Plumbing Board
National Code Review Committee – Meeting Minutes
June 18th, 2013 – 9:00 a.m.
Department of Labor and Industry
443 Lafayette Road No., Saint Paul, MN 55155-4344
DLI.CCLDBOARDS@State.MN.US

Committee Members Present
John Parizek
Larry Justin
Phillip Sterner
Chad Filek
Jim Lungstrom (Chair)
Joe Beckel

Staff Present
Carey Wagner
Jim Peterson

Committee Members Absent
Grant Edwards
Mike McGowan
Gale Mount
Jim Kittleson

Visitors
Grant Brekke
Todd Pennington
Ron Thompson
Gary Thaden
Bob Wolf
Phil Raines
Brian Soderholm
Luther Westman

I. Call To Order

The meeting was called to order by Chair at 9:05 a.m. Announcements were made and introductions were done.

II. Approval of Meeting Agenda

Justin made a motion, seconded by Filek, to approve the Agenda. The vote was unanimous and the motion carried.

III. Regular Business

Parizek made a motion, seconded by Beckel, to approve the minutes of the April 16th, 2013 meeting. The vote was 5 in favor and 1 abstention.

Chair advised members to turn expense reports over to Parizek for approval.

IV. Special Business

Special Business for today is to review suggested changes to the 2012 Uniform Plumbing Code chapters 4, 10 and 11 for incorporation into the MN version of the code. Suggested changes being brought forth have been developed by National Code Committee members, interested parties, and members of the public. These suggested changes are preliminary and will be forwarded to the full Plumbing Board for consideration at a future Plumbing Board meeting. Suggested changes were proposed for the following chapters:

Chapter 4--- Plumbing Fixtures and Fixture Fittings
Chapter 10-- Traps and Interceptors
Chapter 11-- Storm Drainage

The following table is a summary of suggested changes with motions and vote. See attached Exhibits for language:

Proposer	Section	Motion To	Motion By\Second	Vote	Exhibit Number
Justin	403.3.1	Accept	Justin/Sterner	Carries	1
MDH[1]	403.4	Accept	Justin/Filek	Carries	2
Greenway	Various	Deny	Parizek/Justin	Carries	3
Ames	408.4	Accept; see Exhibit 4	Parizek/Sterner	Carries	4
MDH	408.8	Accept with mod	Parizek/Justin	Carries	5
MDH	415.5	Accept	Parizek/Sterner	Carries	6
MDH	418.4	Accept	Justin/Sterner	Carries	7
DLI[2]	Ch. 4, various	Accept	Justin/Parizek	Carries	8
DLI	Ch. 10, various	Accept	Justin/Sterner	Carries	9
Justin	1005.1	Accept	Justin/Sterner	Carries	10
Justin	1007.0, 1007.1	Accept	Justin/Filek	Carries	11
Justin	1008.0, 1008.1	Accept	Justin/Beckel	Carries	10
Justin	1010.1	Accept	Justin/Sterner	Carries	10
DLI	1014.3.7	Tabled; Sept.	No Motion	NA	9
DLI	Ch. 11, various	Accept	Sterner/Beckel	Carries	12
Greenway	1101.11.2.2 (B)	Accept	Parizek/Sterner	Carries	13
Justin	1101.11.3	Tabled; Sept.	No Motion	NA	14

[1]MDH = Minnesota Department of Health
[2]DLI = Department of Labor and Industry

V. Open Forum

There were no requests to speak during open forum.

VI. Discussion

There was no further discussion.

VII. Announcements

A. Next Regularly Scheduled Meeting: The next National Code Committee meeting will be held on July 16th, 2013.

VII. Adjournment

A motion was made by Sterner, seconded by Justin, to adjourn the meeting. The vote was unanimous and the motion carried.

Respectfully Submitted,

Jim Lungstrom

Jim Lungstrom

Exhibits 1 - 14

Exhibit 1

443 Lafayette Road N.
St. Paul, Minnesota 55155
www.dli.mn.gov

MINNESOTA DEPARTMENT OF
LABOR & INDUSTRY

(651) 284-5005
1-800-DIAL-DLI
TTY: (651) 297-4198

NATIONAL CODE COMMITTEE COMMENT FORM
FOR PROPOSED AMENDMENTS TO THE UPC

(This form must be submitted electronically)

Author/requestor: Lawrence G Justin PE

Email address: ljustin@wentzassoc.com

Telephone number: 952-843-6203

Firm/Association affiliation, if any: Plumbing Board/Professional Engineer

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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).

403.3 Urinals. Urinals shall have an average water consumption not to exceed 1 gallon (4 L) of water per flush.
403.3.1 Nonwater Urinals. Nonwater urinals shall be listed and comply with the applicable standards referenced in Table 1401.1. Nonwater urinals shall have a barrier liquid sealant to maintain a trap seal. Nonwater urinals shall permit the uninhibited flow of waste through the urinal to the sanitary drainage system. Nonwater urinals shall be cleaned and maintained in accordance with the manufacturer's instructions after installation. ~~Where nonwater urinals are installed they shall have a water distribution line rough-in to the urinal location to allow for the installation of an approved backflow prevention device in the event of a retrofit.~~ Where a nonwater urinal is installed, a water supplied fixture shall be installed upstream of the nonwater urinal at the end of that same drainage branch.

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 requirement to install a water distribution line rough-in "in the event of a retrofit" results in the following concerns:
1. Additional cost to the project.
2. Provides a "dead-end" supply pipe allowing stagnant water to collect (health issue)
3. Why should code "assume" a retrofit? Is that not the property owners decision, and thus responsibility if they do replace the urinals?

The addition of the requirement to install a "water supplied fixture" upstream of the urinal is beneficial as it runs water in the drain pipe diluting the urine and reducing material build-up in drainage piping. If fixture is a lavatory, it is used after the urinal.

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).

Proposed Code Change deletion will reduce cost of project since water distribution line rough-in is not installed.

Proposed Code Change addition will not add any cost to the project since Toilet rooms where the urinal will be located will also have a lavatory and water closet, thus the requested water supplied fixture is already present.

Exhibit 2

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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 4 PLUMBING FIXTURES AND FIXTURE FITTINGS

UPC Section 403.4 is amended as follows:

~~**403.4 Metered Faucets.** Self-closing or self-closing metering faucets shall be installed on lavatories intended to serve the transient public, such as those in, but not limited to, service stations, train stations, airports, restaurants, and convention halls. Metered faucets shall deliver a maximum of 0.26 gallons (0.98 L) of water per use.~~

Proposed Code Change – Need and Reason

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

The Minnesota Plumbing Code does not currently require self-closing faucets to be installed on public facilities. The faucets provide for conservation of water, may prevent spills, and are generally a good idea. However, self-closing faucets are not the norm on small public systems such as rural churches. The requirement to place the faucets on all transient public facilities will increase costs and will create inspection and compliance issues. Also, the language "not limited to" is an open-ended list that creates vagueness.

