

INTERNATIONAL CODE COUNCIL

2009/2010 CODE DEVELOPMENT CYCLE

PROPOSED CHANGES TO THE 2009 EDITIONS OF THE

INTERNATIONAL BUILDING CODE®
INTERNATIONAL ENERGY CONSERVATION CODE®
INTERNATIONAL EXISTING BUILDING CODE®
INTERNATIONAL FIRE CODE®
INTERNATIONAL FUEL GAS CODE®
INTERNATIONAL MECHANICAL CODE®
INTERNATIONAL PLUMBING CODE®
INTERNATIONAL PRIVATE SEWAGE DISPOSAL CODE®
INTERNATIONAL PROPERTY MAINTENANCE CODE®
INTERNATIONAL RESIDENTIAL CODE®
INTERNATIONAL WILDLAND-URBAN INTERFACE CODE®
INTERNATIONAL ZONING CODE®

October 24 2009 – November 11, 2009

Hilton Baltimore
Baltimore, MD



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By

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INTRODUCTION

The proposed changes published herein have been submitted in accordance with established procedures and are distributed for review. The publication of these changes constitutes neither endorsement nor question of them but is in accordance with established procedures so that any interested individuals may make their views known to the relevant code committee and others similarly interested. In furtherance of this purpose, the committee will hold an open public hearing at the date and place shown below for the purpose of receiving comments and arguments for or against such proposed changes. Those who are interested in testifying on any of the published changes are expected to be represented at these hearings.

This compilation of code change proposals is available in electronic form only. As part of ICC's green initiative, ICC will no longer print and distribute this document. The compilation of code change proposals will be posted on the ICC website, and CD copies will be distributed to all interested parties on our list.

2009 ICC CODE DEVELOPMENT HEARINGS

These proposed changes will be discussed in public hearings to be held on October 24, 2009 through October 31, 2009 and November 4-11, 2009 at the Hilton Baltimore, Baltimore, Maryland. The code committees will conduct their public hearings in accordance with the schedule shown on page xxxii.

REGISTRATION AND VOTING

All members of ICC may vote on any assembly motion on proposed code changes to all International Codes. **For identification purposes, eligible voting members must register, at no cost, in order to vote.** The registration desk will be open in the lobby of the convention center according to the following schedule:

Friday, October 23 rd	3:00 pm to 6:00 pm
Saturday, October 24 th through Wednesday November 11 th	7:30 am to 5:00 pm

Council Policy #28-Code Development (page xii) requires that ICC's membership records regarding ICC members reflect the eligible voters 10 days prior to the start of the Code Development Hearings. This process includes new as well as changes to voting status. Section 5.7.4 of CP #28 (page xix) reads as follows:

5.7.4 Eligible Voters: All members of ICC in attendance at the public hearing shall be eligible to vote on floor motions. Only one vote authorized for each eligible attendee. Code Development Committee member shall be eligible to vote on floor motions. Application, whether new or updated, for ICC membership must be received by the Code Council ten days prior to the commencement of the first day of the public hearing.

As such, new membership application as well as renewal applications must be received by ICC's Member Services Department by October 14, 2009. These records will be used to verify eligible voter status for the Code Development Hearings. Members are strongly encouraged to review their membership records for accuracy well in advance of the hearings so that any necessary changes are made prior to the October 14, 2009 deadline. For information on application for new membership and membership renewal, please go to www.iccsafe.org/membership/join.html or call ICC Member Services at 1-888-ICC SAFE (422-7233)

It should be noted that a corporate member has a single vote. Only one representative of a corporate member will be issued a voting badge. ICC Staff will be contacting corporate members regarding who the designated voting representative will be.

ADVANCED REGISTRATION

You are encouraged to advance register by filling out the registration form available at www.iccsafe.org/codesforum.

CODE DEVELOPMENT PROCESS CHANGES

As noted in the posted Advisory Statement of February 4, 2009, the revised Code Development Process includes maintaining the current 3-year publication cycle with a single cycle of code development between code editions. The schedule for the 2009/2010 Code Development Cycle is the transitional schedule for the revised code development process. As noted, there will be two Final Action Hearings in 2010—one for the modified Group A, and one for the modified Group B. The codes that will comprise the Group A and Group B hearings will be announced prior to the Code Development Hearings in Baltimore. See the Code Development Process Notes included with the Schedule on page viii.

PROCEDURES

The procedures for the conduct of the public hearing are published in *Council Policy #28-Code Development (CP#28)* ("Procedures") on page xii. The attention of interested parties is specifically directed to Section 5.0 of the Procedures. These procedures indicate the conduct of, and opportunity to participate in the ICC Code Development Process. Please review these procedures carefully to familiarize yourself with the process.

There have been a number of revisions to the procedures. Included among these revisions are the following:

Section 2.3: **Supplements:** ICC will no longer produce a Supplement to each edition of the I-Codes. A new edition of the I-Codes will be based upon activity of a single code change cycle.

Section 3.3.3: **Multiple code change proposals:** A proponent is not permitted to submit multiple code changes to one section of a code unless the subject matter of each proposal is different.

Section 4.5.1: **Administrative update of standards:** Updating of standards without a change to code text (administrative update) shall be a code change proposal dealt with by the Administrative Code Development Committee. The updating of standards procedures have also changed. See discussion on updating of standards on page vi.

Section 4.7: **Code change posting:** All code change proposals are required to be posted on the ICC website 30 days before the code development hearings. Published copies will not be provided.

Section 5.2.2: **Conflict of interest:** Clarification is added that a committee member who steps down from the dais because of a conflict of interest is allowed to provide testimony from the floor on that code change proposal.

Section 5.4.6.2: **Proponent rebuttal testimony:** Where the code change proposal is submitted by multiple proponents, only one proponent of the joint submittal to be allotted additional time for rebuttal.

Section 5.5.2: **Modifications:** The chair rules a modification in or out of order. The chair's decision is final. No challenge in a point of order is allowed for this ruling.

Section 5.7.3: **Assembly Actions:** Several changes have been made to assembly actions. See explanation page v

Section 7.3.8.2: **Initial motion at final action hearings:** A successful assembly action becomes the initial motion at the final action hearings. See explanation page v.

ASSEMBLY ACTION

The procedures regarding assembly action at the Code Development Hearings have been revised to place more weight on the results of that action (see Section 5.7 of CP #28 on page viii). Some important items to note regarding assembly action are:

- A successful assembly action now requires a 2/3 majority rather than a simple majority.
- After the committee decision on a code change proposal is announced by the moderator, any one in the assembly may make a motion for assembly action.
- After a motion for assembly action is made and seconded, the moderator calls for a floor vote in accordance with Section 5.7.2. *No additional testimony will be permitted.*
- A successful assembly action becomes the initial motion considered at the Final Action Hearings. This also means that the required vote at the Final Action Hearings to uphold the assembly action is a simple majority.

MULTIPLE PART CODE CHANGE PROPOSALS

It is common for ICC to receive code change proposals for more than one code or more than 1 part of a code that is the responsibility of more than one committee. For instance, a code change proposal could be proposing related changes to the text of IBC Chapter 4 (IBC-General), IBC Chapter 7 (IBC-Fire Safety), and the IFC Chapter 27 (IFC). When this occurs, a single committee will now hear all of the parts, unless one of the parts is a change to the IRC, in which case the respective IRC committee will hear that part separately.

ADMINISTRATIVE CODE DEVELOPMENT COMMITTEE

A new committee for the 2009/2010 Code Change Cycle and going forward is the Administrative Code Development Committee. This committee will hear code change proposals to the administrative provisions of the I-Codes (Chapter 1 of each code.) The purpose of this committee is to achieve, inasmuch as possible, uniformity in the administrative provisions of all I-Codes when such uniformity is warranted.

ANALYSIS STATEMENTS

Various proposed changes published herein contain an “analysis” that appears after the proponent’s reason. These comments do not advocate action by the code committees or the voting membership for or against a proposal. The purpose of such comments is to identify pertinent information that is relevant to the consideration of the proposed change by all interested parties, including those testifying, the code committees and the voting membership. Staff analyses customarily identify such things as: conflicts and duplication within a proposed change and with other proposed changes and/or current code text; deficiencies in proposed text and/or substantiation; text problems such as wording defects and vagueness; background information on the development of current text; and staff’s review of proposed reference standards for compliance with the Procedures. Lack of an analysis indicates neither support for, nor opposition to a proposal.

REFERENCE STANDARDS

Proposed changes that include the addition of a reference to a new standard (i.e. a standard that is not currently referenced in the I-Codes.) will include in the proposal the number, title and edition of the proposed standard. This identifies to all interested parties the precise document that is being proposed and which would be included in the referenced standards chapter of the code if the proposed change is approved. Proponents of code changes which propose a new standard have been directed to forward copies of the standard to the Code Committee and an analysis statement will be posted on the ICC website indicating the status of compliance of the standard with the ICC referenced standards criteria in Section 3.6 of CP #28 (see page xiv). (See the ICC Website page xi) The analysis statements for referenced standards will be posted on or before September 24, 2009. This information will also be published and made available at the hearings.

REFERENCED STANDARDS UPDATES

At the end of the agenda of the Administrative Code Development Committee is a code change proposal that is an administrative update of the referenced standards contained in the I-Codes. This code change proposal, ADM39-09/10 contains a list of standards for which the respective promulgators have indicated that the standard has been updated. The codes that these standards appear in are indicated beside each listed referenced standard. This update will then apply to every code in which the standard appears.

It should be noted that in accordance with Section 4.5.1 of CP #28 (see page xvi), standards promulgators have until December 1, 2011 to finalize and publish any updates to standards in the administrative update. If the standard is not finalized by December 1, 2011, the code will be revised to reference the previously listed year edition of that standard.

MODIFICATIONS

Those who are submitting modification for consideration by the respective Code Development Committee are required to submit a Copyright Release in order to have their modifications considered (Section 3.3.4.5 of CP #28). It is preferred that such release be executed in advance – the form is at <http://www.iccsafe.org/cs/codes/publicforms.htm>. Copyright release forms will also be available at the hearings. Please note that an individual need only sign one copyright release for submittals of all code change proposals, modification, and public comments in this code change cycle for which the individual might be responsible. **Please be sure to review Section 5.5.2 of CP #28 for the modification process.** The Chair of the respective code development committee rules a modification in or out of order. That ruling is final, with no challenge allowed. The proponent submitting a modification is required to supply 20 printed copies. The minimum font size must be 12 point.

CODE CORRELATION COMMITTEE

In every code change cycle, there are code change proposals that are strictly editorial. The Code Correlation Committee approves all proposals deemed editorial. A list of code correlation committee actions will be posted on the ICC website by September 24, 2009.

2009/2010 ICC CODE DEVELOPMENT SCHEDULE

STEP IN CODE DEVELOPMENT CYCLE	DATE	
DEADLINE FOR RECEIPT OF APPLICATIONS FOR CODE COMMITTEES	January 2, 2009	
DEADLINE FOR RECEIPT OF CODE CHANGE PROPOSALS	June 1, 2009	
WEB POSTING OF "PROPOSED CHANGES TO THE I-CODES"	August 24, 2009	
DISTRIBUTION DATE OF "PROPOSED CHANGES TO THE I-CODES" (Limited distribution – see notes)	October 3, 2009	
CODE DEVELOPMENT HEARING (CDH) ALL CODES – see notes	October 24 2009 – November 11, 2009 Hilton Baltimore Baltimore, MD	
WEB POSTING OF "REPORT OF THE PUBLIC HEARING"	December 16, 2009	
DISTRIBUTION DATE OF "REPORT OF THE PUBLIC HEARING" (Limited distribution – see notes)	January 11, 2010	
IN ACCORDANCE WITH THE NEW CODE DEVELOPMENT PROCESS (see notes), THE CODES WILL BE SPLIT INTO TWO GROUPS WITH SEPARATE PUBLIC COMMENT DEADLINES AND FINAL ACTION HEARINGS		
	GROUP A (see notes)	GROUP B (see notes)
DEADLINE FOR RECEIPT OF PUBLIC COMMENTS	February 8, 2010	July 1, 2010
WEB POSTING OF PUBLIC COMMENTS "FINAL ACTION AGENDA"	March 15, 2010	August 26, 2010
DISTRIBUTION DATE OF PUBLIC COMMENTS "FINAL ACTION AGENDA" (Limited distribution see notes)	April 16, 2010	September 27, 2010
FINAL ACTION HEARINGS (FAH)	May 14 – 23, 2010 Dallas, TX	Oct 28 – Nov 1, 1020 Charlotte, NC
ANNUAL CONFERENCES	<p><u>October 24 – November 11, 2009</u> 2009 ICC Annual Conference and Code Development Hearing Balitmore, MD</p> <p><u>October 25 – November 1, 2010</u> 2010 ICC Annual Conference and Final Action Hearing Charlotte, NC</p>	
RESULTING PUBLICATION	2012 – I-Codes (available April, 2011)	

Code Development Process Notes:

As noted in the posted Advisory Statement of February 4, 2009, the revised Code Development Process includes maintaining the current 3-year publication cycle with a single cycle of code development between code editions. Implemented as follows:

- Transitional Process – 2009/2010 only
 - Single Code Development Hearing (CDH) for all codes in 2009
 - Two Final Action Hearings (FAH) in 2010 – modified Groups A and B (see below)
 - Public 2012 edition in April, 2011
- New Process – 2012/2013 and going forward
 - Code Committee application deadline (all codes); June 1, 2011
 - Codes split into two groups: Group A and Group B
 - Group A: IBC; IFGC; IMC; IPC; IPSDC
 - Code change deadline: January 3, 2012
 - Code Development Hearing: April/May 2012
 - Final Action Hearing: October/November 2012 (in conjunction with Annual Conference)
 - Group B: Admin (Ch. 1 of I-Codes); IEBC; IECC; IFC; IPerfC; IPMC; IRC; IWUIC; IZC
 - Code change deadline: January 3, 2013
 - Code Development Hearing: April/May 2013
 - Final Action Hearing: October/November 2013 (in conjunction with Annual Conference)
 - Publish 2015 edition in April, 2014
 - Repeat for subsequent editions

2009/2010 Cycle Notes:

- Revised code change deadline of June 1st posted on March 19th
- Distribution date: Complimentary code development cycle document distribution will be limited to CD's mailed to those who are on ICC's code change document mailing list.
- Code Development Hearings: The Baltimore Code Development Hearings will include 12 I-Codes (no changes to the ICC Performance Code. The hearings will be held in the conventional two track format with the hearings split before and after the Annual Conference during the periods of October 24 – 31 and November 4 – 11. The specific codes and hearing order to be determined based on code change volume.
- Final Action Hearing Groupings: Final Action Hearing logistics dictate that the hearings will not be split along established Group A and B codes (see above) due to hotel commitments which limit the amount of hearing time at the October/2010 FAH versus the May/2010 FAH. Tentatively, the May/2010 FAH will include Group A codes plus certain Group B codes to be determined based on code change volume.

2009/2010 STAFF SECRETARIES

IBC-General Chapters 1-6, 12, 13, 27-34	IBC-Fire Safety Chapters 7, 8, 9, 14, 26	IBC-Means of Egress Chapters 10, 11	IBC-Structural Chapters 15-25
Kermit Robinson ICC Whittier District Office 1-888-ICC-SAFE, ext. 3317 FAX: 562/699-4522 krobinson@iccsafe.org	Ed Wirtschoreck ICC Chicago District Office 1-888-ICC-SAFE, ext 4317 FAX: 708/799-0320 ewirtschoreck@iccsafe.org	Kim Paarlberg ICC Indianapolis Field Office 1-888-ICC-SAFE, ext 4306 FAX: 708/799-0320 kpearlberg@iccsafe.org	Alan Carr ICC NW Resource Center 1-888-ICC-SAFE, ext 7601 FAX: 425/637-8939 acarr@iccsafe.org

IEBC	IECC	IFC	IFGC
Beth Tubbs ICC Northbridge Field Office 1-888-ICC-SAFE, ext 7708 FAX: 419/ 730-6531 btubbs@iccsafe.org	Dave Bowman ICC Chicago District Office 1-888-ICC-SAFE, ext 4323 FAX: 708/799-0320 dmeyers@iccsafe.org	Bill Rehr/ Beth Tubbs ICC Chicago District Office 1-888-ICC-SAFE, ext 4342 FAX: 708/799-0320 brehr@iccsafe.org btubbs@iccsafe.org	Gregg Gress ICC Chicago District Office 1-888-ICC-SAFE, ext 4343 FAX: 708/799-0320 ggress@iccsafe.org

IMC	ICC PC	IPMC	IPC/IPSDC
Gregg Gress ICC Chicago District Office 1-888-ICC-SAFE, ext 4343 FAX: 708/799-0320 ggress@iccsafe.org	Beth Tubbs ICC Northbridge Field Office 1-888-ICC-SAFE, ext 7708 FAX: 419/ 730-6531 btubbs@iccsafe.org	Ed Wirtschoreck ICC Chicago District Office 1-888-ICC-SAFE, ext 4317 FAX: 708/799-0320 ewirtschoreck@iccsafe.org	Fred Grable ICC Chicago District Office 1-888-ICC-SAFE, ext 4359 FAX: 708/799-0320 fgrable@iccsafe.org

IRC-Building/Energy	IRC Mechanical	IRC Plumbing	IWUIC
Larry Franks/ Dave Bowman ICC Northbridge Field Office 1-888-ICC-SAFE, ext 5279 FAX: 205/592-7001 lfranks@iccsafe.org dbowman@iccsafe.org	Gregg Gress ICC Chicago District Office 1-888-ICC-SAFE, ext 4343 FAX: 708/799-0320 ggress@iccsafe.org	Fred Grable ICC Chicago District Office 1-888-ICC-SAFE, ext 4359 FAX: 708/799-0320 fgrable@iccsafe.org	Bill Rehr ICC Chicago District Office 1-888-ICC-SAFE, ext 4342 FAX: 708/799-0320 brehr@iccsafe.org

IZC	ADMINISTRATIVE Chapter 1 All Codes Except IRC
Ed Wirtschoreck ICC Chicago District Office 1-888-ICC-SAFE, ext 4317 FAX: 708/799-0320 ewirtschoreck@iccsafe.org	Dave Bowman ICC Chicago District Office 1-888-ICC-SAFE, ext 4323 FAX: 708/799-0320 dbowman@iccsafe.org

SCOPING REVISIONS – WITHIN THE IBC

The 2009/2010 Staff Secretaries assignments on page ix indicate which chapters of the International Building Code are generally within the responsibility of each IBC Code Committee. However, within each of these IBC Chapters are subjects that are most appropriately maintained by another IBC Code Committee. For example, the provisions of Section 3008.1 deal with occupant evacuation elevators. Therefore, even though Chapter 30 is within the responsibility of the IBC General Committee, this section would most appropriately be maintained by the IBC Means of Egress Committee. The following table indicates responsibilities by IBC Code Committees other than the main committee for those chapters, for code changes submitted for the 2009/2010 Cycle.

SECTION	CHAPTER MAINTAINED BY	SECTION MAINTAINED BY	CODE CHANGES
403.2.3	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
403.5.1	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
403.5.2	IBC-General	IBC-Means of Egress	G46
403.5.4	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
403.5.4	IBC-General	IBC-Means of Egress	G47
403.6.1	IBC-General	IBC-Means of Egress	G48, G49
408.3.8	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
410.5.3.1	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
419.3.0	IBC-General	IBC-Means of Egress	G79
1505.1.0	IBC-Structural	IBC-Fire Safety	S10, S11
1505.8.0	IBC-Structural	IBC-Fire Safety	S12, S13
1507.16.0	IBC-Structural	IBC-Fire Safety	S10, S11
1508.1.0	IBC-Structural	IBC-Fire Safety	S24
1508.2.0	IBC-Structural	IBC-Fire Safety	S25
1509.0.0	IBC-Structural	IBC-General	S26, S27
1509.6.(new)	IBC-Structural	IBC-General	S28
1704.15.0	IBC-Structural	IBC-Fire Safety	S126, S127,S128
3007.1.0	IBC-General	IBC-Means of Egress	G48,G157
3007.2.(new)	IBC-General	IBC-Means of Egress	G158, G159
3007.2.0	IBC-General	IBC-Means of Egress	G160
3007.3.(new)	IBC-General	IBC-Means of Egress	G158, G161
3007.4.(new)	IBC-General	IBC-Means of Egress	G162
3007.4.2	IBC-General	IBC-Means of Egress	G163
3007.4.3	IBC-General	IBC-Means of Egress	G176
3007.5.1.(NEW)	IBC-General	IBC-Means of Egress	G164
3007.7.1	IBC-General	IBC-Means of Egress	G165, G166
3007.8.0	IBC-General	IBC-Means of Egress	G167
3008.1.0	IBC-General	IBC-Means of Egress	G168, G170
3008.1.1	IBC-General	IBC-Means of Egress	G169
3008.10.0	IBC-General	IBC-Means of Egress	G174
3008.10.1	IBC-General	IBC-Means of Egress	G175
3008.11.3	IBC-General	IBC-Means of Egress	G176
3008.11.5	IBC-General	IBC-Means of Egress	G177
3008.3.(NEW)	IBC-General	IBC-Means of Egress	G165, G166
3008.4.(NEW)	IBC-General	IBC-Means of Egress	G171
3008.4.0	IBC-General	IBC-Means of Egress	G46
3008.7.0	IBC-General	IBC-Means of Egress	G172
3008.9.0	IBC-General	IBC-Means of Egress	G173
3401.4.0	IBC-General	IBC-Structural	G190
3401.4.1	IBC-General	IBC-Structural	G191
3401.4.3	IBC-General	IBC-Structural	G190
3401.5.(NEW)	IBC-General	IBC-Structural	G192

SECTION	CHAPTER MAINTAINED BY	SECTION MAINTAINED BY	CODE CHANGES
3402.1.0	IBC-General	IBC-Structural	G193
3403.4.1	IBC-General	IBC-Structural	G190
3404.4.1	IBC-General	IBC-Structural	G190
3405.1.1	IBC-General	IBC-Structural	G192
3405.2.0	IBC-General	IBC-Structural	G193, G194
3405.2.1	IBC-General	IBC-Structural	G193, G190
3405.2.2	IBC-General	IBC-Structural	G193
3405.2.3	IBC-General	IBC-Structural	G193, G195
3405.3.0	IBC-General	IBC-Structural	G193
3405.4.0	IBC-General	IBC-Structural	G193, G194
3405.5.0	IBC-General	IBC-Structural	G196
3408.4.0	IBC-General	IBC-Structural	G190, G197
3408.4.0	IBC-General	IBC-Structural	G190
403.2.3	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
403.5.1	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
403.5.2	IBC-General	IBC-Means of Egress	G46
403.5.4	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
403.5.4	IBC-General	IBC-Means of Egress	G47
403.6.1	IBC-General	IBC-Means of Egress	G48, G49
408.3.8	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
410.5.3.1	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
419.3.0	IBC-General	IBC-Means of Egress	G79

ICC WEBSITE – [WWW.ICCSAFE.ORG](http://www.iccsafe.org)

While great care has been exercised in the publication of this document, errata to proposed changes may occur. Errata, if any, identified prior to the Code Development Hearings will be posted on the ICC website at <http://www.iccsafe.org>. Users are encouraged to periodically review the ICC Website for updates to errata to the 2009/2010 Code Development Cycle Proposed Changes. Additionally, analysis statements for code changes which propose a new referenced standard will be updated to reflect the staff review of the standard for compliance with Section 3.6 of the Procedures.



CP# 28-05 CODE DEVELOPMENT

Approved: 9/24/05

Revised: 2/27/09

CP # 28-05 is an update to *ICC's Code Development Process for the International Codes* dated May 15, 2004.

1.0 Introduction

- 1.1 **Purpose:** The purpose of this Council Policy is to prescribe the Rules of Procedure utilized in the continued development and maintenance of the International Codes (Codes).
- 1.2 **Objectives:** The ICC Code Development Process has the following objectives:
 - 1.2.1 The timely evaluation and recognition of technological developments pertaining to construction regulations.
 - 1.2.2 The open discussion of proposals by all parties desiring to participate.
 - 1.2.3 The final determination of Code text by officials representing code enforcement and regulatory agencies and by honorary members.
- 1.3 **Code Publication:** The ICC Board of Directors (ICC Board) shall determine the title and the general purpose and scope of each Code published by the ICC.
 - 1.3.1 **Code Correlation:** The provisions of all Codes shall be consistent with one another so that conflicts between the Codes do not occur. Where a given subject matter or code text could appear in more than one Code, the ICC Board shall determine which Code shall be the primary document, and therefore which code development committee shall be responsible for review and maintenance of the code text. Duplication of content or text between Codes shall be limited to the minimum extent necessary for practical usability of the Codes, as determined in accordance with Section 4.4.
- 1.4 **Process Maintenance:** The review and maintenance of the Code Development Process and these Rules of Procedure shall be by the ICC Board. The manner in which ICC codes are developed embodies core principles of the organization. One of those principles is that the final content of ICC codes is determined by a majority vote of the governmental and honorary members. It is the policy of the Board that there shall be no change to this principle without the affirmation of two-thirds of the governmental and honorary members responding.
- 1.5 **Secretariat:** The Chief Executive Officer shall assign a Secretariat for each of the Codes. All correspondence relating to code change proposals and public comments shall be addressed to the Secretariat.
- 1.6 **Video Taping:** Individuals requesting permission to video tape any meeting, or portion thereof, shall be required to provide the ICC with a release of responsibility disclaimer and shall acknowledge that they have insurance coverage for liability and misuse of video tape materials. Equipment and the process used to video tape shall, in the judgment of the ICC Secretariat, be conducted in a manner that is not disruptive to the meeting. The ICC shall not be responsible for equipment, personnel or any other provision necessary to accomplish the videotaping. An unedited copy of the video tape shall be forwarded to ICC within 30 days of the meeting.

