

705.10.2 Expansion Joints: If expansion joints are allowed all expansion joints shall be accessible.

712.1 Testing Media: we have been successfully air testing plastic piping for years and would find it hard to perform a water test in the middle of the winter on an unheated jobsite.

• Chapter 9

902.2 Bars, Soda Fountains, and Counter: We have not run into a circumstance where it is impossible to vent these fixtures with island vents, so Omit not needing to be vented and being able to be drained into a floor sink indirectly.

906.1 Roof Termination and 906.7 Frost or Snow Closure: The proposed 10" would be covered by most winters. We should keep the current minimum of 12" above.

911.1 General: Since this section is titled Engineered Vent System is the registered design professional a professional engineer or a licensed plumbing contractor?

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## NATIONAL CODE COMMITTEE COMMENT FORM FOR PROPOSED AMENDMENTS TO THE UPC

(This form must be submitted electronically)

*Author/requestor:* Minnesota Department of Health

*Email address:* ronald.thompson@state.mn.us

*Telephone number:* (651) 201-3658

*Firm/Association affiliation, if any:*

---

### **Proposed Code Change - Language**

Please provide your proposed UPC amendment in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

XXXX.XXXX CHAPTER 7, SANITARY DRAINAGE

UPC Section 704.3 is amended as follows:

**704.3 Commercial Dishwashing Machines and Sinks.** Pot sinks, scullery sinks, dishwashing sinks, silverware sinks, commercial kitchen sinks, commercial dishwashing machines, silverware washing machines, and other similar fixtures shall be connected directly to the drainage system. A floor drain shall be provided adjacent to the fixture, and the fixture shall be connected on the sewer side of the floor drain trap, provided that no other drainage line is connected between the floor drain waste connection and the fixture drain. The floor drain on the fixture branch shall be constructed without a backwater valve. The fixture and the floor drain shall be trapped and vented in accordance with this code.

### **Proposed Code Change – Need and Reason**

Please provide a thorough explanation of the need for this amendment and why this proposed amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its proposed changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

The Minnesota Food code, Minnesota Rules, Chapter 4626, applies to food services and adopts NSF Standard 7 by reference. NSF Standard 7 requires commercial food service sinks to be

directly wasted and vented. This design is currently allowed by the Minnesota Plumbing Code, Minn. Rules Chapter 4715.1250.

**Proposed Code Change – Cost/Benefit Analysis**

Please consider whether this proposed amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this proposed code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

This amendment to the UPC makes it consistent with the state food code and existing Minnesota Plumbing Code, part 4715.1250.

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*Author/requestor:* Minnesota Department of Health

*Email address:* ronald.thompson@state.mn.us

*Telephone number:* (651) 201-3658

*Firm/Association affiliation, if any:*

---

### **Proposed Code Change - Language**

Please provide your proposed UPC amendment in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

XXXX.XXXX CHAPTER 7 SANITARY DRAINAGE

UPC Section 724.0 is amended as follows:

#### **724.0 Recreational Vehicle Sanitary Disposal Station.**

**724.1 Construction.** Each recreational vehicle sanitary disposal (dump) station shall have a concrete slab with the drainage system located as to be on the road (left) side of the recreational vehicle. The slab shall be not less than 3 feet by 3 feet (914 mm by 914 mm), not less than 3 ½ inches (89 mm) thick and properly reinforced. The slab surface must be troweled to a smooth finish and sloped from each side inward to a drainage system inlet.

The drainage system inlet shall consist of a 4 inch (102 mm), self-closing, foot-operated hatch of materials meeting these rules with the cover milled to fit tight. The hatch body shall be set in the concrete of the slab with the lip of the opening flush with its surface to facilitate the cleansing of the slab with water. The hatch shall be properly connected to a drainage system inlet, which shall discharge to a public or private sewer meeting the standards of this section.