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 required by UPC section 403.4

Exhibit 3

ARVELLA GREENWAY

- 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..

Exhibit 4

Lungstrom, Jim (DLI)

From: Ames, Rebecca <RAmes@ci.bloomington.mn.us>
Sent: Thursday, July 05, 2012 9:07 AM
To: Lungstrom, Jim (DLI)
Subject: RE: UPC Assignments

Hi Jim,
My comments are:

UPC 2012, Chapter 4.
408.4 Waste Outlet (showers)
Waste outlet and tailpiece are 2 inches.
This would require the entire waste line from the shower to be increased to 2 inches. Easily done in new construction, but remodeling could be more difficult and costly. Is this our intent?
Would this be covered under Chapter 1, Administration, 101.11.2 Existing Installation?
I know of jurisdictions that would require the increase in waste pipe sizing regardless of 101.11.2.

I have been looking for a code section that address' when a hot water recirculation line is required. I do not find a designated distance in L 602.3, Recirculation systems: or L 602.7.3 Recirculation Loop.

Rebecca

From: Lungstrom, Jim (DLI) [mailto:Jim.Lungstrom@state.mn.us]
Sent: Wednesday, June 20, 2012 3:08 PM
To: Parizek, John (jparizek@dunwoody.edu); Tran, Cathy (DLI); Peterson, Jim (DLI); Larry Justin (ljustin@wentzassoc.com); Gale Mount (Gmount@rochestermn.gov); Chad Filek (cfilek@j-berd.com); Ames, Rebecca; Michael McGowan (mikem@mcgowanwater.com); Thompson, Ronald (MDH); Noma, Brian (MDH); Kittelsonph@frontiernet.net
Subject: RE: UPC Assignments

Hello All,

If you would all email me the amendments you identified, I will compile them into a single document. This will make it much easier to review for our next meeting.

Thanks,

Jim

Jim Lungstrom, P.E.
Assistant Director
Construction Codes and Licensing Division
Department of Labor and Industry
Phone: (651) 284 - 5879
Fax: (651) 284 - 5748
Email: Jim.Lungstrom@state.mn.us

Exhibit 5

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MINNESOTA DEPARTMENT OF LABOR & INDUSTRY

(651) 284-5005
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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 4 PLUMBING FIXTURES AND FIXTURE FITTINGS

UPC section 408.8 is amended as follows:

408.8 Public Shower Floors. Floors of public shower rooms shall have a nonskid surface and shall be drained in such a manner that wastewater from one bather shall not pass over areas occupied by other bathers. Where each shower space is not provided with an individual waste outlet, the waste outlet must be located and the floor pitched so that the water from one shower does not flow over the floor area serving another shower. Gutters in public or gang shower rooms shall have rounded corners for easy cleaning and shall be sloped not less than 2 percent toward drains. Drains in gutters shall be spaced at a maximum of 8 feet (2438 mm) from sidewalls nor more than 16 feet (4877 mm) apart.

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 section 408.8 is the exact language contained in existing rule part 4715.1380, subpart 2. The requirement further clarifies the purpose of the first sentence of section 408.8, that bathers not be exposed to the wastes of other bathers. However; section 408.8 does

not necessarily assure that bathers walking to enter or leave the shower space are not exposed to wastewater from other bathers. This amendment is needed and reasonable to prevent the transmission of disease.

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 part 4715.1380, subpart 2.

Exhibit 6

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NATIONAL CODE COMMITTEE COMMENT FORM
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Author/requestor: Minnesota Department of Health

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

Telephone number: (651) 201-3658

Firm/Association affiliation, if any:

Proposed Code Change - Language

Please provide your proposed UPC amendment in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~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 4 PLUMBING FIXTURES AND FIXTURE FITTINGS

UPC Section 415.5 is amended as follows:

415.5 Public Use Fountains. Installation of a combined cold water faucet and drinking fountain is prohibited for public use. If a drinking fountain is provided at a public use sink, it must have at least an 18-inch separation from any other faucet spout.

Proposed Code Change – Need and Reason

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

Minnesota Rules, part 4715.1260 contains the existing language, except that the modifier "bubbler" is deleted since the term is not defined, colloquial, and not needed to understand the requirement. The rule prohibits a "combined" faucet and fountain which operates by a person placing a finger or some other object, which is usually unsanitary, over a hole to divert the water flow. The required separation is also needed to prevent unsanitary conditions and the spread of disease from hands, saliva, and water flow off body parts.

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 and does not increase costs.

Exhibit 7

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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 4 PLUMBING FIXTURES AND FIXTURE OPENINGS

UPC Section 418.4 is amended as follows:

418.4 Food Storage Areas. Where drains are provided in storerooms, walk-in freezers, walk-in coolers, refrigerated equipment, or other locations where food is stored, such drains shall have indirect waste piping. Except that floor drains are prohibited in retail food service refrigeration systems according to part 4626.1190 5-40212 and ANSI/NSF Standard 7 as adopted by Chapter 4626. Separate waste pipes shall be run from each food storage area, each with an indirect connection to the building sanitary drainage system. Traps shall be provided in accordance with Section 801.2.2 of this code and shall be vented.

Indirect drains shall be permitted to be located in freezers or other spaces where freezing temperatures are maintained, provided that traps, where supplied, shall be located where the seal will not freeze. Otherwise, the floor of the freezer shall be sloped to a floor drain located outside of the storage compartment.

Proposed Code Change – Need and Reason

Please provide a thorough explanation of the need for this amendment and why this proposed amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its proposed changes. The Agency must submit evidence that it

has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

The Minnesota Food code, Minnesota Rules, chapter 4626 adopts NSF Standard 7 by reference. NSF Standard 7, 8.1.2.7 states that "Walk-in units with pre-fabricated floors shall not have floor drains." Minnesota Rules, part 4626.1190 5-402.12 item A states "Except as specified in items B and C, a direct connection shall not exist between the sewage system and a drain originating from equipment in which food, portable equipment, or utensils are placed."

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 of the Minnesota Food Code.

Exhibit 8

Plumbing Board
c/o Department of Labor and Industry
443 Lafayette Road North
Saint Paul, MN 55155-4344
dli.ccldboards@state.mn.us

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 4 -See attached documentation.

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 4 - 2012 UPC DLI Proposed changes
Fixtures

CHAPTER 4 PROPOSED

403.3.1 Nonwater Urinals. ~~Nonwater urinals shall be listed and comply with the applicable standards referenced in Table 1401.1. Nonwater urinals shall have a barrier liquid sealant to maintain a trap seal. Nonwater urinals shall permit the uninhibited flow of waste through the urinal to the sanitary drainage system. Nonwater urinals shall be cleaned and maintained in accordance with the manufacturer's instructions after installation. Where nonwater urinals are installed they shall have a water distribution line rough in to the urinal location to allow for the installation of an approved backflow prevention device in the event of a retrofit.~~

Delete 403.3.1 in its entirety and replace with the following amendments:

Nonwater urinals shall be listed and comply with the applicable standards referenced in Table 1401.1.Where a nonwater urinal is installed, a water-supplied fixture must be installed upstream of the nonwater urinal at the end of the same drainage branch. The water distribution system must be designed to allow for replacement of nonwater urinals with water-supplied urinals without dead ends. Each nonwater urinal must be separately trapped by a nonpetroleum liquid seal that is lighter than water to protect from odor escape or evaporation of the trap contents. Metallic traps or traps with elastomeric membranes for nonwater urinals are prohibited.