2.0 Code Development Cycle

- 2.1 **Intent:** The code development cycle shall consist of the complete consideration of code change proposals in accordance with the procedures herein specified, commencing with the deadline for submission of code change proposals (see Section 3.5) and ending with publication of final action on the code change proposals (see Section 7.6).

- 2.2 **New Editions:** The ICC Board shall determine the schedule for publishing new editions of the Codes. Each new edition shall incorporate the results of the code development activity since the last edition.
- 2.3 **Supplements:** The results of code development activity between editions may be published.
- 2.4 **Emergency Procedures:** In the event that the ICC Board determines that an emergency amendment to any Code is warranted, the same may be adopted by the ICC Board. Such action shall require an affirmative vote of at least two-thirds of the ICC Board.

The ICC membership shall be notified within ten days after the ICC Boards' official action of any emergency amendment. At the next Annual Business Meeting, any emergency amendment shall be presented to the members for ratification by a majority of the ICC Governmental Member Representatives and Honorary Members present and voting.

All code revisions pursuant to these emergency procedures and the reasons for such corrective action shall be published as soon as practicable after ICC Board action. Such revisions shall be identified as an emergency amendment.

Emergency amendments to any Code shall not be considered as a retro-active requirement to the Code. Incorporation of the emergency amendment into the adopted Code shall be subjected to the process established by the adopting authority.

3.0 Submittal of Code Change Proposals

- 3.1 **Intent:** Any interested person, persons or group may submit a code change proposal which will be duly considered when in conformance to these Rules of Procedure.
- 3.2 **Withdrawal of Proposal:** A code change proposal may be withdrawn by the proponent (WP) at any time prior to Final Action Consideration of that proposal. A withdrawn code change proposal shall not be subject to a public hearing, motions, or Final Action Consideration.
- 3.3 **Form and Content of Code Change Submittals:** Each code change proposal shall be submitted separately and shall be complete in itself. Each submittal shall contain the following information:
 - 3.3.1 **Proponent:** Each code change proposal shall include the name, title, mailing address, telephone number, and email address of the proponent.
 - 3.3.1.1 If a group, organization or committee submits a code change proposal, an individual with prime responsibility shall be indicated.
 - 3.3.1.2 If a proponent submits a code change on behalf of a client, group, organization or committee, the name and mailing address of the client, group, organization or committee shall be indicated.
 - 3.3.2 **Code Reference:** Each code change proposal shall relate to the applicable code sections(s) in the latest edition of the Code.
 - 3.3.2.1 If more than one section in the Code is affected by a code change proposal, appropriate proposals shall be included for all such affected sections.
 - 3.3.2.2 If more than one Code is affected by a code change proposal, appropriate proposals shall be included for all such affected Codes and appropriate cross referencing shall be included in the supporting information.
 - 3.3.3 **Multiple code change proposals to a code section.** A proponent shall not submit multiple code change proposals to the same code section. When a proponent submits multiple code change proposals to the same section, the proposals shall be considered as incomplete proposals and processed in accordance with Section 4.3. This restriction shall not apply to code change proposals that attempt to address differing subject matter within a code section.
 - 3.3.4 **Text Presentation:** The text proposal shall be presented in the specific wording desired with deletions shown struck out with a single line and additions shown underlined with a single line.

- 3.3.4.1 A charging statement shall indicate the referenced code section(s) and whether the proposal is intended to be an addition, a deletion or a revision to existing Code text.
 - 3.3.4.2 Whenever practical, the existing wording of the text shall be preserved with only such deletions and additions as necessary to accomplish the desired change.
 - 3.3.4.3 Each proposal shall be in proper code format and terminology.
 - 3.3.4.4 Each proposal shall be complete and specific in the text to eliminate unnecessary confusion or misinterpretation.
 - 3.3.4.5 The proposed text shall be in mandatory terms.
- 3.3.5 **Supporting Information:** Each code change proposal shall include sufficient supporting information to indicate how the proposal is intended to affect the intent and application of the Code.
- 3.3.5.1 **Purpose:** The proponent shall clearly state the purpose of the proposed code change (e.g. clarify the Code; revise outdated material; substitute new or revised material for current provisions of the Code; add new requirements to the Code; delete current requirements, etc.)
 - 3.3.5.2 **Reasons:** The proponent shall justify changing the current Code provisions, stating why the proposal is superior to the current provisions of the Code. Proposals which add or delete requirements shall be supported by a logical explanation which clearly shows why the current Code provisions are inadequate or overly restrictive, specifies the shortcomings of the current Code provisions and explains how such proposals will improve the Code.
 - 3.3.5.3 **Substantiation:** The proponent shall substantiate the proposed code change based on technical information and substantiation. Substantiation provided which is reviewed in accordance with Section 4.2 and determined as not germane to the technical issues addressed in the proposed code change shall be identified as such. The proponent shall be notified that the proposal is considered an incomplete proposal in accordance with Section 4.3 and the proposal shall be held until the deficiencies are corrected. The proponent shall have the right to appeal this action in accordance with the policy of the ICC Board. The burden of providing substantiating material lies with the proponent of the code change proposal.
 - 3.3.5.4 **Bibliography:** The proponent shall submit a bibliography of any substantiating material submitted with the code change proposal. The bibliography shall be published with the code change and the proponent shall make the substantiating materials available for review at the appropriate ICC office and during the public hearing.
 - 3.3.5.5 **Copyright Release:** The proponent of code change proposals, floor modifications and public comments shall sign a copyright release reading: "I hereby grant and assign to ICC all rights in copyright I may have in any authorship contributions I make to ICC in connection with any proposal and public comment, in its original form submitted or revised form, including written and verbal modifications submitted in accordance Section 5.5.2. I understand that I will have no rights in any ICC publications that use such contributions in the form submitted by me or another similar form and certify that such contributions are not protected by the copyright of any other person or entity."
 - 3.3.5.6 **Cost Impact:** The proponent shall indicate one of the following regarding the cost impact of the code change proposal: 1) the code change proposal will increase the cost of construction; or 2) the code change proposal will not increase the cost of construction. This information will be included in the published code change proposal.
- 3.4 **Number:** One copy of each code change proposal, two copies of each proposed new referenced standard and one copy of all substantiating information shall be submitted. Additional copies may be requested when determined necessary by the Secretariat to allow such information to be distributed to the code development committee. Where such additional copies are requested, it shall be the responsibility of the proponent to send such copies to the respective code development committee. A copy of the code change proposal in electronic form is preferred.
- 3.5 **Submittal Deadline:** Each code change proposal shall be received at the office of the Secretariat by the posted deadline. Such posting shall occur no later than 120 days prior to the code change deadline. The submitter of a proposed code change is responsible for the proper and timely receipt of all pertinent materials by the Secretariat.
- 3.6 **Referenced Standards:** In order for a standard to be considered for reference or to continue to be referenced by the Codes, a standard shall meet the following criteria:

3.6.1 Code References:

- 3.6.1.1** The standard, including title and date, and the manner in which it is to be utilized shall be specifically referenced in the Code text.
- 3.6.1.2** The need for the standard to be referenced shall be established.

3.6.2 Standard Content:

- 3.6.2.1** A standard or portions of a standard intended to be enforced shall be written in mandatory language.
- 3.6.2.2** The standard shall be appropriate for the subject covered.
- 3.6.2.3** All terms shall be defined when they deviate from an ordinarily accepted meaning or a dictionary definition.
- 3.6.2.4** The scope or application of a standard shall be clearly described.
- 3.6.2.5** The standard shall not have the effect of requiring proprietary materials.
- 3.6.2.6** The standard shall not prescribe a proprietary agency for quality control or testing.
- 3.6.2.7** The test standard shall describe, in detail, preparation of the test sample, sample selection or both.
- 3.6.2.8** The test standard shall prescribe the reporting format for the test results. The format shall identify the key performance criteria for the element(s) tested.
- 3.6.2.9** The measure of performance for which the test is conducted shall be clearly defined in either the test standard or in Code text.
- 3.6.2.10** The standard shall not state that its provisions shall govern whenever the referenced standard is in conflict with the requirements of the referencing Code.
- 3.6.2.11** The preface to the standard shall announce that the standard is promulgated according to a consensus procedure.

3.6.3 Standard Promulgation:

- 3.6.3.1** Code change proposals with corresponding changes to the code text which include a reference to a proposed new standard or a proposed update of an existing referenced shall comply with this section. The standard shall be completed and readily available prior to Final Action Consideration based on the cycle of code development which includes the proposed code change proposal. In order for a new standard to be considered for reference by the Code, such standard shall be submitted in at least a consensus draft form in accordance with Section 3.4. Updating of standards without corresponding code text changes shall be accomplished administratively in accordance with Section 4.5.
- 3.6.3.2** The standard shall be developed and maintained through a consensus process such as ASTM or ANSI.

4.0 Processing of Proposals

- 4.1 Intent:** The processing of code change proposals is intended to ensure that each proposal complies with these Rules of Procedure and that the resulting published proposal accurately reflects that proponent's intent.
- 4.2 Review:** Upon receipt in the Secretariat's office, the code change proposals will be checked for compliance with these Rules of Procedure as to division, separation, number of copies, form, language, terminology, supporting statements and substantiating data. Where a code change proposal consists of multiple parts which fall under the maintenance responsibilities of different code committees, the Secretariat shall determine the code committee responsible for determining the committee action in accordance with Section 5.6.
- 4.3 Incomplete Proposals:** When a code change proposal is submitted with incorrect format, without the required information or judged as not in compliance with these Rules of Procedure, the Secretariat shall notify the proponent of the specific deficiencies and the proposal shall be held until the deficiencies are corrected, with a final date set for receipt of a corrected submittal. If the Secretariat receives the corrected proposal after the final date, the proposal shall be held over until the next code development cycle. Where there are otherwise no deficiencies addressed by this section, a proposal that incorporates a new referenced standard shall be processed with an analysis of referenced standard's compliance with the criteria set forth in Section 3.6.
- 4.4 Editorial:** The Chief Executive Officer shall have the authority at all times to make editorial and format changes to the Code text, or any approved changes, consistent with the intent, provisions and style of the Code. An editorial or format change is a text change that does not affect the scope or application of the code requirements.

4.5 Updating Standards:

4.5.1 Standards referenced in the 2012 Edition of the I-Codes: The updating of standards referenced by the Codes shall be accomplished administratively by the Administrative code development committee in accordance with these full procedures except that the deadline for availability of the updated standard and receipt by the Secretariat shall be December 1, 2011. The published version of the 2012 Code which references the standard will refer to the updated edition of the standard. If the standard is not available by the deadline, the edition of the standard as referenced by the newly published Code shall revert back to the reference contained in the previous edition and an errata to the Code issued. Multiple standards to be updated may be included in a single proposal.

4.5.2 Standards referenced in the 2015 Edition and following Editions of the I-Codes: The updating of standards referenced by the Codes shall be accomplished administratively by the Administrative code development committee in accordance with these full procedures except that multiple standards to be updated may be included in a single proposal. The standard shall be completed and readily available prior to Final Action Consideration of the Administrative code change proposal which includes the proposed update.

4.6 Preparation: All code change proposals in compliance with these procedures shall be prepared in a standard manner by the Secretariat and be assigned separate, distinct and consecutive numbers. The Secretariat shall coordinate related proposals submitted in accordance with Section 3.3.2 to facilitate the hearing process.

4.7 Publication: All code change proposals shall be posted on the ICC website at least 30 days prior to the public hearing on those proposals and shall constitute the agenda for the public hearing. Code change proposals which have not been published shall not be considered.

5.0 Public Hearing

5.1 Intent: The intent of the public hearing is to permit interested parties to present their views including the cost and benefits on the code change proposals on the published agenda. The code development committee will consider such comments as may be presented in the development of their action on the disposition of such proposals. At the conclusion of the code development committee deliberations, the committee action on each code change proposal shall be placed before the hearing assembly for consideration in accordance with Section 5.7.

5.2 Committee: The Code Development Committees shall be appointed by the applicable ICC Council.

5.2.1 Chairman/Moderator: The Chairman and Vice-Chairman shall be appointed by the Steering Committee on Councils from the appointed members of the committee. The ICC President shall appoint one or more Moderators who shall act as presiding officer for the public hearing.

5.2.2 Conflict of Interest: A committee member shall withdraw from and take no part in those matters with which the committee member has an undisclosed financial, business or property interest. The committee member shall not participate in any committee discussion on the matter or any committee vote. Violation thereof shall result in the immediate removal of the committee member from the committee. A committee member who is a proponent of a proposal shall not participate in any committee discussion on the matter or any committee vote. Such committee member shall be permitted to participate in the floor discussion in accordance with Section 5.5 by stepping down from the dais.

5.2.3 Representation of Interest: Committee members shall not represent themselves as official or unofficial representatives of the ICC except at regularly convened meetings of the committee.

5.2.4 Committee Composition: The committee may consist of representation from multiple interests. A minimum of thirty-three and one-third percent (33.3%) of the committee members shall be regulators.

5.3 Date and Location: The date and location of each public hearing shall be announced not less than 60 days prior to the date of the public hearing.

5.4 General Procedures: *The Robert's Rules of Order* shall be the formal procedure for the conduct of the public hearing except as a specific provision of these Rules of Procedure may otherwise dictate. A quorum shall consist of a majority of the voting members of the committee.

- 5.4.1 **Chair Voting:** The Chairman of the committee shall vote only when the vote cast will break a tie vote of the committee.
 - 5.4.2 **Open Meetings:** Public hearings of the Code Development Committees are open meetings. Any interested person may attend and participate in the Floor Discussion and Assembly Consideration portions of the hearing. Only eligible voters (see Section 5.7.4) are permitted to vote on Assembly Considerations. Only Code Development Committee members may participate in the Committee Action portion of the hearings (see Section 5.6).
 - 5.4.3 **Presentation of Material at the Public Hearing:** Information to be provided at the hearing shall be limited to verbal presentations and modifications submitted in accordance with Section 5.5.2. Audio-visual presentations are not permitted. Substantiating material submitted in accordance with Section 3.3.4.4 and other material submitted in response to a code change proposal shall be located in a designated area in the hearing room and shall not be distributed to the code development committee at the public hearing.
 - 5.4.4 **Agenda Order:** The Secretariat shall publish an agenda for each public hearing, placing individual code change proposals in a logical order to facilitate the hearing. Any public hearing attendee may move to revise the agenda order as the first order of business at the public hearing, or at any time during the hearing except while another proposal is being discussed. Preference shall be given to grouping like subjects together, and for moving items back to a later position on the agenda as opposed to moving items forward to an earlier position. A motion to revise the agenda order is subject to a 2/3 vote of those present and voting.
 - 5.4.5 **Reconsideration:** There shall be no reconsideration of a proposed code change after it has been voted on by the committee in accordance with Section 5.6; or, in the case of assembly consideration, there shall be no reconsideration of a proposed code change after it has been voted on by the assembly in accordance with Section 5.7.
 - 5.4.6 **Time Limits:** Time limits shall be established as part of the agenda for testimony on all proposed changes at the beginning of each hearing session. Each person requesting to testify on a change shall be given equal time. In the interest of time and fairness to all hearing participants, the Moderator shall have limited authority to modify time limitations on debate. The Moderator shall have the authority to adjust time limits as necessary in order to complete the hearing agenda.
 - 5.4.6.1 **Time Keeping:** Keeping of time for testimony by an individual shall be by an automatic timing device. Remaining time shall be evident to the person testifying. Interruptions during testimony shall not be tolerated. The Moderator shall maintain appropriate decorum during all testimony.
 - 5.4.6.2 **Proponent Testimony:** The Proponent is permitted to waive an initial statement. The Proponent shall be permitted to have the amount of time that would have been allocated during the initial testimony period plus the amount of time that would be allocated for rebuttal. Where the code change proposal is submitted by multiple proponents, this provision shall permit only one proponent of the joint submittal to be allotted additional time for rebuttal.
 - 5.4.7 **Points of Order:** Any person participating in the public hearing may challenge a procedural ruling of the Moderator or the Chairman. A majority vote of the eligible voters as determined in Section 5.7.4 shall determine the decision.
- 5.5 **Floor Discussion:** The Moderator shall place each code change proposal before the hearing for discussion by identifying the proposal and by regulating discussion as follows:
- 5.5.1 **Discussion Order:**
 1. *Proponents.* The Moderator shall begin by asking the proponent and then others in support of the proposal for their comments.
 2. *Opponents.* After discussion by those in support of a proposal, those opposed hereto, if any, shall have the opportunity to present their views.
 3. *Rebuttal in support.* Proponents shall then have the opportunity to rebut points raised by the opponents.
 4. *Rerebuttal in opposition.* Opponents shall then have the opportunity to respond to the proponent's rebuttal.
 - 5.5.2 **Modifications:** Modifications to proposals may be suggested from the floor by any person participating in the public hearing. The person proposing the modification is deemed to be the proponent of the modification.

5.5.2.1 Submission and Written Copies. All modifications must be written, unless determined by the Chairman to be either editorial or minor in nature. The modification proponent shall provide 20 copies to the Secretariat for distribution to the committee.

5.5.2.2 Criteria. The Chairman shall rule proposed modifications in or out of order before they are discussed on the floor. A proposed modification shall be ruled out of order if it:

1. is not legible, unless not required to be written in accordance with Section 5.5.2.1; or
2. changes the scope of the original proposal; or
3. is not readily understood to allow a proper assessment of its impact on the original proposal or the code.

The ruling of the Chairman on whether or not the modification is in or out of order shall be final and is not subject to a point of order in accordance with Section 5.4.7.

5.5.2.3 Testimony. When a modification is offered from the floor and ruled in order by the Chairman, a specific floor discussion on that modification is to commence in accordance with the procedures listed in Section 5.5.1.

5.6 Committee Action: Following the floor discussion of each code change proposal, one of the following motions shall be made and seconded by members of the committee.

1. Approve the code change proposal as submitted (AS) or
2. Approve the code change proposal as modified with specific modifications (AM), or
3. Disapprove the code change proposal (D)

Discussion on this motion shall be limited to Code Development Committee members. If a committee member proposes a modification which had not been proposed during floor discussion, the Chairman shall rule on the modification in accordance with Section 5.5.2.2. If a committee member raises a matter of issue, including a proposed modification, which has not been proposed or discussed during the floor discussion, the Moderator shall suspend the committee discussion and shall reopen the floor discussion for comments on the specific matter or issue. Upon receipt of all comments from the floor, the Moderator shall resume committee discussion.

The Code Development Committee shall vote on each motion with the majority dictating the committee's action. Committee action on each code change proposal shall be completed when one of the motions noted above has been approved. Each committee vote shall be supported by a reason.

The Code Development Committee shall maintain a record of its proceedings including the action on each code change proposal.

5.7 Assembly Consideration: At the conclusion of the committee's action on a code change proposal and before the next code change proposal is called to the floor, the Moderator shall ask for a motion from the public hearing attendees who may object to the committee's action. If a motion in accordance with Section 5.7.1 is not brought forward on the committee's action, the results of the public hearing shall be established by the committee's action. If a motion in accordance with Section 5.7.1 is brought forward and

is sustained in accordance with Section 5.7.3, both the committee's action and the assemblies' action shall be reported as the results of the public hearing. Where a motion is sustained in accordance with Section 5.7.3, such action shall be the initial motion considered at Final Action Consideration in accordance with Section 7.3.8.2.

5.7.1 Floor Motion: Any attendee may raise an objection to the committee's action in which case the attendee will be able to make a motion to:

1. Approve the code change proposal as submitted from the floor (ASF), or
2. Approve the code change proposal as modified from the floor (AMF) with a specific modification that has been previously offered from the floor and ruled in order by the Chairman during floor discussion (see Section 5.5.2) or has been offered by a member of the Committee and ruled in order by the Chairman during committee discussion (see Section 5.6), or
3. Disapprove the code change proposal from the floor (DF).

- 5.7.2 Discussion:** On receipt of a second to the floor motion, the Moderator shall place the motion before the assembly for a vote. No additional testimony shall be permitted.
- 5.7.3 Assembly Action:** The assembly action shall be in accordance with the following majorities based on the number of votes cast by eligible voters (See 5.7.4).

Committee Action	Desired Assembly Action		
	ASF	AMF	DF
AS	--	2/3 Majority	2/3 Majority
AM	2/3 Majority	2/3 Majority	2/3 Majority
D	2/3 Majority	2/3 Majority	--

- 5.7.4 Eligible Voters:** All members of ICC in attendance at the public hearing shall be eligible to vote on floor motions. Only one vote authorized for each eligible attendee. Code Development Committee members shall be eligible to vote on floor motions. Application, whether new or updated, for ICC membership must be received by the Code Council ten days prior to the commencement of the first day of the public hearing.

- 5.8 Report of the Public Hearing:** The results of the public hearing, including committee action and successful assembly action, shall be posted on the ICC website not less than 60 days prior to Final Action Consideration except as approved by the ICC Board.

6.0 Public Comments

- 6.1 Intent:** The public comment process gives attendees at the Final Action Hearing an opportunity to consider specific objections to the results of the public hearing and more thoughtfully prepare for the discussion for Final Action Consideration. The public comment process expedites the Final Action Consideration at the Final Action Hearing by limiting the items discussed to the following:
- 6.1.1** Consideration of items for which a public comment has been submitted; and
 - 6.1.2** Consideration of items which received a successful assembly action at the public hearing.
- 6.2 Deadline:** The deadline for receipt of a public comment to the results of the public hearing shall be announced at the public hearing but shall not be less than 30 days from the availability of the report of the results of the public hearing (see Section 5.8).
- 6.3 Withdrawal of Public Comment:** A public comment may be withdrawn by the public commenter at any time prior to Final Action Consideration of that comment. A withdrawn public comment shall not be subject to Final Action Consideration. If the only public comment to a code change proposal is withdrawn by the public commenter prior to the vote on the consent agenda in accordance with Section 7.3.4, the proposal shall be considered as part of the consent agenda. If the only public comment to a code change proposal is withdrawn by the public commenter after the vote on the consent agenda in accordance with Section 7.3.4, the proposal shall continue as part of the individual consent agenda in accordance with Section 7.3.5, however the public comment shall not be subject to Final Action Consideration.
- 6.4 Form and Content of Public Comments:** Any interested person, persons, or group may submit a public comment to the results of the public hearing which will be considered when in conformance to these requirements. Each public comment to a code change proposal shall be submitted separately and shall be complete in itself. Each public comment shall contain the following information:
- 6.4.1 Public comment:** Each public comment shall include the name, title, mailing address, telephone number and email address of the public commenter. If group, organization, or committee submits a public comment, an individual with prime responsibility shall be indicated. If a public comment is submitted on behalf a client, group, organization or committee, the name and mailing address of the client, group, organization or committee shall be indicated. The scope of the public comment shall be consistent with the scope of the original code change proposal, committee action or successful assembly action. Public comments which are determined as not within the scope of the code change proposal, committee action or successful assembly action shall be identified as such. The public commenter shall be notified that the public comment is considered an incomplete public comment in accordance with Section 6.5.1 and the public comment shall be held until the deficiencies are corrected. A copyright release in accordance with Section 3.3.4.5 shall be provided with the public comment.

- 6.4.2 Code Reference:** Each public comment shall include the code change proposal number and the results of the public hearing, including successful assembly actions, on the code change proposal to which the public comment is directed.
- 6.4.3 Multiple public comments to a code change proposal.** A proponent shall not submit multiple public comments to the same code change proposal. When a proponent submits multiple public comments to the same code change proposal, the public comments shall be considered as incomplete public comments and processed in accordance with Section 6.5.1. This restriction shall not apply to public comments that attempt to address differing subject matter within a code section.
- 6.4.4 Desired Final Action:** The public comment shall indicate the desired final action as one of the following:
1. Approve the code change proposal as submitted (AS), or
 2. Approve the code change proposal as modified (AM) by one or more specific modifications published in the Results of the Public Hearing or published in a public comment, or
 3. Disapprove the code change proposal (D)
- 6.4.5 Supporting Information:** The public comment shall include in a statement containing a reason and justification for the desired final action on the code change proposal. Reasons and justification which are reviewed in accordance with Section 6.4 and determined as not germane to the technical issues addressed in the code change proposal or committee action shall be identified as such. The public commenter shall be notified that the public comment is considered an incomplete public comment in accordance with Section 6.5.1 and the public comment shall be held until the deficiencies are corrected. The public commenter shall have the right to appeal this action in accordance with the policy of the ICC Board. A bibliography of any substantiating material submitted with a public comment shall be published with the public comment and the substantiating material shall be made available at the Final Action Hearing.
- 6.4.6 Number:** One copy of each public comment and one copy of all substantiating information shall be submitted. Additional copies may be requested when determined necessary by the Secretariat. A copy of the public comment in electronic form is preferred.

