Plumbing Board
National Code Review Committee – Meeting Minutes
July 16, 2013 at 1:00 p.m.
Department of Labor and Industry
443 Lafayette Road No., Saint Paul, MN 55155-4344
DLI.CCLDBOARDS@State.MN.US

Committee Members Present
Mike McGowan
John Parizek
Joe Beckel
Gale Mount
Jim Kittelson
Chad Filek
Grant Edwards
Phillip Sterner
Larry Justin

Committee Members Absent
Jim Lungstrom

DLI Staff & Visitors
Cathy Tran
Jim Peterson
Brian Soderholm
Tim Power
Scott Schiessler
David Rindal
Jeffrey Hill
Luke Westman
Matt Marciniak
Gary Thaden
Laura Millberg
Anita Anderson
Ron Thompson
Mike Ritter
Pete Moulton
John Flagg
Gary Ford

I. Call to Order
The meeting was called to order by Parizek, filling in for Chair Lungstrom, at 1:13 p.m. Introductions and housekeeping announcements were made.

II. Approval of Meeting Agenda
Parizek made a motion to approve the Agenda. The vote was unanimous and the motion carried.

III. Regular Business
A) Approval of June 18, 2013 Meeting Minutes
Chair Lungstrom was absent, therefore, approval of the June 18, 2013 Meeting Minutes were tabled until the August meeting.

B) Approval of Expense Reports and Per Diems
Parizek approved the expenses as presented.

IV. Special Business

A. Review Suggested Changes to UPC

Suggested changes being brought forth have been developed by National Code Committee members, interested parties, and members of the public. Suggested changes were proposed for the following chapters:

I. Chapter 6 – Water Supply and Distribution
II. Chapter 16 – Alternate Water Sources for Nonpotable Applications
III. Chapter 17 – Nonpotable Rainwater Catchment Systems

The following table is a summary of suggested changes to the 2012 Uniform Plumbing Code for incorporation into the MN version of the code. See attached Exhibits for language.

Proposer	Section	Motion To	Comments	Vote	Exhibit Number
DLI[1]	601.0 (Water), 601.0.1 (Use of Public Water)	Deny	Justin commented that connection to public water should be optional and not a required hook-up. Tran expressed concern on design of infrastructure and coordination with local water purveyors.	Carries	1
DLI	601.0.3 (Potable water required: Deny DLI language/insert MDH proposed language 601.3 to 601.3.3)	Deny & accept MDH language	Justin felt that existing UPC language was sufficient and DLI proposed change was not necessary.	Carries	1
DLI	601.0.2 (Water supply near pollution: Move to 609.6.1 section)	Accept with mod/move		Carries	1
DLI	601.0.4 (Hot Water Required)	Accept with mod-keep last sentence		Carries	1
MDH[2]	601.3 to 601.3.3 (Public Water Required)	Accept	Justin preferred this language over DLI proposed	Carries	2
MDH	602.2 (Cross-Contamination: Add language referencing heat exchangers)	Accept with mod		Carries	3
DLI	602.4 (Approval by Authority: Leave language as written in UPC 602.4)	Deny		Carries	1
MDH	602.4 (leave language as written in UPC 602.4)	Deny			4
DLI	603.2 (Approval of Devices or Assemblies)	Accept		Carries	1
MDH	603.5.12 (Beverage Dispensers)	Accept	Justin agreed with MDH that copper should be called out.	Carries	5
MDH	603.5.18 (Potable Water Outlets and Valves)	Accept		Carries	6
MDH	603.5.22 (Barometric Loop)	Accept		Carries	7

Proposer	Section	Motion To	Comments	Vote	Exhibit Number
MDH	603.5.23 to 603.5.23.4 (RPZ)	Tabled; Sept.	Chair Parizek recommended that the proposed should be compared with UPC and brought back with recommendation.	Carries	8
MDH	603.5.4 (Heat Exchangers)	Tabled; Aug.	Proposed document was missing from meeting materials in error.	Carries	9
MDH	604.11 (Lead Content)	Accept	Chair Parizek commented that proposed change could be included since federal regulation would be in place by the time rules were done.	Carries	10
DLI	606.8 (Valves for sill cocks)	Deny	Members (Gale Mount, John Parizek, Jim Peterson & Joe Beckel) discussed that the original intent was for drain down to allow for winterization and not necessary repair. Ron Thompson commented that repair may be a consideration in requirement of the valves.	Carries	1
DLI	608.5 (Drains)	Accept		Carries	1
MDH	609.1 (Installation)	Tabled; Aug.		Carries	11
MDH	609.9 (Disinfection of Potable)	Tabled; Aug.		Carries	12
MDH	609.11 (Water Meters)	Tabled; Aug.		Carries	13
DLI	610.3 (Water Supply Fixture Table: Dishwasher, domestic)	Deny/leave at 1.5		Carries	1
DLI	610.3 (Water Supply Fixture Table: Dishwasher, commercial)	Deny	Justin commented that commercial dishwasher must be designed with specific water supply & preferred it to be silent for sizing; ¾" is not necessary as some commercial dishwashers have ½ inch water supplies by designed; disagreed with the 4 WFU for commercial; 4 WFU may not be enough for a commercial dishwasher. Justin further commented that we are going to a national code & it works at national; John Parizek disagreed and was concerned with leaving as is - compromised doing remodeling or replacement. Tran further emphasized that for commercial application, it's important to have proper water for peak uses.	Carries	1
DLI	610.3 (Water Supply Fixture Table: each basin or hand sink)	Accept		Carries	1

Proposer	Section	Motion To	Comments	Vote	Exhibit Number
DLI	610.3 (Water Supply Fixture Table: Commercial, prep, pot, or scullery sink)	Deny	Tran commented that it's reasonable to assign WFUs for easier admin. and consistent enforcement for designers and officials.	Carries	1
MDH	610.3 (Quantity of Water)	Tabled: Sept.		Carries	14
MDH	610.3 (Water Supply Fixture Table)	Deny		Carries	15
MWQA[3]	611.0 to 611.4 (Conditioning Equipment)	Tabled; Aug.		Carries	16
Greenway	Ch. 6	Tabled; Aug.		Carries	17
Parizek	505.4.1, 603.5.4 to 603.5.4.2 (Heat Exchangers)	Tabled; Sept.		Carries	18
DLI	Chapter 16	Tabled; Aug.		Carries	19
Parizek	Chapter 16 (UPC: Alternate Water Sources for Nonpotable Applications)	Tabled; Aug.		Carries	20
DLI	Chapter 17	Tabled; Aug.		Carries	21
Parizek	Chapter 17 (UPC: Nonpotable Rainwater Catchment Systems)	Tabled; Aug.		Carries	22
MDH	Chapter 17 Rainwater Reuse	Tabled; Aug.		Carries	23
MPCA[4]	Chapter 17 (1702.9.3-Collection Surfaces, 1702.9.4-Minimum Water Quality, 1702.9.5.5-Drainage and Overflow, 1702.11-Inspection and Testing)	Tabled; Aug.		Carries	24

[1]DLI = Department of Labor and Industry [2]MDH = Minnesota Department of Health
[3]MWQA = Minnesota Water Quality Association [4]MPCA = Minnesota Pollution Control Agency

Special Business continued

Parizek announced that McGowan had a proposal dealing with water conditioning equipment from the Minnesota Water Quality Association, adding that these issues have been ongoing for 5 years, still need to be addressed, and asked McGowan to deliver the key points. McGowan stated that language was changed making it consistent with the current code, renaming the title to "Water Conditioning" in lieu of "Drinking Water Treatment Units". In addition, the definition now includes many items previously not listed in the UPC. The proposal mandates safe materials, requires NSF61, detailed labeling, water softeners were defined as a low hazard device, with air gap, connection tubing, and sizing standards remaining as is/no changes. Hill and McGowan discussed 3rd party testing/regulations and UPC 2012 enforcement with Parizek stating a more in depth look at this proposal to come. A motion was made by Parizek to table agenda items not addressed, seconded by Sterner. The vote was unanimous and the motion carried.

V. Open Forum

There were no requests to speak during open forum.

VI. Discussion

There were no further discussions.

VII. Announcements

Next Regularly Scheduled National Code Committee Meetings

I. August 26, 2013 @ 9:00 a.m. – Minnesota Room, DLI
II. September 17, 2013 @ 9:00 a.m. – Minnesota Room, DLI

VIII. Adjournment

A motion was made by Parizek to adjourn the meeting. The vote was unanimous and the motion carried.

Respectfully submitted,

Jim Lungstrom

Jim Lungstrom

Attachments: Exhibits 1 to 24

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:

   x 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 proposed code change? If so, please list the regulation or requirement.
   No

CHAPTER 6 - 2012 UPC DLI Proposed changes

Chapter 6 proposed

~~**601.0 Hot and Cold Water Required.**~~
~~**601.1 General.** Except where not deemed necessary for safety or sanitation by the Authority Having Jurisdiction, each plumbing fixture shall be provided with an adequate supply of potable running water piped thereto in an approved manner, so arranged as to flush and keep it in a clean and sanitary condition without danger of backflow or cross-connection. Water closets and urinals shall be flushed by means of an approved flush tank or flushometer valve.~~
~~**Exception:** Listed fixtures that do not require water for their operation and are not connected to the water supply.~~
(Deny sections 601.0 and 601.0.1, keep original language)
601.0 Water Supply
601.0.1 Use of Public Water. Where a public water supply system is available and accessible, the water distribution system must connect to it unless otherwise permitted by the Authority Having Jurisdiction.

SONAR: The proposed added language requires all building water distribution connect to a public water supply when available and accessible.

(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 proposed 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.
(Deny 601.0.3 below. MDH proposed language in 601.3 accepted in lieu of DLI 601.0.3)
601.0.3 Potable water required. Every building equipped with plumbing fixtures and used for human occupancy or habitation shall be provided with a supply of potable water, which meets the standards of the Department of Health, in the amounts and at the pressures specified in this chapter.
Only potable water shall be provided to plumbing fixtures supplying water for drinking, bathing, culinary use, washing, or the processing of food, medical, or pharmaceutical products. Only potable water shall be supplied to emergency showers and eyewashes.

SONAR: The proposed language sets minimum requirement for all buildings constructed for human habitation with plumbing fixtures installed to be provided with potable water supply and requires potable water to fixtures which are used for bathing, washing, cooking, processing of food and medical products as well as emergency equipment . This is necessary to provide for basic sanitation and public health.
(Deny 601.0.4 new heading recommendation "Hot Water Required" and move last sentence to section 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 proposed 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.

(Recommendation denied. Leave language as written in UPC 602.4)

602.4 Approval by Authority. No water piping supplied by a private water supply system shall be connected to any other source of supply without the approval of the Authority Having Jurisdiction. ~~Health Department, or other department having jurisdiction~~.

SONAR: The proposed change would require any private water supply system be reviewed and approved by the authority before making any connection to any other source of public water supply or another private water supply. This is consistent with MN 4715.1920.