**724.2 Flushing Device.** The recreational vehicle sanitary disposal station flushing device shall consist of a supported riser terminating not less than 2 feet (610 mm) above the ground surface, with a ¾ of an inch (20 mm) valved outlet adaptable for a flexible hose. The flexible hose shall be designed such that it cannot lie on the ground.

The water supply to the flushing device shall be protected from backflow by means of a listed vacuum breaker or backflow prevention device located downstream from the last shutoff valve.

Adjacent to the recreational vehicle sanitary disposal station shall be posted a sign of durable material not less than 2 feet by 2 feet (610 mm by 610 mm) in size. Inscribed thereon in clearly legible letters shall be the following:

“DANGER – NOT TO BE USED FOR DRINKING OR DOMESTIC PURPOSES.”

#### **Proposed Code Change – Need and Reason**

Please provide a thorough explanation of the need for this amendment and why this proposed amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its proposed changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

These sanitary disposal or “dump” stations exist at recreational vehicle parks, and also at campgrounds, parks, gas stations and highway rest stops. The facility allows the RV owner to empty the sewage holding tank. The stations have a source of water to wash any spilled sewage and clean hoses. Public health issues include preventing human contact with, and disease transmission from, feces and other sewage components and preventing backflow of sewage into the water system.

The existing Minnesota Rules, Chapter 4715 appendix contains a diagram titled “Sanitary Dump Station Construction” which details the existing standards for disposal of sewage wastes from recreational vehicle holding tanks. The UPC has language in appendix E, part K that has been simplified and combined with the existing diagram in the Minnesota Plumbing Code.

#### **Proposed Code Change – Cost/Benefit Analysis**

Please consider whether this proposed amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this proposed code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

This does not change existing sanitary dump station construction standards.

Accept all; Exception: 712.1 is changed to reflect the word "shall" instead of "may" as suggested

704.3 – include "beverage service sinks" however, "~~commercial food preparation sinks~~" language not necessary as similar language is present in MDH's exhibit 29)

710.13: Do NOT strike the language: "where approved by the Authority Having Jurisdiction."

712.0 to 712.6: No issues (exception 712.1 addressed above)

715.3 – Leave language as currently written in UPC

## NATIONAL CODE REVIEW COMMITTEE SUGGESTION FORM

(This form must be submitted electronically)

Author/requestor: Cathy Tran

Email address: cathy.tran@state.mn.us

Telephone number: 651/284-5898

Firm/Association affiliation, if any: DLI

---

### Suggested Code Change - Language

Please provide your suggested change using a strikeout and underline format. Provide the *specific* language you would like to see changed, with new words underlined and ~~strikeout~~ the words to be deleted. Tell us whether the language you are suggesting or changing is from a code book or from Minnesota Rules, chapter 4715. (You may provide the language (electronically) on a separate attached sheet).

**2012 UPC Chapter 7, Sanitary Drainage**-See attached documents.

### Suggested Code Change – Need and Reason

Please provide a thorough explanation of the need for the suggested change and why the change is a reasonable one. During the rulemaking process, the Board must defend the need for and reasonableness of all its proposed changes. (You may provide the need and reason (electronically) on a separate attached sheet).

See attached documentation.

### Suggested Code Change – Cost/Benefit Analysis

Please explain whether the change you suggest will increase or decrease costs, or that the change will not have any cost implications. If there is an increased cost, will this cost be offset somehow by a life-safety or other benefit? If so, please explain. Are there any cost increases or decreases to enforce or comply with the suggested change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate attached sheet).

No cost implications.

## CHAPTER 7 - 2012 UPC DLI Proposed changes

**701.1 Drainage Piping.** Materials for drainage piping shall be in accordance with one of the referenced standards in Table 701.1 except that:

- (1) No galvanized wrought-iron or galvanized steel pipe shall be used underground and shall be kept not less than 6 inches (152 mm) aboveground.
- (2) ABS and PVC DWV piping installations shall be installed in accordance with applicable standards referenced in Table 1401.1 and Chapter 15 "Firestop Protection." Except for individual single family dwelling units, materials exposed within ducts or plenums shall have a flame spread index of a maximum of 25 and a smoke developed index of a maximum 50, where tested in accordance with ASTM E 84 and UL 723.