6.5 Review: The Secretariat shall be responsible for reviewing all submitted public comments from an editorial and technical viewpoint similar to the review of code change proposals (See Section 4.2).

6.5.1 Incomplete Public Comment: When a public comment is submitted with incorrect format, without the required information or judged as not in compliance with these Rules of Procedure, the public comment shall not be processed. The Secretariat shall notify the public commenter of the specific deficiencies and the public comment shall be held until the deficiencies are corrected, or the public comment shall be returned to the public commenter with instructions to correct the deficiencies with a final date set for receipt of the corrected public comment.

6.5.2 Duplications: On receipt of duplicate or parallel public comments, the Secretariat may consolidate such public comments for Final Action Consideration. Each public commenter shall be notified of this action when it occurs.

6.5.3 Deadline: Public comments received by the Secretariat after the deadline set for receipt shall not be published and shall not be considered as part of the Final Action Consideration.

6.6 Publication: The public hearing results on code change proposals that have not been public commented and the code change proposals with public commented public hearing results and successful assembly actions shall constitute the Final Action Agenda. The Final Action Agenda shall be posted on the ICC website at least 30 days prior to Final Action consideration.

7.0 Final Action Consideration

7.1 Intent: The purpose of Final Action Consideration is to make a final determination of all code change proposals which have been considered in a code development cycle by a vote cast by eligible voters (see Section 7.4).

7.2 Agenda: The final action consent agenda shall be comprised of proposals which have neither an assembly action nor public comment. The agenda for public testimony and individual consideration shall be comprised of proposals which have a successful assembly action or public comment (see Sections 5.7 and 6.0).

7.3 Procedure: *The Robert's Rules of Order* shall be the formal procedure for the conduct of the Final Action Consideration except as these Rules of Procedure may otherwise dictate.

- 7.3.1 Open Meetings:** Public hearings for Final Action Consideration are open meetings. Any interested person may attend and participate in the Floor Discussion.
- 7.3.2 Agenda Order:** The Secretariat shall publish an agenda for Final Action Consideration, placing individual code change proposals and public comments in a logical order to facilitate the hearing. The proponents or opponents of any proposal or public comment may move to revise the agenda order as the first order of business at the public hearing, or at any time during the hearing except while another proposal is being discussed. Preference shall be given to grouping like subjects together and for moving items back to a later position on the agenda as opposed to moving items forward to an earlier position. A motion to revise the agenda order is subject to a 2/3 vote of those present and voting.
- 7.3.3 Presentation of Material at the Public Hearing:** Information to be provided at the hearing shall be limited to verbal presentations. Audio-visual presentations are not permitted. Substantiating material submitted in accordance with Section 6.4.4 and other material submitted in response to a code change proposal or public comment shall be located in a designated area in the hearing room.
- 7.3.4 Final Action Consent Agenda:** The final action consent agenda (see Section 7.2) shall be placed before the assembly with a single motion for final action in accordance with the results of the public hearing. When the motion has been seconded, the vote shall be taken with no testimony being allowed. A simple majority (50% plus one) based on the number of votes cast by eligible voters shall decide the motion.
- 7.3.5 Individual Consideration Agenda:** Upon completion of the final action consent vote, all proposed changes not on the final action consent agenda shall be placed before the assembly for individual consideration of each item (see Section 7.2).
- 7.3.6 Reconsideration:** There shall be no reconsideration of a proposed code change after it has been voted on in accordance with Section 7.3.8.
- 7.3.7 Time Limits:** Time limits shall be established as part of the agenda for testimony on all proposed changes at the beginning of each hearing session. Each person requesting to testify on a change shall be given equal time. In the interest of time and fairness to all hearing participants, the Moderator shall have limited authority to modify time limitations on debate. The Moderator shall have the authority to adjust time limits as necessary in order to complete the hearing agenda.
- 7.3.7.1 Time Keeping:** Keeping of time for testimony by an individual shall be by an automatic timing device. Remaining time shall be evident to the person testifying. Interruptions during testimony shall not be tolerated. The Moderator shall maintain appropriate decorum during all testimony.
- 7.3.8 Discussion and Voting:** Discussion and voting on proposals being individually considered shall be in accordance with the following procedures:
- 7.3.8.1 Allowable Final Action Motions:** The only allowable motions for final action are Approval as Submitted, Approval as Modified by one or more modifications published in the Final Action Agenda, and Disapproval.
- 7.3.8.2 Initial Motion:** The Code Development Committee action shall be the initial motion considered, unless there was a successful assembly action in accordance with Section 5.7.3. If there was a successful assembly action, it shall be the initial motion considered. If the assembly action motion fails, the code development committee action shall become the next motion considered.
- 7.3.8.3 Motions for Modifications:** Whenever a motion under consideration is for Approval as Submitted or Approval as Modified, a subsequent motion and second for a modification published in the Final Action Agenda may be made (see Section 6.4.3). Each subsequent motion for modification, if any, shall be individually discussed and voted before returning to the main motion. A two-thirds majority based on the number of votes cast by eligible voters shall be required for a successful motion on all modifications.
- 7.3.8.4 Voting:** After dispensing with all motions for modifications, if any, and upon completion of discussion on the main motion, the Moderator shall then ask for the vote on the main motion. If the motion fails to receive the majority required in Section 7.5, the Moderator shall ask for a new motion.
- 7.3.8.5 Subsequent Motion:** If the initial motion is unsuccessful, a motion for one of the other allowable final actions shall be made (see Section 7.3.8.1) and dispensed with until a successful final action is achieved. If a successful final action is not achieved, Section 7.5.1 shall apply.

7.3.9 Proponent testimony: The Proponent of a public comment is permitted to waive an initial statement. The Proponent of the public comment shall be permitted to have the amount of time that would have been allocated during the initial testimony period plus the amount of time that would be allocated for rebuttal. Where a public comment is submitted by multiple proponents, this provision shall permit only one proponent of the joint submittal to waive an initial statement.

7.3.10 Points of Order: Any person participating in the public hearing may challenge a procedural ruling of the Moderator. A majority vote of the eligible voters as determined in Section 5.7.4 shall determine the decision.

7.4 Eligible voters: ICC Governmental Member Representatives and Honorary Members in attendance at the Final Action Hearing shall have one vote per eligible attendee on all International Codes. Applications, whether new or updated, for governmental member voting representative status must be received by the Code Council ten days prior to the commencement of the first day of the Final Action Hearing in order for any designated representative to be eligible to vote.

7.5 Majorities for Final Action: The required voting majority based on the number of votes cast of eligible voters shall be in accordance with the following table:

Public Hearing Action (see note)	Desired Final Action		
	AS	AM	D
AS	Simple Majority	2/3 Majority	Simple Majority
AM	2/3 Majority	Simple Majority to sustain the Public Hearing Action or; 2/3 Majority on additional modifications and 2/3 on overall AM	Simple Majority
D	2/3 Majority	2/3 Majority	Simple Majority

Note: The Public Hearing Action includes the committee action and successful assembly action.

7.5.1 Failure to Achieve Majority Vote: In the event that a code change proposal does not receive any of the required majorities for final action in Section 7.5, final action on the code change proposal in question shall be disapproval.

7.6 Publication: The Final action on all proposed code changes shall be published as soon as practicable after the determination of final action. The exact wording of any resulting text modifications shall be made available to any interested party.

8.0 Appeals

8.1 Right to Appeal: Any person may appeal an action or inaction in accordance with CP-1.

2009/2010 ICC CODE DEVELOPMENT CYCLE CROSS INDEX OF PROPOSED CODE CHANGES

Some of the proposed code changes include sections that are outside of the scope of the chapters or the code listed in the table of 2009/2010 Staff Secretaries on page ix. This is done in order to facilitate coordination among the International Codes which is one of the fundamental principles of the International Codes.

Listed in this cross index are proposed code changes that include sections of codes or codes other than those listed on page ix. For example, IBC Section 402.16.5 is proposed for revision in Part II of code change F58-09/10, which is to be heard by the IFC Committee. This section of the IBC is typically the responsibility of the IBC General Committee as listed in the table of 2009/2010 Staff Secretaries. It is therefore identified in this cross index. Another example is Section 905.4 of the International Fire Code. The International Fire Code is normally maintained by the IFC Committee, but Section 905.4 will be considered for revision in proposed code change G31-09/10 and will be placed on the IBC General Committee agenda. In some instances, there are other subsections that are revised by an identified code change that is not included in the cross index. For example, numerous sections in Chapter 10 of the International Fire Code would be revised by the proposed changes to Chapter 10 of the IBC. This was done to keep the cross index brief enough for easy reference.

This information is provided to assist users in locating all of the proposed code changes that would affect a certain section or chapter. For example, to find all of the proposed code changes that would affect Chapter 7 of the IBC, review the proposed code changes in the Volume 1 monograph for the IBC Fire Safety Committee (listed with a FS prefix) then review this cross reference for Chapter 7 of the IBC for proposed code changes published in other code change groups. While care has been taken to be accurate, there may be some omissions in this list.

Letter prefix: Each proposed change number has a letter prefix that will identify where the proposal is published. The letter designations for proposed changes and the corresponding publications are as follows:

PREFIX	PROPOSED CHANGE GROUP (see monograph table of contents for location)
ADM	Administrative
E	International Building Code - Means of Egress
EB	International Existing Building Code
EC	International Energy Conservation Code
F	International Fire Code
FG	International Fuel Gas Code
FS	International Building Code - Fire Safety
G	International Building Code - General
M	International Mechanical Code
PC	ICC Performance Code
P	International Plumbing Code
PSD	International Private Sewage Disposal Code
PM	International Property Maintenance Code
RB	International Residential Code - Building
RE	International Residential Code - Energy
RM	International Residential Code - Mechanical
RP	International Residential Code - Plumbing
S	International Building Code - Structural
WUIC	International Wildland-Urban Interface Code
Z	International Zoning Code

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707.6	E5 – Part I
707.7.1	E5 – Part I
708.1	E5 – Part I
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708.6	E5 – Part I
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R320.2 (New)	E156 Part III
R402.2	S162-09/10, Part II
R403.3.4	FS176 Part II
R404.1.2.3.6.1	FS176 Part II
R503.2.1	S200-09/10, Part II
R503.2.1.1	S200-09/10, Part II

IRC (continued)	
Table R601.3.1	FS147 Part II
R602.3	S200-09/10, Part II
R602.9	S214-09/10, Part II
R604.1	S199-09/10, Part II
R606.1	S171-09/10, Part II
R606.1.1	S171-09/10, Part II
R606.12.1	S171-09/10, Part II
R606.12.3.1	S171-09/10, Part II
R702.2.1	S222-09/10, Part II
R702.2.2	S222-09/10, Part II
R702.3.1	S222-09/10, Part II
R702.4.2	S224-09/10, Part II
R703.1.1	FS140 Part II
R703.3	FS156 Part II
R703.4	FS156 Part II
R703.4	S199-09/10, Part II
Table R703.4	FS156 Part II
R703.5.1	FS156 Part II
R703.6.1	FS156 Part II
R703.6.3	S225-09/10, Part II
R703.7.4.1	FS156 Part II
R703.11.2	FS156 Part II
R703.11.2.1	FS156 Part II
R703.11.2.2	FS156 Part II
R703.11.2.3	FS156 Part II
R703.12	FS150 Part II, FS151 Part II
703.12.1	FS150 Part II, FS151 Part II
R802.1.3	S201-09/10, Part II
R802.1.3.1	S201-09/10, Part II
R802.1.3.2	S201-09/10, Part II
R802.1.3.3	S201-09/10, Part II
R803.2.1	S200-09/10, Part II
R806.1	G146 Part II
R806.2	G145 Part II
R903.2.2	S3-09/10, Part II
R903.4	S2-09/10, Part III (heard by IRC Plumbing)
R903.4.1	S2-09/10, Part III (heard by IRC Plumbing)
Table R905.2.4.1(2)	S14-09/10, Part II
R905.2.7.2	S15-09/10, Part II
R905.2.8.5 (New)	S16-09/10, Part II
R905.3.3.3	S15-09/10, Part II
R905.4.3.2 (New)	S15-09/10, Part II
R905.4.5.1 (New)	S17-09/10, Part II
R905.5.3.2 (New)	S15-09/10, Part II
R905.6.3.2 (New)	S15-09/10, Part II
R905.7.3.2 (New)	S15-09/10, Part II
R905.8.3.2 (New)	S15-09/10, Part II
R905.9.2	S18-09/10, Part II
R905.10.5.1 (New)	S15-09/10, Part II
R905.14.3	S20-09/10, Part II
Table R905.14.3 (New)	S20-09/10, Part II
R905.15	S21-09/10, Part II
R905.15.1	S21-09/10, Part II
R905.15.2	S21-09/10, Part II

R905.15.3	S21-09/10, Part II
R905.16 (New)	S22-09/10, Part III, S23-09/10, Part II
R905.16.1 (New)	S22-09/10, Part III, S23-09/10, Part II
R905.16.1.1 (New)	S23-09/10, Part II
R905.16.2 (New)	S22-09/10, Part III
R905.16.3 (New)	S22-09/10, Part III
R907.3	S30-09/10, Part II
R1003.9.1 (New)	S182-09/10, Part II
R1003.9.3 (New)	S182-09/10, Part II
R1003.11.1	M114 PII
R1005.7	M117 PII
R1004.2	M119 PII
T N1101.2	EC1 Part II
N1101.4.2.1(New)	EC2 Part II
N1101.6	EC4
Chapter 11	EC11 Part II, EC 13 Part II, EC16, Part II, EC19 Part II, EC25 Part II
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N1101.7	EC28
N1101.9	EC22 Part II, EC23 Part II
N1102	EC26
N1102.1	EC31
N1103.2.1	EC26
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Table N1102.1.4 (New) N1102.1.4(New)	EC56 Part II
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N1102.2.2.1(New)	EC64 Part II
N1102.2.3 (New)	EC63 Part II
Table N1102.2.5	EC66 Part II
N1102.2.11	EC68 Part II
N1102.2.12(New)	EC69 Part II
Table N1102.4.2	EC26 Part II, EC59 Part II
Table N1102.1.4 (New) N1102.1.4(New)	EC57 Part II
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N1102.3.3 (New)	EC72 Part II
N1102.3.3 (New)	EC73 Part II
N1102.3.3 (New)	EC74 Part II
N1102.3.4	EC76 Part II
N1102.3.5	EC68 Part II
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N1102.3.7(New)	EC78 Part II
N1102.4.1	EC79, EC82, EC83
N1102.4.1.1(New)	EC79 Part II
N1102.4.1.2 (New)	EC79 Part II
N1102.4.2	EC81, EC82, EC83, EC86, EC90

IRC (continued)	
N1102.4.2.1.1 (New)	EC80 Part II
N1102.4.2.1.1 (New)	EC87 Part II
N1102.4.3	EC79 Part II, EC89 Part II
N1102.4.4	EC91 Part II
N1102.4.5	EC92 Part II
N1102.4.6	EC84
N1103.1	EC100 Part II
N1103.1.1	EC101 Part II
N1103.1.3 (New)	EC100 Part II
N1103.2.1	EC103 Part II
N1103.2.2	EC103, EC104, EC107 (All Part II)
N1103	
N1103.2.3	EC103 Part II, EC109 Part II,
N1103.3	EC117 Part II
N1103.3	EC123 Part II
N1103.4	EC115 Part II, EC116
N1103.4 (New)	EC114 Part II
N1103.4 (New)	EC118 Part II
N1103.4.1	EC112 Part II
N1103.4.2	EC112 Part II
N1103.5	EC79 Part II, EC131 Part II
N1103.5 (New)	EC119 Part II
N1103.5.1	EC99 Part II
N1103.6	EC120 Part II
T N1103.6 (New)	EC121 Part II
N1103.8	EC124 Part II
N1103.9	EC125 Part II
N1103.10 (New)	EC126 Part II
N1104 (New)	EC131 Part II
N1104.1	EC127, EC129, EC130 (All Part II)
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M1301.2 thru M1301.5	FG14 PIII
M1303.1	M6 PII
M1303.1	FG10 PIII
M1307.3, P2801.6	M10 PII
M1401.1	M9 PII
M1407.1	M121 PII
M1411.5	FG11 PIII
M1411.6	M130 PII, M131 PII
M1411.6.1	M133 PII
M1413.1	M126 PII
M1413.2	M126 PII
M1502.4.1	M35 PII, M36 PII
M1502.4.2	M35 PII
M1502.4.4.1	M35 PII
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M1502.4.4.2	M38 PII
M1502.4.4.3	M39 PII, M40 PII
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M1506.1	M31 PII
M1601.1.1	M97 PII
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M1601.3	M111 PII, M112 PII
M1602.2	FG32 PIII
M2005.1	M127 PII
M2001.1.1	M128 PII
Table M2101.1	M140 PII, M141 PII, M142 PII
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M2201.5	M151 PII
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P2503.6	P18 Part II
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P2601.2	P152 Part II
P2603.3	P8 Part II
P2603.4	P16 Part II
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Table P2605.1	P70 Part II
P2608.1	P7 Part II
P2608.4	P7 Part II
Table P2608.4	P7 Part II
Table P2701.1	P37 Part II
P2706.1	P121 Part II
P2708.1.1	P52 Part II
P2708.4 (New)	P53 Part II
P2709.2.1	P54 PartII
P2709.2.2	P54 PartII
P2709.2.4 (New)	P55 PartII
P2713.1	P40 Part II, P41 Part II
P2721.2	P42 Part II
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P2724.1 (New)	P61 Part II
P2803.6	P62 Part II
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P2803.6.1	P64 Part II
P2801.1.2	EC122 Part II
P2801.5	P65 Part II. P66 Part II P67 Part II
P2801.5.1	P67 Part II
P2801.5.3 (New)	P158 Part II
P2901.1	P87 Part II
P2902.1	P102 Part II
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P2902.3.3	P103 Part II
P2902.3.4	P96 Part II, P104 Part II
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P2902.4	P94 Part II
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IRC (continued)	
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P2902.5.4.1	P99 Part II
P2902.5.5	P94 Part II
P2902.6	P90 Part II
P2903.3.1	P157 Part II
P2903.5	P72 Part II
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Table P2903.6(1)	P153 Part II
P2903.9.5	P86 Part II
P2903.11 (New)	P75 Part II
P2904.3.1	P70 Part II
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P2905.9.1.2	P84 Part II
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P2905.19.1(New)	P70 Part II
P2905.19.2 (New)	P70 Part II
P2908.1	P108 Part II
P2908.2	P108 Part II
P3001.4 (New)	P109 Part II
P3002.3.1	P111 Part II
P3003.9.2	P110 Part II
P3003.14.2	P110 Part II
P3003.19	P36 Part II
P3007.3.2.1 (New)	P114 Part II
P3007.3.3 (New)	P115 Part II
P3007.3.3.1 (New)	P115 Part II
P3007.3.3.2 (New)	P115 Part II
P3007.3.5	P116 Part II
P3009 (New)	P152 Part II
P3103.4	P124 Part II
P3103.5	P159 Part II
P3111.2	P128 Part II
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P3113.4.1	P131 Part II
P3201.5	P135 Part II
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Chapter 44	P60 Part II, P68 Part II, P69 Part II, P70 Part II, P71 Part II, P73 Part II, P83 Part II, P106 Part II, P108 Part II, P135 Part II, P136 Part II, P157 Part II
Chapter 44	F108, Part II; F132, Part II
Chapter 44	ADM39
Appendix H	G2 Part II
Appendix K	G147 Part II
Appendix L	G204 Part II

INT. WILDLAND-URBAN INTERFACE CODE	
Chapter 1	ADM1 Part X
101.3	ADM3
102.4	ADM4
115 (New)	ADM16 Part I
Chapter 15	ADM39
INTERNATIONAL ZONING CODE	
Chapter 1	ADM1 Part XI
101.2	ADM3
112 (New)	ADM16 Part I
Chapter 14	ADM39

2009/2010 ICC CODE DEVELOPMENT HEARING SCHEDULE

October 24 – November 11, 2009

Hilton Baltimore

Unless noted by “Start no earlier than X am/pm,” each Code Committee will begin immediately upon completion of the hearings for the prior Committee. Thus the actual start times for the various Code Committees are tentative. The hearing volume is higher than previous cycles. The schedule anticipates that the hearings will finish by the times noted as “Finish” for each track and each week.

CODE DEVELOPMENT HEARINGS: OCTOBER 24 - 31

	Saturday October 24	Sunday October 25	Monday October 26	Tuesday October 27	Wednesday October 28	Thursday October 29	Friday October 30	Saturday October 31
TRACK 1	Start 8 am IWUIC IFC End 8 pm	Start 10 am IFC End 8 pm	Start 8 am IFC IRC-Energy (Start no earlier than 1 pm) End 8 pm	Start 8 am IRC – Energy End 8 pm	Start 8 am IRC-Building (Start no earlier than 8 am) End 8 pm	Start 8 am IRC- Building End 8 pm	Start 8 am IRC – Building Admin (Start no earlier than 3 pm) End 8 pm	Start 8 am Admin Finish 3 pm
	Start 8 am IBC- Structural End 8 pm	Start 10 am IBC- Structural End 8 pm	Start 8 am IBC- Structural End 8 pm	Start 8 am IBC- Structural End 8 pm	Start 8 am IECC (Start no earlier than 8 am) End 8 pm	Start 8 am IECC End 8 pm	Start 8 am IECC End 8 pm	Start 8 am IECC Finish 8 pm

ANNUAL CONFERENCE: NOVEMBER 1 - 4

CODE DEVELOPMENT HEARINGS: NOVEMBER 4 - 11

	Wednesday November 4	Thursday November 5	Friday November 6	Saturday November 7	Sunday November 8	Monday November 9	Tuesday November 10	Wednesday November 11
TRACK 1	Start 8 am IPM/ZC IEBC IBC-Fire Safety End 5 pm	Start 8 am IBC-Fire Safety End 8 pm	Start 8 am IBC – Fire Safety IBC – General (Start no earlier than 3 pm) End 8 pm	Start 8 am IBC - General End 8 pm	Start 10 am IBC – General IBC – Egress (Start no earlier than 3 pm) End 8 pm	Start 8 am IBC - Egress End 8 pm	Start 8 am IBC - Egress End 8 pm	Start 8 am IBC - Egress Finish 12 pm
	Start 8 am IPC/IPSDC End 5 pm	Start 8 am IPC/IPSDC End 9 pm	Start 8 am IMC (Start no earlier than 8 am) End 9 pm	Start 8 am IMC IRC- Plumbing/ Mechanical (Start no earlier than 1 pm) End 9 pm	Start 10 am IRC – Plumbing/ Mechanical End 9 pm	Start 8 am IRC – Plumbing/ Mechanical IFGC (Start no earlier than 8 am) Finish 9 pm	NO HEARINGS TRACK 2 COMPLETED	

Notes:

- Hearing times may be modified at the discretion of the Chairman. Breaks will be announced.
- Proposed code changes submitted to the International Wildland-Urban Interface Code (IWUIC) to be heard by the IFC Committee.
- Proposed code changes submitted to the International Zoning (Z) and Property Maintenance (PM) Codes to be heard by the IPM/Z Committee.
- “Admin” is a new code committee who will hear changes that affect coordination of Chapter 1 of all the I-Codes, except the IRC, and referenced standards updates.

**2009/2010 PROPOSED CHANGES
TO THE INTERNATIONAL CODES**

CODE	PAGE
Administrative Provisions (All Codes)	ADM1
International Building Code	
Fire Safety	IBC-FS1
General	IBC-G1
Means of Egress	IBC-E1
Structural	IBC-S1
International Energy Conservation Code.....	EC1
International Existing Building Code	EB1
International Fuel Gas Code.....	FG1
International Fire Code	F1
International Mechanical Code	M1
International Plumbing Code	P1
International Private Sewage Disposal Code	PSD1
International Property Maintenance Code	PM1
International Residential Code	
Building/Energy	IRC-RB1
Plumbing	IRC-RP1
Mechanical	IRC-RM1
International Wildland-Urban Interface Code (To be heard by the IFC Committee).....	WUIC1
International Zoning Code (To be heard by the IPM/IZC Committee)	Z1



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2009/2010 PROPOSED CHANGES TO THE INTERNATIONAL PLUMBING/PRIVATE SEWAGE DISPOSAL CODE

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TENTATIVE ORDER OF DISCUSSION

2009-2010 PROPOSED CHANGES TO THE INTERNATIONAL PLUMBING/PRIVATE SEWAGE DISPOSAL CODE

The following is the tentative order in which the proposed changes to the code will be discussed at the public hearings. Proposed changes which impact the same subject have been grouped to permit consideration in consecutive changes.

Proposed change numbers that are indented are those which are being heard out of numerical order. Indentation **does not** necessarily indicate that one change is related to another. Proposed changes may be grouped for purposes of discussion at the hearing at the discretion of the chair.