(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 proposed 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 proposed 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[3]

APPLIANCES, APPURTENANCES OR FIXTURES[2]	MINIMUM FIXTURE BRANCH PIPE SIZE[1,4] (inches)	PRIVATE	PUBLIC	ASSEMBLY[6]
Bathtub or Combination Bath/Shower (fill)	1/2	4.0[1,4]	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 ***(DENY)***	1/2	1.5	~~1.5~~ 4.0	—
Dishwasher, commercial ***(DENY)***	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[8]	1/2	1.0	1.0	—
Lavatory (each basin) or hand sink ***(ACCEPT)***	1/2	1.0	1.0	1.0
Lawn Sprinkler, each head[5]	—	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 ***(DENY)***	3/4		4	
Shower, per head	1/2	2.0	2.0	—
Urinal, 1.0 GPF Flushometer Valve	3/4	See Footnote[7]		—
Urinal, greater than 1.0 GPF Flushometer Valve	3/4	See Footnote[7]		—
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[7]		—
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 Footnote7		—

For SI units: 1 inch = 25 mm

Notes:

1 Size of the cold branch pipe, or both the hot and cold branch pipes.

2 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.

3 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.

[4] The listed minimum supply branch pipe sizes for individual fixtures are the nominal (I.D.) pipe size.
[5] 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.
[6] Assembly [Public Use (See Table 422.1)].
[7] Where sizing flushometer systems, see Section 610.10.
[8] 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 is both are use for hand washing purposes.

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MINNESOTA DEPARTMENT OF LABOR & INDUSTRY

(651) 284-5005
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TTY: (651) 297-4198

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 ~~striken~~. 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.

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 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 proposed 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.

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).

The proposed amendment does not change existing requirements.

Other Factors to Consider Related to Proposed Amendment

7. Is this proposed 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 proposed 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 proposed 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 proposed 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 proposed code change?
    This does not change existing requirements.

12. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed 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 proposed code change? If so, please list the regulation or requirement.
    no

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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 ~~striken~~. 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 with modification – Word-smith to include referencing heat exchangers)
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.

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 prosed 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.

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 is a requirement of existing rule.

Other Factors to Consider Related to Proposed Amendment

14. Is this proposed 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 proposed 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 proposed 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 proposed 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 proposed code change?
This does not change existing requirements.

19. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed 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 proposed code change? If so, please list the regulation or requirement.
no

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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 ~~striken~~. 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
(Recommendation denied – leave language as written in UPC 602.4)
UPC section 602.4 is amended as follows:

~~**602.4 Approval by Authority**. No water piping supplied by a private water supply system shall be connected to any other source of supply without the approval of the Authority Having Jurisdiction, Health Department, or other department having jurisdiction.~~

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 proposed amendment deletes the UPC language. The language is unclear as to its purpose, may prevent the use of multiple, safe supplies, provides for excessive discretion without establishing criteria, and is unclear as to the responsible parties. If the purpose is to prevent interconnection of safe and unsafe supplies, this is already prevented by sections 602.1, 602.2 and 602.3, as well as by other provisions including section 603.0. The language could be read to prohibit a facility such as

resort, business, or even a city from having two different supplies, including two wells. The language provides no criteria establishing when approval is granted. The language is vague and nonspecific referring to various agencies or “departments” as having (possible) jurisdiction.

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).

The proposed amendment deleting the requirement will likely reduce costs.

Other Factors to Consider Related to Proposed Amendment

21. Is this proposed code change meant to:

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

This proposal deletes section 602.4.

☐ 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 proposed 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 proposed 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 proposed 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 proposed code change?
the public, government agencies, and plumbers

26. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed 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 proposed code change? If so, please list the regulation or requirement.
no

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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 ~~striken~~. 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.

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 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.

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).

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

Other Factors to Consider Related to Proposed Amendment

28. Is this proposed 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.

29. Is this proposed 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 proposed 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 proposed 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 proposed code change?
Plumbers, food and beverage service owners and operators

33. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed 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 proposed code change? If so, please list the regulation or requirement.
Federal Safe Drinking Water Act.

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Author/requestor: Minnesota Department of Health

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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 ~~striken~~. 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.

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 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.

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 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 Proposed Amendment

35. Is this proposed 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.

36. Is this proposed 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 proposed 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 proposed 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 proposed code change?
Farmers, property owners, water system operators, plumbers

40. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed 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 proposed code change? If so, please list the regulation or requirement.
no

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Firm/Association affiliation, if any:

Proposed Code Change - Language

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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.

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).

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.

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 proposed amendment does not change existing requirements.

Other Factors to Consider Related to Proposed Amendment

42. Is this proposed 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.

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

44. Will this proposed 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

45. Will this proposed 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

46. Who are the parties affected or segments of industry affected by this proposed code change?
Property owners and plumbers

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

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

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NATIONAL CODE COMMITTEE COMMENT FORM

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Author/requestor: Minnesota Department of Health

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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 ~~striken~~. 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

(Tabled 603.5.23 to 603.5.23.4 for Sept.; Need to clarify language, compare to UPC)

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.

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 proposed 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 proposed 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.

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).

The proposed 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 Proposed Amendment

1. Is this proposed code change meant to:

   X☐ 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 proposed 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 proposed 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 proposed 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 proposed 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 proposed code change? If so, please explain what they are and why your proposed 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 proposed code change? If so, please list the regulation or requirement.
   no

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Proposed Code Change - Language

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XXXX.XXXX CHAPTER 6 WATER SUPPLY AND DISTRIBUTION
(Tabled; August)
UPC Section ~~603.54~~ **603.5.4** is amended as follows:

~~**603.54**~~ **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. 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. The discharge location must be visible to the operator or owner of the system and be located so that no hazards are created by the discharge.

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 present Minnesota Plumbing Code, part 4715.1941, subpart 1 requires that the discharge of a double wall heat exchanger be visible so that the owner or operator is aware when a leak occurs which may contaminate the potable water system, and requires that the non-potable heat transfer medium (including antifreeze solutions) discharge so that a hazard is not created. The proposed amendment exactly copies the language present in part 4715.19421, subpart 1.

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 does not change existing requirements.

Other Factors to Consider Related to Proposed Amendment

1. Is this proposed code change meant to:

   ☐ change language contained in a published code book? If so, list section(s).
   This proposal amends Section 603.54.

   ☐ 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 proposed 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 proposed 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 proposed 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 proposed code change?
   Owners of heat exchangers and plumbers

6. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed 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 proposed code change? If so, please list the regulation or requirement.
   no

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XXXX.XXXX CHAPTER 6, WATER SUPPLY AND DISTRIBUTION
(Accept recommendation – 0.25 to become a federal standard on 1.4.2014; shall be included in 2015 IATMO)
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.

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 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.

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 is required by federal law.

Other Factors to Consider Related to Proposed Amendment

8. Is this proposed 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.

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

10. Will this proposed 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

11. Will this proposed 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

12. Who are the parties affected or segments of industry affected by this proposed code change?
    The public and plumbers

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

14. Are you aware of any federal requirement or regulation related to this proposed code change? If so, please list the regulation or requirement.
    Federal Lead Reduction Act of 2011

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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 ~~striken~~. 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
(Tabled; August)
UPC Section 609.1 is amended to read:

609.1 Installation. Water piping shall be adequately supported in accordance with table 313.1. Burred ends shall be reamed to the full bore of the pipe or tube. Changes in direction shall be made by the appropriate use of fittings, except that changes in direction in copper tubing shall be permitted to be made with bending equipment that does not deform or create a loss in the cross-sectional area of the tubing. Changes in direction are allowed with flexible pipe and tubing without fittings in accordance with the code ~~manufacturer's instructions~~. Provisions shall be made for expansion in hot water piping. Piping, equipment, appurtenances, and devices shall be installed in a workmanlike manner in accordance with the provisions and intent of the code. Building supply yard piping shall be not less than 12 inches (305 mm) below the average local frost depth. Except that special provisions using insulation or heat, which provide freeze protection, may be used. The cover shall be not less than 12 inches (305mm) below the finish grade.

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).
Manufacturer's instruction are often incomplete, subject to change and do not go through a public review process.

Minnesota Rules, part 4715.0340 allows for freeze protection using methods other than burial below the frost depth. In areas of hard bedrock such as granite at the land surface, excavation below frost depth is extremely expensive.

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).

The proposed amendment will decrease costs substantially in some instances.

Other Factors to Consider Related to Proposed Amendment

15. Is this proposed code change meant to:

☐ change language contained in a published code book? If so, list section(s).
This proposal amends Section 609.1.

☐ 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.

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

17. Will this proposed 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

18. Will this proposed 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

19. Who are the parties affected or segments of industry affected by this proposed code change?
The pubic and plumbers

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

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

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NATIONAL CODE COMMITTEE COMMENT FORM

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(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 ~~striken~~. 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
(Tabled; August)
UPC Section 609.9 is amended as follows:

609.9 Disinfection of Potable Water System. New or repaired potable water systems shall be disinfected prior to use except that the requirements for well water-supply systems regulated under Minnesota Rules, Chapter 4725 are contained in part 4725.5550 ~~where required by the Authority Having Jurisdiction~~. The disinfection method to be followed shall be ~~that prescribed by the Health Authority or, in case no method is prescribed by it, the following~~:
(1) The pipe system shall be flushed with clean, potable water until potable water appears at the points of outlet.
(2) The system or parts thereof shall be filled with a water-chlorine solution containing not less than 50 parts per million of free chlorine, and the system or part thereof shall be valved-off and allowed to stand for 24 hours; or, the system or part thereof shall be filled with a water-chlorine solution containing not less than 200 parts per million of free chlorine and allowed to stand for 3 hours.
(3) Following the allowed standing time, the system shall be flushed with clean, potable water until the chlorine residual in the water coming from the system does not exceed the chlorine residual in the flushing water.
(4) The procedure shall be repeated where it is shown by bacteriological examination made by ~~an approved agency~~ laboratory certified under parts 4740.2010 to 4740.2120 that contamination persists in the system.

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, Chapter 4725 regulate wells and borings. Part 4725.5500 contains the requirements for water-supply well disinfection which include the well, pumping equipment, and the pipe between the well and building which the well rules calls a “water-supply well pump discharge line” (part 4725.5250). This pipe is one type of “building supply pipe” (UPC) or “water service pipe” (Minnesota Plumbing Code). The UPC requirements are different from the requirements in existing part 4725.550. The proposed amendment eliminates the conflict between the UPC and Minnesota Rules.

Chlorine introduced into a piping system will be used up according to the “chlorine demand” of water and piping components. If the chlorine demand exceeds the amount introduced (50 or 200 parts per million), the chlorine will be used up and will not eliminate microbiological organisms. “Free” chlorine means that the system contains the required and available 50 or 200 parts per million of chlorine.

“Approved” agencies to not do water testing in Minnesota. The Minnesota Department of Health certifies private and public testing laboratories to assure competency and consistency under Minnesota Rules, Chapter 4740.

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 requirements.

Other Factors to Consider Related to Proposed Amendment

22. Is this proposed code change meant to:

☐ change language contained in a published code book? If so, list section(s).
This proposal amends Section 609.9.

☐ 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.

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

24. Will this proposed 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

25. Will this proposed 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

26. Who are the parties affected or segments of industry affected by this proposed code change?
The public and plumbers

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

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

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NATIONAL CODE COMMITTEE COMMENT FORM

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(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 ~~striken~~. 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
(Tabled; August)
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.