**SONAR:** The proposed amendment would remove the reference to Chapter 15 since firestop protection is part Chapter 15 regulated in other codes and not plumbing.

**TABLE 702.1  
DRAINAGE FIXTURE UNIT VALUES (DFU)**

PLUMBING APPLIANCES, APPURTENANCES, OR FIXTURES	MINIMUM SIZE TRAP AND TRAP ARM <sup>76</sup> (inches)	PRIVATE	PUBLIC	ASSEMBLY <sup>87</sup>
Bathtub or Combination Bath/Shower	1½	2.0	2.0	—
Bidet	1¼	1.0	—	—
Bidet	1½	2.0	—	—
Clothes Washer, domestic, standpipe <sup>5</sup>	2	3.0	3.0	3.0
Dental Unit, cuspidor	1¼	—	1.0	1.0
Dishwasher, domestic, with independent drain <sup>2</sup>	1½	2.0	2.0	2.0
Drinking Fountain or Water Cooler	1¼	0.5	0.5	1.0
Food Waste Grinder, commercial	2	—	3.0	3.0
Floor Drain, emergency	2	—	0.0	0.0
Floor Drain (for additional sizes see Section 702.0)	2	2.0	2.0	2.0
Shower, single-head trap	2	2.0	2.0	2.0
Multi-head, each additional	2	1.0	1.0	1.0
Lavatory, single	1¼	1.0	1.0	1.0
Lavatory, in sets of two or three	1½	2.0	2.0	2.0
Washfountain	1½	—	2.0	2.0
Washfountain	2	—	3.0	3.0
Mobile Home, trap	3	12.0	—	—
Receptor, indirect waste <sup>1,3</sup>	1½	See footnote <sup>1,3</sup>		
Receptor, indirect waste <sup>1,4</sup>	2	See footnote <sup>1,4</sup>		
Receptor, indirect waste <sup>1</sup>	3	See footnote <sup>1</sup>		
Sinks	—	—	—	—
Bar	1½	1.0	—	—
Bar <sup>2</sup>	1½	—	2.0	2.0
Clinical	3	—	6.0	6.0
Commercial with food waste <sup>2</sup>	1½	—	3.0	3.0
Commercial Pot or Scullery	2	—	4.0	4.0
Special Purpose <sup>2</sup>	1½	2.0	3.0	3.0
Special Purpose	2	3.0	4.0	4.0
Special Purpose	3	—	6.0	6.0
Kitchen, domestic <sup>2</sup> (with or without food waste grinder, dishwasher, or both)	1½	2.0	2.0	—
Laundry <sup>2</sup> (with or without discharge from a clothes washer)	1½	2.0	2.0	2.0
Service or Mop Basin	2	—	3.0	3.0
Service or Mop Basin	3	—	3.0	3.0
Service, flushing rim	3	—	6.0	6.0
Wash, each set of faucets	—	—	2.0	2.0
Urinal, integral trap 1.0 GPF <sup>2</sup>	2	2.0	2.0	5.0
Urinal, integral trap greater than 1.0 GPF	2	2.0	2.0	6.0
Urinal, exposed trap <sup>5</sup>	1½	2.0	2.0	5.0
Water Closet, 1.6 GPF Gravity Tank <sup>6</sup>	3	3.0	4.0	6.0

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Water Closet, 1.6 GPF Flushometer Tank <sup>6</sup>	3	3.0	4.0	6.0
Water Closet, 1.6 GPF Flushometer Valve <sup>6</sup>	3	3.0	4.0	6.0
Water Closet, greater than 1.6 GPF Gravity Tank <sup>6</sup>	3	4.0	6.0	8.0
Water Closet, greater than 1.6 GPF Flushometer Valve <sup>6</sup>	3	4.0	6.0	8.0

For SI units: 1 inch = 25 mm

Notes:

<sup>1</sup> Indirect waste receptors shall be sized based on the total drainage capacity of the fixtures that drain therein to, in accordance with Table 702.2(b).