P = *International Plumbing Code*

PSD = *International Private Sewage Disposal Code*

PLUMBING

P1-09/10 Part I	P44-09/10	P79-09/10	P123-09/10
P1-09/10 Part II	P45-09/10	P80-09/10	P124-09/10, Part I
P2-09/10	P46-09/10	P81-09/10	P159-09/10, Part I
P3-09/10	P47-09/10	P82-09/10	P125-09/10
P4-09/10	P48-09/10	P83-09/10	P126-09/10
P5-09/10	P49-09/10	P84-09/10, Part I	P127--09/10, Part I
P6-09/10	P50-09/10	P85-09/10, Part I	P128-09/10, Part I
P7-09/10 , Part I	P51-09/10	P86-09/10, Part I	P129-09/10
P8-09/10 , Part I	P52-09/10, Part I	P87-09/10, Part I	P130-09/10
P9-09/10	P53-09/10, Part I	P88-09/10	P131-09/10, Part I
P10-09/10, Part I	P54-09/10, Part I	P89-09/10	P132-09/10
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P13-09/10	P58-09/10	P92-09/10, Part I	P136-09/10, Part I
P14-09/10	P59-09/10	P93-09/10, Part I	P137-09/10
P15-09/10	P60-09/10	P94-09/10, Part I	P138-13/10
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P17-09/10	P63-09/10	P97-09/10	P141-09/10
P18-09/10, Part I	P64-09/10	P98-09/10	P142-09/10
P156-09/10, Part I	P65-09/10	P99-09/10, Part I	PM13-09/10
P19-09/10, Part I	P66-09/10	P100-09/10, Part I	P143-09/10
P20-09/10	P56-09/10	P101-09/10	P144-09/10
P21-09/10	P57-09/10	P102-09/10, Part I	P145-09/10
P22-09/10	P58-09/10	P103-09/10, Part I	P146-09/10
P23-09/10	P59-09/10, Part I	P104-09/10, Part I	P147-09/10
P24-09/10	P60-09/10, Part I	P105-09/10	P148-09/10
P25-09/10	P61-09/10, Part I	P106-09/10, Part I	P149-09/10
P26-09/10	P62-09/10, Part I	P107-09/10	P150-09/10
P27-09/10	P63-09/10, Part I	P108-09/10, Part I	S2-09/10, Part I
P162-09/10	P64-09/10	P109-09/10, Part I	S2-09/10, Part II
P28-09/10	P65-09/10, Part I	P110-09/10, Part I	P151-09/10
P29-09/10	P66-09/10, Part I	P111-09/10, Part I	P152-09/10
P30-09/10	P67-09/10, Part I	P111-09/10	P153-09/10, Part I
P31-09/10	P157-09/10, Part I	P112-13/10	
P32-09/10	P158-09/10, Part I	P113-09/10	
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P35-09/10	P70-09/10	P116-09/10, Part I	
P36-09/10, Part I	P71-09/10	P160-09/10, Part I	
P37-09/10, Part I	P72-09/10	P117-09/10	
P38-09/10	P73-09/10	P118-09/10	
P39-09/10	P74-09/10	P119-09/10	
P40-09/10, Part I	P75-09/10	P120-09/10	
P41-09/10, Part I	P76-09/10	P121-09/10, Part I	
P42-09/10, Part I	P77-09/10	P122-09/10	
P43-09/10	PM12-09/10	P163-09/10	
	P78-09/10	P164-09/10	

P1-09/10

105.4, 105.4.1, 105.4.2, 105.4.3, 105.4.4, 105.4.5, 105.6, Section 315 (New); IPSDC 105.4, 105.4.1, 105.4.2, 105.4.3, 105.4.4, 105.4.5, 105.4.6, Section 304 (New)

Proponent: Lawrence Brown, CBO representing the National Association of Home Builders (NAHB)

THIS IS A 2 PART CODE CHANGE. BOTH PARTS WILL BE HEARD BY THE IPC COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THE IPC COMMITTEE.

PART I - IPC

1. Add new section as follow:

SECTION 315 ALTERNATE ENGINEERED DESIGN

2. Revise as follows:

315.1 405.4 Alternative engineered design. The design, documentation, inspection, testing and approval of an *alternative engineered design* plumbing system shall comply with Sections ~~405.4.1~~ 315.1 through 315.6 ~~405.4.6~~.

315.1.1 405.4.1 Design criteria. An *alternative engineered design* shall conform to the intent of the provisions of this code and shall provide an equivalent level of quality, strength, effectiveness, fire resistance, durability and safety. Material, equipment or components shall be designed and installed in accordance with the manufacturer's installation instructions.

315.2 405.4.2 Submittal. The registered design professional shall indicate on the permit application that the plumbing system is an *alternative engineered design*. The permit and permanent permit records shall indicate that an *alternative engineered design* was part of the *approved* installation.

315.3 405.4.3 Technical data. The registered design professional shall submit sufficient technical data to substantiate the proposed *alternative engineered design* and to prove that the performance meets the intent of this code.

315.4 405.4.4 Construction documents. The registered design professional shall submit to the code official two complete sets of signed and sealed construction documents for the shall include floor plans and a riser diagram of the work. Where appropriate, the construction documents shall indicate the direction of flow, all pipe sizes, grade of horizontal piping, loading, and location of fixtures and appliances.

315.5 405.4.5 Design approval. Where the code official determines that the *alternative engineered design* conforms to the intent of this code, the plumbing system shall be *approved*. If the *alternative engineered design* is not *approved*, the code official shall notify the registered design professional in writing, stating the reasons thereof.

315.6 405.4.6 Inspection and testing. The *alternative engineered design* shall be tested and inspected in accordance with the requirements of Sections 107 and 312.

PART II – IPSDC

1. Add new section as follow:

SECTION 304 ALTERNATE ENGINEERED DESIGN

2. Revise as follows:

304.1 405.4 Alternative engineered design. The design, documentation, inspection, testing and approval of an *alternative engineered design* plumbing system shall comply with Sections ~~405.4.1~~ 304.1 through 304.6 ~~405.4.6~~.

304.1.1 405.4.1 Design criteria. An *alternative engineered design* shall conform to the intent of the provisions of this code and shall provide an equivalent level of quality, strength, effectiveness, fire resistance, durability and safety.

Material, equipment or components shall be designed and installed in accordance with the manufacturer's installation instructions.

304.2 405.4.2 Submittal. The registered design professional shall indicate on the permit application that the plumbing system is an *alternative engineered design*. The permit and permanent permit records shall indicate that an *alternative engineered design* was part of the *approved* installation.

304.3 405.4.3 Technical data. The registered design professional shall submit sufficient technical data to substantiate the proposed *alternative engineered design* and to prove that the performance meets the intent of this code.

304.4 405.4.4 Construction documents. The registered design professional shall submit to the code official two complete sets of signed and sealed construction documents for the shall include floor plans and a riser diagram of the work. Where appropriate, the construction documents shall indicate the direction of flow, all pipe sizes, grade of horizontal piping, loading, and location of fixtures and appliances.

304.5 405.4.5 Design approval. Where the code official determines that the *alternative engineered design* conforms to the intent of this code, the plumbing system shall be *approved*. If the *alternative engineered design* is not *approved*, the code official shall notify the registered design professional in writing, stating the reasons thereof.

304.6 405.4.6 Inspection and testing. The *alternative engineered design* shall be tested and inspected in accordance with the requirements of Sections 107 and 312.

Reason : This proposal is a companion of other proposals that coordinate the administrative provisions of Chapter 1 of all I-Codes. The provisions show above for an "alternate engineered design" are currently located in Chapter 1 of both the IPC and IPSDC. This "alternate engineered design" is a specific engineering requirement and is not an administrative-type provision. This requirement is better suited to be located in Chapter Three – General.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IPSDC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Brown-P1-105.4

**P2–09/10
202; IRC 202**

Proponent: James Anjam, Arlington County, Virginia Plumbing and Mechanical Inspectors Association (VPMIA)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

PLUMBING FIXTURE. A receptacle or device that is ~~either permanently or temporarily~~ directly or indirectly connected to the ~~water distribution system~~ building drainage system. Such receptacles or devices typically, but do not always require a connection to a supply of water. ~~of the premises and demands a supply of water therefrom; discharges wastewater, liquid-borne waste materials or sewage either directly or indirectly to the drainage system of the premises; or requires both a water supply connection and a discharge to the drainage system of the premises.~~

PART II – IRC

Delete and substitute as follows:

~~**PLUMBING FIXTURE.** A receptor or device that requires both a water supply connection and a discharge to the drainage system, such as water closets, lavatories, bathtubs and sinks. Plumbing *appliances* as a special class of fixture are further defined.~~

PLUMBING FIXTURE. A receptacle or device that is directly or indirectly connected to the building drainage system. Such receptacles or devices typically, but do not always require a connection to a supply of water.

Reason: The current plumbing fixture definition is confusing and out of date. According to the current code, waterless urinals and floor drains are not considered to be plumbing fixtures. This proposal updates and simplifies the code.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: ANJAM-P1-202

**P3–09/10
202**

Proponent: Robert Burke, University of Colorado representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

~~**PLUMBING APPLIANCE.** Any one of a special class of plumbing fixtures. Water-connected or drain-connected devices intended to perform a special function. Included are fixtures having the~~ These devices have their operation or control dependent on one or more energized components, such as motors, controls, or heating elements or pressure or temperature sensing elements. Such fixtures devices are manually adjusted or controlled by the owner or operator, or are operated automatically through one or more of the following actions; a time cycle, a temperature range, a pressure range, a measured volume or weight.

Reason: We need clear distinctions between appliances and fixtures since the code responds to these two classes differently.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Burke-P4-202

**P4–09/10
202**

Proponent: Judson Collins, JULYCO, representing self

Revise definition as follows:

COMBINATION WASTE AND VENT SYSTEM. A specially designed system of waste piping embodying the horizontal wet venting of one or more sinks, lavatories, drinking fountains or floor drains by means of a common waste and vent pipe adequately sized to provide free movement of air above the flow line of the drain.

Reason: The title of Section 912 is "COMBINATION DRAIN AND VENT SYSTEM. The text in the sections in 912 use the term "combination drain and vent" throughout. The term "combination waste and vent system" is not used in Section 912. The definition should define the term used in 912. The current definition only identifies sinks and floor drains as fixtures that are allowed to be vented by this method. The text in 912 also allows lavatories and drinking fountains to be vented by this method. This proposal modifies the definition to properly identify the fixtures allowed to be vented by a combination drain and vent system.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: COLLINS-P5-202

P5-09/10

202

Proponent: Andrew Granzow, Viega LLC

Revise as follows:

MECHANICAL JOINT. A connection between pipes, fittings, or pipes and fittings such as flanged, pressed, flared, compression, and push-fit joining systems that is are not screwed, caulked, threaded, soldered, solvent cemented, brazed or welded. A joint in which compression is applied along the centerline of the pieces being joined. In some applications, the joint is a part of a coupling, fitting or adapter.

Reason: The proposed change includes text to identify types of mechanical joints.

Cost Impact: This code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: GRANZOW-P1-202

P6 -09/10

202 (New)

Proponent: Cort Strain, University of Colorado representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Add new definition as follows:

DEVICE. A piece of equipment or a mechanism designed to serve a special purpose or perform a special function.

Reason: Device is a code term that should be defined.

Cost Impact: There will be no cost impact to construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Strain-P5-202 DEVICE

P7-09/10

303.1, 303.4, Table 303.4; IRC P2608.1, P2608.4, Table P2608.4

Proponent: Becky Baker, Jefferson County Colorado, representing the Colorado Association of Plumbing Mechanical Officials

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

1. Revise as follows:

303.1 Identification. Each length of pipe and each pipe fitting, trap, fixture, material and device utilized in a plumbing system shall bear the identification of the manufacturer and any markings required by the applicable referenced standards.

303.4 Third-party testing and certification. All plumbing products and materials shall ~~comply~~ be listed by a third-party certification agency as complying with the referenced standards, specifications and performance criteria of this code, and shall be identified in accordance with Section 303.1. When required by Table 303.4, plumbing products and materials shall either be tested by an approved third — party testing agency or certified by an approved third — party certification agency. Products and materials shall be identified in accordance with Section 303.1.

2. Delete table without substitution:

**TABLE 303.4
PRODUCTS AND MATERIALS REQUIRING THIRD-PARTY TESTING AND THIRD-PARTY CERTIFICATION**

PRODUCT OR MATERIAL	THIRD-PARTY CERTIFIED	THIRD-PARTY TESTED
Potable water supply system components and potable water fixture fittings	Required	-
Sanitary drainage and vent system components	Plastic pipe, fittings and pipe-related components	All others
Waste fixture fittings	Plastic pipe, fittings and pipe-related components	All others
Storm drainage system components	Plastic pipe, fittings and pipe-related components	All others
Plumbing fixtures	-	Required
Plumbing appliances	Required	-
Backflow prevention devices	Required	-
Water distribution system safety devices	Required	-
Special waste system components	-	Required
Subsoil drainage system components	-	Required

PART II - IRC

1. Revise as follows:

P2608.1 Identification. Each length of pipe and each pipe fitting, trap, fixture, material and device utilized in a plumbing system shall bear the identification of the manufacturer and any markings required by the applicable referenced standards.

P2608.4 Third-party testing and certification. All plumbing products and materials shall ~~comply~~ be listed by a third-party certification agency as complying with the referenced standards, specifications and performance criteria of this code, and shall be identified in accordance with Section P2608.1. When required by Table P2608.4, plumbing products and materials shall either be tested by an approved third — party testing agency or certified by an approved third — party certification agency. Products and materials shall be identified in accordance with Section P2608.1.

2. Delete table without substitution:

**TABLE P2608.4
PRODUCTS AND MATERIALS REQUIRING THIRD-PARTY TESTING AND THIRD-PARTY CERTIFICATION**

PRODUCT OR MATERIAL	THIRD-PARTY CERTIFIED	THIRD-PARTY TESTED
Potable water supply system components and	Required	-

potable water fixture fittings		
Sanitary drainage and vent system components	Plastic pipe, fittings and pipe-related components	All others
Waste fixture fittings	Plastic pipe, fittings and pipe-related components	All others
Storm drainage system components	Plastic pipe, fittings and pipe-related components	All others
Plumbing fixtures	-	Required
Plumbing appliances	Required	-
Backflow prevention devices	Required	-
Water distribution system safety devices	Required	-
Special waste system components	-	Required
Subsoil drainage system components	-	Required

Reason: The revision to IPC Section 303.1 (IRC Section P2608.1)

- To make it clear that the code intends that the identification requirements in any referenced standard(s) be met.
- To require that the mark of the third-party certification agencies be applied to listed products. This is needed so that the inspector knows that the product has been certified by a third party agency.

The revision to IPC Section 303.4 (IRC Section P22608.4) and the deletion of IPC Table 303.4 (IRC Table P2608.1)

- To make the job of the easier since inspectors don't have time to review test reports and
- To create a more uniform means to enforce code requirements among the various products governed by the code.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: BAKER-P1-303.1

P8–09/10 305.2; IRC P2603.3

Proponent: Shawn Strausbaugh, Arlington County, VA representing Virginia Plumbing and Mechanical Inspectors Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Delete without substitution:

~~305.2 Breakage. Pipes passing through or under walls shall be protected from breakage.~~

(Renumber subsequent sections)

PART II - IRC

Revise as follows:

P2603.3 Breakage and corrosion. ~~Pipes passing through or under walls shall be protected from breakage.~~ Pipes passing through concrete or cinder walls and floors, cold-formed steel framing or other corrosive material shall be

protected against external corrosion by a protective sheathing or wrapping or other means that will withstand any reaction from lime and acid of concrete, cinder or other corrosive material. Sheathing or wrapping shall allow for movement including expansion and contraction of piping. Minimum wall thickness of material shall be 0.025 inch (0.64mm).

Reason

(PART I) This section appears to be unenforceable. The installation of piping per the manufacturer's installation instructions and per the code sections that follow this section such as 305.3 through 305.9 clearly state the means of protecting piping from breakage.

(PART II) The portion of the section removed appears to be unenforceable. The installation of piping per the manufacturer's installation instructions and per the code sections that follow this section such as the remainder of P2603.3 through P2603.6 clearly state the means of protecting piping from breakage. This change is also similar to the proposed change to the IPC.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: STRAUSBAUGH-P3-305.2

P9–09/10
305.3.1 (New)

Proponent: Ronald L, George, CIPE, CPD, President of Ron George Design & Consulting Services representing himself

Add new text as follows:

305.3.1 Thermal expansion calculations. Where a piping system design has straight runs of piping exceeding 100 feet in length, the designer shall submit calculations and design drawings to the code official indicating the changes in pipe length due to the difference between installation temperatures and the anticipated hot and cold service temperature extremes. The drawings shall indicate how the changes in pipe length will be accommodated.

Reason: Thermal expansion occurred in a high rise building where the contractor made a material substitution the riser grew significantly and ripped apart several joints when the system was brought up to temperature. This code change is intended to assure that thermal expansion issues have been properly addressed by the designer and system installer.

Cost Impact: Minimal.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: GEORGE-P2-305.3.1 NEW

P10–09/10
305.5; IRC P2603.5

Proponent: Shawn Strausbaugh, Arlington County, VA representing Virginia Plumbing and Mechanical Inspectors Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

305.5 Pipes through ~~or under footings or~~ foundation walls. Any pipe that passes ~~under a footing or~~ through a foundation wall shall be provided with a relieving arch, or a pipe sleeve pipe shall be built into the foundation wall. The sleeve shall be two pipe sizes greater than the pipe passing through the wall.

PART II - IRC

Revise as follows:

P2603.5 Pipes through ~~footings or~~ foundation walls. Any pipe that passes ~~under a footing or~~ through a foundation wall shall be provided with a relieving arch, or a pipe sleeve shall be built into the foundation wall. The sleeve shall be two pipe sizes greater than the pipe passing through the wall.

Reason: A sleeve should not be required where a pipe passes under a footing as the footing acts as a relieving arch.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: STRAUSBAUGH-P5-305.5

P11–09/10

308.9

Proponent: Gregory A. Farmer, PE representing ASPE Legislative Committee, ASPE

Revise as follows:

308.9 Parallel water distribution systems. Piping bundles for manifold systems shall be supported in accordance with Table 308.5. Support at changes in direction shall be in accordance with the manufacturer’s installation instructions. ~~Hot and e~~Cold water and uninsulated hot water piping shall not be grouped in the same bundle.

Reason: The purpose of separation between the hot water and cold water piping is to prevent heat transfer. Insulation on the hot water piping accomplishes the same objective. Allowing the insulated piping to be in the same pipe bundle will reduce labor and material costs.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: FARMER-P1-308.9

P12–09/10

310.4 (New)

Proponent: Marcelo M. Hirschler (GBH International) representing the American Fire Safety Council

Add new text as follows:

310.4 Exposed insulation. Where insulating materials are installed on exposed elements within toilet rooms, the materials shall comply with Section 719 of the International Building Code.

(Renumber subsequent sections)

Reason: This proposal appears to state the obvious but there has been some discussion as to whether the IBC applies when it is not explicitly referenced in the IPC and this language will help clarify. This proposal is intended to build on the language in existing Section 310.3 of the IPC. **“310.3 Interior finish.** Interior finish surfaces of toilet rooms shall comply with the *International Building Code*.”

It is my belief that Section 310.3, although it contains vague code language, is important because it directs the IPC code user to the appropriate requirements for interior finish in the IBC. This includes not only the information on the requirements in Section 1210 of the IBC (related to the use of impervious floors, walls, caulking, etc. so that sanitation can be maintained) but also the information on the fire properties of interior finish in the IBC. For example it is essential that the users of the IPC be aware that toilet partitions (or other interior finish) made of some smooth and impervious surfaces that potentially have very poor fire performance, such as HDPE (high density polyethylene), must comply with the fire safety requirements of Chapter 8 of the IBC. I have also made a proposal to the IBC in this cycle to upgrade the fire safety requirements for another material used as interior finish (often via toilet partitions) for bathrooms: polypropylene. Both HDPE and polypropylene ignite easily and generate very high heat release when they burn.

In the same way as 310.3 appropriately directs the IPC code user to the requirements of Sections 1210 and Chapter 8 of the IBC, this proposal is intended to direct the IPC code user to Section 719 of the IBC, on thermal and sound insulating materials. In particular, my concern is fire safety and the compliance with Section 719.7, to ensure that exposed insulating materials exhibit adequate fire properties.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: HIRSCHLER-P4-310.4

P13–09/10

416.6 (New), 418.4 (New)

Proponent: Marcelo M. Hirschler (GBH International) representing American Fire Safety Council

Add new text as follows:

416.6 Protective Insulation and Coverings. Where protective insulation or protective coverings are installed on exposed water and drain piping, valves, fittings and tubing located beneath lavatories required to be accessible, the materials shall comply with the flame spread index and smoke-developed index requirements of Section 719 of the International Building Code.

418.4 Protective Insulation and Coverings. Where protective insulation or protective coverings are installed on exposed water and drain piping, valves, fittings and tubing located beneath sinks required to be accessible, the materials shall comply with the flame spread index and smoke-developed index requirements of Section 719 of the International Building Code.

Reason: Compliance with ADA requires that “insulation covers” be placed under lavatories and sinks surrounding water supply and drainpipes. These products are clearly both “pipe insulation” and “thermal insulation” products and, therefore, need to comply with the requirements for insulation in the IBC. The ADA requires that exposed hot water and drainpipes under lavatories and sinks be insulated (sections 4.19.4 and 4.24.6). The ICC/ANSI A117.1/2003 Standard (Accessible and Usable Buildings and Facilities 606.6 Exposed Pipes and Surfaces) states that: “Water supply and drainpipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.” This indicates that we are dealing with an exposed insulation product or material. ASTM C 168 – Standard Terminology Relating to Thermal Insulating Materials, defines as follows:

pipe insulation, n — insulation in a form suitable for application to cylindrical surfaces.

thermal insulation, n — a material or assembly of materials used to provide resistance to heat flow.

Consequently “insulation covers” are insulation and must comply with insulation requirements. Furthermore, the IBC describes, in section 603.1, the combustibile materials allowed in buildings of Type I and Type II construction. These materials include “thermal and acoustic insulation” (item 2) as well as 24 other types of materials, as shown below. Section 603 of the IBC clearly states that exposed thermal and acoustic insulation shall have a flame spread index of not more than 25. Section 719 of the IBC is the section that includes all details of the requirements for “Thermal and Sound Insulating Materials”.

Within 719, section 719.3 states as follows: **“719.3 Exposed installation.** Insulating materials, where exposed as installed in buildings of any type of construction, shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 450.

Exception: Cellulose loose-fill insulation that is not spray applied complying with the requirements of Section 719.6 shall only be required to meet the smoke-developed index of not more than 450.”

This indicates that “exposed insulating materials” must have a flame spread index of not more than 25 and a smoke developed index of not more than 450 (in accordance with ASTM E 84) unless they are cellulose loose fill insulation.

Continuing, the IBC describes the requirements for “insulation and covering on pipe and tubing” materials in section 719.7, which reads as follows: **“719.7 Insulation and covering on pipe and tubing.** Insulation and covering on pipe and tubing shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 450.

Exception: Insulation and covering on pipe and tubing installed in plenums shall comply with the International Mechanical Code.”

This indicates that “insulation and covering on pipe and tubing” materials must have a flame spread index of not more than 25 and a smoke developed index of not more than 450 (in accordance with ASTM E 84) unless they are installed in plenums.

This code proposal simply presents clarification, which is needed because there have been statements that these “insulation covers” either do not require to meet any fire testing or that they need to meet the requirements of ASTM D 635 instead of those of ASTM E 84.

There are no references to ASTM D 635 in the IFC, IPC or IMC. The only reference to ASTM D 635 in the IBC is in the section 2606.4 addressing light transmitting plastics, as shown below.

“2606.4 Specifications. Light-transmitting plastics, including thermoplastic, thermosetting or reinforced thermosetting plastic material, shall have a self-ignition temperature of 650°F (343°C) or greater where tested in accordance with ASTM D 1929; a smoke-developed index not greater than 450 where tested in the manner intended for use in accordance with ASTM E84, or not greater than 75 where tested in the thickness intended for use in accordance with ASTM D 2843 and shall conform to one of the following combustibility classifications:

Class CC1: Plastic materials that have a burning extent of 1 inch (25 mm) or less where tested at a nominal thickness of 0.060 inch (1.5 mm), or in the thickness intended for use, in accordance with ASTM D 635,

Class CC2: Plastic materials that have a burning rate of 2.5 inches per minute (1.06 mm/s) or less where tested at a nominal thickness of 0.060 inch (1.5 mm), or in the thickness intended for use, in accordance with ASTM D 635.”

It is clear that “insulation covers” are not made of “light transmitting plastics”. In the application of “light transmitting plastics” the fire tests (ASTM D 1929, ASTM D 2843 and ASTM D 635) are basically used as quality control tests since there is an understanding of the fire performance of these materials. Thus it does not make sense for “insulation covers”, or any insulation, to have fire safety associated with a very mild test for plastics, in devices or appliances) such as the ASTM D 635 (scope follows).