The owner of each nonwater urinal must ensure that the urinal is cleaned and maintained in strict compliance with the manufacturer's requirements after installation.

SONAR: To minimize premature failure of the drainage system resulting from build-up of dry raw urine on the drainage pipe from usage over time, the proposed change in section 403.3.1 specifically requires that a water supplied plumbing fixture must be installed upstream of nonwater urinal to provide dilution of the waste stream from the nonwater urinal. In addition, to avoid stagnant water and bacteria growth in the design of the water distribution system from rough-ins in the event of a retrofit, emphasis is placed to avoid dead end branches.

Since nonwater urinals do not have conventional water traps, the proposed language in this subpart prescribe specific fixture trap requirements for nonwater urinal by use of a liquid seal consisting of a non petroleum liquid that is lighter than water. This will prevent odor and evaporation of the trap and minimize unsanitary conditions that may exist otherwise. The proposed language prohibits metallic and elastromeric membrane type traps for nonwater urinals. These types of traps will deteriorate from pure urine waste causing premature failure of the traps. is necessary to protect the integrity of the plumbing system.

~~**406.3 Miscellaneous Fixtures.** Fixed wooden, or tile wash trays or sinks for domestic use shall not be installed in a building designed or used for human habitation. No sheet metal lined wooden bathtub shall be installed or reconnected. No dry or chemical closet (toilet) shall be installed in a building used for human habitation, unless first approved by the Health Officer.~~

SONAR: Propose to delete Section 406.3 in its entirety. Section 401.1 already prescribes general requirements for quality of fixtures that used to evaluate suitability for plumbing fixtures which are not standard fixture. By specifically listing miscellaneous fixtures that are not allowed in this part may be construed or mislead to some improper review and approval of other materials which are not code approved or are prohibited.

409.0 Bathtubs and Whirlpool Bathtubs.

409.1 Application. Bathtubs and whirlpool bathtubs shall comply with the applicable standards referenced in Table 1401.1. Pressure sealed doors within a bathtub or whirlpool bathtub enclosure shall comply with the applicable standards referenced in Table 1401.1. Whirlpool pedicure tubs must comply with general requirements and water retention sections of ASME A112.9.7 or IAPMO IGC 155, Pipeless Whirlpool Bathtub Appliances.

SONAR: A pedicure whirlpool tub (chair) is considered a plumbing appliance or (special plumbing fixture), and function like the whirlpool bathtubs with the exception that the size is much smaller and only the feet is submerged instead of the entire body. In addition, concerns of sanitation and spreading of diseases through water retention from the recirculation components of the pedicure whirlpool tubs are similar to a typical whirlpool bathtub, if not more when use in commercial nail salons. Therefore, minimum requirements for health and sanitation must be established to protect the public.

One noted difference is that pedicure whirlpool tubs are only intended for submerging of feet, suction and hair entrapment requirements are not of safety concerns that need to be addressed. It is reasonable to adopt at minimum the applicable sections of the standards for the whirlpool bathtubs. The whirlpool bathtub standards are ASME A112.19.7, Hydromassage Bathtub Appliances, and the IAPMO IGC 155, Pipeless Whirlpool Bathtub Appliances. The applicable sections in ASME A112.19.7

which apply to pedicure whirlpool tubs are general requirements which cover material construction, water pump standard UL 1795, and circulation/air piping which includes water retention requirements. The applicable sections of IAPMO IGC 155 are all sections of this standard, except for hair entrapment requirements.

418.6 Elevator Pit Drain. An elevator pit drain must discharge to the sanitary sewer using an indirect connection that precludes the possibility of sewage backup into the pit. If a sump pump system is used, the sump must be outside the pit with a dry pan drain flowing to it.

SONAR: This proposed part is to clarify the proper method of draining and elevator pit consistent with the Minnesota Elevator Code. The elevator pit will receive hydraulic fluid, grease, oil, which must discharge to the sanitary sewer. In addition, the discharge must be made through an indirect connection to prevent sewage backups from the sanitary sewer system into the pit and the receptor must be sized properly to receive the pump discharge. Addition language is proposed to require a sump when used be located outside the pit so the direct access for maintenance and inspections can be made without entering the pit or elevator shaft.

418.7 Garage and parking area floor drains. Floor area drains in open parking areas, including open areas of parking ramps, must discharge to the storm sewer or to a place of disposal satisfactory to the municipal sewer authority. Floor drains in parking areas which are enclosed, and floor drains in areas open or enclosed which are used for maintenance or as a vehicle wash bay, must discharge to the sanitary sewer if a municipal sewer is available. Oil and flammable liquid interceptor must be provided if required by section 1017.

Exception: Floor drains in private garages serving one- and two-family dwellings may discharge to daylight if approved by the administrative authority.

SONAR: This proposed part is to clarify the proper method of draining of drains in enclosed garages by requiring the drains to discharge to sanitary sewer instead of storm sewer. Drains in enclosed garages generally do not receive rainwater,but will receive oily, greasy, and other types of waste from vehicles even vehicle washing, which need proper treatment. Open areas of parking ramps will receive significant of rainwater and therefore, must discharge to to the storm sewer unless the municipal sewer authority determines other point of disposals are proper for the intended waste in the open parking ramps. Also reference is made to section 1017, Oil and Flammable Liquid Interceptor, for proper design and installation of the interceptor when provided.

An exception for floor drains in one-and two-family dwellings to allow discharge to "daylight" when approved by the local administrative authority. The intent of "daylight" is to allow floor drain discharge onto the ground surface outside the garage. The need for local administrative authority approval is necessary to ensure the discharge is within the owner's property line and does not cross other properties, and to prevent discharge from entering into surface water. The scope is limited therefore the concerns of environmental impact are minimal since there are no commercial or industrial applications in these garages. This has been a practice that has been use as well as coordinated and approved by the Minnesota Pollution Agency.

418.4 Food Storage Areas. Where specifically approved by the licensing authority, floor drains may be are provided in storerooms, walk-in freezers, walk-in coolers, refrigerated equipment, or other locations where food is stored, such drains shall have indirect waste piping. Separate waste pipes shall be run from each food storage area, each with an indirect connection to the building sanitary drainage system. Traps shall be provided in accordance with Section 801.2.2 of this code and shall be vented.