<sup>2</sup> Provide a 2 inch (50 mm) minimum drain.

<sup>3</sup> For refrigerators, coffee urns, water stations, and similar low demands.

<sup>4</sup> For commercial sinks; dishwashers, and similar moderate or heavy demands.

<sup>5</sup> Buildings having a clothes-washing area with clothes washers in a battery of three or more clothes washers shall be rated at 6 fixture units each for purposes of sizing common horizontal and vertical drainage piping.

<sup>6</sup> Water closets shall be computed as 6 fixture units where determining septic tank sizes based on Appendix H of this code.

<sup>76</sup> Trap sizes shall not be increased to the point where the fixture discharge is capable of being inadequate to maintain their self-scouring properties.

<sup>87</sup> Assembly [Public Use (see Table 422.1)] (see Minnesota State Building Code rules)

**SONAR:** This table is amended to add requirements for a 2-inch trap and trap arm for pot and scullery sinks which are commercial kitchen sinks with large size compartments that need to discharge to drainage system within a reasonable period of time for sanitary purposes. It would also remove the references to septic tank sizing in Appendix H and to the fixture requirements in Table 422.1. Septic tank sizing is part of MPCA rules and Table 422.1 specifies fixture requirements which are defined in the Minnesota Building Code. The notes are also renumbered accordingly to reflect the deletion to footnote 6.

**704.3 Commercial Dishwashing Machines and Sinks.** Commercial food preparation sinks, beverage service sinks, pot sinks, scullery sinks, dishwashing sinks, silverware sinks, commercial dishwashing machines, silverware-washing machines, and other similar fixtures shall be connected directly to the drainage system. A floor drain constructed without a backwater valve shall be provided adjacent to the fixture, and the fixture shall be connected on the sewer side of the floor drain trap, provided that no other drainage line is connected between the floor drain waste connection and the fixture drain. The fixture and floor drain shall be trapped and vented in accordance with this code.

**SONAR:** This amendment adds food preparation sinks and bar sinks to this section for commercial application and clarifies the function of the floor drain. The installation of a backwater valve on the floor drain branch would defeat the purpose of the floor drain which is to prevent sewage backup into the fixtures and therefore, is necessary to add the language requiring a floor drain constructed without a backwater valve.

**710.12 Grinder Pump Ejector.** Grinder pumps shall be permitted to be used. The sump basin storage volume and the pump capacity must be sized adequately to prevent overloading and must at minimum accommodate water demand peak flow from all fixtures.

**710.12.1 Discharge Piping.** The discharge piping shall be sized in accordance with the manufacturer's installation instructions and shall be not less than 1 1/4 inches (32 mm) in diameter. A check valve and fullway-type shutoff valve shall be located within the discharge line.

**SONAR:** This amendment adds requirements on the sizing of the sump and pump capacity for grinder pumps. These pumps are generally designed with low discharge rates and small sumps and therefore, the sumps can fill up quickly creating an unsanitary condition in any building. By adding this requirement, the designer must considered sizing of the sumps and pumps when considering the use of grinder pumps.

**710.13 Macerating Toilet Systems.** Listed macerating toilet systems shall be permitted as an alternate to a sewage pump system, ~~where approved by the Authority Having Jurisdiction.~~ A macerating toilet system may only be installed in one- or two-family dwellings when gravity flow is not possible. Not more than one bathroom group, consisting of a toilet, a lavatory, and a shower or bathtub, may discharge into a macerating toilet system. Components of macerating toilet systems shall be accessible.