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 proposed 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.

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 is an existing requirement of Minnesota Rules, part 4715.2280.

Other Factors to Consider Related to Proposed Amendment

29. Is this proposed 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.

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

31. Will this proposed 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

32. Will this proposed 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

33. Who are the parties affected or segments of industry affected by this proposed code change?
The amendment does not change existing requirements.

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

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

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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 ~~striken~~. 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).

~~(Recommendation denied)~~
(Tabled; September)

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 well water systems that are incapable of supplying the calculated quantity. Equivalent fixture values shown in Table 610.3 include both hot and cold water demand.

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).

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.

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).

The proposed amendment will reduce costs in some instances.

Other Factors to Consider Related to Proposed Amendment

1. Is this proposed code change meant to:

   ☐ change language contained in a published code book? If so, list section(s).
   The proposed 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 proposed 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 proposed 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 proposed 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 proposed code change?
   Persons with low yielding water supplies

6. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed 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 proposed code change? If so, please list the regulation or requirement.
   no

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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 ~~striken~~. 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).

(Recommendations denied)

XXXX.XXXX CHAPTER 6, WATER SUPPLY AND DISTRIBUTION

UPC Section 610.3 is amended as follows:

TABLE 610.3
WATER SUPPLY FIXTURE UNITS (WSFU) AND MINIMUM FIXTURE BRANCH PIPE SIZES[3]

APPLIANCES, APPURTENANCES OR FIXTURES[2]	MINIMUM FIXTURE BRANCH PIPE SIZE[1,4] (inches)	PRIVATE	PUBLIC	ASSEMBLY[6]
Dishwasher, domestic	½	1.5	~~1.5~~	-
Dishwasher, commercial	¾	-	4	-
Food waste grinder, commercial	¾	-	4	-
Sink				
Kitchen, commercial	¾	-	4	-

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).

Due to high water demand and the need for greater sanitation in commercial kitchens, and proper operation of kitchen plumbing fixtures, a larger fixture branch size is need to supply sufficient water to rapidly fill commercial dishwashers, food waste grinders and sinks. A ¾-inch pipe size is currently required in Minnesota rules, parts 4715.1310 and 4715.1730, subpart 2. The fixture units are consistent with existing rule part 4715.3700.

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).

The proposed amendment to the UPC does not change the existing requirements of the Minnesota Plumbing Code

Other Factors to Consider Related to Proposed Amendment

49. Is this proposed code change meant to:

☐ change language contained in a published code book? If so, list section(s).
The proposed amendment will change the language in the UPC Section (table) 610.3 to the current language in Minnesota Rules.

☐ 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.

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

51. Will this proposed 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

52. Will this proposed 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

53. Who are the parties affected or segments of industry affected by this proposed code change?
It will not change existing requirements.

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

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

Rec'd 7/16/13

(Tabled; August)

Plumbing Board
c/o Department of Labor and Industry

NATIONAL CODE REVIEW COMMITTEE SUGGESTION FORM

(This form must be submitted electronically to: dli.ccldboards@state.mn.us)

Author/requestor: *Minnesota water Quality Association Mike Herman, President*
Email address: mikeh@ultrapure.com info@mwqa.com
Telephone number: 763-754-2123
Firm/Association affiliation, if any: Driessen Water Company Northfield MN

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).

See attached GP:3454142 v2; proposed language change is to UPC 2012, Sec. 611.0.

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 letter of March 4, 2013 GP:3364641 v2

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).

Increased Cost. The language suggested (attached) will have a very slight cost impact to water conditioning manufacturers or plumbing or water conditioning contractors. They will be required to evaluate all their equipment as to it's suitability for potable water and label their equipment with the type of equipment and the name of the responsible manufacturer or assembler.

The language of UPC 2012 would have a much greater cost. The cost impact is difficult to quantify because of the unknown interpretation and likely variation in enforcement. The primary burden to the consumer would be the significant cost of third party testing, if required. The cost to the consumer due to the loss of effective equipment options is also hard to quantify. If the code is interpreted to require third party testing, the majority of equipment manufacturers in Minnesota would cease operations.

Please explain:

1. Is the suggested change meant to:

   X change language contained in a published code book? If so, list section(s).
   UPC 2012 611.0

   ☐ 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.
   The change is an improvement to the UPC 2012 code to be implemented in Minnesota.

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.
   None

4. Who are the parties affected or segments of industry that might be affected by the suggested change?
   All consumers, businesses, homeowners, not-for-profits and government agencies that use water conditioning equipment are affected. The change (attached) assures the continued availability of a variety of equipment and systems while requiring that safe components be used in the assembly of those devices and systems.

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.
   The move to a national code is the perfect time to implement the most appropriate language for ensuring water conditioning safety and stating responsibility of the industry to protect public health. While third party testing can ensure safety of manufactured products, it is prohibitively expensive and does not ensure accountability for the proper installation of the tested products.

6. Are you aware of any federal requirement or regulation related to this proposed code change? If so, please list the regulation or requirement.
   No.

611.0 ~~Drinking~~ Water ~~Treatment Units~~ Conditioning Equipment.

611.1 Application. ~~Drinking~~ Water conditioning equipment ~~treatment units~~ shall comply with the standards in this section. ~~NSF 42 or NSF 53. Water softeners shall comply with NSF 44. Ultraviolet water treatment systems shall comply with NSF 55. Reverse osmosis drinking water treatment systems shall comply with NSF 58. Drinking water distillation systems shall comply with NSF 62.~~

611.1.1 Definition. Water conditioning equipment means any appliance, appurtenance, or fixture, or any combination thereof, designed to treat water, so as to alter, modify, add, or remove any minerals chemicals, or bacteria contained in water. Water 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 and Assembly. Water conditioning equipment may be manufactured as a complete system or designed, constructed and assembled for a specific application.

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 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 or assembled the equipment.

611.2 Airgap Discharge. Any discharge from ~~drinking~~ water ~~treatment units~~ 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 ~~treatment units~~ 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[4]

REQUIRED SIZE OF SOFTENER CONNECTION (inches)	NUMBER OF BATHROOM GROUPS SERVED[1]
3/4	Up to 2[2]
1	Up to 4[3]

For SI units: 1 inch = 25 mm

Notes:

1 Installation of a kitchen sink and dishwasher, laundry tray, and automatic clothes washer permitted without additional size increase.

2 An additional water closet and lavatory permitted.

3 Over four bathroom groups, the softener size shall be engineered for the specific installation.

4 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.

GP:3454142 v2

(Tabled; August: Chapter 6 (other chapters previously addressed)

Submitted by Arvella Greenway, member of Plumbers Local 15 Minneapolis, MN 2-27-2013

Arvella A. Greenway arvella.greenway@gmail.com

Comments on Possible Amendment to Rules Governing the Minnesota Plumbing Code, *Minnesota Rules*, Chapter 4715; Revisor's ID Number R-4139 Exhib

General: The adoption of the 2012 Uniform Plumbing Code by the State of Minnesota is overall a positive thing as it brings the state in line with a national code that is recognized as one of the best in the country.

- Chapter 3

301.3.1 Flood Hazard Areas Subject to High Velocity Wave Action: Does not apply in Minnesota

Table 313.1 Hangers and Supports:

Cast Iron Hubless- Support should be on both sides of the coupling within 18"

Schedule 40 PVC and ABS DWV- Support should be every 32" and continuously supported where a dishwasher or other appliance with hot water discharges into plastic waste lines above grade on a horizontal branch.

- Chapter 4

405.2 Continuous Wastes: No. 17 B&S Gauge would last longer than No. 20 and offer continuity with other sections of this Code under traps.

407.2 Special Use Sinks: Restaurant kitchen equipment shall be NSF approved of stainless steel material.

408.7 Lining for Showers and Receptors: Nonmetallic shower subpans and linings consisting of 3 layers of standard grade asphalt impregnated roofing felt should be omitted as there are better and less expensive products on the market.

415.3 Drainage Connection: Drinking Fountains shall be connected directly to the drainage system. Omit indirectly through an air break as it could pose a sanitary risk.

420.3 Waste Outlet: No. 17 B&S Gauge would last longer than No. 20 and offer continuity with other sections of this Code under traps.

- Chapter 6

601.2.2 Color and Information: Marking should not only be required "every 20' but not less than once per room, and shall be visible from the floor", but also on each side of partitioning wall penetrations.

603.5.4 Heat Exchangers: The current Minnesota Single Wall Heat Exchanger standard is very clear and very safe. With the proposed change the system will be permanently marked and only "safe" transfer mediums are supposed to be introduced into the system, but there is no fail safe.

603.5.11 Nonpotable Water Piping: All cross connections between non-potable and potable piping must be corrected.

604.2 Copper Tube: Type M copper tube should not be allowed underground.

605.6 Galvanized Steel Pipe and Joints

605.6.1 Mechanical Joints: Shall be of a cut groove type.

- 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?

- Chapter 10

1017.0 Oil and Flammable Waste Interceptors

1017.1 Interceptors Required: Shall be installed in covered parking garages housing 4 or more vehicles. Define "Covered" as not open to the sky to directly receive rainwater.

- Chapter 11

1101.1 Where Required: Storm water shall not be directed to flow over public sidewalks.

1101.5.2 Sump: Sump covers shall be of a structural design and the discharge piping shall have an approved backwater valve and gate or full port ball valve for servicing the pump.

1101.11.2.2{B} Combined System: If a combined system is approved flow switches shall be installed on the horizontal overflow system before the combined connection and shall be monitored.

- Appendix D

Sizing Storm Water drainage Systems: We currently use a 4" per hour model to size rain leader systems; the Table D1.1 would have us use a 3" model which would decrease pipe sizes and increase flow velocities and pressures. The University of Minnesota's Climatology Center gives a rate of 5.7" per hour for a hundred year event or a 1% chance event. There are multiple lawsuits and insurance claims every year from rain leaders blowing apart from the current sizing method. Reducing the pipe sizing further would be irresponsible. At a minimum we should keep our current standard of 4" per hour or even increase it to protect property.

- Appendix I

Installation Standard for ABS Building Drain, Waste and Vent Pipe and Fittings:

2.3.2 Support: Shall be continuous if a dishwasher discharges into a horizontal line above grade.

Table 1 Thermal Expansion Table: Temperature variations in Minnesota are -20 degrees F to 100 degrees F. Runs over 35 feet will expand and contract enough to break the branch intervals off, or push them up taking the pitch out of the horizontal branch lines no matter how well they are anchored to prevent such from occurring.

Installation Standard for PVC Building Drain, Waste, and Vent Pipe and Fittings

2.5.2 Support: Shall be continuous if a dishwasher discharges into a horizontal line above grade.

Table 1 Thermal Expansion Table: Temperature variations in Minnesota are -20 degrees F to 100 degrees F. Runs over 35 feet will expand and contract enough to break the branch intervals off, or push them up taking the pitch out of the horizontal branch lines no matter how well they are anchored to prevent such from occurring.

Tabled; August

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MINNESOTA DEPARTMENT OF
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 ~~striken~~. 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 or 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 or 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.