Appendix:

IBC section 603.1

603.1 Allowable materials. Combustible materials shall be permitted in buildings of Type I or Type II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1. Fire-retardant treated wood ...
2. Thermal and acoustical insulation, other than foam plastics, having a flame spread index of not more than 25.
Exceptions:
 1. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a flame spread index of not more than 100.
 2. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a flame spread index of not more than 200.
3. Foam plastics in accordance with Chapter 26.
4. Roof coverings ...
5. Interior floor finish and floor covering materials ...
6. Millwork, such as doors ...
7. Interior wall and ceiling finishes ...
8. Trim ...
9. Where not installed over 15 feet (4572 mm) above grade, show windows ...
10. Finish flooring ...
11. Partitions dividing portions of stores ...
12. Stages and platforms ...
13. Combustible exterior wall coverings, balconies ...
14. Blocking such as for handrails, millwork ...
15. Light-transmitting plastics as permitted by Chapter 26.
16. Mastics and caulking materials ...
17. Exterior plastic veneer ...
18. Nailing or furring strips as permitted by Section 803.4.
19. Heavy timber ...
20. Aggregates, component materials and admixtures ...
21. Sprayed fire-resistant materials and intumescent and mastic fire-resistant coatings, ...
22. Materials used to protect penetrations in fire-resistance-rated assemblies ...
23. Materials used to protect joints in fire-resistance-rated assemblies ...
24. Materials allowed in the concealed spaces ...
25. Materials exposed within plenums ...

“ASTM D 635: “Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position”

1. Scope*

1.1 This fire-test-response test method covers a small-scale laboratory screening procedure for comparing the relative linear rate of burning or extent and time of burning, or both, of plastics in the form of bars, molded or cut from sheets, plates, or panels, and tested in the horizontal position. NOTE 1—This test method, and test method A of IEC 60695-11-10 are technically equivalent.

NOTE 2—For additional information on materials which do not burn to the first reference mark by this test, see Test Method D 3801.

1.2 This test method was developed for polymeric materials used for parts in devices and appliances. The results are intended to serve as a preliminary indication of their acceptability with respect to flammability for a particular application. The final acceptance of the material is dependent upon its use in complete equipment that conforms with the standard applicable to such equipment.

1.3 The classification system described in Appendix X1 is intended for quality assurance and the preselection of component materials for products.

1.4 This standard is used to measure and describe the response of materials, products, or assemblies to heat and flame under controlled conditions, but does not by itself incorporate all factors required for fire hazards or fire risk assessment of materials, products, or assemblies under actual fire conditions.

1.5 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. For specific hazards statements, see 9.2.”

Cost Impact: None, because this is normal practice.

Analysis: See companion proposal PX-09/10 (by Hirschler for Section 605.25)

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: HIRSCHLER-P1-416.6 NEW

P14-09/10

605.25 (New), 702.7 (New)

Proponent: Marcelo M. Hirschler (GBH International) representing the American Fire Safety Council

Add new text as follows:

605.25 Protective Insulation and Coverings. Where protective insulation or protective coverings are installed on exposed water supply piping, valves and fittings located beneath lavatories and sinks required to be accessible, the materials shall comply with the flame spread index and smoke-developed index requirements of Section 719 of the International Building Code.

702.7 Protective Insulation and Coverings. Where protective insulation or protective coverings are installed on exposed drain fittings, tubing and piping located beneath lavatories and sinks required to be accessible, the materials shall comply with the flame spread index and smoke-developed index requirements of Section 719 of the International Building Code.

Reason: Compliance with ADA requires that “insulation covers” be placed under lavatories and sinks surrounding water supply and drainpipes. These products are clearly both “pipe insulation” and “thermal insulation” products and, therefore, need to comply with the requirements for insulation in the IBC.

The ADA requires that exposed hot water and drainpipes under lavatories and sinks be insulated (sections 4.19.4 and 4.24.6). The ICC/ANSI A117.1/2003 Standard (Accessible and Usable Buildings and Facilities 606.6 Exposed Pipes and Surfaces) states that: “Water supply and drainpipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.” This indicates that we are dealing with an exposed insulation product or material.

ASTM C 168 – Standard Terminology Relating to Thermal Insulating Materials, defines as follows:

pipe insulation, n — insulation in a form suitable for application to cylindrical surfaces.

thermal insulation, n — a material or assembly of materials used to provide resistance to heat flow.

Consequently “insulation covers” are insulation and must comply with insulation requirements. Furthermore, the IBC describes, in section 603.1, the combustibile materials allowed in buildings of Type I and Type II construction. These materials include “thermal and acoustic insulation” (item 2) as well as 24 other types of materials, as shown below. Section 603 of the IBC clearly states that exposed thermal and acoustic insulation shall have a flame spread index of not more than 25. Section 719 of the IBC is the section that includes all details of the requirements for “Thermal and Sound Insulating Materials”. Within 719, section 719.3 states as follows:

“719.3 Exposed installation. Insulating materials, where exposed as installed in buildings of any type of construction, shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 450.

Exception: Cellulose loose-fill insulation that is not spray applied complying with the requirements of Section 719.6 shall only be required to meet the smoke-developed index of not more than 450.”

This indicates that “exposed insulating materials” must have a flame spread index of not more than 25 and a smoke developed index of not more than 450 (in accordance with ASTM E 84) unless they are cellulose loose fill insulation. Continuing, the IBC describes the requirements for “insulation and covering on pipe and tubing” materials in section 719.7, which reads as follows:

“719.7 Insulation and covering on pipe and tubing. Insulation and covering on pipe and tubing shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 450.

Exception: Insulation and covering on pipe and tubing installed in plenums shall comply with the International Mechanical Code.”

This indicates that “insulation and covering on pipe and tubing” materials must have a flame spread index of not more than 25 and a smoke developed index of not more than 450 (in accordance with ASTM E 84) unless they are installed in plenums.

This code proposal simply presents clarification, which is needed because there have been statements that these “insulation covers” either do not require to meet any fire testing or that they need to meet the requirements of ASTM D 635 instead of those of ASTM E 84.

There are no references to ASTM D 635 in the IFC, IPC or IMC. The only reference to ASTM D 635 in the IBC is in the section 2606.4 addressing light transmitting plastics, as shown below.

“2606.4 Specifications. Light-transmitting plastics, including thermoplastic, thermosetting or reinforced thermosetting plastic material, shall have a self-ignition temperature of 650°F (343°C) or greater where tested in accordance with ASTM D 1929; a smoke-developed index not greater than 450 where tested in the manner intended for use in accordance with ASTM E84, or not greater than 75 where tested in the thickness intended for use in accordance with ASTM D 2843 and shall conform to one of the following combustibility classifications:

Class CC1: Plastic materials that have a burning extent of 1 inch (25 mm) or less where tested at a nominal thickness of 0.060 inch (1.5 mm), or in the thickness intended for use, in accordance with ASTM D 635,

Class CC2: Plastic materials that have a burning rate of 2.5 inches per minute (1.06 mm/s) or less where tested at a nominal thickness of 0.060 inch (1.5 mm), or in the thickness intended for use, in accordance with ASTM D 635.”

It is clear that “insulation covers” are not made of “light transmitting plastics”. In the application of “light transmitting plastics” the fire tests (ASTM D 1929, ASTM D 2843 and ASTM D 635) are basically used as quality control tests since there is an understanding of the fire performance of these materials. Thus it does not make sense for “insulation covers”, or any insulation, to have fire safety associated with a very mild test for plastics, in devices or appliances) such as the ASTM D 635 (scope follows).

Appendix:

IBC section 603.1

603.1 Allowable materials. Combustible materials shall be permitted in buildings of Type I or Type II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1. Fire-retardant treated wood ...
2. Thermal and acoustical insulation, other than foam plastics, having a flame spread index of not more than 25.
Exceptions:
 1. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a flame spread index of not more than 100.
 2. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a flame spread index of not more than 200.
3. Foam plastics in accordance with Chapter 26.
4. Roof coverings ...
5. Interior floor finish and floor covering materials ...
6. Millwork, such as doors ...
7. Interior wall and ceiling finishes ...
8. Trim ...
9. Where not installed over 15 feet (4572 mm) above grade, show windows ...
10. Finish flooring ...
11. Partitions dividing portions of stores ...
12. Stages and platforms ...
13. Combustible exterior wall coverings, balconies ...
14. Blocking such as for handrails, millwork ...
15. Light-transmitting plastics as permitted by Chapter 26.
16. Mastics and caulking materials ...
17. Exterior plastic veneer ...
18. Nailing or furring strips as permitted by Section 803.4.
19. Heavy timber ...
20. Aggregates, component materials and admixtures ...
21. Sprayed fire-resistant materials and intumescent and mastic fire-resistant coatings, ...
22. Materials used to protect penetrations in fire-resistance-rated assemblies ...
23. Materials used to protect joints in fire-resistance-rated assemblies ...
24. Materials allowed in the concealed spaces ...
25. Materials exposed within plenums ...

"ASTM D 635: "Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position"

1. Scope*

1.1 This fire-test-response test method covers a small-scale laboratory screening procedure for comparing the relative linear rate of burning or extent and time of burning, or both, of plastics in the form of bars, molded or cut from sheets, plates, or panels, and tested in the horizontal position.

NOTE 1—This test method, and test method A of IEC 60695-11-10 are technically equivalent.

NOTE 2—For additional information on materials which do not burn to the first reference mark by this test, see Test Method D 3801.

1.2 This test method was developed for polymeric materials used for parts in devices and appliances. The results are intended to serve as a preliminary indication of their acceptability with respect to flammability for a particular application. The final acceptance of the material is dependent upon its use in complete equipment that conforms with the standard applicable to such equipment.

1.3 The classification system described in Appendix X1 is intended for quality assurance and the preselection of component materials for products.

1.4 This standard is used to measure and describe the response of materials, products, or assemblies to heat and flame under controlled conditions, but does not by itself incorporate all factors required for fire hazards or fire risk assessment of materials, products, or assemblies under actual fire conditions.

1.5 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. For specific hazards statements, see 9.2."

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Consideration should be given to the outcome of PX-09/10. (Hirschler proposal for Section 416.6)

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: HIRSCHLER-P3-605.25 NEW

P15–09/10

404.2 (New), Chapter 13

Proponent: Sid Cavanaugh, Cavanaugh Consulting representing Truebro/IPS Corporation

1. Add new text as follows:

404.2 Waste and supply pipe protective covers. Where the waste piping and water supply piping beneath accessible lavatories and sinks are required by ICC A117.1 to be fitted with protective coverings, the products shall be

in compliance to ASME A112.18.9.

2. Add standard to Chapter 13 as follows:

ASME

A112.18.9-2010 Barrier Free Insulated Protectors for Exposed Waste and Supplies

Reason: Item #1: The code needs clarification regarding accessible fixtures which are under the jurisdiction of the plumbing code and proper protection of exposed waste and supplies that are covered under the new ANSI/ASME standard under development which should be finished by early 2010. This code change will clear up confusion over enforcement of appropriate requirements for exposed waste and supplies used with accessible fixtures.

Item #2: It is important to add this new standard for proper protection of exposed waste and supplies that are covered under the new ANSI/ASME standard under development which should be finished by early 2010. This code change will clear up confusion over enforcement of appropriate requirements for exposed waste and supplies used with accessible fixtures.

Cost Impact: None, because the code currently requires both accessible fixtures and waste/supply pipe protection for users of such fixtures.

Analysis: Review of proposed new standard, ASME A112.18.9-2010, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: CAVANAUGH-P2-404.2 NEW

P16-09/10

305.4; IRC P2603.4

Proponent: Shawn Strausbaugh, Arlington County, VA representing Virginia Plumbing and Mechanical Inspectors Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

305.4 Sleeves Sealing of annular spaces. ~~The annular spaces between the outside of a pipe and the inside of a pipe sleeves, and pipes or between the outside of a pipe and an opening in a building envelope wall, floor, or ceiling assembly penetrated by a pipe shall be filled or tightly caulked in an approved manner sealed with caulking material or closed with a gasketing system. The caulking material or gasketing system shall be suitable for the conditions at the penetration location and shall be compatible with the pipe, sleeve and building materials in contact with the sealing materials. Annular spaces between created by pipes penetrating sleeves and pipes in fire resistance-rated assemblies or membranes of such assemblies shall be filled or tightly caulked sealed or closed in accordance with Section 713 of the International Building Code.~~

PART II – IRC

Revise as follows:

P2603.4 Sleeves Sealing of annular spaces. ~~The annular spaces between the outside of a pipe and the inside of a pipe sleeves, and pipes or between the outside of a pipe and an opening in a building envelope wall, floor, or ceiling assembly penetrated by a pipe shall be filled or tightly caulked as approved by the building official. sealed with caulking material or closed with a gasketing system. The caulking material or gasketing system shall be suitable for the conditions at the penetration location and shall be compatible with the pipe, sleeve and building materials in contact with the sealing materials. Annular spaces between created by pipes penetrating sleeves and pipes in fire resistance-rated assemblies or membranes of such assemblies shall be filled or tightly caulked sealed or closed in accordance with the building portion of this code.~~

Reason: This proposal addresses a number of shortcomings of the existing old and vague text. This change also better aligns the IPC with the intent of IECC Section 504.3 Sealing of building envelope, and the IRC plumbing section with IRC N1102.4.1 Air leakage.

The reasons for the changes in the first sentence of this section are: 1) Clarifies that only the ends annular spaces need to be sealed or closed. Filling of the entire annular space cavity is pointless. 2) Eliminates the term 'tightly caulked' as it is archaic language from the era of "packing and pouring" lead joints. It would be a rare situation where it would be desired to have a pipe so rigidly fixed in a through-penetration. 3) Clarifies what "sleeves" are to be considered by adding the word "pipe" in reference to the pipe sleeves as required by IPC Section 305.5 (IRC Section P2603.5) . Some inspectors have mistaken the existing language to require sealing between pipe and flexible plastic sleeving used for corrosion protection. 4) Adds the requirement that pipe penetrations of building envelope wall, floor or ceiling assemblies (as some penetrations might not require pipe sleeves) must also be sealed to reduce the loss of conditioned air as required by International Energy Conservation Code. Although this sealing requirement is energy related, it is important to have this text in this section because piping installers typically are the ones who cut holes in the building envelope for the passage of pipes and as such they should be the ones responsible for sealing or closing off annular spaces. They are already familiar with the requirement for sealing pipes in pipe sleeves. All trades must do their part for energy conservation. Otherwise, the sealing just doesn't get accomplished resulting in more leakage paths through the building envelope.

The reasons for the changes in the second sentence of this section are to add the requirements for sealing material compatibility to all items that the sealing material contacts and that the material is suitable for the weather and temperature conditions of the application. While this seems like something that should be obvious, there have been instances where solvent based caulking has affected plastic piping and where a caulking material was inappropriate for wet (outdoor) conditions resulting in rainwater damage to the building.

The last sentence was changed to stress and clarify the importance of making sure that where fire resistance rated assemblies are being penetrated by pipes, specific materials and methods in accordance with the IBC (or building portion of the IRC) must be used. Proper fire stopping methods are critical for fire safety.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: STRAUSBAUGH-P4-305.4

P17–09/10

312.2, 312.3, 702.5

Proponent: Robert Burke, University of Colorado representing (CAPMO) Colorado Association of Plumbing and Mechanical Officials

1. Delete and substitute as follows:

~~**312.2 Drainage, waste and vent water test.** A water test shall be applied to the drainage system either in its entirety or in sections. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening, and the system shall be filled with water to the point of overflow. If the system is tested in sections, each opening shall be tightly plugged except the highest openings 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, at least the upper 10 feet (3048 mm) of the next preceding section shall be tested so that no joint or pipe in the building, except the uppermost 10 feet (3048 mm) of the system, shall have been submitted to a test of less than a 10-foot (3048 mm) head of water. This pressure shall be held for at least 15 minutes. The system shall then be tight at all points.~~

~~**312.3 Drainage and vent air test.** An air test shall be made by forcing air into the system until there is a uniform gauge pressure of 5 psi (34.5 kPa) or sufficient to balance a 10-inch (254 mm) column of mercury. This pressure shall be held for a test period of at least 15 minutes. Any adjustments to the test pressure required because of changes in ambient temperature or the seating of gaskets shall be made prior to the beginning of the test period.~~

312.2 Water testing of drain, waste and vent piping. The design of test setups for leak testing of drain and waste piping systems shall consider the pressure requirements and limitations of Section 702.5. The test pressure for drain and waste piping systems, or portions thereof, shall not be less than the greatest possible in-service pressure or 10 feet (3048 mm) of water head (4.33 psi) (29.9 kPa), whichever is greater. Vent piping shall be tested at a pressure not less than 10 feet (3048 mm) of water head (4.33 psi) (29.9 kPa), except for vent piping sections that are within 10 feet of elevation below a vent system's final outdoor termination point. The upper 10 feet of a vent system terminating to the outdoors shall be permitted to be tested by a pressure ranging from 10 feet (3048 mm) of water head (4.33 psi) (29.9 kPa) at a point 10 feet in elevation below the outdoor termination point to zero pressure at the elevation of the outdoor termination point. Test pressures shall be developed by filling the closed piping system (or portion thereof)

completely with water and pressurizing the system to the required test pressure using a water pump or applying the required head of water above the highest elevation of the system (or portion thereof) under test. Where piping systems are tested in sections, the joints between tested sections shall be tested at a pressure not less than the required test pressures for the sections on either side of the joint. The test pressure in the system, as evidenced by a test gauge connected to the system, shall hold steady for not less than 15 minutes, without any addition of water to the system. Where the entire piping section under test can be visually observed for water leaks and the required test pressure is developed by the required head of water above the section under test, connection of a test gauge to the system shall not be required.

312.3 Air testing of drain, waste and vent piping. The design of test setups for leak testing of drain and waste piping systems shall consider the pressure requirements and limitations of Section 702.5. The test pressure for drain, waste and vent piping systems, or portions thereof, shall not be less than the greatest possible in-service pressure or 5 psi (34.5 kPa), whichever is greater. Test pressures shall be developed by forcing air into the closed piping system (or portion thereof). Where piping systems are tested in sections, the joints between tested sections shall be tested at a pressure not less than the required test pressures for the sections on either side of the joint. The test pressure in the system, as evidenced by a test gauge connected to the system, shall hold steady for not less than 15 minutes, without any addition of air to the system.

2. Add new text:

702.5 Pipe, fitting and joint selection for pressure conditions. The selection of pipe, fittings and joints of drain, waste and sewer systems shall consider the greatest internal pressure that could occur during testing or service. The allowable pressure in drain, waste and sewer piping systems that are pressurized in service by pumps or ejectors shall be the pressure rating of the system component having the lowest pressure rating. Where system pressure is created by liquid-filled vertical sections of pipe, system components shall be pressure-rated for not less than the system pressure at the component's installed elevation.

(Renumber subsequent sections)

Reason: This code change proposal was prompted by the failure of a roof drain conductor (piping) system inside of a basketball arena building here at the University of Colorado. Many 100s of thousands of dollars of water damage occurred and we were lucky that no one was hurt. An 8 inch cast iron no-hub elbow blew off the piping system due to the pressure caused by a blockage in the storm drain system outside the building. In evaluating why this particular event happened, I realized that the existing code sections concerning testing of drain and waste piping fail to properly consider building designs having drain piping systems that do not have any fixture connections for many consecutive stories in a row. Consider the following arrangement: A sports arena with sky box toilet facilities. The drain piping system serving those toilet facilities is many "stories" tall without any fixture connections between the sky box elevation and the elevation of the building drain (or the nearest level down where fixtures are connected) to relieve pressure should the system become clogged at a lower elevation. The existing code section for testing allows for such a piping system to be tested in sections as short as every 10 feet as the building construction rises from the ground. If there is a clog in the system well below sky box elevation, the drainage system could fill up to the point of overflow at the fixtures in the skybox. This creates a pressure in the lower sections of the system that is many times greater than what the piping system was tested for when 10 foot sections are tested.

Since then, I have made numerous evaluations of the drain piping systems in several multi-story buildings here at the University of Colorado and discovered that the real problem is not just in the testing but in the proper selection of piping system components for these multi-story systems that do not have fixture connections for many consecutive stories. One example of improper component selection for this type of "tall system" application could be the use of shielded couplings for no-hub cast iron pipe. ASTM standards C1540 and C1277 cover these couplings and indicate the allowable pressure ratings for different sizes. The unrestrained hydrostatic pressure for standard shielded couplings is 20 psi (46 foot of head) for 1 ½ thru 5 inch, 18 psi (42 foot of head) for 6 inch, 10 psi (23 foot of head) for 8 inch, 6 psi (14 foot of head) for 12 inch. It is obvious that the larger coupling sizes would be unsuitable for systems that are over two stories of normal height, let alone structures with tall stories. Because plastic drain, waste and vent fittings as well as "not for pressure" plastic pipe is not "pressure rated", these components could also prove to be problematic in certain applications where either testing or service conditions create pressures in excess of the component ratings.

Code officials should not have to become expert in evaluating the pressure capabilities of individual components of the drain and waste systems. This is the designer's or engineer's responsibility. However, the code requirements for design and test procedures should reflect what could be the expected actual in-service or test condition pressure, whichever is greater, in order to verify that the system has been designed properly for the intended conditions. Therefore, I have submitted new section 702.5 and re-written sections 312.2 and 312.3 to eliminate any confusion as to the pressure requirements for system components as well as the requirements for testing. The existing test sections are outdated for the type of large buildings being built today and need these changes.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: Burke-P1-312.2

P18-09/10

312.9, 417.5.2; IRC P2503.6

Proponent: Don Surrena, National Association of Home Builders (NAHB)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

1. Delete without substitution:

~~**312.9 Shower liner test.** Where shower floors and receptors are made water tight by the application of materials required by Section 417.5.2, the completed liner installation shall be tested. The pipe from the shower drain shall be plugged water tight for the test. The floor and receptor area shall be filled with potable water to a depth of not less than 2 inches measured at the threshold. Where a threshold of at least 2 inches high does not exist, a temporary threshold shall be constructed to retain the test water in the lined floor or receptor area to a level not less than 2 inches deep measured at the threshold. The water shall be retained for a test period of not less than 15 minutes and there shall not be evidence of leakage.~~

(Renumber subsequent sections)

2. Revise as follows:

417.5.2 Shower lining. Floors under shower compartments, except where prefabricated receptors have been provided, shall be lined and made water tight utilizing material complying with Sections 417.5.2.1 through 417.5.2.4. Such liners shall turn up on all sides at least 2 inches (51 mm) above the finished threshold level. Liners shall be recessed and fastened to an approved backing so as not to occupy the space required for wall covering, and shall not be nailed or perforated at any point less than 1 inch (25 mm) above the finished threshold. Liners shall be pitched one-fourth unit vertical in 12 units horizontal (2-percent slope) and shall be sloped toward the fixture drains and be securely fastened to the waste outlet at the seepage entrance, making a water-tight joint between the liner and the outlet. ~~The completed liner shall be tested in accordance with Section 312.9.~~

Exception: Floor surfaces under shower heads provided for rinsing laid directly on the ground are not required to comply with this section.

PART II - IRC

Delete without substitution as follows:

~~**P2503.6 Shower liner test.** Where shower floors and receptors are made water tight by the application of materials required by Section P709.2, the completed liner installation shall be tested. The pipe from the shower drain shall be plugged water tight for the test. The floor and receptor area shall be filled with potable water to a depth of not less than 2 inches measured at the threshold. Where a threshold of at least 2 inches high does not exist, a temporary threshold shall be constructed to retain the test water in the lined floor or receptor area to a level not less than 2 inches deep measured at the threshold. The water shall be retained for a test period of not less than 15 minutes and there shall not be evidence of leakage.~~

(Renumber subsequent sections)

Reason: Among the problems with the current change is mandating that potable water be used to fill a reservoir to test for leaks. Any available water would serve the same purpose, especially during the rough-in phase where potable water to the building may not be available. Another problem is why is there a need to construct a "temporary threshold" to construct a reservoir when the ponding effect of the reservoir will not be present during everyday use, as with an accessible shower. From past experience, leaks from the roof and flashing occur more frequently than any leaks from shower pans. Though, there is no required leak test for roof and building flashing. If the leak is discovered it is repaired. Also, the drain in a shower acts the same as a floor drain, especially in an accessible shower. Yet, there is no required test to see if the floor leaks. As was stated at the previous code hearings "*leaks from poorly constructed liners go unnoticed for long periods of time*"....A tested liner may not show any leaks at all and can leak later after it has been inspected and approved. Though there have been minor problems in the past in these applications, there is no one simple solution. And, the test is not the solution. This is a feel good test that will discover the obvious and not the minor problems. The test is an inconclusive test and only gives a false sense of security.

Cost Impact: The code change proposal will not increase the cost of construction

PART I – IPC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: Surrena-P2-312.9

**P19–09/10
312.10.2; IRC P2503.8.2**

Proponent: Matthew Kapcia, Michigan Code Study and Development Committee

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

312.10.2 Testing. ~~Reduced pressure principle backflow preventer assemblies, double check valve assemblies, pressure vacuum breaker assemblies, reduced pressure detector fire protection backflow prevention assemblies, double check detector fire protection backflow preventer assemblies, and spill-resistant vacuum breaker backflow preventer assemblies and hose connection backflow preventers, and spill-proof vacuum breakers~~ shall be tested at the time of installation, immediately after repairs or relocation and at least annually. The testing procedure shall be performed in accordance with one of the following standards: ASSE 5013, ASSE 5015, ASSE 5020, ASSE 5047, ASSE 5048, ASSE 5052, ASSE 5056, CSA B64.10 or CSA B64.10.1.

PART II – IRC

Revise as follows:

P2503.8.2 Testing. ~~Reduced pressure principle backflow preventers, double check valve assemblies, double-detector check detector valve assemblies and pressure vacuum breaker backflow preventer assemblies~~ shall be tested at the time of installation, immediately after repairs or relocation and at least annually.