SONAR: Consistent with section 801.2.2 (Walk-In Coolers) this is clarify that floor drains may only be installed in these types of storage areas when approved by the licensing requirements.

420.3 Waste Outlet. Kitchen and laundry sinks shall have a waste outlet and fixture tailpiece not less than 1½ inches (40 mm) in diameter, except commercial pot and scullery sinks must be provided with waste outlets not less than two inches in diameter. Service sinks shall have a waste outlet and fixture tailpiece not less than 2 inches (50 mm) in diameter. Fixture tailpieces shall be constructed from the materials specified in Section 701.1 for drainage piping, provided, however, that such connections where exposed or accessible shall be permitted to be of seamless drawn brass not less than No. 20 B & S Gauge (0.032 inches) (0.81 mm). Waste outlets shall be provided with an approved strainer.

SONAR: this is to clarify that commercial pot and scullery must be provided with two inch outlet since these sinks have large compartments and handle commercial kitchen functions that must be provided with two inch outlet.

421.2 Limitation of Hot Water Temperature for Public Lavatories. Hot water delivered from public-use lavatories shall be limited to a maximum temperature of 110 ~~120°F~~ (49°C) by a device that is in accordance with ASSE 1070 or CSA B125.3. The water heater thermostat shall not be considered a control for meeting this provision.

SONAR: This proposed amendment limiting the max. temperature to 110 degress F would provide consistent requirement with the MN Commercial Energy Code (ASHRAE Standard 90.1-2004).

422.0 Minimum Number of Required Fixtures.

422.1 For all premises subject to this chapter, plumbing fixtures shall be provided for the type of building occupancy and in the minimum number listed in chapter 1305, Minnesota Building Code.

~~Plumbing fixtures shall be provided for the type of building occupancy and in the minimum number shown in Table 422.1. The total occupant load and occupancy classification shall be determined in accordance with the building code. Occupancy classification not shown in Table 422.1 shall be considered separately by the Authority Having Jurisdiction.~~

~~The minimum number of fixtures shall be calculated at 50 percent male and 50 percent female based on the total occupant load. Where information submitted indicates a difference in distribution of the sexes such information shall be used in order to determine the number of fixtures for each sex. Once the occupancy load and occupancy are determined, Table 422.1 shall be applied to determine the minimum number of plumbing fixtures required. Where applying the fixture ratios in Table 422.1 results in fractional numbers, such numbers shall be rounded to the next whole number. For multiple occupancies, fractional numbers shall be first summed and then rounded to the next whole number.~~

~~**422.1.1 Family or Assisted-Use Toilet and Bathing Facilities**. Where family or assisted-use toilet and bathing rooms are required, in applicable building regulations, the facilities shall be installed in accordance with those regulations.~~

~~**422.2** Separate Facilities. Separate toilet facilities shall be provided for each sex.~~

~~Exceptions:~~

~~(1)Residential installations.~~

~~(2)In occupancies with a total occupant load of 10 or less, including customers and employees, one toilet facility, designed for use by no more than one person at a time, shall be permitted for use by both sexes.~~

~~(3)In business and mercantile occupancies with a total occupant load of 50 or less including customers and employees, one toilet facility, designed for use by no more than one person at a time, shall be permitted for use by both sexes.~~

~~**422.3 Fixture Requirements for Special Occupancies**. Additional fixtures shall be permitted to be required where unusual environmental conditions or referenced activities are encountered. In food preparation areas, fixture requirements shall be permitted to be dictated by health codes.~~

~~**422.4 Toilet Facilities Serving Employees and Customers.** Each building or structure shall be provided with toilet facilities for employees and customers. Requirements for customers and employees shall be permitted to be met with a single set of restrooms accessible to both groups.~~

~~Required toilet facilities for employees and customers located in shopping malls or centers shall be permitted to be met by providing a centrally located toilet facility accessible to several stores. The maximum travel distance from entry to any store to the toilet facility shall not exceed 300 feet (91 440 mm).~~

~~Required toilet facilities for employees and customers in other than shopping malls or centers shall have a maximum travel distance not to exceed 500 feet (152.4 m).~~

~~**422.4.1 Access to Toilet Facilities.** In multi-story buildings, accessibility to the required toilet facilities shall not exceed one vertical story. Access to the required toilet facilities for customers shall not pass through areas designated as for employee use only such as kitchens, food preparation areas, storage rooms, closets, or similar spaces. Toilet facilities accessible only to private offices shall not be counted to determine compliance with this section.~~

~~**422.5 Toilet Facilities** for Workers. Toilet facilities shall be provided and maintained in a sanitary condition for the use of workers during construction.~~

SONAR: Section 422.0 is proposed for deletion in its entirety. Minimum fixture requirements are regulated in SBC and other licensing codes and not the Plumbing Code.

Exhibit 9

Plumbing Board
c/o Department of Labor and Industry
443 Lafayette Road North
Saint Paul, MN 55155-4344
dli.ccldboards@state.mn.us

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 10 -See attached documentation.

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 10 - 2012 UPC DLI Proposed changes

Chapter 10 Proposed Amendments:

1001.1 Where Required. Each plumbing fixture, shall be separately trapped by an approved type of liquid seal trap. This section shall not apply to fixtures with integral traps. Not more than one trap shall be permitted on a trap arm. Food waste disposal units installed with a set of restaurant, commercial, or industrial sinks shall be connected to a separate trap. Each domestic clothes washer and each laundry tub shall be connected to a separate and independent trap, except that ~~a trap serving~~ a laundry tub shall be permitted to also receive the waste from a clothes washer set adjacent thereto. The vertical distance between a fixture outlet and the trap weir shall be as short as practicable, but in no case shall the tailpiece from a fixture exceed 24 inches (610 mm) in length. One trap shall be permitted to serve a set of not more than three single compartment sinks or laundry tubs of the same depth or three lavatories immediately adjacent to each other and in the same room where the waste outlets are not more than 30 inches (762 mm) apart and the trap is centrally located where three compartments are installed.

Sonar: The proposed change is to clarify that a laundry tub is a receptor and may receiving the indirect waste discharge from a clothes washer. As written and without proposing the change, it may be interpreted that a trap of a laundry tub to receive discharges from a clothes washer adjacent to it. Concerns of having physical connection into the trap of the laundry tub would siphon dirty waste from the laundry tub or its trap during the clothes washer spinning cycle.

1009.2 Approval. The size, type, and location of each interceptor (clarifier) or separator shall meet the requirements of this chapter, except for interceptors or separators which are engineered and manufactured and which are documented by the manufacturer and the project design engineer to be properly designed and sized for the specific project, and ~~be~~ approved by the Authority Having Jurisdiction. Except where otherwise specifically permitted, no wastes other than those requiring treatment or separation shall be discharged into an interceptor (clarifier).

Sonar: The proposed change is to clarify that engineered units are acceptable and are needed for special uses or designs where interceptors that are approved in this chapter would not address the needed design or special types of waste for a specific project. Therefore, the proposed change allows an option for interceptors and separators which are engineered, design, size, and manufacture for a specific use when documentation from the manufacturer and the project engineer stating the interceptor is properly designed and sized for the specific project.