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NATIONAL CODE COMMITTEE COMMENT FORM

FOR PROPOSED AMENDMENTS TO THE UPC

(This form must be submitted electronically)

Author/requestor: DLI Cathy Tran

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

Telephone number:

Firm/Association affiliation, if any: DLI

Proposed Code Change - Language

(Tabled; August)

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 ~~striken~~. 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).

Delete Chapter 16

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).

Further review the need of alternate water treatment in the State of MN for these systems including.

- *Multi-agency effort to address issues for re-use. The need to coordinate with multiple agencies (MPCA, MDH, DNR) as well impact on existing sewer infrastructure and on local authorities relative to sewer management and budget issues.*
- *DLI currently does not have the resource to regulate and administer these applications. Need additional inter-agency resources to review and address these applications.*
- *Public health exposures are of concerns including water treatment standards.*
- *Who will oversee and enforce these systems once regulation is in-placed. Beyond the initial inspection, there are annual inspections that need follow-up as well as operations, maintenance, monitoring, and testing of these systems.*

- *Can industry comply with the requirements if we did adopt regulations and standards? It is not recommended that the PB adopt regulations and standards that industry can not comply with. An example is the reclaimed water system which currently does not exist except for two systems for golf irrigation (land application only and permitted by MPCA). If the reclaimed water is not used as land application, who would regulate the reclaim water from the municipal treatment brought back to the building.*
- *Chapter 16 is vague and would leave the administrative authority to set requirements leading to inconsistent administration and enforcement.*

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).

Other Factors to Consider Related to Proposed Amendment

56. Is this proposed code change meant to:

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

☐ 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.

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

58. Will this proposed 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.

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

60. Who are the parties affected or segments of industry affected by this proposed code change?

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

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

(Tabled; August)

CHAPTER 2
DEFFINITIONS

203.0 - A -

Authoritative Commissioner. The departmental commissioner having the authority to recommend minimum quality standards for alternate water sources used for nonpotable applications, or which has been granted the power to promulgate rules, pursuant to Chapter 14, which include the minimum quality standards required for alternate water sources used for nonpotable applications.

CHAPTER 16
ALTERNATE WATER SOURCES FOR NONPOTABLE APPLICATIONS

1601.0 General.

1601.1 Applicability. The provisions of this chapter shall apply to the construction, alteration, and repair of alternate water source systems for nonpotable applications.

1601.1.1 Allowable Use of Alternate Water. ~~Where approved or required by the Administrative Authority, a~~Alternate water sources shall be permitted to be used in lieu of potable water for the applications identified in this chapter.

1601.2 System Design. Components, piping, and fittings used in an alternate water source system shall be listed per Chapter 14 and installed per all applicable chapters of this plumbing code.

1601.1.2 Irrigation. Alternate water systems designed for irrigation in combination with any of the applications identified in this chapter shall meet the requirements of this Chapter.

1601.4 Component Identification. System components shall be properly identified as to the manufacturer.

1601.5 Maintenance and Inspection. Alternate water source systems and components shall be inspected and maintained in accordance with Section 1601.5.1 through Section 1601.5.3.

1601.5.1 Frequency. Alternate water source systems and components shall be inspected and maintained in accordance with Table 1601.5 unless more frequent inspection and maintenance is required by the manufacturer.

1601.5.1.1 Irrigation. All pressurized irrigation systems shall be visually inspected on an annual basis in accordance with Section 1601.11.2.1.

1601.5.2 Maintenance Log. A maintenance log for gray water and on-site treated nonpotable water systems is required and shall be maintained by the property owner and be available for inspection. The property owner or designated appointee shall ensure that a record of testing, inspection and maintenance in accordance with Table 1601.5 is maintained in the log. The log will indicate the frequency of inspection and maintenance for each system.

1601.5.3 Maintenance Responsibility. The required maintenance and inspection of alternate water source systems shall be the responsibility of the property owner~~, unless otherwise required by the Administrative Authority~~.

TABLE 1601.5
MINIMUM ALTERNATE WATER SOURCE TESTING, INSPECTION, AND MAINTENANCE FREQUENCY

DESCRIPTION	MINIMUM FREQUENCY
Inspect and clean filters and screens, and replace.	Every 3 months
Inspect and verify that disinfection, filters and water quality treatment devices and systems are operational and maintaining minimum water quality requirements as determined in 1601.7 ~~by the Administrative Authority~~.	~~In accordance with manufacturer's instructions, and the Administrative Authority.~~ After initial installation and monthly thereafter. Exception: Every 12 months thereafter when electronically monitored.
Inspect pumps and verify operation.	After initial installation and every 12 months thereafter
Inspect valves and verify operation.	After initial installation and every 12 months thereafter
Inspect pressure tanks and verify operation.	After initial installation and every 12 months thereafter
Clear debris from and inspect storage tanks, locking devices, and verify operation.	After initial installation and every 12 months thereafter
Inspect caution labels and marking.	After initial installation and every 12 months thereafter
Cross-connection inspection and test*	After initial installation and every 12 months thereafter

* The annual cross-connection test shall be performed in accordance with the requirements of this chapter by ~~in the presence of a~~ a plumber licensed under Minnesota Statutes, section 326B.46 and currently certified to ASSE Standard 5120 ~~individual approved by the Administrative Authority in accordance with the requirements of this chapter~~.

1601.6 Operation and Maintenance Manual. An operation and maintenance manual for gray water and on-site treated water systems shall be supplied to the building owner by the system designer. The operating and maintenance manual shall include the following:
(1) Detailed diagram of the entire system and the location of system components.
(2) Instructions on operating and maintaining the system.
(3) Details on maintaining the required water quality as determined in 1601.7~~by the Administrative Authority~~.
(4) Details on deactivating the system for maintenance, repair, or other purposes.
(5) Applicable testing, inspection, and maintenance frequencies in accordance with Table 1601.5.
(6) A method of contacting the manufacturer(s).

1601.7 Minimum Water Quality Requirements. The minimum water quality for alternate water source systems shall meet the applicable water quality requirements for the intended application as determined by the Authoritative Commissioner~~ Administrative Authority~~. In the absence of water quality requirements, the EPA/625/R-04/108 contains recommended water reuse guidelines to assist the Authoritative Commissioner~~ Administrative Authority~~ develop, revise, or expand alternate water source water quality standards.

1601.8 Material Compatibility. Alternate water source systems shall be constructed of materials that are compatible with the type of pipe and fitting materials, water treatment, and water conditions in the system. Components, piping, and fittings used in an alternate water source system shall be listed per Chapter 14 of this plumbing code.

1601.9 System Controls. Controls for pumps, valves, and other devices that contain mercury that come in contact with alternate water source water supply shall not be permitted.

1601.10 Commercial, Industrial, and Institutional Restroom Signs. A sign shall be installed in all restrooms in commercial, industrial, and institutional occupancies using reclaimed (recycled) water and on-site treated water, for water closets, urinals, or similar ~~other~~ uses~~ approved by the Administrative Authority~~. Each sign shall contain ½ inch letters of a highly visible color on a contrasting background. The location of the sign(s) shall be such that the sign(s) shall be visible to all users. The location of the sign(s) shall be approved by the Administrative Authority and shall contain the following text:

TO CONSERVE WATER, THIS BUILDING USES *_____* TO FLUSH TOILETS AND URINALS.

1601.10.1 Equipment Room Signs. Each room containing reclaimed (recycled) water and on-site treated water equipment shall have a sign posted in a location that is visible to anyone working on or near non-potable water equipment with the following wording in 1 inch letters:

CAUTION: NON-POTABLE *_____*, DO NOT DRINK. DO NOT CONNECT TO DRINKING WATER SYSTEM. NOTICE: CONTACT BUILDING MANAGEMENT BEFORE PERFORMING ANY WORK ON THIS WATER SYSTEM.
_____ Shall indicate RECLAIMED (RECYCLED) WATER or ON-SITE TREATED WATER, accordingly.

1601.11 Inspection and Testing. Alternate water source systems shall be inspected and tested in accordance with Section 1601.11.1 and Section 1601.11.2.

1601.11.1 Supply System Inspection and Test. Alternate water source systems shall be inspected and tested in accordance with the plumbing code for testing of potable water piping.

1601.11.2 ~~Annual~~ Cross-Connection Inspection and Testing. An ~~initial and subsequent annual~~ inspection and test shall be performed on both the potable and alternate water source systems. The potable and alternate water source system shall be isolated from each other and independently inspected and tested to ensure there is no cross-connection in accordance with Section 1601.11.2.1 through Section 1601.11.2.4.

1601.11.2.1 Visual System Inspection. Prior to commencing the cross-connection testing, a dual system inspection shall be conducted by an individual certified to ASSE Standard 5120~~ approved by the Administrative Authority~~ as follows:
(1) Meter locations of the alternate water source and potable water lines shall be checked to verify that no modifications were made, and that no cross-connections are visible.
(2) Pumps and equipment, equipment room signs, and exposed piping in equipment room shall be checked.
(3) Valves shall be checked to ensure that valve lock seals are still in place and intact. Valve control door signs shall be checked to verify that no signs have been removed.

1601.11.2.2 Cross-Connection Test. The procedure for determining cross-connection shall be followed by the ~~applicant in the presence of an individual approved by the Administrative Authority~~ plumbing contractor to determine whether a cross connection has occurred as follows:
(1) The potable water system shall be activated and pressurized. The alternate water source system shall be shut down, depressurized, and drained.
(2) The potable water system shall remain pressurized~~ for a minimum period of time specified by the Administrative Authority~~ while the alternate water source system is empty. The minimum period the alternate water source system is to

remain depressurized shall be determined on a case-by-case basis, taking into account the size and complexity of the potable and the alternate water source distribution systems, but in no case shall that period be less than 1 hour.

(3) The drain on the alternate water source system shall be checked for flow during the test and all fixtures, potable and alternate water source, shall be tested and inspected for flow. Flow from any alternate water source system outlet indicates a cross-connection. No flow from a potable water outlet shall indicate that it is connected to the alternate water source system.

(4) The potable water system shall then be depressurized and drained.

(5) The alternate water source system shall then be activated and pressurized.

(6) The alternate water source system shall remain pressurized ~~for a minimum period of time specified by the Administrative Authority~~ while the potable water system is empty. The minimum period the potable water system is to remain depressurized shall be determined on a case-by-case basis, but in no case shall that period be less than 1 hour.

(7) All fixtures, potable and alternate water source, shall be tested and inspected for flow. Flow from any potable water system outlet indicates a cross-connection. No flow from an alternate water source outlet will indicate that it is connected to the potable water system.

(8) The drain on the potable water system shall be checked for flow during the test and at the end of the test.

(9) If there is no flow detected in any of the fixtures which would indicate a cross-connection, the potable water system shall be re-pressurized.

1601.11.2.3 Discovery of Cross-Connection. In the event that a cross-connection is discovered, the following procedure~~, in the presence of individuals approved by the Administrative Authority,~~ shall be activated immediately:

(1) The alternate water source piping to the building shall be shut down at the meter, and the alternate water source riser shall be drained.

(2) Potable water piping to the building shall be shut down at the meter.

(3) The cross-connection shall be uncovered and disconnected.

(4) The building shall be retested following procedures listed in Section 1601.11.2.1 and Section 1601.11.2.2.