**710.13.1 Sumps.** The sump shall be water- and gastight. Location.

**710.13.2 Discharge Piping.** The discharge piping shall be sized in accordance with manufacturer's instructions and shall be not less than 3/4 of an inch (20 mm) in diameter. The developed length of the discharge piping shall not exceed the manufacturer's instructions. A check valve and fullway-type shutoff valve shall be located within the discharge line or internally within the device.

**710.13.3 Venting.** The plumbing fixtures that discharge into the macerating device shall be vented in accordance with this code. The sump shall be vented in accordance with the manufacturer's instructions and such vent shall be permitted to connect to the fixture venting.

**SONAR:** This amendment restricts the installation of the macerating toilet system to one or two family dwellings and when gravity flow is not possible. These systems are not design for commercial application and are only suitable for one and two family dwellings as each system is only able of handling one bathroom group consisting of a toilet, a lavatory, and a shower or tub.

#### 712.0 Test

**712.1 Media.** The piping of the plumbing, drainage, and venting systems ~~shall may~~ be tested with water or air ~~except that plastic pipe may shall not be tested with air.~~ The Authority Having Jurisdiction shall be permitted to require the removal of cleanouts, etc., to ascertain whether the pressure has reached all parts of the system. ~~After the plumbing fixtures have been set and their traps filled with water, they shall be submitted to a final test.~~

**712.2 Water Test.** The water test shall be applied to the drainage and vent systems either in its entirety or in sections. Where the test is applied to the entire system, openings in the piping shall be tightly closed, except the highest opening, and the system filled with water to point of overflow. Where the system is tested in sections, each opening shall be tightly plugged, except the highest opening of the section under test, and each section shall be filled with water, but no section shall be tested with less than a 10 foot (3048 mm) head of water. In testing successive sections, not less than the upper 10 feet (3048 mm) of the next preceding section shall be tested, so that no joint or pipe in the building (except the uppermost 10 feet (3048 mm) of the system) shall have been submitted to a test of less than a 10 foot (3048 mm) head of water. The water shall be kept in the system, or in the portion under test, for not less than 15 minutes before inspection starts. The system shall then be tight at points.

**712.3 Air Test.** The air test shall be made by attaching an air compressor testing apparatus to a suitable opening and, after closing all other inlets and outlets to the system, forcing air into the system until there is a uniform gauge pressure of 5 pounds-force per square inch (psi) (34 kPa) or sufficient to balance a column of mercury 10 inches (34 kPa) in height. The pressure shall be held without introduction of additional air for a period of not less than 15 minutes.

**712.4 Negative Test.** In lieu of five pound air test, concrete manholes and sewer lines may be tested by negative pressure in accordance with ASTM Standards C1214-92 and C1244-93.

**712.5 Finished Plumbing.** After the plumbing fixtures have been set and their traps filled with water, their connections shall be tested and proven gas and water tight by plugging the stack openings on the roof and the building drain where it leaves the building, and air introduced into the system equal to the pressure of a one inch water column. Such pressure shall remain constant for 15 minutes or the duration of the inspection without the introduction of additional air.

**712.6 Test Plugs or Caps.** Test plugs or caps for roof terminals must extend above or outside the end of the vent pipe to provide a visible indication for removal after the test has been completed.

**SONAR:** This amendment adds an air test as an option for testing DWV and negative pressure test for manholes and sewers. This is needed to address testing that is specific for Minnesota climate conditions which water tests are not possible in the winter when the temperature is below zero when majority of buildings are not heated during winter construction. In addition, specific final testing requirements in sections 712.4 & 712.5 are added to clarify for testing of finished plumbing with fixtures set. It is necessary to add finish testing language so all installers can understand the requirements and can be enforced consistently statewide to ensure that once fixtures are installed the system is airtight.

**713.5 Permit.** ~~No permit shall be issued for the installation, alteration, or repair of a private sewage disposal system, or part thereof, on a lot for which a connection with a public sewer is available.~~

**SONAR:** This amendment eliminates the prohibition to permit the installation, alteration, and repair of a septic system which are regulated by MPCA rules and statutes. Section 713.7 was amended since the plumbing code applies to all piping within the property line unless an official easement is placed over the sewer.