~~**1014.3.7 Abandoned Gravity Grease Interceptors.** Abandoned grease interceptors shall be pumped and filled as required for abandoned sewers and sewage disposal facilities in Section 722.0.~~

Sonar: This section refers to Section 722.0. Section 722.0 has been proposed to be deleted and therefore no longer would exist in this code. Consistent with Section 722.0, this part is proposed for deletion since private sewage treatment regulations are governed by the MPCA rules and not the MN Plumbing Code.

Delete languages in 1017.1 and 1017.2 entirely and replace with proposed changes:

1017.0 Oil and Flammable Liquid Interceptors.

1017.1 Interceptors Required. ~~Repair garages and gasoline stations with grease racks or grease pits, and factories that have oily, flammable, or both types of wastes as a result of manufacturing, storage, maintenance, repair, or testing processes, shall be provided with an oil or flammable liquid interceptor that shall be connected to necessary floor drains. The separation or vapor compartment shall be independently vented to the outer air. Where two or more separation or vapor compartments are used, each shall be vented to the outer air or shall be permitted to connect to a header that is installed at a minimum of 6 inches (152 mm) above the spill line of the lowest floor drain and vented independently to the outer air. The minimum size of a flammable vapor vent shall be not less than 2 inches (51 mm), and, where vented through a sidewall, the vent shall be not less than 10 feet (3048 mm) above the adjacent level at an approved location. The interceptor shall be vented on the sewer side and shall not connect to a flammable vapor vent. Oil and flammable interceptors shall be provided with gastight cleanout covers that shall be readily accessible. The waste line shall be not less than 3 inches (80 mm) in diameter with a full size cleanout to grade. Where an interceptor is provided with an overflow, it shall be provided with an overflow line [not less than 2 inches (50 mm) in diameter] to an approved waste oil tank having a minimum capacity of 550 gallons (2082 L) and meeting the requirements of the Authority Having Jurisdiction. The waste oil from the interceptor shall flow by gravity or shall be pumped to a higher elevation by an automatic pump. Pumps shall be adequately sized and accessible. Waste oil tanks shall have a 2 inch (50 mm) minimum~~

~~pump-out connection at grade and a 1½ inch (38 mm) minimum vent to atmosphere at an approved location not less than 10 feet (3048 mm) above grade.~~

1017.2 Design of Interceptors. ~~Each manufactured interceptor that is rated shall be stamped or labeled by the manufacturer with an indication of its full discharge rate in gpm (L/s). The full discharge rate to such an interceptor shall be determined at full flow. Each interceptor shall be rated equal to or greater than the incoming flow and shall be provided with an overflow line to an underground tank.~~

~~Interceptors not rated by the manufacturer shall have a depth of not less than 2 feet (610 mm) below the invert of the discharge drain. The outlet opening shall have not less than an 18 inch (457 mm) water seal and shall have a minimum capacity as follows: Where not more than three motor vehicles are serviced, stored, or both, interceptors shall have a minimum capacity of 6 cubic feet (0.2 m^3), and 1 cubic foot (0.03 m^3) of capacity shall be added for each vehicle up to 10 vehicles. Above 10 vehicles, the Authority Having Jurisdiction shall determine the size of the interceptor required. Where vehicles are serviced and not stored, interceptor capacity shall be based on a net capacity of 1 cubic foot (0.03 m^3) for each 100 square feet (9.29 m^2) of surface to be drained into the interceptor, with a minimum of 6 cubic feet (0.2 m^3).~~

1017.0 Oil and Flammable Liquid Interceptors.

1017.1 Interceptors Required. Enclosed garages of over 1,000 square feet or housing more than four motor vehicles, repair garages, gasoline stations with grease racks, work or wash racks, auto washes, and all buildings where oily and/or flammable liquid wastes are produced as a result of manufacturing, storage, maintenance, repair, or testing processes shall have an interceptor installed into which all oil, grease, and sand bearing and/or flammable wastes shall be discharged before emptying into the building drainage system or other point of disposal, when floor drains or trench drains are provided. The interceptor shall be located inside the building.

Exception: Private garages serving one- and two-family dwellings.

1017.2 Design of Interceptors. Each interceptor shall be of watertight construction and of not less than 35 cubic feet holding capacity, be provided with a water seal of not less than three inches on the inlet and not less than 18 inches on the outlet. The minimum depth below the invert of the discharge drain shall be three feet. The minimum size of the discharge drain shall be four inches. The interceptor may be constructed either: (i) of monolithic poured reinforced concrete with a minimum floor and wall thickness of six inches with protected treatment approved by the manufacturer for the intended use (ii) of iron or steel of a minimum thickness of 3/16 inch, protected with an approved corrosion resistant coating on both the inside and the outside, or (iii) of fiberglass resins that comply with ASTM C-581 and meets IAPMO Material and Property Standard, PS 80-2003b, for clarifiers.

The interceptor must be provided with a nonperforated iron or steel cover and ring of not less than 24 inches in diameter, and the air space in the top of the tank must have a three-inch vent pipe, constructed of approved metallic material, extending separately to a point at least 12 inches above the roof of the building. Drains and piping from motor vehicle areas must be a minimum of three inches in size. Drains discharging to an interceptor must not be trapped and must be constructed so as not to retain liquids. In motor vehicle wash facilities, a sand interceptor which meets the requirements of section 1016.0, except that no water seal is permitted, may be installed to receive wastes before discharging into a flammable waste interceptor.

No cleanout, mechanical joint, or backwater valve shall be installed inside the interceptor which could provide a bypass of the trap seal. Only wastes that require separation shall discharge into the interceptor, except that a water supplied and trapped sink may be connected to the vent of the interceptor. Whenever the outlet branch drain serving a interceptor is more than 25 feet from a vented drain, such branch drain shall be provided with a two inch vent pipe. A backwater valve shall be installed in the outlet branch drain whenever in the judgment of the administrative authority backflow from the building drain could occur.

Sonar: 1017.1 and 1017.2 Recommend deleting the languages in 1017.1 and 1017.2 entirely and replace with language consistent with MN part 4715.1120. The language in 1017.1 & 1017.2 would not provide consistent administration through out the state. The proposed new language is consistent with past requirements specific to Minnesota. Allowance for other types of interceptors which are engineered and manufactured may be entertained in proposed changes in section 1009.2. The following are reasons why 1017.1 and 1017.2 should not be adopted:

1. The language in UPC 1017.1 does not include drains in vehicle wash bays, or vehicle storage facilities/parking garages which also receive oily and flammable wastes.
2. UPC 1017.1 and 1017.2 does not clearly spelled out do not address minimum interceptor size required, would allow any size of floor drains or drainage piping upstream of the interceptor, no dry-pan design required.