(5) The potable water system shall be chlorinated with 50 parts-per-million (ppm) chlorine for 24 hours.

(6) The potable water system shall be flushed after 24 hours, and a standard bacteriological test shall be performed. If test results are acceptable, the potable water system shall be permitted to be recharged.

1601.11.2.4 Annual Inspection. An annual inspection of the alternate water source system, following the procedures listed in Section 1601.11.2.1 shall be required. Annual cross-connection testing of the alternate water source system, following the procedures listed in Section 1601.11.2.2 shall be required unless otherwise specified by the Administrative Authority. In no event shall the cross-connection test occur less than once in ~~4~~5 years. Written records must be maintained and submitted to the Administrative Authority. Alternate testing requirements shall be permitted by the Administrative Authority.

1601.12 Separation Requirements. All underground alternate water source service piping other than gray water shall be separated from the building sewer in accordance with the plumbing code. Treated non-potable water pipes shall be permitted to be run or laid in the same trench as potable water pipes with a 12 inch minimum vertical and horizontal separation when both pipe materials are approved for use within a building. Where horizontal piping materials do not meet this requirement the minimum separation shall be increased to 60 inches. The potable water piping shall be installed at an elevation above the treated non-potable water piping.

1601.13 Abandonment. All alternate water source systems that are no longer in use or fails to be maintained in accordance with Section 1601.5 shall be abandoned. Abandonment shall comply with Section 1601.13.1 and Section 1601.13.2.

1601.13.1 General. Every abandoned system or part thereof covered under the scope of this chapter shall be disconnected from any remaining systems, drained, plugged, and capped per the requirements of this plumbing code.

1601.13.2 Underground Tank. Every underground water storage tank that has been abandoned or otherwise discontinued from use in a system covered under the scope of this chapter shall be completely drained and filled with earth, sand, gravel, concrete, or other approved material or removed in a manner approved by the Administrative Authority.

1601.14 Sizing. Unless otherwise provided for in this supplement, alternate water source piping shall be sized in accordance with Chapter 6 for sizing potable water piping.

1602.0 Gray Water Systems.

1602.1 General. The provisions of this section shall apply to the construction, alteration, and repair of gray water systems.

1602.2 System Requirements.

1602.2.1 Discharge. Gray water shall be permitted to be diverted away from a sewer ~~or private sewage disposal system,~~ and discharge to a subsurface irrigation or subsoil irrigation system when allowed by the Minnesota Pollution Control Agency. ~~The gray water shall be permitted to discharge to a mulch basin for single family and multi family dwellings.~~ Gray water shall not be used to irrigate root crops or food crops intended for human consumption that come in contact with soil.

~~**1602.2.2 Surge Capacity.** A surge tank is required for systems that are unable to accommodate peak flow rates and distribute the total amount of gray water by gravity drainage. The water discharge for gray water systems shall be determined in accordance with Section 1602.8.1 or Section 1602.8.2.~~

1602.2.3 Diversion. The gray water system shall connect to the sanitary drainage system downstream of fixture traps and vent connections through an approved and listed gray water diverter valve per Chapter 14. The gray water diverter shall be installed in an accessible location and clearly indicate the direction of flow.

1602.2.4 Backwater Valves. Gray water drains subject to backflow shall be provided with a backwater valve so located as to be accessible for inspection and maintenance.

1602.3 Connections to Potable and Reclaimed (Recycled) Water Systems. Gray water systems shall have no direct connection to a potable water supply, on-site treated nonpotable water supply, or reclaimed (recycled) water systems. Potable, on-site treated nonpotable, or reclaimed (recycled) water is permitted to be used as makeup water for a non-pressurized storage tank provided the connection is protected by an air gap in accordance with this code.

~~**1602.4 Location.** No gray water system or part thereof shall be located on a lot other than the lot that is the site of the building or structure that discharges the gray water, nor shall a gray water system or part thereof be located at a point having less than the minimum distances indicated in Table 1602.4.~~

~~**TABLE 1602.4**~~
~~**LOCATION OF GRAY WATER SYSTEMS**~~

~~MINIMUM HORIZONTAL DISTANCE IN CLEAR REQUIRED FROM~~	~~SURGE TANK (feet)~~	
~~Building structures[1]~~	~~5[2, 9]~~	
~~Property line adjoining private property~~	~~5~~	
~~Water supply wells[4]~~	~~50~~	
~~On-site domestic water service line~~	~~5~~	
~~Pressurized public water main~~	~~10~~	

~~1 Including porches and steps, whether covered or uncovered, breezeways, roofed carports, roofed patios, carports, covered walks, covered driveways, and similar structures or appurtenances.~~
~~2 The distance shall be permitted to be reduced to 0 feet for aboveground tanks where first approved by the Administrative Authority.~~
~~4 Where special hazards are involved, the distance required shall be increased as directed by the Administrative Authority.~~
~~9 The distance shall be permitted to be reduced to 0 feet for surge tanks of 75 gallons or less.~~

~~**1602.8 Procedure for Estimating Gray Water Discharge.** Gray water systems shall be designed to distribute the total amount of estimated gray water on a daily basis. The water discharge for gray water systems shall be determined in accordance with Section 1602.8.1 or Section 1602.8.2.~~

~~**1602.8.1 Single Family Dwellings and Multi-Family Dwellings.** The gray water discharge for single family and multi-family dwellings shall be calculated by water use records, calculations of local daily per person interior water use, or the following procedure:~~

~~(1) The number of occupants of each dwelling unit shall be calculated as follows:~~
~~First Bedroom 2 occupants~~
~~Each additional bedroom 1 occupant~~

~~(2) The estimated gray water flows of each occupant shall be calculated as follows:~~
~~Showers, bathtubs, and lavatories 25 gallons per day/occupant~~
~~Laundry 15 gallons per day/occupant~~

~~(3) The total number of occupants shall be multiplied by the applicable estimated gray water discharge as provided above and the type of fixtures connected to the gray water system.~~

~~**1602.8.2 Commercial, Industrial, and Institutional Occupancies.** The gray water discharge for commercial, industrial, and institutional occupancies shall be calculated by utilizing the procedure in Section 1602.8.1, water use records, or other documentation to estimate gray water discharge.~~

~~**1602.9 Gray Water System Components.** Gray water system components shall comply with Section 1602.9.1 through Section 1602.9.7.~~

~~**1602.9.1 Surge Tanks.** Where installed, surge tanks shall be in accordance with the following:~~

~~(1) Surge tanks shall be constructed of solid, durable materials not subject to excessive corrosion or decay and shall be watertight. Surge tanks constructed of steel shall be approved by the Administrative Authority, provided such tanks are in accordance with approved applicable standards.~~

~~(2) Each surge tank shall be vented in accordance with this code. The vent size shall be determined based on the total gray water fixture units as outlined in this code.~~

~~(3) Each surge tank shall have an access opening with lockable gasketed covers or approved equivalent to allow for inspection and cleaning.~~

(4) Each surge tank shall have its rated capacity permanently marked on the unit. In addition, a sign stating GRAY WATER, DANGER — UNSAFE WATER shall be permanently marked on the holding tank.
(5) Each surge tank shall have an overflow drain. The overflow drains shall have permanent connections to the building drain or building sewer, upstream of septic tanks. The overflow drain shall not be equipped with a shutoff valve.
(6) The overflow drain pipes shall not be less in size than the inlet pipe. Unions or equally effective fittings shall be provided for piping connected to the surge tank.
(7) Surge tank shall be structurally designed to withstand anticipated earth or other loads. Surge tank covers shall be capable of supporting an earth load of not less than 300 pounds per square foot (lb/ft2) where the tank is designed for underground installation.
(8) Where a surge tank is installed underground, the system shall be designed so that the tank overflow will gravity drain to the existing sewer line or septic tank. The tank shall be protected against sewer line backflow by a backwater valve installed in accordance with this code.
(9) Surge tanks shall be installed on dry, level, well-compacted soil where underground or on a level 3 inch thick concrete slab where aboveground.
(10) Surge tanks shall be anchored to prevent against overturning where installed aboveground. Underground tanks shall be ballasted, anchored, or otherwise secured, to prevent the tank from floating out of the ground where empty. The combined weight of the tank and hold down system shall meet or exceed the buoyancy forces of the tank.

1602.9.2 Gray Water Pipe and Fitting Materials. Aboveground and underground building drainage and vent pipe and fittings for gray water systems shall comply with the requirements for aboveground and underground sanitary building drainage and vent pipe and fittings in this code. These materials shall extend not less than 5 feet outside the building.

1602.9.5 Valves. Valves shall be accessible.

1602.9.6 Trap. Gray water piping discharging into the surge tank or having a direct connection to the sanitary drain or sewer piping shall be downstream of an approved water seal type trap(s). Where no such trap(s) exists, an approved vented running trap shall be installed upstream of the connection to protect the building from possible waste or sewer gases.

1602.9.7 Backwater Valve. A backwater valve shall be installed on gray water drain connections to the sanitary drain or sewer.

1602.12 Gray Water System Color and Marking Information. Pressurized gray water distribution systems shall be identified as containing nonpotable water in accordance with Section 601.2 of this code.

1602.13.1 Higher Requirements. Nothing contained in this chapter shall be construed to prevent the Administrative Authority from requiring compliance with higher requirements than those contained herein, where such higher requirements are essential to maintain a safe and sanitary condition.

1602.14 Testing. Building drains and vents for gray water systems shall be tested in accordance with this code. Surge tanks shall be filled with water to the overflow line prior to and during inspection. Seams and joints shall be left exposed, and the tank shall remain watertight. A flow test shall be performed through the system to the point of gray water discharge.

1602.15 Maintenance. Gray water systems and components shall be maintained in accordance with Table 1601.5.

1603.0 Reclaimed (Recycled) Water Systems.

1603.1 General. The provisions of this section shall apply to the installation, construction, alteration, and repair of reclaimed (recycled) water systems intended to supply uses such as water closets, urinals, trap primers for floor drains and floor sinks, aboveground and subsurface irrigation, industrial or commercial cooling or air conditioning, and othersimilar uses approved by the Administrative Authority.

1603.2.1 Plumbing Plan Submission. No permit for a reclaimed (recycled) water system shall be issued until complete plumbing plans, with data satisfactory to the Administrative Authority, have been submitted in duplicate and approved by the commissioner.

1603.3 System Changes. No changes or connections shall be made to either the reclaimed (recycled) water system or the potable water system within a site containing a reclaimed (recycled) water system without approval by the commissionerAdministrative Authority.

1603.4 Connections to Potable or Reclaimed (Recycled) Water Systems. Reclaimed (recycled) water systems shall have no connection to a potable water supply or alternate water source system. Potable water is permitted to be used as makeup water for a reclaimed (recycled) water storage tank provided the water supply inlet is protected by an air gap or reduced-pressure principle backflow preventer in accordance with this code.

1603.5 Initial Cross-Connection Test. A cross-connection test is required in accordance with Section 1601.11.2. Before the building is occupied or the system is activated, the installerplumbing contractor shall perform the initial cross-

connection test in the presence of ~~an individual approved by~~ the proper ~~A~~administrative ~~A~~authority. The test shall be ruled successful ~~by the Administrative Authority~~ before final approval is granted.