**713.7 Installation.** In cities, counties, or both where the installation of building sewers is under the jurisdiction of a municipal utility easement ~~department other than the Authority Having Jurisdiction~~, the provisions of this code relating to building sewers need not apply.

Exception: Single-family dwellings and buildings or structures accessory thereto, existing and connected to an approved private sewage disposal system prior to the time of connecting the premises to the public sewer shall be permitted, where no hazard, nuisance, or insanitary condition is evidenced and written permission has been obtained from the Authority Having Jurisdiction, remain connected to such properly maintained private sewage disposal system where there is insufficient grade or fall to permit drainage to the sewer by gravity.

**SONAR:** Section 713.7 is amended to clarify that if a building sewer is under a municipal utility easement, the sewer does not have to comply with this code. The code applies to all piping within the property line unless an official utility easement is placed over the sewer.

**715.3 Existing Sewers.** Replacement of existing building sewers and building storm sewers using cured-in-place pipe lining trenchless methodology and materials shall be installed in accordance with ASTM F 1216. Replacement using cured-in-place pipe liners must not be used on collapsed piping or when the existing piping is compromised to a point where the installation of the liners will not eliminate hazardous or insanitary conditions.

**SONAR:** This amendment would add conditions where the existing sewers are significantly damaged and using cured-in-place lining technology must not be used. This is necessary to clarify that some existing sewers are substantially damaged, collapsed, or compromised to the point that lining will not provide sufficient remedy to eliminate insanitary conditions. Replacement with code approved pipe materials may be necessary in those cases.

**TABLE 717.1  
MAXIMUM/MINIMUM FIXTURE UNIT LOADING  
ON BUILDING SEWER PIPING\***

SIZE OF PIPE (inches)	SLOPE, (inches per foot)		
	1/16	1/8	1/4
6 and smaller	(As specified in Table 703.2/ No minimum loading)		
8	1950/1500	2800/625	3900/275
10	3400/1600	4900/675	6800/300
12	5600/1700	8000/725	11 200/325

For SI units: 1 inch = 25 mm, 1 inch per foot = 83.3 mm/m

\* See also Appendix H, Private Sewage Disposal Systems. For alternate methods of sizing drainage piping, see Appendix C.

**SONAR:** This amendment would eliminate the reference to Appendix H which is part of MPCA rules, and is not part of this code.

**720.0 Sewer and Water Pipes.**

**720.1 General.** When possible, underground water service pipes and sewers or drainage piping shall not be less than 10 feet apart horizontally and shall be separated by undisturbed or compacted earth. Building sewers or drainage piping of clay or materials that are not approved for use within a building shall not be run or laid in the same trench as the water pipes unless approved by the Authority Having Jurisdiction and the following requirements are met:

- (1) The bottom of the water pipe, at points, shall be not less than 12 inches (305 mm) above the top of the sewer or drain line.
- (2) The water pipe shall be placed on a solid shelf excavated at one side of the common trench with a clear horizontal distance of not less than 12 inches (305 mm) from the sewer or drain line.
- (3) Water pipes crossing sewer or drainage piping constructed of clay or materials that are not approved for use within a building shall be laid not less than 12 inches (305 mm) above the sewer or drain pipe.

For the purpose of this section, "within a building" shall mean within the fixed limits of the building foundation.

**SONAR:** This amendment is to add language to separate water and sewers when possible at 10 feet to protect the water service lines from any source of contamination. In addition, discretion is given to the AHJ to provide allowance on having water and sewers be laid in the same trench. This is necessary since soil conditions and soil contamination vary from one location to the next and only the local AHJ are familiar with all the contaminated sites.