3. The language in 1017.1 does not specifically reference types of construction for the interceptor nor waste oil tank but allow both which leads to maintenance of two tanks instead of one, and higher chance of leakage. Material construction and compatibility with wastes being stored needs to be addressed under the UPC
4. Minimum size and leak proof requirements of waste oil tank are not specify in 1017.1.
5. There are pumping provisions as an option for compliance without requiring fire explosion proof pumps.
6. 1017.2 for design of interceptors allows for minimum sizing of 6 gallons interceptor and mandates underground oily/flammable storage tank for overflow from the interceptor which is an added cost for owners and building pumping connection to the outside.
7. The language suggests a minimum interceptor size of 6 gallons in vehicle service garage which is substantially small and would require more frequent pump schedule even with the waste oil tank.
8. Allow traps upstream of the interceptor which is a possible fire/safety hazard.
9. Language does not provide exception for residential/single family garages.
10. Concerns of sufficient vapor vent sizes of 2-inches and allowance of venting to the side wall of the building.

Exhibit 10

State of Minnesota Plumbing Board
National Code Review Committee
April 17, 2012
Review of Chapter 10 – Traps and Interceptors

1001.0 Traps Required
No revisions recommended.

1002.1 Traps Protected by Vent Pipes
No revisions recommended.

1002.2 Fixture Traps
No revisions recommended. No revisions to Table 1002.2 recommended.

1002.3 Changes of Direction
No revisions recommended. No revisions to Exception recommended.

1002.4 Vent Pipe Opening
No revisions recommended.

1003.1 Traps Described - General Requirements
No revisions recommended.

1003.2 Traps Described - Slip Joint Fittings
No revisions recommended.

1003.3 Traps Described - Size
No revisions recommended; recommend omit "Mobile Home Trap" from Table 702.1.

1004.1 Traps – Prohibited and 1004.2 Traps – Movable Parts
No revisions recommended.

1005.1 Trap Seal – General
Recommend to remove/revise "Authority Having Jurisdiction".

1006.1 Floor Drain Traps – General
No revisions recommended.

1007.1 Trap Seal Protection – General
Recommend to remove requirement of trap seal primer.
Recommend to remove/revise "Authority Having Jurisdiction".

1008.1 Building Traps – General
Recommend to omit section.

1009.0 Industrial Interceptors (Clarifiers) and Separators.

Recommend for Committee to review and provide recommendations.

1010.1 Slaughterhouses, Packing Establishments, etc. – General
Recommend to omit and replace with 4715.1130.

1011.1 Minimum Requirements for Auto Wash Racks – General
No revisions recommended.

1012.1 Commercial and Industrial Laundries – General
No revisions recommended.

1013.1 Bottling Establishments – General
No revisions recommended.

1014. Grease Interceptors
Plumbing Board has extensively reviewed this topic. Recommend for Committee to review and provide recommendations.

1015. FOG (Fog, Oils, and Greases) Disposal System
The Minnesota Code and Plumbing Board have not reviewed this topic. It appears to be written acceptably. Recommend for Committee to review and provide recommendations.

1016 Sand Interceptors
No revisions recommended.

1017 Oil and Flammable Liquid Interceptors
The Minnesota Code is lacking and Plumbing Board have discussed the need to improve on this topic. It appears to be written acceptably. Recommend for Committee to review and provide recommendations.

Exhibit 11

443 Lafayette Road N.
St. Paul, Minnesota 55155
www.dli.mn.gov

MINNESOTA DEPARTMENT OF LABOR & INDUSTRY

(651) 284-5005
1-800-DIAL-DLI
TTY: (651) 297-4198

NATIONAL CODE COMMITTEE COMMENT FORM
FOR PROPOSED AMENDMENTS TO THE UPC

(This form must be submitted electronically)

Author/requestor: Lawrence G Justin PE

Email address: ljustin@wentzassoc.com

Telephone number: 952-843-6203

Firm/Association affiliation, if any: Plumbing Board/Professional Engineer

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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).

~~**1007.0 Trap Seal Protection.**~~
~~**1007.1 General.** Floor drain or similar traps directly connected to the drainage system and subject to infrequent use shall be protected with a trap seal primer, except where not deemed necessary for safety or sanitation by the Authority Having Jurisdiction. Trap seal primers shall be accessible for maintenance.~~

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 State of Minnesota Plumbing code presently does not require, or never has required to my knowledge, a trap seal primer. If owner of property, Engineer or Master Plumber feels the Use of trap primers are necessary, then they may install them. Requiring trap primers have the following concerns:
1. Additional cost to the project.
2. Additional maintenance to site/owner of building.
3. Additional water usage and if trap primer fails open, will run constantly, typically with owner unaware that the water running.

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).

Proposed Code Change deletion will reduce cost of project since trap primer is not installed and reduce water usage.

Exhibit 12

Plumbing Board
c/o Department of Labor and Industry
443 Lafayette Road North
Saint Paul, MN 55155-4344
dli.ccldboards@state.mn.us

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 11 -See attached documentation.

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.

CHAPTER 11 - 2012 UPC DLI Proposed changes

Chapter 11 Proposed Amendments:

1101.1 Where Required. Roofs, paved areas, yards, courts, courtyards, vent shafts, light wells, or similar areas having rainwater, shall be drained into a separate storm sewer system, or into a combined sewer system where a separate storm sewer system is not available, or to some other place of disposal satisfactory to the Authority Having Jurisdiction. In no case shall water from roofs or any building roof drainage be allowed to flow upon the public sidewalk. In the case of one- and two-family dwellings, storm water shall be permitted to be discharged on flat areas, such ~~as streets or~~ lawns, so long as the storm water shall flow away from the building and away from adjoining property, and shall not create a nuisance.

SONAR: the proposed change is to clarify that in no case shall water from the roof be discharged onto public sidewalks as this creates nuisance and there are concerns of freeze and thaw in MN climate conditions creating unsafe conditions for the public. This includes primary and secondary roof drainage system.

1101.2 Storm Water Drainage to Sanitary Sewer Prohibited. Storm water shall not be drained into sewers intended for sanitary drainage unless approved by the municipal sewer authority or stated elsewhere in this code.

SONAR: This proposed change is to address the need when storm water must discharge into sanitary. In particular when storm water is subject to receive unwanted waste or contamination and need to discharge to sanitary for proper treatment. This change is consistent with proposed part 418.7 for garage and parking area floor drains.

~~**1101.3 Material Uses.** Rainwater piping placed within the interior of a building or run within a vent or shaft shall be of cast iron, galvanized steel, wrought iron, brass, copper, lead, Schedule 40 ABS DWV, Schedule 40 PVC DWV, stainless steel 304 or 316L [stainless steel 304 pipe and fittings shall not be installed underground and shall be kept not less than 6 inches (152 mm) aboveground], or other approved materials, and changes in direction shall be in accordance with the requirements of Section 706.0. ABS and PVC DWV piping installations shall be installed in accordance with IS 5, IS 9, and Chapter 15 "Firestop Protection." Except for individual single family dwelling units, materials exposed within ducts or plenums shall have a flame spread index of a maximum of 25 and a smoke developed index of a maximum of 50, where tested in accordance with ASTM E 84 and UL 723.~~

SONAR: 1101.3 The material requirements in this section are related to fire protection and flame spread rules under the authority of the State Fire Marshal and/or MN Building Code, and therefore is deleted.