1603.6 Reclaimed (Recycled) Water System Materials. Reclaimed (recycled) water supply and distribution system materials shall comply with the requirements of this code for potable water supply and distribution systems, unless otherwise provided for in this section.

1603.7 Reclaimed (Recycled) Water System Color and Marking Information. Reclaimed (recycled) water systems shall have a colored background and marking information in accordance with Section 601.2 of this code.

1603.8 Valves. Valves, except fixture supply control valves, shall be equipped with a locking feature.

1603.9 Installation.

1603.9.1 Hose Bibbs. Hose bibbs shall not be allowed on reclaimed (recycled) water piping systems located in areas accessible to the public. Access to reclaimed (recycled) water at points in the system accessible to the public shall be through a quick-disconnect device that differs from those installed on the potable water system. Hose bibbs supplying reclaimed (recycled) water shall be marked with the words: "CAUTION: NONPOTABLE RECLAIMED WATER, DO NOT DRINK," and the symbol in Figure 1603.9.

FIGURE 1603.9

1603.9.2 Required Appurtenances. The reclaimed (recycled) water system and the potable water system within the building shall be provided with the required valves, air and vacuum relief valves, or other appurtenances to allow for deactivation or drainage as required for a cross-connection test in accordance with Section 1601.11.2.

1603.9.3 Same Trench as Potable Water Pipes. Reclaimed (recycled) water pipes shall be permitted to be run or laid in the same trench as potable water pipes with a 12 inches minimum vertical and horizontal separation where both pipe materials are approved for use within a building. Where piping materials do not meet this requirement the minimum horizontal separation shall be increased to 60 inches. The potable water piping shall be installed at an elevation above the reclaimed (recycled) water piping. Reclaimed (recycled) water pipes laid in the same trench or crossing building sewer or drainage piping shall be installed in accordance with this code for potable water piping.

1603.10 Signs. Rooms and water closet tanks in buildings using reclaimed (recycled) water shall be in accordance with Section 1601.10.

1603.11 Inspection and Testing. Reclaimed (recycled) water systems shall be inspected and tested in accordance with Section 1601.11.

1604.0 On-Site Treated Nonpotable Water Systems.

1604.1 General. The provisions of this section shall apply to the installation, construction, alteration, and repair of on-site treated nonpotable water systems intended to supply uses such as water closets, urinals, trap primers for floor drains and floor sinks, and similar ~~other~~ uses approved by the Administrative Authority.

1604.2 Plumbing Plan Submission. No permit for an on-site treated nonpotable water system shall be issued until complete plumbing plans~~, with data satisfactory to the Administrative Authority,~~ have been submitted in duplicate and approved by the commissioner.

1604.3 System Changes. No changes or connections shall be made to either the on-site treated nonpotable water system or the potable water system within a site containing an on-site treated nonpotable water system without approval by the commissioner~~Administrative Authority~~.

1604.4 Connections to Potable or Reclaimed (Recycled) Water Systems. On-site treated nonpotable water systems shall have no connection to a potable water supply or reclaimed (recycled) water source system.

1604.5 Initial Cross-Connection Test. A cross-connection test is required in accordance with Section 1604.12.2. Before the building is occupied or the system is activated, the ~~installer~~plumbing contractor shall perform the initial cross-connection test in the presence of ~~an individual approved by~~ the proper Administrative Authority. The test shall be ruled successful ~~by the Administrative Authority~~ before final approval is granted.

1604.6 On-Site Treated Nonpotable Water System Materials. On-site treated nonpotable water supply and distribution system materials shall comply with the requirements of this code for potable water supply and distribution systems, unless otherwise provided for in this section.

1604.7 On-Site Treated Nonpotable Water Devices and Systems. Devices or equipment used to treat on-site treated nonpotable water in order to maintain the minimum water quality requirements determined in 1601.7 ~~by the Administrative Authority~~ shall be listed, and labeled by a third-party certifying listing agency and approved for the intended application. Devices or equipment used to treat on-site treated non-potable water for use in water closet, urinal flushing, and similar applications shall be listed and labeled to IAPMO IGC207-2009a, NSF 350-2011~~ or approved by the Administrative Authority~~.

1604.8 On-Site Treated Nonpotable Water System Color and Marking Information. On-site treated water systems shall have a colored background and marking information in accordance with Section 601.2 of this code.

1604.9 Valves. Valves, except fixture supply control valves, shall be equipped with a locking feature.

1604.10 Design and Installation. The design and installation of on-site treated nonpotable systems shall be in accordance with Section 1604.10.1 through Section 1604.10.5.

1604.10.1 Listing Terms and Installation Instructions. On-site treated nonpotable water systems shall be installed in accordance with the terms of its listing and the manufacturer's installation instructions.

1604.10.2 Minimum Water Quality. On-site treated nonpotable water supplied to toilets, urinals, or for similar ~~other~~ uses in which it is sprayed or exposed shall be disinfected. Acceptable disinfection methods shall include chlorination, ultraviolet sterilization, ozone, or other methods as approved by the Administrative Authority. The minimum water quality for on-site treated nonpotable water systems shall meet the applicable water quality requirements for the intended applications as determined in 1601.7~~by the Administrative Authority~~.

1604.10.3 Deactivation and Drainage. The on-site treated nonpotable water system and the potable water system within the building shall be provided with the required valves, air and vacuum relief valves, or other appurtenances to allow for deactivation or drainage as required for a cross-connection test in accordance with Section 1601.11.2.2.

1604.10.4 Near Underground Potable Water Pipe. On-site treated nonpotable water pipes shall be permitted to be run or laid in the same trench as potable water pipes with a 12 inch minimum vertical and horizontal separation where both pipe materials are approved for use within a building. Where piping materials do not meet this requirement the minimum separation shall be increased to 60 inches. The potable water piping shall be installed at an elevation above the on-site treated nonpotable water piping.

1604.10.5 Required Filters. A filter permitting the passage of particulates no larger than 100 microns shall be provided for on-site treated nonpotable water supplied to water closets, urinals, trap primers, or similar ~~other~~ uses ~~approved by the Administrative Authority~~.

1604.11 Signs. Signs in buildings using on-site treated nonpotable water shall comply with Section 1601.10.

1604.12 Inspection and Testing. On-site treated nonpotable water systems shall be inspected and tested in accordance with Section 1601.11.

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NATIONAL CODE COMMITTEE COMMENT FORM

FOR PROPOSED AMENDMENTS TO THE UPC

(This form must be submitted electronically)

Author/requestor: DLI Cathy Tran

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

Telephone number:

Firm/Association affiliation, if any: DLI

Proposed Code Change - Language

(Tabled; August)

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 ~~striken~~. 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).

We support adopting Chapter 17 for applications specifically for automatic vehicle washing facilities, toilet/urinal flushing, floor drain trap primers, and subsurface lawn irrigation. Rainwater harvesting may not be used in toilet/urinal flushing or as trap primers in any health care facilities.

Except for subsurface lawn irrigation,•recommend 1702.9.4 Min. water quality/treatment standards be adopted for 100 fecal coliform cfu per 100 mL or less

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 proposed applications consist of minimal risks for the use of rainwater. DLI currently reviews rainwater harvesting as an alternate and would benefit with clear guidance as to when rainwater harvesting is permitted and when not.

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).

Other Factors to Consider Related to Proposed Amendment

63. Is this proposed code change meant to:

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

☐ 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.

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

65. Will this proposed 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.

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

67. Who are the parties affected or segments of industry affected by this proposed code change?

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

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

(Tabled; August)

CHAPTER 2
DEFFINITIONS

203.0 - A -

Authoritative Commissioner. The departmental commissioner having the authority to recommend minimum quality standards for alternate water sources used for nonpotable applications, or which has been granted the power to promulgate rules, pursuant to Chapter 14, which include the minimum quality standards required for alternate water sources used for nonpotable applications.

CHAPTER 17
NONPOTABLE RAINWATER CATCHMENT SYSTEMS

1701.0 General.

1701.1 Applicability. The provisions of this chapter shall apply to the installation, construction, alteration, and repair of ~~nonpotable~~ rainwater catchment systems for nonpotable applications listed in 1702.1.

1701.1.1 Allowable Use of Alternate Water. ~~Where approved or required by the Administrative Authority, r~~Rainwater shall be permitted to be used in lieu of potable water for the applications identified in this chapter.

1701.4 Component Identification. System components shall be properly identified as to the manufacturer.

1701.5 Maintenance and Inspection. Rainwater systems and components shall be inspected and maintained in accordance with Section 1701.5.1 through Section 1701.5.3.

1701.5.1 Frequency. Rainwater systems and components shall be inspected and maintained in accordance with Table 1701.5 unless more frequent inspection and maintenance is required by the manufacturer.

1701.5.2 Maintenance Log. A maintenance log for rainwater systems is required. The property owner or designated appointee shall ensure that a record of testing, inspection, and maintenance in accordance with Table 1701.5 is maintained in the log. The log will indicate the frequency of inspection and maintenance for each system.

1701.5.3 Maintenance Responsibility. The required maintenance and inspection of rainwater systems shall be the responsibility of the property owner~~, unless otherwise required by the Administrative Authority~~.

TABLE 1701.5
MINIMUM ALTERNATE WATER SOURCE TESTING, INSPECTION, AND MAINTENANCE FREQUENCY

DESCRIPTION	MINIMUM FREQUENCY
Inspect and clean filters and screens, and replace.	Every 3 months
Inspect and verify that required disinfection, filters and water quality treatment devices and systems are operational and maintaining minimum water quality requirements in 1701.7 ~~as determined by the Administrative Authority~~.	~~In accordance with manufacturer's instructions and the Administrative Authority.~~ After initial installation and monthly thereafter. Exception: Every 12 months thereafter when electronically monitored.
Inspect and clear debris from rainwater gutters, downspouts, and roof washers.	At the beginning of seasonal usage and e~~E~~very ~~6~~ 3 months
Inspect and clear debris from roof or other aboveground rainwater collection surfaces.	At the beginning of seasonal usage and e~~E~~very ~~6~~ 3 months
Remove tree branches and vegetation overhanging roof or other aboveground rainwater collection surfaces.	As needed
Inspect pumps and verify operation.	After initial installation and every 12 months thereafter
Inspect valves and verify operation.	After initial installation and every 12 months thereafter
Inspect pressure tanks and verify operation.	After initial installation and every 12 months thereafter
Clear debris from and inspect storage tanks, locking devices, and verify operation.	After initial installation and every 12 months thereafter
Inspect caution labels and marking.	After initial installation and every 12 months thereafter
Cross-connection inspection and test*	After initial installation and at the beginning of seasonal usage ~~every 12 months~~ thereafter

* The annual cross-connection test shall be performed in accordance with the requirements of this chapter by ~~in the presence of~~ an plumber licensed under Minnesota Statutes, section 326B.46 and currently certified to ASSE Standard 6120 ~~individual approved by the Administrative Authority in accordance with the requirements of this chapter~~.