Reason

(PART I): To maintain consistency, all assemblies should either be referred to as “backflow preventer assemblies” or just use this term once at the end of the description sentence as in this proposal. “Spill-resistant vacuum breaker” is the correct term. A spill-resistant vacuum breaker assembly is not spill proof.

(PART II): To maintain consistency, all assemblies should either be referred to as “backflow preventer assemblies” or just use this term once at the end of the description sentence as in this proposal. “Double check detector” and “Spill-resistant vacuum breaker” are the correct terms. Spill-resistant vacuum breaker assemblies are not spill proof.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: KAPCIA-P1-312.10.2

P20-09/10
403.1 (IBC [P] 2902.1)

Proponent: Dwight Haldeman/Gilbert Architects Inc, representing himself

Revise as follows:

403.1 (IBC [P] 2902.1) Minimum number of fixtures. Plumbing fixtures shall be provided for the type of *occupancy* and in the minimum number shown in Table 403.1. Types of occupancies not shown in Table 403.1 shall be considered individually by the code official. The number of occupants to be used for calculating the number of plumbing fixtures shall be 60 percent of that determined by the *International Building Code*. *Occupancy* classification shall be determined in accordance with the *International Building Code*.

Reason: It is reasonable and prudent to calculate a "maximum" occupant load to determine means of egress capacities. To use this same occupant calculation to derive and size the number of toilet fixtures results in excesses that are expensive, not-"green" and unnecessary. As an Architect, it is possible to offer explanation to a school district (and to rationalize) why a building expected to educate 600 students has the capacity to egress 1500 but far more difficult to ask for an investment in plumbing fixtures based on the remote possibility that the maximum capacity of the building could sometime be reached. . IMC 403.1 already has divorced itself from the egress capacities in order to size the required ventilation. Any consequences of an incorrectly sized plumbing system would indeed be serious, but they do not rise to a level that could impact life safety. Using an occupant load calculation developed to promote life safety is inconsistent with determining the number of plumbing fixtures for a given occupancy The 60% reduction factor is adjustable at the discretion of the committee.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

ICCFILENAME: HALDEMAN-P1-403.1

P21-09/10
Table 403.1 (IBC [P] Table 2902.1), 410.1, 419.2

Proponent: Logan G Sauter representing Salt Lake City, Utah

1. Revise table as follows:

TABLE 403.1 (IBC [P] Table 2902.1)
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES^a

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS ^d SEE SECTION 419.2)		DRINKING FOUNTAINS ^{e,f,h,i} (SEE SECTION 410.4)	OTHER
				MALE	FEMALE		

(Portions of table not shown remain unchanged)

- a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by the *International Building Code*.
- b. Toilet facilities for employees shall be separate from facilities for inmates or patients.
- c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted where such room is provided with direct access from each patient sleeping unit and with provisions for privacy.
- d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.
- e. The minimum number of required drinking fountains shall comply with Table 403.1 and Chapter 11 of the *International Building Code*.
- f. Drinking fountains are not required for an occupant load of 15 or fewer.
- g. In each bathroom or toilet room, urinals shall not be substituted for more than 67 percent of the required water closets in assembly and educational occupancies. Urinals shall not be substituted for more than 50 percent of the required water closets in all other occupancies.
- h. Where drinking fountains are required, water coolers and bottled water dispensers shall be permitted to be substituted for not more than 50 percent of the required fountains.
- i. Where water is served in restaurants, drinking fountains shall not be required.

2. Delete without substitution as follows:

~~**419.2 Substitution for water closets.** In each bathroom or toilet room, urinals shall not be substituted for more than 67 percent of the required water closets in assembly and educational occupancies. Urinals shall not be substituted for more than 50 percent of the required water closets in all other occupancies.~~

(Renumber subsequent sections)

3. Revise as follows:

~~**410.1 Approval.** Drinking fountains shall conform to ASME A112.19.1M, ASME A112.19.2M or ASME A112.19.9M and water coolers shall conform to ARI 1010. Drinking fountains and water coolers shall conform to NSF 61, Section 9. Where water is served in restaurants, drinking fountains shall not be required. In other occupancies, where drinking fountains are required, water coolers or bottled water dispensers shall be permitted to be substituted for not more than 50 percent of the required drinking fountains.~~

Reason: Table heading: "DRINKING FOUNTAIN": should be plural to be consistent with the other column headings and with IBC Table 2902.1. When small amounts of additional information are necessary for tables, footnotes are a quicker and much more efficient method for providing that information than directing the reader to other codes or code sections

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

ICCFILENAME: SAUTER-P3-TABLE 403.1

P22-09/10
Table 403.1 (IBC [P] Table 2902.1)

Proponent: Eirene Oliphant, MCP, Building Official, City of Leawood, KS

Revise table as follows:

Table 403.1 (IBC [P] Table 2902.1)
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES^a

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)	
				MALE	FEMALE
2	Business	B	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial and similar uses	1 per 25 for the first 50 and 1 per 50 <u>100</u> for the remainder exceeding 50	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)		LAVATORIES	
				MALE	FEMALE	MALE	FEMALE
6	Mercantile	M	Retail stores, service stations, shops, salesroom, markets and shopping centers	1 per 500 <u>25</u> for the first <u>50</u> and 1 per <u>600</u> for the remainder exceeding <u>50</u>	1 per 500 <u>25</u> for the first <u>50</u> and 1 per <u>400</u> for the remainder exceeding <u>50</u>	1 per 750 <u>200</u> for the first <u>400</u> and 1 per <u>750</u> for the remainder exceeding <u>400</u>	

(Portions of table note shown remain unchanged)

Reason: The purpose of the change is to substitute revised material for current provisions of the code. The IPC requires 1 WC per sex for mercantile occupancies between 51-1000. The UPC¹ requires between 2 to 6 WC per sex between 51 – 800. Based on an American Restroom Association (ARA)/Wall Street Journal investigation², this low IPC minimum has not caused problems because a majority of the public is not aware that they are allowed to use sanitation facilities in small to midsize mercantile establishments. Media awareness campaigns like the Wall Street Journal story and Section 403.5.1 Directional Signs (P34-06/07) will change the public's awareness.

Unlike multi-stalled toilets, single WC toilets are typically user locked and the WC is not available to the next patron until the toilet door is unlocked. While studies such as the Cohen report^{4,5} have shown that the average user typically needs less than 2 minutes to use a WC, there appears to be no studies of the impact of single WC, user lockable toilets. Information is available, however, via the experience of those American cities that have installed automated public toilets (APT). Every municipality has found that for legitimate reasons (wheel chair, express breast milk, change colostomy bag, absorbent pads or a child's diaper) users occasionally have a legitimate need to be in the toilet for at least 15 minutes and at least one city now allows more than 20 minutes before an alarm sounds. This same 'occasional long use' problem occurs in buildings with user lockable toilets and the problem is exacerbated because these user lockable toilets also accommodate activities not related to sanitation. A retail store with 1000 people will sometimes include more than 15 employees. OSHA requires 2 WC for 16 on site employees³. It is likely that those 16 employees competing with 984 other occupants does not satisfy the intent of the OSHA requirement. In the process of reviewing the requirement for M it was noted that if adjusted for gender the increase in toilet fixtures slope for males in B (Business) could be reduced.

Bibliography:

- ¹2006 Uniform Plumbing Code Table 4.1 'Retail or Wholesale Stores
- ²Wall Street Journal 'Bathroom Backlash Arrives on Main Street' July 26, 2005
- ³29CFR1910.141(c)(1)(i) Table J-1
- ⁴ASPE report 95-01 Cohen 'Queuing theory approach to plumbing design research'
- ⁵ASPE report 92-02 Cohen 'Plumbing fixture requirements for office buildings research report'

Cost Impact: The code change proposal will increase the cost of construction at lower occupancies but may reduce cost for larger occupant loads.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: Oliphant-P1-T403.1

**P23-09/10
Table 403.1 (IBC Table [P]2902.1)**

Proponent: Robert J. Heil, Code Inspections, Inc. representing the Pennsylvania Association of Building Code Officials, Inc.

Revise table as follows:

**TABLE 403.1 (IBC Table [P]2902.1)
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES^a
(See Sections 403.2 and 403.3)**

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	OTHER
2	Business	B	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial and similar uses	1 service sink ^h
6	Mercantile	M	Retail stores, service stations, shops, salesrooms, markets and shopping centers	1 service sink ^h

h. For business and mercantile occupancies an occupant load of 15 or fewer, service sinks shall not be required.

(Portions of table and footnotes not shown remain unchanged.)

Reason: In a small facility with limited occupancy, such as a retail store with a size of less than 450 square feet or an office with less than 1,500 square feet, a service sink and the associated closet occupy a disproportionate amount of floor space, with rare requirements for use by the occupants.

Note: A similar exception was added in the 2009 Code for drinking fountains, with occupancies of 15 persons or less, under Footnote "f" of the "drinking fountain" column in Table 403.1.

Cost Impact: This code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

ICCFILENAME: Heil-P2-403.1

P24-09/10
Table 403.1 (IBC [P] Table 2902.1)

Proponent: Eirene Oliphant, MCP, Building Official, City of Leawood, KS

Revise table as follows:

Table 403.1 (IBC [P] Table 2902.1)
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES^a

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)		LAVATORIES	
				MALE	FEMALE	MALE	FEMALE
1	Assembly	A-2 ^d	Nightclubs, bars, taverns, dance halls and buildings for similar purposes	1 per 40 <u>25</u> for the first 25 and 1 per 90 <u>for the remainder exceeding 25</u>	1 per 40 <u>25</u> for the first 25 and 1 per 75 <u>for the remainder exceeding 25</u>	1 per 75 <u>40</u> for the first 40 and 1 per 200 <u>for the remainder exceeding 40</u>	
			Restaurants, banquet halls and food courts	1 per 75 <u>25</u> for the first 25 and 1 per 100 <u>for the remainder exceeding 25</u>	1 per 75 <u>25</u> for the first 25 and 1 per 80 <u>for the remainder exceeding 25</u>	1 per 200 <u>40</u> for the first 40 and 1 per 200 <u>for the remainder exceeding 40</u>	

(Portions of table not shown remain unchanged)

Reason: The purpose of the change is to substitute revised material for current provisions of the code. The American Restroom Association (ARA) is often questioned by the public and by reporters doing stories about the problems people face finding proper toilet facilities when away from home. One of the problems relates to having to wait too long for a restaurant toilet to free. To the degree that respondent recall details and also based on informal observation by ARA advocates, when more than 50 people are in a restaurant one will begin to see occasional toilet queuing when only 1 single occupant per sex toilet is available. Above 100, multiple person lines will appear. This problem is addressed in the UPC¹, which requires between 2 & 3 WC per sex between 15 – 150 occupants. The IPC requires only 1 WC per sex for A-2 restaurant occupancies between 16-150 occupants. This problem is particularly onerous in venues where people handle food. While those with an urgent need to void bowel or bladder will queue, those needing to wash their hands before eating may defer.

The low IPC A-2 minimum is made worse by the typical no-stall implementation of a single WC toilet. Unlike multi-stalled toilets, single WC toilets are typically user locked and the WC is not available to the next patron until the toilet door is unlocked. While studies such as the APSE Cohen reports^{2,3} have shown that the average user typically needs less than 2 minutes to use a WC, there appears to be no studies of the impact of single WC, user lockable toilets. Information is available, however, via the logs generated by automated public toilets (APT). Every American municipality, that has installed single occupant APT's has found that for legitimate reasons (wheel chair, express breast milk, change colostomy bag, absorbent pads or a child's diaper) users occasionally have a legitimate need to be in the toilet for at least 15 minutes and one city now allows more than 20 minutes before a misuse alarm sounds. This same 'occasional long use' problem occurs in buildings with user lockable toilets and the problem is exacerbated because these lockable toilets also facilitate activities not related to sanitation. A-2 Pubs and Lounges suffers the same 1 locked toilet at lower occupancies but the attempt to address the problem by requiring 1 toilet per 40 results in excessive minimums at higher occupancies.

Bibliography:¹2006 Uniform Plumbing Code Table 4.1 'Retail or Wholesale Stores²ASPE report 95-01 Cohen 'Queuing theory approach to plumbing design research'³ASPE report 92-02 Cohen 'Plumbing fixture requirements for office buildings research report'**Cost Impact:** The code change proposal will increase the cost of construction at lower occupancies but may reduce cost for larger occupant

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Oliphant-P4-T403.1

P25-09/10**403.2 (IBC [P]2902.2)****Proponent:** Cindy Harvey, Kephart Community-Planning-Architecture representing herself**Revise as follows:****403.2 (IBC [P]2902.2) Separate facilities.** Where plumbing fixtures are required, separate facilities shall be provided for each sex**Exceptions:**

1. Separate facilities shall not be required for dwelling units and sleeping units.
2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or less.
3. Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is 50 100 or less.

Reason: In recent years, the industry has seen an increase in mixed-use buildings that are predominantly residential in use with a small, secondary retail component. Often, the use for this retail space is developed into neighborhood retail that is boutique in nature and classified as a Group M occupancy. The optimum size and area of the retail bays are 30 feet x 80 feet and 2,400 sf, respectively. Refer to Table IV-4A following this reason statement for a U.S. Department of Labor, Bureau of Labor Statistics summary of small retail space sizes and note the hand marked rows. Based on IBC Table 1004.1.1, and 30 sf per occupant, this 2,400 sf space at grade would have an occupant load of 80 persons. Consequently, the space does not qualify for exception number 3 of IPC Section 403.5 (IBC Section [P] 2902.2) that allows for one toilet facility to serve up to 50 occupants and therefore, the space requires separate toilet facilities for male and females. This places an undue burden on these smaller retail occupancies and often leads to the manipulation of occupancy calculation for the purpose of avoiding the additional toilet facility. Because an M use requires a second exit where the occupant load exceeds 49, the manipulation of occupant load subsequently adversely impacts the egress requirements for the space leading to compromised life/safety for the occupants.

An alternative approach is the exception in IBC Section 1004.1.1 which allows the building official to approve a smaller occupant load based on the actual number of occupants versus the design occupant load. In the example cited, it would be unrealistic to expect 80 occupants in a florist shop, dry cleaners, jewelry store, or liquor store of 2400 sf. A burden then falls on the building official to review these on a case-by-case basis for what is considered by many to be an excessive and unnecessary number of toilet rooms. Note that in IPC Table 403.1 (IBC Table [P]2902.1), M use, one water closet can serve up to 500 occupants and one lavatory can serve up to 750 occupants.

A cleaner way of resolving this disconnect is to increase the occupant load threshold in exception no. 3 to 100 persons. This proposed modification relieves the undue burden placed on the small retail space having an area within the range of 1500 sf and 3000 sf. Two accessible single user toilet facilities in a 1500 sf space occupies approximately 80 sf which is more than 5% of the total space. An increase in the occupant load threshold in exception 3 of this section would allow for the industry norm in boutique retail bay size to be accommodated with one single user toilet facility. Given that it is unlikely or at least rare that these small retail spaces would be occupied by the number persons equal to the design occupant load and that IPC Table 403.1 (IBC Table [P]2902.1) indicates that 2 water closets can serve up to 1000 persons; the provision of a single toilet facility appears to be more than adequate for the size of space and function that the proposed occupant load threshold increase would allow. The area of the space that the proposed occupant load threshold accommodates (3000 sf) would be such that neither a 500 or 300 ft travel distance limitation as required IPC Section 403.3 (IBC Section [P] 2902.3) would ever be exceeded because of the contrived dimensions this would necessitate. And finally, this change would significantly differentiate mercantile occupancy plumbing requirements (which are based primarily on convenience) from the egress requirements which are based on life/safety needs.

Table IV-4A: Characteristics of Selected Store Types Found in Neighborhood Shopping Centers (PTA Employee)

Store Type	Median Household Expenditure	Sales Per Square Foot GLA	Median Store Size (Sq. Ft.)	Threshold Household Support	Minimum Expenditure Support
Hardware and Building Materials					
Building Materials and Supplies	\$411	\$228.43	65,000	36,110	\$14,847,950
Hardware	\$293	\$166.59	20,000	11,364	\$3,331,800
Food Stores					
Grocery/Convenience	\$5,087	\$371.39	10,000	730	\$3,713,900
Automotive					
Tire, Battery and Accessory	\$506	\$159.81	6,000	1,894	\$958,860
Apparel and Accessory					
Men's Clothing	\$447	\$203.31	15,000	6,823	\$3,049,650
Women's Clothing	\$626	\$177.46	20,000	5,672	\$3,549,200
Children's Clothing	\$415	\$246.71	15,000	8,909	\$3,700,650
Shoes	\$391	\$241.56	5,000	3,091	\$1,207,800
Other Apparel & Accessories	\$82	\$225.00	5,000	13,798	\$1,125,000
Furniture and Equipment					
Furniture	\$489	\$215.26	20,000	8,900	\$4,305,200
Home Furnishings & Accessories	\$820	\$163.36	25,000	5,164	\$4,234,900
Household Appliances	\$354	\$237.49	15,000	10,068	\$3,567,350
Radio, Television, Stereo, Computer	\$645	\$297.28	5,000	2,306	\$1,486,400
CDs & Music	\$108	\$197.21	4,500	8,241	\$887,445
Eating and Drinking Places					
Restaurant	\$2,612	\$298.72	3,500	400	\$1,045,520
Drug and Proprietary					
Drug / Cosmetics	\$592	\$366.73	12,000	7,430	\$4,400,760
Other Retail and Personal Services					
Liquor / Wine & Spirits	\$428	\$363.50	2,956	2,427	\$1,098,156
Sporting Goods & Bicycle	\$349	\$212.47	6,000	3,651	\$1,274,828
Books & Stationary	\$343	\$138.03	4,500	1,811	\$621,135
Jewelry	\$158	\$418.12	1,200	3,166	\$501,744
Hobby & Specialty	\$122	\$187.72	5,000	7,723	\$938,600
Florist	\$75	\$169.80	1,500	3,379	\$254,700
Miscellaneous Retail	\$1,080	\$201.00	2,000	372	\$402,000
DVD / Video / Tape Rental	\$68	\$107.58	6,000	9,536	\$645,480
Personal Care Products & Services	\$457	\$147.29	1,200	387	\$176,748
Dry Cleaner / Coin Laundry	\$166	\$143.24	1,600	1,379	\$229,194
Misc. Personal Services	\$754	\$158.59	1,200	252	\$190,308
Total Retail	\$17,878				

Source: U.S. Department of Labor, Bureau of Labor Statistics; and THX Associates, Inc.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

ICCFILENAME: HARVEY-P1-403.2

P26-09/10 403.2.1 (IBC [P] 2902.2.1) (New)

Proponent: Eirene Oliphant, MCP, Building Official, City of Leawood, KS

Add new text as follows:

403.2.1 (IBC [P]2902.2.1) Family or assisted-use toilet facilities serving as separate facilities. Where a building or tenant space requires a separate toilet facility for each sex and each toilet facility is required to have only one water closet, two family/assisted-use toilet facilities shall be permitted to serve as the required separate facilities. Family or assisted-use toilet facilities shall not be required to be identified for exclusive use by either sex as required by Section 403.4.

Reason: Family/assisted-use toilets provide inherent potty parity. Two Family/assisted-use toilets increase overall availability. A single gender based toilet can be unavailable for periods of up to 15 minutes when, for example, the current occupant is using it for companion care, to change diapers, or to change a colostomy bag. Less need for gender based cleaning staff. Less impact when one toilet room is being cleaned or serviced. For decades, males and females have used the same toilet facility on airliners.

Cost Impact: The code change will not increase the cost of construction.

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

ICCFILENAME: Oliphant-P2-403.2.1 NEW

P27–09/10

403.3 (IBC [P]2902.3)

Proponents: Robert J. Heil, Code Inspections, Inc. representing the Pennsylvania Association of Building Code Officials, Inc.
Kelly P. Reynolds, representing Little Caesar's Enterprises, Inc

Revise as follows:

403.3 (IBC [P]2902.3) Required public toilet facilities. Customers, patrons and visitors shall be provided with public toilet facilities in structures and tenant spaces intended for public utilization except where the area devoted to customers, patrons and visitors is less than 300 ft² (27.9m²). The number of plumbing fixtures located within the required toilet facilities shall be provided in accordance with Section 403 for all users. Employees shall be provided with toilet facilities in all occupancies. Employee toilet facilities shall be either separate or combined employee and public toilet facilities.

Reason

(Heil) It is impractical to provide toilet rooms for public access for small public spaces such as the lobby for a secure ATM machine, customer pick up area at a dry cleaners, customer pick up area at a small service establishment, counter, etc. Additionally, creating a path in a small facility to a toilet room that is traditionally at the rear is impractical.

(Reynolds) Pick-up and delivery only-type food establishments are becoming more prevalent. This type of business is distinguished from restaurants in that they do not normally have provisions for patron dining. The sole intent is to prepare food on-site for consumption off-site. Depending upon the particular business, there may be a delivery service, or customers may be expected to come and pick up their food, usually pre-ordered. Customer waiting times are typically kept to less than one minute (call-aheads), and never more than 12 minutes (walk-ins). Call-ahead orders typically comprise about 85% of total business. Interior "public" areas are generally limited to small spaces where the transaction is completed at a service/cashier counter. These same conditions appear in a dry cleaners service lobby, florist shop, bank ATM lobby and similar occupancies.

Drive-in fast-food establishments of the sort where no interior public building access is anticipated or allowed have been around for decades. Publicly-available restrooms are not normally provided.

Generally, it is expected that the patrons will leave once they have completed their transaction; however, there is no mandate for them to do so many chose to eat in their automobiles, or to use one of other increasingly available picnic tables once they receive their food. It is widely held that, once the business transaction has taken place, the patron has the option to leave or stay. Given the quick transaction turn-around time, they are not "held hostage" while waiting on their food order as in a conventional restaurant scenario. As such, the need for public restrooms has not been that prevalent, as long as the relative volume of "sit-down" customers is fairly low.

Table 403.1 (IBC Table [P]2902.1) sets forth minimum requirements for plumbing fixtures (including restrooms) based on business type and occupant load, does not contain specific provisions for these relatively unique food establishments. Given established standards in the IPC, we typically try to treat these facilities as restaurant uses of less than 50 occupant load (Group "B"), but it does not seem to be in keeping with the spirit of the code to do so. Owners of these businesses contend that providing public restroom facilities in addition to employee facilities is unnecessary and wasteful, in that the public facilities are not usually needed. Based on the metrics and statistical data provided, the owners' position makes sense.

The elimination of patron restrooms in these small public areas has been accepted by the following municipalities: Los, Angeles, CA; Detroit, MI; Chicago, IL; Houston, TX; Phoenix, AZ; Tucson, AZ; Lubbock, TX and San Jose, CA.

Cost Impact: This code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: Heil_REYNOLDS-P1-403.3

P28–09/10

403.3.2 (IBC [P] 2902.4.1)

Proponent: Tim Pate, City and County of Broomfield, representing the Colorado Chapter ICC Code Change Committee

Revise as follows:

403.3.2 (IBC [P] 2902.4.1) Location of toilet facilities in occupancies other than covered malls. In occupancies other than covered malls, the require public and employee toilet facilities shall be located not more than one story above or below the space required to be provided with toilet facilities and the path of travel to such facilities shall not exceed a distance of 500 feet (152 m).

Exceptions:

1. The location and maximum travel distances to required employee facilities in factory and industrial occupancies are permitted to exceed that required by this section, provided that the location and maximum travel distance are approved.
2. Toilet facilities in structures and buildings under the same ownership, lease or control, shall not be prohibited from serving as the required toilet facilities for the employees located in the storage structures or kiosks provided that the travel distance limited by this section is not exceeded.

Reason: This code change will add back in an exception that was in the 2003 IBC. The code change proponent who modified section 2902 for the 2006 IBC did not intend to lose this exception which would deal with detached structures such as toll booths, photo processing booths, kiosks, and parking lot booths. It is not reasonable to require the one bathroom (sized for handicap accessible requirements) for these small structures.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: Pate-P1-403.3.2

P 29–09/10 403.3.1 (New)

Proponent: Judson Collins, JULYCO, representing himself.

Add new text as follows:

[B] 403.3.1 Toilet room ingress and egress. Toilet rooms shall not open directly into a room used for the preparation of food for service to the public.

(Renumber subsequent sections)

Reason: This language is from Section 1210.5 of the IBC. Plumbing designers, installers and inspectors should not have to go to the building code to find this provision. Duplicating the provision from the IBC into the IPC is efficient and helpful to those mentioned previously.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: COLLINS-P8-403.3.1

P30–09/10 403.3.5 (IBC [P] 2902.3.5) (New)

Proponent: Eirene Oliphant, MCP, Building Official, City of Leawood, KS

Add new text as follows:

403.3.5 ([P]2902.3.5) Door locking. Where a toilet room is designed for multiple occupants, the egress door for the room shall not be lockable from the inside of the room. This section does not apply to family or assisted-use toilet rooms.

Reason: To prevent a toilet user from restricting access to a toilet facility intended to satisfy the sanitation needs of multiple persons. To also reduce misuse such as employee smoke breaks, drug dealing or other inappropriate activities that are more likely when an occupant can lock entry to the toilet.