1101.11 Roof Drainage.

1101.11.1 Primary Roof Drainage. Roof areas of a building shall be drained by roof drains or gutters. The location and sizing of drains and gutters shall be coordinated with the structural design and pitch of the roof. ~~Unless otherwise required by the Authority Having Jurisdiction, roof drains, gutters, vertical conductors or leaders, and horizontal storm drains for primary drainage shall be sized based on a storm of 60 minutes duration and 100 year return period. Refer to Table D 1.1 (in Appendix D) for 100 year, 60 minute storms at various locations.~~The roof drainage system shall be sized on a basis of a rate of rainfall of at minimum four inches per hour.

Sonar: 1101.11.1 The proposed amendment is to reflect local established condition of the minimum rate of rainfall of four inches per hour in the design of the roof drainage system.

1101.11.2 Secondary Drainage. Secondary (emergency) roof drainage shall be provided in accordance with Chapter 1305, Minnesota Building Code.~~by one of the methods specified in Section 1101.11.2.1 or Section 1101.11.2.2.~~

~~1101.11.2.1 Roof Scuppers or Open Side. Secondary roof drainage shall be provided by an open sided roof or scuppers where the roof perimeter construction extends above the roof in such a manner that water will be entrapped. An open sided roof or scuppers shall be sized to prevent the depth of ponding water from exceeding that for which the roof was designed as determined by Section 1101.11.1. Scupper openings shall be not less than 4 inches (102 mm) high and have a width equal to the circumference of the roof drain required for the area served, sized in accordance with Table 1101.11.~~

~~1101.11.2.2 Secondary Roof Drain. Secondary roof drains shall be provided~~ ~~The secondary roof drains shall be located not less than 2 inches (51 mm) above the roof surface. The maximum height of the roof drains shall be a height to prevent the depth of ponding water from exceeding that for which the roof was designed as determined~~

~~by Section 1101.11.1. The secondary roof drains shall connect to a piping system in accordance with Section 1101.11.2.2(A) or Section 1101.11.2.2(B).~~

~~1101.11.2.2(A) Separate Piping System. The secondary roof drainage system shall be a separate system of piping, independent of the primary roof drainage system. The discharge shall be above grade, in a location observable by the building occupants or maintenance personnel. Secondary roof drain systems shall be sized in accordance with Section 1101.11.1 based on the rainfall rate for which the primary system is sized.~~

~~1101.11.2.2(B) Combined System. The secondary roof drains shall connect to the vertical piping of the primary storm drainage conductor downstream of a horizontal offset below the roof. The primary storm drainage system shall connect to the building storm water that connects to an underground public storm sewer. The combined secondary and primary roof drain systems shall be sized in accordance with Section 1106.0 based on double the rainfall rate for the local area.~~

SONAR: 1101.11.2, 1101.11.2.1, 1101.11.2.2, 1101.11.2.2(A) & (B). The proposed amendments listed are to reflect state established requirements governed in the MN Building Code and therefore, it is necessary to delete and add the correct reference to State Building Code which administers secondary roof drainage system including scuppers.

1106.0 Size of Leaders, Conductors, and Storm Drains.

1106.1 Vertical Conductors and Leaders. Vertical conductors and leaders shall be sized on the basis of the maximum projected roof area and Table 1101.11~~.~~ for a minimum rainfall rate of four inches per hour.

1106.2 Size of Horizontal Storm Drains and Sewers. The size of building storm drains or building storm sewers or their horizontal branches shall be based upon the maximum projected roof or paved area to be handled and Table 1101.7~~.~~ for a minimum rainfall rate of four inches per hour.

SONAR: 1106.1, 1106.2 The proposed amendments are to reflect local established condition of the minimum rate of rainfall of four inches per hour in the design of roof drainage system.

1106.3 ~~Size of Roof Gutters. The size of semi-circular gutters shall be based on the maximum projected roof area and Table 1106.3.~~ Reduction in size prohibited. Storm drain piping shall not reduce in size in the direction of flow, including changes in direction from horizontal to vertical.

SONAR: 1106.3 Scuppers are regulated by the Minnesota Building Code and therefore is deleted. Proposed new language is added in place to require that roof drain piping must not reduce in the direction of flow. This is reasonable amendment to prevent obstruction of flow or collection of debris or leaves when pipes reduce in the direction of flow.

1108.0 Controlled-Flow Roof Drainage.

1108.1 Application. In lieu of sizing the storm drainage system in accordance with Section 1106.0, the roof drainage shall be permitted to be sized on the basis of controlled flow and storage of the storm water on the roof, provided the design is based on a minimum of four inches per hour and following conditions are met:

(7) Roof design, where controlled-flow roof drainage is used, shall be such that the design roof live load is not less than ~~30~~ 40 lb/ft² (~~146~~ kg/m²) ~~to provide a safety factor exceeding the 15 lb/ft² (73 kg/m²) represented by the depth of water stored on the roof in accordance with Table 1108.1(2).~~

SONAR: 1108.0, 1108.1 Consistent with the proposed amendment in 1101.11.1, the amendment is to clarify that the roof drainage system must be designed to reflect the local established condition of the minimum of rainfall of four inches per hour. 1108.1 is amended to local snow load is at 40 pounds per square foot as required in the Minnesota building Code in some areas of the state. This snow load is higher than the 6 inch maximum allowable for controlled flow roof drainage design and is therefore, reasonable to use the local established loading.

1109.0 Testing.

1109.1 Testing Required. New building storm drainage systems and parts of existing systems that have been altered, extended, or repaired shall be tested in accordance with Section 712 ~~Section 1109.2.1 or Section 1109.2.2~~ to disclose leaks and defects.

1109.2 Exceptions.

A.Testing is not required for:

(1) outside leaders;

(2) perforated or open drain tile; or

(3) portions of storm drainage system and sewers located more than ten feet from buildings, more than ten feet from buried water lines, and more than 50 feet from water wells, and not passing through soil or water identified as being contaminated.

B. Building storm sewers may be tested in accordance with the Hydrostatic Test Method from the City Engineers Association of Minnesota, except that an air test may be required for any section of the building storm sewer that passes through contaminated soils or contaminated water. The Hydrostatic Test Method, provisions F2 and F3, as specified in Standard Utilities Specifications for Watermain and Service Line Installation and Sanitary Sewer and Storm Sewer Installation, written and published by the City Engineers Association of Minnesota, 1999 edition, is incorporated by reference, is not subject to frequent change, and is available in the office of the commissioner.