1701.6 Operation and Maintenance Manual. An operation and maintenance manual for rainwater systems shall be supplied to the building owner by the system designer. The operating and maintenance manual shall include the following:
(1) Detailed diagram of the entire system and the location of system components.
(2) Instructions on operating and maintaining the system.
(3) Details on maintaining the required water quality as determined in 1701.7~~by the Administrative Authority~~.
(4) Details on deactivating the system for maintenance, repair, or other purposes.
(5) Applicable testing, inspection, and maintenance frequencies in accordance with Table 1701.5.
(6) A method of contacting the manufacturer(s).

1701.7 Minimum Water Quality Requirements. The minimum water quality for rainwater systems shall meet the applicable water quality requirements for the intended application as determined by the Authoritative Commissioner~~ Administrative Authority. Water quality for non-potable rainwater catchment systems shall comply with Section 1702.9.4~~. In the absence of water quality requirements, the EPA/625/R-04/108 contains recommended water reuse guidelines to assist the Authoritative Commissioner~~ Administrative Authority~~ develop, revise, recommend, or expand rainwater quality standards.

1701.8 Material Compatibility. Rainwater systems shall be constructed of materials that are compatible with the type of pipe and fitting materials, water treatment, and water conditions in the system. Components, piping, and fittings used in rainwater systems shall be listed per Chapter 14 and installed in accordance with the requirements of this plumbing code.

~~1~~**1701.9 System Controls.** Controls for pumps, valves, and other devices that contain mercury that come in contact with rainwater supply shall not be permitted.

1701.10 Separation Requirements. All underground rainwater service piping shall be separated from the building sewer in accordance with Section 609.2. Treated non-potable water pipes shall be permitted to be run or laid in the same trench as potable water pipes with a 12 inch minimum vertical and horizontal separation when both pipe materials are approved for use within a building. Where horizontal piping materials do not meet this requirement the minimum separation shall be increased to 60 inches. The potable water piping shall be installed at an elevation above the treated non-potable water piping.

1701.11 Abandonment. All rainwater systems that are no longer in use or fails to be maintained in accordance with Section 1701.5 shall be abandoned. Abandonment shall comply with Section 1701.11.1 and Section 1701.11.2.

1701.11.1 General. Every abandoned system or part thereof covered under the scope of this chapter shall be disconnected from any remaining systems, drained, plugged, and capped per the requirements of this plumbing code.

1701.11.2 Underground Tank. Every underground water storage tank that has been abandoned or otherwise discontinued from use in a system covered under the scope of this chapter shall be completely drained and filled with earth, sand, gravel, concrete, ~~or other approved material~~ or removed in a manner satisfactory to the Administrative Authority.

1701.12 Sizing. Unless otherwise provided for in this ~~supplement~~ Chapter, rainwater piping shall be sized in accordance with Chapter 6 for sizing potable water piping.

1702.0 Nonpotable Rainwater Catchment Systems.

1702.1 General. The installation, construction, alteration, and repair of rainwater catchments systems intended to supply uses such as water closets, urinals, trap primers for floor drains, industrial processes, water features, cooling tower makeup, and similar ~~other~~ uses shall be approved by the Administrative Authority.

1702.1.1 Irrigation. Catchment systems used for irrigation in combination with any uses listed in 1702.1 shall meet the requirements of this Chapter.

1702.2 Plumbing Plan Submission. No permit for a rainwater catchment system shall be issued until complete plumbing plans~~, with data satisfactory to the Administrative Authority,~~ have been submitted in duplicate and approved by the commissioner. ~~No changes or connections shall be made to either the rainwater catchment or the potable water system within a site containing a rainwater catchment water system without approval by the Administrative Authority.~~

1702.3 System Changes. No changes or connections shall be made to either the rainwater catchment system or the potable water system within a site containing a rainwater catchment system requiring a permit without approval by the commissioner~~Administrative Authority~~.

1702.4 Connections to Potable or Reclaimed (Recycled) Water Systems. An automatic means shall be installed to supply the rainwater catchment system with makeup water when there is insufficient rainwater to meet the required demand. Rainwater catchment systems shall have no direct connection to a potable water supply or alternate water source system. Potable or reclaimed (recycled) water is permitted to be used as makeup water for a rainwater catchment system provided the potable or reclaimed (recycled) water supply connection is protected by an air gap or reduced-pressure principle backflow preventer in accordance with this code.

1702.5 Initial Cross-Connection Test. Where a portion of a rainwater catchment system is installed within a building, a cross-connection test is required in accordance with Section 1702.11.2. Before the building is occupied or the system is activated, the ~~installer~~plumbing contractor shall perform the initial cross-connection test in the presence of ~~an individual approved by~~ the proper Administrative Authority. The test shall be ruled successful ~~by the Administrative Authority~~ before final approval is granted.

1702.6 Sizing. The design and size of rainwater drains, conductors, and leaders shall comply with Chapter 11 of this code.

1702.7 Rainwater Catchment System Materials. Rainwater catchment system materials shall comply with Section 1702.7.1 through Section 1702.7.~~4~~3.

1702.7.1 Water Supply and Distribution Materials. Rainwater catchment water supply and distribution materials shall comply with Chapter 6 and the requirements for potable water supply and distribution systems of this code, unless otherwise provided for in this section.

1702.7.2 Rainwater Catchment System Drainage Materials. Materials used in rainwater catchment drainage systems shall be in accordance with Chapter 11 and the requirements for storm drainage in this code.

1702.7.3 Storage Tanks. Rainwater storage tanks shall comply with Section 1702.9.5.

1702.8 Rainwater Catchment System Color and Marking Information. Rainwater catchment systems shall have a colored background in accordance with Section 601.2. Rainwater catchment systems shall be marked, in lettering in accordance with Section 601.2, with the words: "CAUTION: NONPOTABLE RAINWATER WATER, DO NOT DRINK."

1702.9 Design and Installation.

1702.9.1 Outside Hose Bibbs. Outside hose bibbs shall be allowed on rainwater piping systems. Hose bibbs supplying rainwater shall be marked with the words: "CAUTION: NONPOTABLE WATER, DO NOT DRINK" and Figure 1702.9.

FIGURE 1702.9

1702.9.2 Deactivation and Drainage for Cross-Connection Test. The rainwater catchment system and the potable water system within the building shall be provided with the required valves, air and vacuum relief valves, or other appurtenances to allow for deactivation or drainage as required for a cross-connection test in accordance with Section 1702.11.2.

1702.9.3 Collection Surfaces.

1702.9.3.1 Rainwater Catchment System Surfaces. Rainwater shall be collected from roof surfaces or other manmade, aboveground collection surfaces.

1702.9.3.2 Other Surfaces. Natural precipitation collected from surface water runoff, vehicular parking surfaces or manmade surfaces at or below grade shall comply with the storm water requirements for on-site treated non-potable water systems in Section 1604.0.

1702.9.3.3 Prohibited Discharges. Discharge from roof-mounted equipment and appliances shall not discharge onto roof surfaces that are intended to collect rainwater.

1702.9.4 Minimum Water Quality. The minimum water quality for harvested rainwater shall meet the applicable water quality requirements for the intended applications as determined in 1701.7 ~~by the Administrative Authority. In the absence of water quality requirements determined by the Administrative Authority, the minimum treatment and water quality shall also comply with Table 1702.9.4.~~

1702.9.5 Rainwater Storage Tanks. Rainwater storage tanks shall be constructed and installed in accordance with Section 1702.9.5.1 through Section 1702.9.5.7.

1702.9.5.1 Construction. Rainwater storage tanks shall be constructed of solid, durable materials not subject to excessive corrosion or decay and shall be watertight~~. Storage tanks shall be approved by the Administrative Authority, provided such tanks are in accordance with approved applicable standards.~~

1702.9.5.2 Location. Rainwater storage tanks shall be permitted to be installed above or below grade.

1702.9.5.3 Above Grade. Above grade storage tanks shall be of an opaque material, approved for aboveground use in direct sunlight or shall be shielded from direct sunlight. Tanks shall be installed in an accessible location to

allow for inspection and cleaning. The tank shall be installed on a foundation or platform that is constructed to accommodate loads in accordance with the building code.

1702.9.5.4 Below Grade. Rainwater storage tanks installed below grade shall be structurally designed to withstand anticipated earth or other loads. Holding tank covers shall be capable of supporting an earth load of not less than 300 pounds per square foot (lb/ft^2) where the tank is designed for underground installation. Below grade rainwater tanks installed underground shall be provided with manholes. The manhole opening shall be a minimum diameter of 20 inches above and located not less than 4 inches above the surrounding grade. The surrounding grade shall be sloped away from the manhole. Underground tanks shall be ballasted, anchored, or otherwise secured, to prevent the tank from floating out of the ground when empty. The combined weight of the tank and hold down system shall meet or exceed the buoyancy force of the tank.

1702.9.5.5 Drainage and Overflow. Rainwater storage tanks shall be provided with a means of draining and cleaning. The overflow drain shall not be equipped with a shutoff valve. The overflow outlet shall discharge in accordance with this code for storm drainage systems. Where discharging to the storm drainage system, the overflow drain shall be protected from backflow of the storm drainage system by a backwater valve or other approved methods.

1702.9.5.5(A) Overflow Outlet Size. The overflow outlet shall be sized to accommodate the flow of the rainwater entering the tank and not less than the aggregate cross-sectional area of inflow pipes.

1702.9.5.6 Opening and Access Protection.

1702.9.5.6(A) Animals and Insects. Rainwater tank openings shall be protected to prevent the entrance of insects, birds, or rodents into the tank.

1702.9.5.6(B) Human Access. Rainwater tank access openings exceeding 12 inches in diameter shall be secured to prevent tampering and unintended entry by either a lockable device or other approved method.

1702.9.5.7 Marking. Rainwater tanks shall be permanently marked with the capacity and the language: "NONPOTABLE RAINWATER." Where openings are provided to allow a person to enter the tank, the opening shall be marked with the following language: "DANGER-CONFINED SPACE."

1702.9.5.8 Storage Tank Venting. A vent shall be installed on each tank. The vent shall extend from the top of the tank and terminate a minimum of ~~6~~12 inches above grade and shall be a minimum of 1-½ inches in diameter. The vent terminal shall be directed downward and covered with a 3/32 inch mesh screen to prevent the entry of vermin and insects.

1702.9.6 Pumps. Pumps serving rainwater catchment systems shall be listed per Chapter 14 of this plumbing code. Pumps supplying water to water closets, urinals, and trap primers shall be capable of delivering not less than 15 pounds-force per square inch (psi) residual pressure at the highest and most remote outlet served. Where the water pressure in the rainwater supply system within the building exceeds 80 psi, a listed pressure reducing valve reducing the pressure to 80 psi or less to water outlets in the building shall be installed in accordance with this code.

1702.9.7 Roof Drains. Primary and secondary roof drains, conductors, and leaders, shall be designed and installed in accordance with Chapter 11 of this code. Secondary roof drains if used for catchment shall be alarmed.

1702.9.8 Water Quality Devices and Equipment. Devices and equipment used to treat rainwater to maintain the minimum water quality requirements determined in 1701.7 ~~by the Administrative Authority~~ shall be listed, and labeled by a third-party certifying listing agency and approved for the intended application.

1702.9.9 Freeze Protection. Tanks and piping installed in locations subject to freezing shall be provided with an approved means of freeze protection.