**721.0 Location.**

**721.1 Building Sewer.** Except as provided in Section 721.2, no building sewer shall be located in a lot other than the lot that is the site of the building or structure served by such sewer. ~~nor shall a building sewer be located at a point having less than the minimum distances referenced in Table 721.1.~~

**TABLE 721.1  
MINIMUM HORIZONTAL DISTANCE REQUIRED FROM BUILDING SEWER (feet)**

Buildings or structures <sup>1</sup>	2
Property line adjoining private property	Clear <sup>2</sup>
Water supply wells	50 <sup>3</sup>
Streams	50
On-site domestic water service line	1 <sup>4</sup>
Public water main	10 <sup>5,6</sup>

For SI units: 1 foot = 304.8 mm

Notes:

<sup>1</sup> Including porches and steps, whether covered or uncovered; breezeways; roofed porte cocheres; roofed patios; carports; covered walks; covered driveways; and similar structures or appurtenances.

<sup>2</sup> See also Section 312.3.

<sup>3</sup> Drainage piping shall clear domestic water supply wells by not less than 50 feet (15 240 mm). This distance shall be permitted to be reduced to not less than 25 feet (7620 mm) where the drainage piping is constructed of materials approved for use within a building.

<sup>4</sup> See Section 720.0.

<sup>5</sup> For parallel construction.

<sup>6</sup> For crossings, approval by the Health Department or the Authority Having Jurisdiction shall be required.

**SONAR:** This amendment deletes the entire table of separation distances from building sewers. These separation distances listed in the table are regulated by other agencies and/or regulations. The minimum horizontal distance between water service pipes and sewers are addressed in Section 720.0.

**722.0 Abandoned Sewers and Sewage Disposal Facilities.**

**722.1 Building (House) Sewer.** An abandoned building (house) sewer, or part thereof, shall be plugged or capped in an approved manner within 5 feet (1524 mm) of the property line.

**722.2 Cesspools, Septic Tanks, and Seepage Pits.** A cesspool, septic tank, and seepage pit that has been abandoned or has been discontinued otherwise from further use, or to which no waste or soil pipe from a plumbing fixture is connected, shall have the sewage removed therefrom and be completely filled with earth, sand, gravel, concrete, or other approved material.

**722.3 Filling.** The top cover or arch over the cesspool, septic tank, or seepage pit shall be removed before filling, and the filling shall not extend above the top of the vertical portions of the sidewalls or above the level of the outlet pipe until inspection has been called and the cesspool, septic tank, or seepage pit has been inspected. After such inspection, the cesspool, septic tank, or seepage pit shall be filled to the level of the top of the ground.

**722.4 Ownership.** No person owning or controlling a cesspool, septic tank, or seepage pit on the premises of such person or in that portion of a public street, alley, or other public property abutting such premises, shall fail, refuse, or neglect to comply with the provisions of this section or upon receipt of notice so to comply from the Authority Having Jurisdiction.

**722.5 Disposal Facilities.** Where disposal facilities are abandoned consequent to connecting a premises with the public sewer, the permittee making the connection shall fill abandoned facilities in accordance with the Authority Having Jurisdiction within 30 days from the time of connecting to the public sewer.

**SONAR:** Sections 722.0, 722.1, 722.2, 722.3, 722.4 and 722.5 are proposed for deletion in its entirety. These parts are regulated in other codes under the authority of the MPCA and not the Plumbing Code.

**723.0 Building Sewer Test.**

**723.1 General.** Building sewers shall be tested by plugging the end of the building sewer at its points of connection with the public sewer or private sewage disposal system and completely filling the building sewer with water from the lowest to the highest point thereof, or by approved equivalent low-pressure air test. Testing of building sewers shall be in

accordance with Section 712.0. Plastic DWV piping systems shall not be tested by the air test method. The building sewer shall be gastight or watertight.

**SONAR:** Sections 723.1 is amended to reflect the testing of building sewers to section 712.0 for consistency so the language is not redundant since it has been established and addressed in another section.