~~**1109.2 Methods of Testing Storm Drainage Systems.** Except for outside leaders and perforated or open-jointed drain tile, the piping of storm drain systems shall be tested upon completion of the rough piping installation by water or air, except that plastic pipe shall not be tested with air, and proved tight. The Authority Having Jurisdiction shall be permitted to require the removal of cleanout plugs to ascertain whether the pressure has reached parts of the system. One of the following test methods shall be used in accordance with Section 1109.2.1 through Section 1109.2.3.~~

~~**1109.2.1 Water Test.** After piping has been installed, the water test shall be applied to the drainage system, either to the entire system or to sections. Where the test is applied to the entire system, all openings in the piping shall be tightly closed except for the highest opening, and the system shall be filled with water to the point of overflow. Where the system is tested in sections, each opening shall be tightly plugged except for the highest opening of the section under test, and each section shall be filled with water, but no section shall be tested with less than a 10 foot (3048 mm) head of water. In testing successive sections, not less than the upper 10 feet (3048 mm) of the next preceding section shall be tested so that no joint of pipe in the building except the uppermost 10 feet (3048 mm) of a roof drainage system, which shall be filled with water to the flood level of the uppermost roof drain, shall have been submitted to a test of less than 10 foot (3048 mm) head of water. The water shall be kept in the system or in the portion under test for not less than 15 minutes before inspection starts; the system shall then be tight.~~

~~**1109.2.2 Air Test.** The air test shall be made by attaching an air compressor testing apparatus to a suitable opening after closing other inlets and outlets to the system, forcing air into the system until there is a uniform gauge pressure of 5 pounds force per square inch (psi) (34 kPa) or sufficient pressure to balance a column of mercury 10 inches (34 kPa) in height. This pressure shall be held without introduction of additional air for a period of not less than 15 minutes.~~

~~**1109.2.3 Exceptions.** Where circumstances exist that make air and water tests described in Section 1109.2.1 and Section 1109.2.2 impractical, see Section 103.5.6.3.~~

SONAR: Sections 1109.1 is amended to reflect the testing requirements established in section 712 for consistency so the language is not redundant since requirements have been addressed in another section. In addition, exceptions are proposed in 1109.2 for specific installations where testing is not require consistent with Minnesota requirements for proper installation to ensure protection of drinking water and building safety.

Exhibit 13

ARVELLA Greenway

- 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.

Exhibit 14

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NATIONAL CODE COMMITTEE COMMENT FORM
FOR PROPOSED AMENDMENTS TO THE UPC
(This form must be submitted electronically)

Author/requestor: Lawrence G Justin PE

Email address: ljustin@wentzassoc.com

Telephone number: 952-843-6203

Firm/Association affiliation, if any: Plumbing Board/Professional Engineer

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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).

1101.11.3 SIPHONIC ROOF DRAINAGE SYSTEM.

1101.11.3.1 General requirements. In lieu of sizing the storm drainage system from conventional methods as required in part 11014715.2710, the roof drainage may be designed as an engineered siphonic roof drainage system when allowed by the administrative authority. The engineered siphonic roof drainage system must meet the requirements of 1101.11.3.2 and 1101.11.3.3.

1101.11.3.2 Design criteria. The siphonic roof drainage system must be designed and certified by a professional engineer licensed in the state of Minnesota.

A. The system must be sized on the basis of the rainfall rate listed Table D 1.1 (in Appendix D) for 100 year, 60 minute storms at various locations in Minnesota, unless ASPE 45 Standard indicates a greater rate, in which case, the design should be in accordance with rainfall rates listed in the ASPE 45 standard.

B. The drainage system must be designed according to ASPE Standard 45, Siphonic Roof Drainage, and according to the manufacturer's recommendations and requirements. Manufacturer design software must be in accordance with ASPE Standard 45.

C. Roof drains must meet ASME A112.6.9, Siphonic Roof Drains.

D. When designed for water accumulation, the roof must be designed for the maximum possible water accumulation according to chapter 1305.

E. Minimum pipe size must be 1-1/2 inches. All pipe sizes and cleanouts in the drainage system must be designed and installed according to ASPE Standard 45.

F. The plans and specifications for the drainage system shall indicate the siphonic roof drainage system as an engineered method used for the design.

G. The installed drainage system must be permanently and continuously marked as a siphonic roof drainage system at approved intervals and clearly at points where piping passes through walls and floors. Roof drains must be marked in accordance with ASME A112.6.9.

H. The transition locations from the siphonic roof drainage system to a gravity system must be determined by the design engineer at a location acceptable to the administrative authority. The design, sizing, and venting of the transition location must be in accordance with ASPE Standard 45. The velocity at the transition location to gravity shall be reduced to less than three feet per second. The gravity portion of the building storm sewer system receiving the siphonic roof drainage system must be sized for the design rate but no less than a rainfall rate listed Table D 1.1 (in Appendix D) for 100 year, 60 minute storms at various locations in Minnesota, unless ASPE 45 Standard indicates a greater rate, in which case, the design should be in accordance with rainfall rates listed in the ASPE 45.

I. All plans, specifications, and calculations must be submitted to the administrative authority and signed and sealed by the design engineer. The submitted calculations must include performance data for the drainage system for the required rainfall rate, including the minimum and maximum calculated operating pressures and velocities verifying that the design solution is within the operating parameters required by the design standard. All performance data must be reported as the extreme maximum and minimum calculations and shall not be presented with "averaged" data.

1101.11.3.3 Proof of suitability. Upon completion of the project, proper tests, inspections, and certification of the siphonic roof drainage system must be performed according to items A and B.

A. Testing must be performed according to ASPE Standard 45.

B. Prior to the final plumbing observation, the design engineer must provide written certification to the administrative authority that the system has been visually observed and the installation has been properly implemented according to the certified design, plans, calculations, and specifications. The submitted written certification must include any field modification from the initial design involving dimensions, location, or routing of the siphonic drainage system that must be reapproved and recertified by the design engineer and be accompanied by a final as-built design of the altered system and supported by calculated data to show that the overall system remains in accordance with ASPE Standard 45.

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 State of Minnesota Plumbing code has recently allowed Siphonic Roof Drainage System as an Engineered System. The 2012 UPC allows the installation of the Siphonic Roof Drainage system under Part 301.2 and Chapter 14, but since Minnesota has already spent the effort vetting this section, it is advantageous to place the specific requirements as an amendment.

The above proposal does have some revisions to the 2012 Minnesota Plumbing Code language:
1. Revised design to meet rainfall rate listed in 2012 UPC Table D 1.1 (in Appendix D) for 100 year, 60 minute storms instead of 4" per hour; this matches the typical 2012 UPC language.

2. Removed the requirement of design Engineer to visually inspect the installation. Typically the design Engineer or their representative will "observe" the installation, not inspect.

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).

Proposed Code Change addition will provide additional options to the owner/design Engineer and could reduce cost of project.