1702.9.10 Debris Removal. The rainwater catchment conveyance system shall be equipped with a debris excluder or other approved means to prevent the accumulation of leaves, needles, other debris, and sediment from entering the storage tank. Devices or methods used to remove debris or sediment shall be accessible and sized and installed in accordance with manufacturer's installation instructions.

1702.9.11 Required Filters. A filter permitting the passage of particulates not larger than 100 microns shall be provided for rainwater supplied to water closets, urinals, trap primers or similar ~~other~~ uses ~~approved by the Administrative Authority~~.

1702.10 Signs. Signs in buildings using rainwater shall be in accordance with Section 1702.10.1 and Section 1702.10.2.

1702.10.1 Commercial, Industrial, and Institutional Restroom Signs. A sign shall be installed in restrooms in commercial, industrial, and institutional occupancies using nonpotable rainwater for water closets, urinals, or similar ~~other~~ uses ~~approved by the Administrative Authority~~. Each sign shall contain ½ inch letters of a highly visible color on a contrasting background. The location of the sign(s) shall be such that the sign(s) shall be visible to users. The number and location of the signs shall be approved by the Administrative Authority and shall contain one the following texts determined by the following applications:

1702.10.1(A) TO CONSERVE WATER, THIS BUILDING USES RAINWATER TO FLUSH TOILETS AND URINALS.

1702.10.1(B) TO CONSERVE WATER, THIS BUILDING USES RAINWATER TO FLUSH TOILETS.

1702.10.1(C) TO CONSERVE WATER, THIS BUILDING USES RAINWATER TO FLUSH URINALS.

1702.10.1(D) TO CONSERVE WATER, THIS BUILDING USES RAINWATER TO *_____*
_____ Shall indicate the Rainwater usage.

1702.10.2 Equipment Room Signs. Each equipment room containing nonpotable rainwater equipment shall have a sign posted with the following wording in 1 inch letters:
CAUTION NONPOTABLE RAINWATER, DO NOT DRINK. DO NOT CONNECT TO DRINKING WATER SYSTEM. NOTICE: CONTACT BUILDING MANAGEMENT BEFORE PERFORMING ANY WORK ON THIS WATER SYSTEM.
This sign shall be posted in a location that is visible to anyone working on or near rainwater water equipment.

1702.11 Inspection and Testing. Rainwater catchment systems shall be inspected and tested in accordance with Section 1702.11.1 and Section 1702.11.2. Storage tanks shall be filled with water to the overflow opening for a period of 24 hours and during inspection ~~or by other means as approved by the Administrative Authority~~. All seams and joints shall be exposed during inspection and checked for water tightness.

1702.11.1 Supply System Inspection and Test. Rainwater catchment systems shall be inspected and tested in accordance with the applicable provisions of this code for testing of potable water and storm drainage systems.

1702.11.2 ~~Annual~~ Cross-Connection Inspection and Testing. An ~~initial and subsequent annual~~ inspection and test ~~in accordance with Section 1702.5~~ shall be performed on both the potable and rainwater catchment water systems. The potable and rainwater catchment water systems shall be isolated from each other and independently inspected and tested to ensure there is no cross-connection in accordance with Section 1702.11.2.1 through Section 1702.11.2.43.

1702.11.2.1 Visual System Inspection. Prior to commencing the cross-connection testing, a dual system inspection shall be conducted by an individual certified to ASSE Standard 5120 ~~approved by the Administrative Authority~~ as follows:

(1) Pumps, equipment, equipment room signs, and exposed piping in an equipment room shall be checked.

1702.11.2.2 Cross-Connection Test. The procedure for determining cross-connection shall be followed by the ~~applicant in the presence of an individual approved by the Administrative Authority~~ plumbing contractor to determine whether a cross-connection has occurred as follows:

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

1702.11.2.3 Discovery of Cross-Connection. In the event that a cross-connection is discovered, the following procedure~~, in the presence of the Administrative Authority,~~ shall be activated immediately:

(1) Rainwater catchment water piping to the building shall be shut down at the meter, and the rainwater water riser shall be drained.
(2) Potable water piping to the building shall be shut down at the meter.
(3) The cross-connection shall be uncovered and disconnected.
(4) The building shall be retested following procedures listed in Section 1702.11.2.1 and Section 1702.11.2.2.
(5) The potable water system shall be chlorinated with 50 ppm chlorine for 24 hours.

(6) The potable water system shall be flushed after 24 hours, and a standard bacteriological test shall be performed. Where test results are acceptable, the potable water system shall be permitted to be recharged.

1702.11.~~2.4~~3 Annual Inspection and Test. An annual inspection of the rainwater catchment water system, following the procedures listed in Section 1702.11.2.1 shall be required. Annual cross-connection testing, following the procedures listed in Section 1702.11.2.2 shall be required ~~by the Administrative Authority,~~ unless ~~site conditions do not require it~~otherwise specified by the Administrative Authority, but~~.~~ ~~I~~in no event shall the test occur less than once in 4~~5~~years. Written records must be maintained and submitted to the Administrative Authority. Alternate testing requirements shall be permitted by the Administrative Authority.

~~**Table 1702.9.4**~~
~~**Minimum Water Quality**~~

~~**Application**~~	~~**Minimum Treatment**~~	~~**Minimum Water Quality**~~
~~Car Washing~~	~~Debris excluder or other approved means in compliance with Section 1702.9.10 and 1702.9.11.~~	~~N/A~~
~~Urinal and water closet flushing, clothes washing, and trap priming~~	~~Debris excluder or other approved means in compliance with Section 1702.9.10 and 1702.9.11.~~	~~Escherichia coli: <100 CFU/100 ml and Turbidity: <10 NTU~~
~~Ornamental Fountains and other water features~~	~~Debris excluder or other approved means in compliance with Section 1702.9.10 and 1702.9.11.~~	~~Escherichia coli: <100 CFU/100 ml and Turbidity: <10 NTU~~
~~Cooling tower make up water~~	~~Debris excluder or other approved means in compliance with Section 1702.9.10 and 1702.9.11.~~	~~Escherichia coli: <100 CFU/100 ml and Turbidity: <10 NTU~~

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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
(Tabled; August)

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 ~~striken~~. 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 17 NONPOTABLE RAINWATER CATCHMENT SYSTEMS

UPC Chapter 17 is deleted.

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 Plumbing Board has discussed rainwater and other wastewater reuse since at least 2008. Widely varying discussions involving the “green” building code, proposed legislation, adoption of national standards, and drafting of specific amendments to the Minnesota Plumbing Code have not led to a consensus. The 2012 Uniform Plumbing Code, Chapter 17, has been very recently proposed to be adopted. We recommend that the chapter not be adopted at the present time for the following reasons: (1) inadequate time has been provided to adequately involve the numerous parties and resolve the numerous issues. Rainwater harvesting system design involves elements that include fields outside of plumbing; (2) the chapter addresses the development and enforcement of water quality standards which do not fall under the jurisdiction of the Plumbing Board or Department of Labor and Industry; (3) the chapter does not differentiate the extremely wide variation in water

sources and water uses; (4) the chapter does not adequately address the multitude of existing agency authorities such as the wastewater treatment and potable water treatment authorities of the Minnesota Pollution Control Agency and the Minnesota Department of Health respectively; (5) the chapter includes numerous undefined, vague, and discretionary terms and statements; and (6) the chapter contains numerous technical and administrative issues that require discussion and amendment.

We believe that adoption of rainwater reuse rules should be pursued. Chapter 17, or the previous Department of Labor and Industry rule draft of 8/19/2011 can provide a starting place. We would be pleased to participate in a broad and thorough review.

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 requirements.

Other Factors to Consider Related to Proposed Amendment

70. Is this proposed code change meant to:

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

☐ 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).
This proposal deletes UPC Chapter 17

☐ 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.

71. Is this proposed code change required by a Minnesota Statute or new legislation? If so, please provide the citation to the Statute or legislation.
No, but is outlined in the Minnesota Water Sustainability Framework commissioned by the legislature (Objective A.3).

72. Will this proposed 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

73. Will this proposed 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

74. Who are the parties affected or segments of industry affected by this proposed code change?
The public, government agencies, plumbers, and other water industry professionals

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

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

(Tabled; August)

Proposed Amendments to Uniform Plumbing Code from Laura Millberg (MPCA) 10-02-2012

1702.9.3 Collection Surfaces.

Recommendation – Amend the section as follows: **1702.9.3 Collection Surfaces.** Rainwater ~~shall~~ may be collected from (1) ~~r~~Roof surfaces~~. A rainwater catchment system shall not collect rainwater from:~~ (~~1~~2) Vehicular parking surfaces (~~2~~3) Surface water runoff (~~3~~4) Bodies of standing water according to the standards of the Authority Having Jurisdiction for the intended end use of the water being collected.

Rationale – Minnesota Statutes, section 115.03, subdivision 5c, states that the Minnesota Pollution Control Agency (MPCA) "shall develop performance standards, design standards, or other tools to enable and promote the implementation of low-impact development and other storm water management techniques...Using the low-impact development approach, storm water is managed on-site and the rate and volume of predevelopment storm water reaching receiving waters is unchanged." Rainwater catchment systems are a storm water management technique that may need to capture water from more than just roof systems within the site boundaries in order to effectively maintain predevelopment rates and volume. The intended end use of the harvested water, not the stormwater management technique, should determine the appropriate collection surfaces for rainwater catchment systems.

1702.9.4 Minimum Water Quality.

Recommendation – Do not accept any amendments at this time that specify additional requirements or assign jurisdiction to any agency/organization other than the MPCA.

Rationale – The MPCA regulates storm water in Minn. Rules Chapter 7090. The MPCA defines water quality standards for all the waters of the state in Minn. Rules Chapter 7050. "Based on considerations of best usage and the need for water quality protection in the interest of the public," Chapter 7050 creates classifications for beneficial use, including Class 1 use as a source of supply for drinking or food processing, Class 2 use for recreation such as bathing, Class 3 use as a source of supply for cooling water, Class 4 use for agricultural purposes such as irrigation, and Class 5 use for aesthetic enjoyment. MPCA fits the definition of ***Authority Having Jurisdiction*** regarding minimum water quality requirements for outdoor beneficial uses.

1702.9.5.5 Drainage and Overflow.

Recommendation – Delete the entire section **1702.9.5.5**, including **1702.9.5.5(A) Overflow Outlet Size.**

Rationale – Drainage and overflow should be designed as part of the stormwater management technique, not the plumbing code, according to standards already/soon-to-be developed by the MPCA or another appropriate Authority Having Jurisdiction.

1702.11 Inspection and Testing.

Recommendation – Delete the entire section **1702.11** (through 1702.11.2.4.), section **1702.5 Initial Cross-Connection Test**, and section **1702.9.2 Deactivation and Drainage for Cross-Connection Test**.

Rationale – ***NONPOTABLE RAINWATER CATCHMENT SYSTEMS*** (the chapter title) are a storm water management technique and therefore, by definition, are not intended to be used for potable water or storm drainage, so the plumbing code provisions specified in 1702.11.1 are not applicable. The intended end use of the harvested water, not the collection method, should determine the appropriate inspection and testing standards for this storm water management technique. Legislative authority to develop standards for storm water management techniques has been given to MPCA.