Cost Impact: The code change will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: Oliphant-P3-403.3.5

P31-09/10

403.5 (IBC [P]2902.5) (New)

Proponent: Don Davies representing the Utah Chapter of ICC

Add new text as follows:

403.5 (IBC [P]2902.5) Required drinking fountains. A required drinking fountain for a tenant space shall be located in the tenant space or external to the tenant space provided that the travel distance from the most remote point in the tenant space to the drinking fountain is within 500 feet or for covered malls, within 300 feet.

Reason: The sharing of public restroom facilities is currently allowed in the code in Section 403.3 (IBC Section 2902.3) but the code is silent on sharing of drinking fountains even though that is what is generally done. If employees and the public can share restroom facilities then they can certainly share drinking fountains when located within the prescribed travel distances.

Cost Impact: There will be a cost savings with shared drinking fountains.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Davies-P1-403.5 NEW

P32-09/10

405.3.1

Proponent: Robert G. Konyndyk, Chief, Plumbing Division, Bureau of Construction Codes, State of Michigan

1. Revise as follows:

405.3.1 Water closets, urinals, lavatories and bidets. A water closet, urinal, lavatory or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition, vanity or other obstruction, or closer than 30 inches (762 mm) center-to-center between adjacent fixtures. There shall be at least a 21-inch (533 mm) clearance in front of the water closet, urinal, lavatory or bidet to any wall, fixture or door. Water closet compartments shall not be less than 30 inches (762 mm) wide and 60 inches (1524 mm) deep ~~(see Figure 405.3.1).~~

2. Delete Figure 405.3.1 without substitution:

Reason: The figure which has been in the code for many years is inaccurate and misleading. For example, partitions required to ensure privacy as referenced in Section 310 of the code are nonexistent (urinals) or inconsistent (water closets). The code Commentary is an excellent place for fixture clearance information.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: KONYNDYK-P1-405.3.1

P33-09/10

405.3.1

Proponent: John T.E. Walters, Prince William County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association (VPMIA)

Revise as follows:

405.3.1 Water closets, urinals lavatories and bidets. A Water closets, urinals, lavatories or and bidets shall not be set not closer than 15 inches (381 mm) from its their centerline to any side wall, partition, vanity or other obstruction other than an adjacent water closet, urinal, lavatory or bidet. ~~or~~ Adjacent fixtures not separated by a partition or wall shall be set not closer than 30 inches (762 mm) centerline to centerline between adjacent fixtures. There shall be at least 21 inches (533 mm) clearance in front of ~~the a~~ water closet, urinal, lavatory or bidet to any wall, fixture or door. Water closet compartments shall be not less than 30 inches (762 mm) wide and 60 inches (1524 mm) deep (see Figure 405.3.1). Where fixtures are required to be accessible, the requirements of Section 404 apply.

Reason: The current language does not reflect the requirement for privacy walls or partitions or separate water closet compartments or rooms or can be misleading for accessibility requirements. Language is added to maintain required clearances within these areas and refer the user to proper sections.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

ICCFILENAME: WALTERS-P3-405.3.1

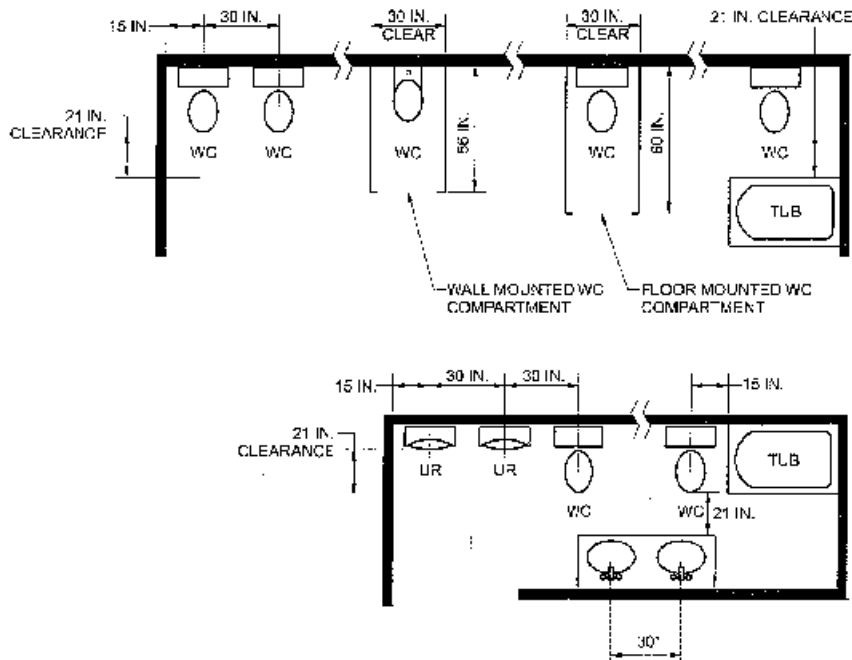
P34-09/10
405.3.1, Figure 405.3.1

Proponent: Shawn Strausbaugh – Arlington County, VA representing Virginia Plumbing and Mechanical Inspectors Association

1. Revise as follows:

405.3.1 Water closets, urinals, lavatories and bidets. A water closet, urinal, lavatory or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition, vanity or other obstruction, or closer than 30 inches (762 mm) center to center between adjacent fixtures. There shall be at least a 21 – inch (533 mm) clearance in front of the water closet, urinal, lavatory or bidet to any wall, fixture or door. Water closet compartments shall be not less than 30 inches (762 mm) wide and 60 inches (1524 mm) deep for floor mounted water closets and not less than 30 inches (762 mm) wide and 56 inches (1422 mm) deep for wall hung water closets (see Figure 405.3.1).

2. Revise Figure 405.3.1 as follows:



For SI: 1 inch = 25.4 mm.

Reason: This compartment size is already permitted by Section 604.8.2 of ICC/ANSI A117.1-2003 for wall hung water closets in accessible water closet compartments. If an accessible wall hung water closet compartment is acceptable for accessibility at 56 inches minimum in depth, then the IPC should also allow the compartment to be no less than 56 inches in depth.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

ICCFILENAME: STRAUSBAUGH-P6-405.3.1

P35–09/10

403.3.2 (IBC [P] 2902.3.2)

Proponent: Patrick Vandergriff, Vandergriff Code Consulting Services representing himself.

Revise as follows:

403.3.2 (IBC [P]2902.3.2) Location of toilet facilities in occupancies other than covered mall buildings. In occupancies other than *covered mall buildings*, the required public and employee toilet facilities shall be located not more than one *story* above or below the space required to be provided with toilet facilities and the path of travel to such facilities shall not exceed a distance of 500 feet (152 400 mm). Where multiple buildings on a single lot are under the same control, public and employee toilet facilities shall not be required to be located in each building provided that all other requirements of this section are met, the total number of plumbing fixtures within such buildings complies with the aggregate number of fixtures required for all buildings and the toilet facilities are available for use when any one building on the lot is occupied.

Exception: The location and maximum travel distances to required employee facilities in factory and industrial occupancies are permitted to exceed that required by this section, provided that the location and maximum travel distance are *approved*.

Reason: Although this proposal is aimed at allowing the toilet facilities in a permanent school building to serve as the required toilet facilities for semi-permanent portable classroom buildings adjacent to the school but on the same property (lot), the allowance provides for reasonable accommodations at shopping centers, strip centers and individual commercial properties having multiple buildings under the same control. For example, consider a small business offices building with several separate buildings serving as warehouses for the business, all of which are on the same lot. If the travel and elevation location requirements are met, what is the harm in all of the required toilet facilities being located in the business office building? Other examples widely exist across the country as it is commonplace for strip centers and outdoor shopping centers to have central toilet facilities for the entire center. For schools that need fast expansion of classroom space, portable buildings are often brought in and used for several years or more until funds are available to build larger permanent buildings or additions. The decision to add these semi-permanent classroom modules should not be required to be burdened by the expense of installing toilet facilities in each classroom module, especially where adequate toilet facilities exist within the required travel distance and elevation.

Cost Impact: Cost savings in some areas of the country.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: VANDERGRIF-F-P1-403.3.2

P36–09/10

405.4; IRC P3003.19

Proponent: Shawn Martin, Plumbing Manufacturers Institute, representing the Plumbing Manufacturers Institute

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART – IPC

Revise as follows:

405.4 Floor and wall drainage connections. Connections between the drain and floor outlet plumbing fixtures shall be made with a floor flange or a waste connector and sealing gasket. The waste connector and sealing gasket joint shall comply with the joint tightness test of ASME A112.4.4 and shall be installed in accordance with the manufacturer's installation instructions. The flange shall be attached to the drain and anchored to the structure. Connections between the drain and wall-hung water closets shall be made with an *approved* extension nipple or horn adaptor. The water closet shall be bolted to the hanger with corrosion-resistant bolts or screws. Joints shall be sealed with an *approved* elastomeric gasket, flange-to-fixture connection complying with ASME A112.4.3 or an *approved* setting compound.

PART II - IRC

Revise as follows:

P3003.19 Joints between drainage piping and water closets. Joints between drainage piping and water closets or similar fixtures shall be made by means of a closet flange or a waste connector and sealing gasket compatible with the drainage system material, securely fastened to a structurally firm base. The inside diameter of the drainage pipe shall not be used as a socket fitting for a four by three closet flange. The joint shall be bolted, with an *approved* gasket flange to fixture connection complying with ASME A112.4.3 or setting compound between the fixture and the closet flange or waste connector and sealing gasket. The waste connector and sealing gasket joint shall comply with the joint tightness test of ASME A112.4.4 and shall be installed in accordance with the manufacturer's installation instructions.

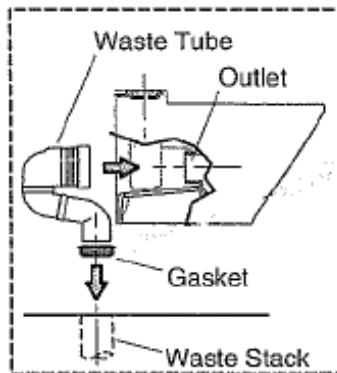
Reason: This code section currently provides for only a "flanged" outlet connection for floor-mounted water closets. These types of connections are typical of water closets designed for the North American market. However, in the global market, there are many water closet designs that use a different type of outlet connection to the sanitary drainage system. These connection arrangements consist of a waste tube connector on the water closet which is inserted into an elastomeric gasket. The waste tube and gasket are then inserted into the drain pipe opening at the floor line, and the gasket provides the seal between the water closet's waste tube and the drain pipe. See Figure 405.4 for an example. The water closet fixture is then anchored directly to the floor using mounting brackets or fasteners. These anchors are often concealed to allow for a smooth, sanitary exterior interface to the floor.

This design is used almost exclusively in Europe and other locations worldwide, and offers many advantages over wax-ring flange seals. ASME A112.4.3, a standard already referenced in the IPC and IRC, requires that the connection be leak-tight to pressures up to 10 psi. Such water closet designs are available in a wide range of rough-in dimensions.

This code change is needed because there is an increasing number of consumer and architectural demands in the North American market for European-styled water closet designs that are only available with the gasketed waste tube outlet connection. This code section must be changed to explicitly allow these types of water closets to be installed and to clearly establish standards for their performance. As the IPC becomes more globally accepted and adopted, this revised section will be ready to accommodate this internationally accepted method of drainage system connection. European styled water closets with gasketed connections to drainage pipes are designed to meet the same performance requirements of the applicable ASME standards listed in the IPC as traditional flange-mounted designs.

Cost impact: This code change proposal will not increase the cost of construction.

**FIGURE 405.4
GASKETED WASTE TUBE CONNECTION
FOR WATER CLOSETS**



PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: MARTIN-P2-405.4

P38–09/10

406.3

Proponent: James Anjam / Arlington County/ Virginia Plumbing and Mechanical Inspectors Association (VPMIA)

Revise as follows:

406.3 Waste connection. The waste from an automatic clothes washer shall discharge through an air break into a standpipe in accordance with Section 802.4 or into a laundry sink. The trap and fixture drain for an automatic clothes washer standpipe shall be a minimum of 2 inches (51 mm) in diameter. An ~~The~~ automatic clothes washer fixture drain ~~shall connect to a branch drain or drainage stack~~ shall increase in size to at least 3 inches (76 mm) before connection to any drain pipe, other than a laundry tray fixture drain, a minimum of 3 inches (76 mm) in diameter. Automatic clothes washers that discharge by gravity shall be permitted to drain to a waste receptor or an approved trench drain.

Reason: The proposed change clarifies the requirement for increasing the drain pipe size to at least 3 inch where a clothes washer fixture drain connects to another drain. The 3 inch requirement was added in the 2003 plumbing code to resolve detergent suds backup problems in fixtures such as bathtubs and showers that were connected to the 2 inch drain piping in the vicinity of a clothes washer fixture drain. However, in residential applications prior to the 2003 IPC, it was common for a laundry tray to be connected to the 2 inch fixture drain piping from the clothes washer without increasing the drain size to at least 3 inch. There didn't seem to be any problems with this arrangement. Even if suds did back up in a laundry tray, what did it matter as the laundry tray is an acceptable waste receptor for a clothes washer discharge anyhow? Requiring the drain pipe size to increase to 3 inch where a laundry tray connects to the clothes washer fixture drain is just too stringent and unnecessary. We have not seen or heard of any problems with this particular connection arrangement.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: ANJAM-P2-406.3

P39–09/10

406.3

Proponent: Dustin Mclehaney, Plumbing, Mechanical Plans Review Engineer; Curt Campbell, Plumbing, Mechanical, Gas, Residential Supervisor, Virginia Plumbing and Mechanical Inspectors Association.

Revise as follows:

406.3 Waste Connection. The waste from an automatic clothes washer shall discharge through an air break into a standpipe in accordance with Section 802.4 or into a laundry sink. The ~~trap and~~ fixture drain for a standpipe serving an automatic clothes washer ~~standpipe~~ shall connect to a 3 inch or larger diameter ~~branch drain~~ fixture branch or drainage stack, a minimum of 3 inches (76mm) in diameter. Automatic clothes washers that discharge by gravity shall be permitted to drain to a waste receptor or an approved trench drain.

Reason: This change is to clarify some confusion of the written code text. The term "branch drain" needs to be removed and replaced with "fixture branch" because Chapter 2 provides no straight forward definition of "branch drain". Using a term in this section that is not defined in Chapter 2 creates confusion, which is evident based on the number of questions we receive on this issue. The confusion for the contractors is "How far can I run the 2 inch fixture drain, and where do I need to transition to 3 inch?" By replacing the term "branch drain" with "fixture branch" the contractor now knows that the fixture drain can remain 2 inch until it becomes a fixture branch (defined as "A drain serving two or more fixtures that discharges to another drain or stack) or is connected to a stack. The word "trap" was removed because a trap does not connect to fixture branches or stacks; there is always a section of fixture drain downstream of the trap. The wording "minimum of" is poor code language.

Cost Impact: There would be no cost to the contractors or customers is this code change is approved

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: MCLEHANEY-CAMPBELL-P1-406.3

P40-09/10
407.2; IRC P2713.1

Proponent: Pat Clark, Colorado Association of Plumbing and Mechanical Officials (CAPMO)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

407.2 Bathtub waste outlets. Bathtubs shall have be provided with at least one drain outlet and one waste overflow outlets. Piping and tubing waste assemblies used to connect such outlets to drainage systems shall be not less than a minimum of 1 1/2 inches (38 mm) in diameter. The waste Drain outlets shall be equipped provided with an approved stopper mechanism or device to close the drain outlet.

PART II – IRC

Delete and substitute as follows:

~~**P2713.1 Bathtub waste outlets and overflows.** Bathtubs shall have outlets and overflows at least 1 1/2 inches (38 mm) in diameter, and the waste outlet shall be equipped with an approved stopper.~~

P2713.1 Bathtub waste outlets. Bathtubs shall be provided with at least one drain outlet and one waste overflow outlets. Piping and tubing waste assemblies used to connect such outlets to drainage systems shall be not less than 1 1/2 inches (38 mm) in diameter. Drain outlets shall be provided with an approved mechanism or device to close the drain outlet.

Reason

(PART I) The main purpose of this proposal is to require an overflow waste outlet for a bathtub. The current code is silent on bathub overflow outlets. However, a recent Committee Interpretation (#52-08) for IRC Section P2713.1 concluded that for 1 and 2 family residential dwellings, bathtub waste overflow outlets are required to prevent accidental flooding. If the interpretation committee determined that waste overflow outlets are necessary for IRC buildings, it certainly seems logical that multi-story and multi-family structures covered by the IPC would benefit even more so by bathtubs having waste overflow outlets in order to provide the same level of protection against structural damage.

(PART II) The language of the current section was not absolutely clear about whether bathtubs required a waste overflow outlet. A recent Committee Interpretation (#52-08) for the current section concluded that bathtubs do require waste overflow outlets. In order to make the intent of this section clear and aligned with the recent committee interpretation, I am proposing the same language proposed for the corresponding section in the IPC.

Cost Impact: This code change proposal may increase the cost of construction

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: CLARK-P1-407.2

P41-09/10
407.2: IRC P2713.1

Proponent: Richard Grace/Fairfax County/ VA Plumbing and Mechanical Inspectors/VA Building and Code Officials

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

407.2 Bathtub waste outlets and overflows. Bathtubs shall ~~have~~ be equipped with a waste outlets and an overflow outlet. The minimum outlets shall of be connected to waste tubing or piping not less than 1 ½ inches (38 mm) in diameter. ~~and~~ the waste outlet shall be equipped with an approved watertight stopper.

PART II - IRC

Delete and substitute as follows:

~~**P2713.1 Bathtub waste outlets and overflows.** Bathtubs shall have outlets and overflows at least 1-1/2 inches (38 mm) in diameter and the waste outlet shall be equipped with an approved stopper.~~

P2713.1 Bathtub waste outlets and overflows. Bathtubs shall be equipped with a waste outlet and an overflow outlet. The outlets shall be connected to waste tubing or piping not less than 1 ½ inches (38 mm) in diameter. The waste outlet shall be equipped with a watertight stopper.

Reason

(PART I): Current text is not clear on exactly if an overflow is required to be installed or not. This proposal breaks the text up into 3 clear concise sentences with 3 separate thoughts: 1. waste and overflows are required. 2. the minimum size is 1 ½ inches. And, 3. the waste outlet must be provided with a stopper. Also, by striking the term "approved" makes this issue not subject to the code official's interpretation as to what type stopper is permitted. By inserting the term "watertight" clarifies the intent is that the "stopper" allow the tub to be filled with water and hold the water in place. This is consistent with the IRC requirements for bathtubs in which it is clear that overflows are required.

(PART II): The IRC will benefit from having clearer language for this section as some believe that the current language does not require an overflow outlet.

Cost Impact: The code change proposal will not impact the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: GRACE-P7-407.2

P42-09/10
408.3; IRC P2721.2

Proponent: Sally Remedios, Delta Faucet Company, representing the Delta Faucet Company.

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

408.3 Bidet water temperature. The discharge water temperature from a bidet fitting shall be limited to a maximum temperature of 110°F (43°C) by a water temperature limiting device conforming to ASSE 1070 or CSA B125.3

PART II – IRC

Revise as follows:

P2721.2 Bidet water temperature. The discharge water temperature from a bidet fitting shall be limited to a maximum temperature of 110°F (43°C) by a water temperature limiting device conforming to ASSE 1070 or CSA B125.3.

Reason: The same alternate standard is presently referenced in the IPC Section 424.5 and IPC Section 416.5 for limiting the discharge temperature in bathtubs and public lavatories respectively, by the use of a device complying with either of these two standards. The standard is already in the referenced standards chapter.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: REMEDIOS-P8-408.3

P43–09/10
410.1

Proponent: Jerry L. Bowen, AIA, CP, Jerry L. Bowen -Architect, representing self

Revise follows:

410.1 Approval. Drinking fountains shall conform to ASME A112.19.1M, ASME A112.19.2M or ASME A112.19.9M and water coolers shall conform to ARI 1010. Drinking fountains and water cooler shall conform to NSF 61, Section 9. ~~Where water is served in restaurants, drinking fountains shall not be required.~~ Restaurants and similar establishments that prepare food for consumption on site are not required to have drinking fountains provided that, upon request, both a sanitary cup of not less than eight (8) ounces liquid capacity and drinking water are provided at no cost to the person requesting it. In other occupancies, where drinking fountains are required, water coolers or bottled water dispensers shall be permitted to be substituted for not more than 50 percent of the required drinking fountains.

Reason: Around my local area and in my limited travels to other areas and states, it has become a problem in acquiring free drinking water from restaurants and fast food places of business. These places are on the increase in charging for water when they have elected not to provide drinking fountains. Charges have been for the drinking cups anywhere from 10-cents to the price of a soft drink. The intent of the code was to require free water to the customers and workers in these establishments. They do not have to provide ice or large cups for the consumer's water but they should provide the container for free and the water. I have been in larger cities where restaurants have stated they only have bottle water for the customer. Fast foods want to charge the customer for water. The problem is the Code is not specific enough to make these establishments provide water and the container free of charge. Within a year or two these establishments make enough money when charging for water to have paid for the required drinking fountain. Also, if they were required to provide the drinking fountain then they would have to provide two drinking fountains (high & low) to comply with accessibility requirements. I have had several Building Officials state to me that the businesses are out to make money and can charge for the water. That is all well and good but they elected not to provide the drinking fountain in the business but that did not mean the Code's intent was to allow them to charge for the water; after all the drinking fountain would have dispensed free water.

Cost Impact: The code change will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Bowen-P1-410.1

P44-09/10

410.1

Proponent: Ronald B Hall, Lexington, SC, representing himself

Revise as follows:

410.1 Approval. Drinking fountains shall conform to ASME A112.19.1M, ASME A112.19.2M or ASME A112.19.9M and water coolers shall conform to ARI 1010. Drinking fountains and water coolers shall conform to NSF 61, Section 9. ~~Where water is served in R~~restaurants, drinking fountains shall not be required to have drinking fountains installed provided that upon customer request, drinking water and a cup are supplied to the customer at no charge. In other occupancies, where drinking fountains are required, water coolers or bottled water dispensers shall be permitted to be substituted for not more than 50 percent of the required drinking fountains.

Reason: Many building officials I have spoken with including the S.C. Building Code Council Administrator interpret “serve” not to be free. Many restaurants do not have fountains and are charging customers for a cup to get water from a fountain (soft drink/water) machine or dispenser.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME:Hall-P1-410.1

P45-09/10

410.1, 410.2 (IBC 1109.5.1)(New), 410.3 (New)

Proponent: John T.E. Walters, Prince William County. VA. representing the Virginia Plumbing and Mechanical Inspectors Association (VPMIA)

1. Revise as follows:

410.1 Approval. Drinking fountains shall conform to ASME A112.19.M, ASME A112.19.2M or ASME A112.19M and water coolers shall conform to ARI 1010. Drinking fountains and water coolers shall conform to NSF 61, Section 9. ~~Where water is served in restaurants, drinking fountains shall not be required. In other occupancies, where drinking fountains are required, water coolers or bottled water dispensers shall be permitted to be substituted for not more than 50 percent of the required drinking fountains.~~

2. Add new text as follows:

[B]410.2 (IBC 1109.5.1) Minimum number. Not fewer than two drinking fountains shall be provided. One drinking fountain shall comply with the requirements for people who use a wheelchair and one drinking fountain shall comply with the requirements for standing persons.

Exception: A single drinking fountain that complies with the requirements for people who use a wheelchair and standing persons shall be permitted to be substituted for two separate drinking fountains.

410.3 Substitution. Where restaurants provide drinking water in a container free of charge, drinking fountains shall not be required in those restaurants. In other occupancies, where drinking fountains are required, water coolers or bottled water dispensers shall be permitted to be substituted for not more than 50 percent of the required number of drinking fountains.

Reason: Adding requirement per IBC Section 1109.5.1 Minimum number. IBC requires a minimum of two drinking fountains and IPC should reflect that requirement.

Also addressing that establishment serving water could charge a fee for the water or a cup to serve it in. Where drinking fountains are required it is impermissible to charge for the use of the drinking fountain.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Section [B]410.2 is being heard by the IPC committee only for the purposes of deciding whether the section needs to be added to the IPC. Because this section is controlled by the IBC, no changes to the text can made.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: WALTERS-P4-410.1

P46-09/10

410.1, 410.2 (IBC [P]2902.1.3) (New)

Proponent: James W. McCall, AIA, Slonaker McCall Architects, representing himself

1. Revise as follows:

410.1 Approval. Drinking fountains shall conform to ASME A112.19.1M, ASME A112.19.2M or ASME A112.19.9M and water coolers shall conform to ARI 1010. Drinking fountains and water coolers shall conform to NSF 61, Section 9. ~~Where water is served in restaurants, drinking fountains shall not be required. In other occupancies, where drinking fountains are required water coolers or bottled water dispensers shall be permitted to be substituted for not more than 50 percent of the required drinking fountains.~~

2. Add new text as follows:

410.2 ([P]2902.1.3) Substitutions for drinking fountains. For an occupant load greater than 100 persons, water coolers or bottled water dispensers shall be permitted to be substituted for not more than 50 percent of the number of required drinking fountains. For an occupant load of 100 or fewer persons, or where the building water supply is considered to be undrinkable by the local inhabitants of the area, bottled water coolers or bottled water dispensers shall be permitted to be substituted for 100 percent of the number of required drinking fountains. Where water is served in restaurants, drinking fountains shall not be required.

Reason: This proposal concerns 1) the code requirements for providing drinking fountains in occupancies with small occupant loads and 2) the code requirements for drinking fountains where the local residents of a community will not drink the well or public water supplies.

For occupancies other than R-1, R-2 Apartment House, R-3, restaurants that serve water, Section 410.1 currently requires at least one drinking fountain for a building or tenant space. Code enforcement is mandatory, not optional.

Drinking water delivered by drinking fountains is nearly universally considered by the public to be insanitary. In many areas, drinking well or public water is unhealthy. Small businesses and other occupancies with a minimum numbers of occupants are being forced to install unnecessary drinking fountains/electric water coolers to satisfy this requirement. Many provide bottled water in addition to drinking fountains. A recent health issue example in our area involved a municipality where a water problem occurred and the water was considered unsafe to drink. A day had passed before the public was notified and a boil water advisory issued. In the meantime, the water was dispensed in water fountains in schools, etc. that were served by the particular municipal water authority.

We believe that the requirement for providing drinking water to the public creates an unnecessary liability to most building owners. If a person becomes ill because of the water, legal action will result.

We also believe that facilities with an occupant load of 100 persons should be exempt from a requirement to provide drinking water and, that those that are required to provide drinking water for 100 or less persons, should have the option of providing bottled water. This requirement should be modified or made optional, and building owners allowed to decide for themselves whether water fountains will be used. The liability and financial burden on small facilities is not warranted.

Cost Impact: The code change proposal will not increase the cost of construction. (It will decrease for small projects.)

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: McCall-P1-410.1

P 47-09/10

413.1

Proponent: Judson Collins, JULYCO, representing himself.

Revise as follows:

413.1 Approval. Domestic food waste grinders shall conform to ASSE 1008. ~~Commercial food waste grinders shall conform to ASSE 1009.~~ Food waste grinders shall not increase the drainage fixture unit load on the sanitary drainage system.

Reason: For the last ?? years, there have not been any commercial food waste grinders listed to ASSE 1007. ASSE is in the process of putting the standard on inactive status because of that.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: COLLINS-P3-413.1

P48-09/10

412.4

Proponent: Edward L Paxton representing the Utah Chapter of ICC

Revise as follows:

412.4 Laundry room floor drain. ~~Public laundries and central washing facilities.~~ In public coin-operated laundries, ~~and~~ in central washing facilities and individual dwelling units of multiple-family dwellings, rooms containing automatic clothes washers shall be provided with floor drains located to readily drain the entire floor area. Such drains shall have an ~~minimum~~ outlet diameter of not less than 3 inches (76 mm) ~~diameter~~. Floors in such rooms shall slope towards the floor drain.

Reason: In a single family dwelling, the damage caused by the washer leak or hose failure is limited to one owner. In multi-family, multi story buildings, the damage that may result from a single washer leak inside an individual dwelling unit often exceeds several tens of thousands of dollars in each of the many units that may be located below the failure.

Cost Impact: The code change proposal will increase the cost of construction, however the damage that may be prevented far exceeds the minimal cost.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: PAXTON-P1-412.4

P49-09/10

413.3

Proponent: Sid Cavanaugh, Cavanaugh Consulting representing In Sink Erator

Revise as follows:

413.3 Commercial food waste grinder outlets. Commercial food waste grinders shall be connected to a drain not less than 1 ½ inches (38mm) in diameter. Commercial food waste grinders shall be connected and trapped separately from any other fixtures or sink compartments. The connection of a commercial food waste grinder to the sanitary drainage system shall be downstream of all grease interceptors unless the code official approves or requires food waste grinders to discharge into a grease interceptor.

Reason: This code change will clarify the intent of the code regarding commercial food waste grinders. Code officials have in the past and continue to allow food waste grinders to connect directly to the sanitary drainage system of buildings. Research has shown that food waste does not cause build up or blockage of sewer lines. Food waste has the same specific gravity as fecal matter and behaves similarly in the sewer system. Finally, while this code change will allow most installations to by-pass an interceptor it will still recognize Section 1003.3.2 where it can be required/allowed by a jurisdiction to connect to an interceptor.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: CAVANAUGH-P8-413.3

P50-09/10

416.5

Proponent: Judson Collins, JULYCO, representing himself.

Revise as follows:

416.5 Tempered water for public hand-washing facilities. *Tempered water* shall be delivered from *public* hand-washing facilities. *Tempered water* shall be delivered through an *approved* water-temperature limiting device that conforms to ASSE 1070 or CSA B125.3. For the purposes of this section, a public hand-washing facility shall be a plumbing fixture installation provided primarily for the purpose of washing one's hands and located in other than hotel/motel guest rooms, dwelling units, prison cells, and other private toilet rooms and bathrooms.

Reason: The existing section begs for a definition of what a public hand washing facility is. Rather than make a new definition, the intent of the section is explained by the addition of the proposed text.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: COLLINS-P6-416.5

P51-09/10

416.5

Proponent: Guy Tomberlin of Virginia representing himself.

Revise as follows:

416.5 Tempered water for public hand-washing facilities. *Tempered water* shall be delivered from lavatories and group wash fixtures located in public toilet facilities provided for customers, patrons and visitors. ~~public hand-washing facilities.~~ *Tempered water* shall be delivered through an *approved* water-temperature limiting device that conforms to ASSE 1070 or CSA B125.3.

Reason: This is an attempt to clarify that employee or private toilet rooms, not for public use, are not required to be supplied with tempered water. Section 403.3 clearly mandates where "public toilet facilities" are to be installed. This new definition specifically works in conjunction with the provisions of 403, so wherever facilities are installed for "public utilization" the hand washing fixtures are required to be provided with tempered water.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: TOMBERLIN-P1-416.5

P52-09/10

417.4.2; IRC P2708.1.1

Proponent: Christopher Birch, Executive Vice President, Bath Enclosure Manufacturers Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

417.4.2 Access. The shower compartment access and egress opening shall have a ~~minimum~~ clear and unobstructed width of not less than 22 18 inches (559 457 mm).

PART II - IRC

Revise as follows:

P2708.1.1 Access. The shower compartment access and egress opening shall have a ~~minimum~~ clear and unobstructed width of not less than 22 18 inches (559 457 mm).

Reason: In writing safety standards for the shower enclosure industry the Bath Enclosure Manufacturers Association determined that the minimum access width for shower enclosures should be 18" to accommodate shower enclosure units being manufactured. This will allow the standard bases to be fit with enclosures that are not allowed by the current code. For example, the current code does not consider overlap and jamb width in a 42 inch slider or a neo angle base with a 24 inch centerline. The 22 inch minimum has led to arbitrary and inconsistent enforcement. The industry's association has determined that 18 inches allows for functional accessibility, service and maintenance, emergency egress and response and rescue. The 18 inch minimum will be consistent with the safety and installation standards being developed by ASTM.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: BIRCH-P1-417.4.2

P53–09/10

417.5 (New), 417.6 (New); IRC P2708.4 (New)

Proponent: Thomas Pape, Best Management Partners, representing Alliance for Water Efficiency

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Add new text as follows:

417.5 Gang shower user area. The floor area for each user of a gang shower arrangement shall be not less than 1300 square inches (0.838 m²). For a rectangular floor area, the least dimension of the user area shall be not less than 36 inches (914mm). A wall-mounted showerhead for a rectangular user area shall be located at not less than 18 inches horizontally from any other side of the user area. For wedge-shaped floor areas, as are created by arrangements having shower head columns with 3 or more equally-spaced shower heads around the column, there shall be not greater than 5 such user areas around each column. Each wedge-shaped area shall be not less than 1300 square inches (0.838 m²) in area nor shall the horizontal distance measured perpendicular to and from the face of the column to the outer limit of the area be less than 25 inches (635mm).

417.6 Multiple water discharge devices. The maximum allowable water flow from any combination of water outlets capable of discharging simultaneously into a shower compartment shall be 2.5 gpm (9.463 l/m) for floor areas of 2600 in² (1.677 m²) or less. Where a shower compartment area is greater than 2600 in² (1.677 m²), the maximum allowable water flow shall be increased 2.5 gpm (9.463 l/m) for each additional 2600 in² (1.677 m²) of area or portion thereof. The maximum allowable water flow from any combination of water outlets capable of discharging simultaneously into a user area of a gang shower shall be 2.5 gpm (9.463 l/m).

(Renumber subsequent sections)

PART II – IRC

Add new text as follows:

P2708.4 Multiple water discharge devices. The maximum allowable water flow from any combination of water outlets capable of discharging simultaneously into a shower compartment shall be 2.5 gpm (9.463 l/m) for floor areas of 2600 in² (1.677 m²) or less. Where a shower compartment area is greater than 2600 in² (1.677 m²), the maximum allowable water flow shall be increased 2.5 gpm (9.463 l/m) for each additional 2600 in² (1.677 m²) of area or portion thereof.

(Renumber subsequent sections)

Reason

(Part I): This revision is necessary to clarify and improve the code regarding maintaining hygienic conditions in multiple user (gang) shower rooms and to specify a water flow rate limitations for shower compartments and gang shower user areas. This revision aligns the IPC with Federal and State health codes and water efficiency regulations.

As the Commentary of the IPC 2006 explains, a minimum of 30 inches of horizontal shower space is required to bend over and clean ones lower extremities. This minimal space very often results in body contact with shower walls of a single user in a shower compartment. In multiple user (gang) shower rooms, allotting only 900 square inches per shower results in probable body-to body contact. While it may be acceptable for body-to-wall contact in a shower compartment intended only for a single user, body-to-body contact in a gang shower environment is certainly not hygienic. The IPC already includes floor drain requirements to prevent water of one shower user from flowing across the floor area of other shower users. This proposed amendment is needed to provide adequate cross-sectional space and assures the showerheads are far enough apart to maintain hygiene in multiple user (gang) shower rooms.

Most multiple user (gang) shower rooms do not clearly define individual shower spaces. The 1300 square inches of required minimum space is not arbitrary; based on health code requirements of 36"x36" = 1296". The 1296 square inches is rounded up to 1300 for simplicity. It is consistent with the existing code language regarding irregular shaped shower compartments. Therefore, the 1300 square inches is a reasonable requirement for one user; the space is not suitable for two users unless it is 2600 sq. inches or greater.

The shower head distance requirement of at least 18" as measured to the side of a rectangular user area in a gang shower is consistent the 36" minimum shower head spacing dictated by all known public health codes regarding multiple (gang) showers; including Federal and State regulations for schools, public housing, student dormitories, worker housing, detention centers and prisons. Because shower columns are often used in gang showers, a new section defines the acceptable minimum sized user areas in those applications.

The proposal also supports the Federal mandate for shower heads to flow at rates no greater than 2.5 gpm. The advent of new water emitters for showering has caused some confusion on adherence to this Federal mandate. This proposal does not attempt to reduce shower flows; it only provides clarification and support for existing laws.

(Part II): This revision is necessary to specify a water flow rate limitations for shower compartments. This revision aligns the IPC with Federal and State water efficiency regulations for shower heads to flow at rates no greater than 2.5 gpm. The advent of new water emitters for showering has caused some confusion on adherence to this Federal mandate. This proposal does not attempt to reduce shower flows; it only provides clarification and support for existing laws.

Cost Impact: This code change proposal is concurrence to public health codes and Federal shower flow requirements; thus, will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: PAPE-P1-417.5 NEW

P54–09/10

417.5.2.1, 417.5.2.2; IRC P2709.2.1, P2709.2.2

Proponent: Julius Ballanco, PE, CPD, FASPE, JB Engineering and Code Consulting, PC representing self

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

417.5.2.1 PVC sheets. Plasticized polyvinyl chloride (PVC) sheets ~~shall be a minimum of 0.040 inch (1.02 mm) thick, and~~ shall meet the requirements of ASTM D 4551. Sheets shall be joined by solvent welding in accordance with the manufacturer's installation instructions.

417.5.2.2 Chlorinated polyethylene (CPE) sheets. Nonplasticized chlorinated polyethylene sheet ~~shall be a minimum 0.040 inch (1.02mm) thick, and~~ shall meet the requirements of ASTM D 4068. The liner shall be joined in accordance with the manufacturer's installation instructions.

PART II – IRC

Revise as follows:

P2709.2.1 PVC sheets. Plasticized polyvinyl chloride (PVC) sheets ~~shall be a minimum of 0.040 inch (1.02 mm) thick, and~~ shall meet the requirements of ASTM D 4551. Sheets shall be joined by solvent welding in accordance with the manufacturer's installation instructions.

2709.2.2 Chlorinated polyethylene (CPE) sheets. Nonplasticized chlorinated polyethylene sheet ~~shall be a minimum 0.040 inch (1.02mm) thick, and~~ shall meet the requirements of ASTM D 4068. The liner shall be joined in accordance with the manufacturer's installation instructions.

Reason: The original concept behind specifying a minimum thickness was to prevent puncturing the shower pan during construction. With the addition of referenced standards, specifying the minimum thickness is no longer necessary. Both ASTM D4551 and D4068 have puncture test requirements. The puncture test requires a dart of a specified weight to be dropped on the membrane. If the dart impact allows water to pass through, the membrane fails.

It was originally believed that only a 40 mil thickness would prevent puncture. However, many 30 mil membranes pass the puncture test. It should be noted that not all 30 mil membranes can pass the test. It is more appropriate to allow the standard to regulate the material requirements than including an arbitrary thickness requirement.

Cost Impact: This will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: BALLANCO-P6-417.5.2.1

P55–09/10

417.5.2.6 (New); IRC P2709.2.4 (New)

Proponent: Richard Grace, Fairfax County, VA Plumbing and Mechanical Inspectors, VA Building and Code Officials Guy Tomberlin, Fairfax County, Virginia representing the Virginia Plumbing and Mechanical Inspectors Association (VPMIA) and the Virginia Building and Code Officials Association (VBCOA)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Add new text as follows:

417.5.2.6 Liquid type, load bearing, bonded waterproof materials. Liquid applied, load bearing, bonded waterproof materials shall meet the requirements of ANSI A118.10 and shall be applied in accordance with the manufacturer’s installation instructions.

PART II- IRC

Add new text as follows:

P2709.2.4 Liquid type, load bearing, bonded waterproof materials. Liquid applied, load bearing, bonded waterproof materials shall meet the requirements of ANSI A118.10 and shall be applied in accordance with the manufacturer’s installation instructions.

Reason (Grace and Tomberlin): These products are available today for creating a water proof shower pan liner. The manufacturer must provide installation instructions on how to install the product to serve as a shower pan liner. In addition, the product must meet the third party certification as complying with ANSI A118.10.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: GRACE_Tomberlin-P8-417.5.2.6 NEW

P56–09/10

419.1

Proponent: Judson Collins, JULYCO, representing self

Revise as follows:

419.1 Approval. Urinals shall conform to ANSI Z124.9, ASME A112.19.2M, CSA B45.1 or CSA B45.5. Urinals shall conform to the water consumption requirements of Section 604.4. Water supplied urinals shall conform to the hydraulic performance requirements of ASME ~~A112.19.6~~ A112.19.2 , CSA B45.1 or CSA B45.5.

Reason: ASME A112.19.6 has been discontinued and has been replaced by ASME A112.19.2.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: COLLINS-P4-419.1

P57–09/10

419.1, Chapter 13

Proponent: John M. Halliwill, Halliwill and Associates, representing Caroma

1. Revise as follows:

419.1 Approval. Urinals shall conform to ANSI Z124.9, ASME A112.19.2M, ASME A112.19.19, CSA B45.1, or CSA 45.5 or IAPMO IGC 161. Urinals shall conform to the water consumption requirements of Section 604.4. Water-

supplied urinals shall conform to the hydraulic performance requirements of ASME A112.19.6, CSA 45.1 or CSA B45.5.

2. Add standard to Chapter 13 as follows:

International Association of Plumbing and Mechanical Inspectors
5001 E. Philadelphia St.
Ontario, CA 91761

IAPMO

IGC 161-2007 Guide Criteria for Waterless Urinals

Reason: The proposed IAPMO IGC (standard) provides for materials and testing requirements for waterless urinals that are not covered in the current standards. One of which is stainless steel. The purpose statement in the proposed IGC states in part "The purpose of this standard is to provide the minimum design and performance criteria for waterless urinals. This standard is not intended to be a specification guide nor is it intended to restrict design. Its purpose is to serve as a guide for producers, distributors, architects, engineers, contractors, inspectors, and users; to promote understanding regarding materials, manufacture and installation; and to provide for identifying waterless urinals that conform with this standard."

Urinals that have been evaluated to this standard are currently in use using the Waterless Urinal with Liquid Trap technology.

This standard contains requirements for a new trap sealing method that has been evaluated and products listed for use in jurisdictions around the world. Products using this technology are currently manufactured by a number of manufacturers in this and other countries around the world. Additionally, it was noted while testing products using this new technology that should a negative pressure develop in the DWV system. Air will be introduced through the device until equilibrium is established. This feature will help maintain the trap seals of liquid seal traps so that odors, vapors and possibly injurious materials will not enter the building.

Cost Impact: This code change proposal will not increase the cost of construction.

Analysis: Review of proposed new standard, IAPMO IGC 161-2007, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: HALLIWILL-P1-419.1

P58–09/10
425.2

Proponent: Sally Remedios, Delta Faucet Company, representing Delta Faucet Company.

Revise as follows:

425.2 Flushometer valves and tanks. Flushometer valves and tanks shall comply with ASSE 1037 or CSA B125.3. Vacuum breakers on flushometer valves shall conform to the performance requirements of ASSE 1001 or CAN/CSA B64.1.1. Access shall be provided to vacuum breakers. Flushometer valves shall be of the water conservation type and shall not be used where the water pressure is lower than the minimum required for normal operation. When operated the valve shall automatically complete the cycle of operation, opening fully and closing positively under the water supply pressure. Each flushometer valve shall be provided with a means for regulating the flow through the valve. The trap seal to the fixture shall be automatically refilled after each flushing cycle.

Reason: The CSA B125.3 standard has technically equivalent requirements to ASSE 1037 for flushometer valves, except it includes longer life cycle requirements.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: REMEDIOS-P3-425.2

P59–09/10

425.4

Proponent: Abraham I. Murra, Canadian Standards Association, representing the Canadian Standards Association

Revise as follows:

425.4 Flush pipes and fittings. Flush pipes and fittings shall be of nonferrous material and shall conform to ASME A112.19.5 or CSA B125.3.

Reason: CSA B125-01, Plumbing Fittings, which is currently referenced in the Code, was replaced by ASME A112.18.1/ CSA B125.1-05, Plumbing Supply Fittings, ASME A112.18.2/CSA B125.2-05, Plumbing Waste Fittings, and CSA B125.3-05, Plumbing Fittings. The requirements for flush pipes and fittings are in CSA B125.3.

Cost Impact: The code change proposal will not increase the cost of production.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: 2009-2010-ccboilerplate

P60–09/10

424.9 (New), Chapter 13; IRC P2722.5 (New), Chapter 44

Proponent: Shawn Martin, Plumbing Manufacturers Institute, representing the Plumbing Manufacturers Institute

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART - IPC

1. Add new text as follows:

424.9 Water closet personal hygiene devices. Personal hygiene devices integral to water closets or water closet seats shall conform to the requirements of ASME A112.4.2.

2. Add standard to Chapter 13 as follows:

ASME

A112.4.2-2003 (R2008) Water Closet Personal Hygiene Devices

PART II – IRC

1. Add new text as follows:

P2722.5 Water closet personal hygiene devices. Personal hygiene devices integral to water closets or water closet seats shall conform to the requirements of ASME A112.4.2.

2. Add standard to Chapter 44 as follows:

ASME

A112.4.2-2003 (R2008) Water Closet Personal Hygiene Devices

Reason: The ASME A112.4.2 standard establishes general and performance requirements, test methods, and marking requirements for bidet sprays and other optional features as applied to water closets, water closet seats, and other retrofit devices. Requiring this standard will ensure protection of plumbing systems from backflow, and protect public safety by limiting the temperature of the water dispensed.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Review of proposed new standard, ASME A112.4.2-2003 (R2008), for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

PART I – IPC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: MARTIN-P1-424.9 NEW

**P61–09/10
613.1; IRC P2724.1 (New)**

Proponent: Sally Remedios, Delta Faucet Company, representing Delta Faucet Company.

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

613.1 Temperature-actuated mixing valves. Temperature-actuated mixing valves, which are installed to reduce water temperatures to defined limits, shall comply with ASSE 1017. Such valves shall be installed at the hot water source.

PART II – IRC

Add new text as follows:

P2724.1 Temperature-actuated mixing valves. Temperature-actuated mixing valves, which are installed to reduce water temperatures to defined limits, shall comply with ASSE 1017. Such valves shall be installed at the hot water source.

(Renumber subsequent section)

Reason: The title of ASSE 1017 is Performance Requirements for Temperature Actuated Mixing Valves for Hot Water Distribution Systems. These valves are not intended to be used for point of use temperature control mixing valves. As the title suggests they supply temperature reduced water to the hot water system.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: REMEDIOS-P6-613.1

P62–09/10
504.4.1; IRC P2803.6

Proponent: Robert G. Konyndyk, Chief, Plumbing Division, Bureau of Construction Codes, State of Michigan

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

504.4.1 Installation. Such valves shall be installed in the shell of the water heater tank. Temperature relief valves shall be so located in the tank as to be actuated by the water in the top 6 inches (152 mm) of the tank served. For installations with separate storage tanks, the approved, self-closing (levered) pressure relief valve and temperature relief valve or combination thereof conforming to ANSI Z21.22 valves shall be installed on the tank and there shall not be any type of valve installed between the water heater and the storage tank. ~~both the storage water heater and storage tank.~~ There shall not be a check valve or shutoff valve between a relief valve and the heater or tank served.

PART II– IRC

Revise as follows:

P2803.6 Installation of relief valves. For installations with separate storage tanks, the approved, self-closing (levered) pressure relief valve and temperature relief valve or combination thereof conforming to ANSI Z21.22 valves shall be installed on both the storage water heater and storage tank. A check or shutoff valve shall not be installed in the following locations:

1. Between a relief valve and the termination point of the relief valve discharge pipe;
2. Between a relief valve and a tank; or
3. Between a relief valve and heating appliances or equipment.

Reason

(PART I): This proposed revision seeks to address two concerns. First, clarification is necessary that a water heater utilizing a storage tank shall have temperature and pressure protection for both the storage water heater and separate storage tank/s. Second, previous code text implied that a storage water heater having a separate storage tank could not have a valve isolating one from another. Now both devices are clarified to have the necessary safety protection and may have a valve between the units to aid in servicing for maintenance or replacement purposes.

(PART II): Clarification is necessary to indicate that a water heater utilizing a storage tank must have temperature and pressure protection for both the storage water heater and separate storage tank/s.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: KONYNDYK-P4-504.4.1

P63–09/10
504.6 (New); IRC P2803.6 (New)

Proponent: Larry Dulac, Dulac Plumbing Innovations LLC, representing himself

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

1. Add new text as follows:

504.6 Relief valve breakaway fitting. Pressure, temperature, or combination pressure-temperature relief valves with a threaded discharge port of 3/4 inch [19.1 mm] shall be equipped with a full size, tamperproof, break-away fitting installed in the discharge port of the valve. The break-away fitting shall comply with CSA 1-06 US.

(Renumber subsequent sections)

2. Add standard to Chapter 13 as follows:

CSA

1-06 US Safety Plug Relief Valve for use on Hot Water Supply Systems

PART II – IRC

1. Add new text as follows:

P2803.6 Relief valve breakaway fitting. Pressure, temperature, or combination pressure-temperature relief valves with a threaded discharge port of 3/4 inch [19.1 mm] shall be equipped with a full size, tamperproof, break-away fitting installed in the discharge port of the valve. The break-away fitting shall comply with CSA 1-06 US.

(Renumber subsequent sections)

2. Add standard to Chapter 44 as follows:

CSA

1-06 US Safety Plug Relief Valve for use on Hot Water Supply Systems

Reason: CSA 1-06 US was developed to address pressure relief valve and temperature relief valve (or combination thereof) discharge pipe tampering, such as improper installation, restrictions, or intentionally or accidentally plugged, causing personal injury and structural damage, which is directly contrary to this section. The addition of a CSA 1-06 US device would prevent tampered drain lines (including vertical piping and plugged relief valves) from affecting the relief valve function. When the relief valve is free to discharge, water heaters will be less likely to explode. The tamperproof feature is important to further safeguarding the water heater and relief valve. The T&P valve was invented in the 1920's and reduced water heater explosions, but inspections, warnings and education have not eliminated the dangers of tampered discharge pipes, and continue to put life and property at risk. The addition of the CSA-06-US device to the code will improve plumbing system safety by reducing personal injuries and structural damage, and ultimately, save lives. Only valves with a ¾ inch discharge are addressed as the industry has not come forth with designs for other sizes as the ¾ inch valve size is the most widely used.

The purpose of this code change is to add new requirements.

1. The justification is based on a new product standard, CSA-1-6 US, which will further reduce explosions associated with tampered relief valve drain lines.
2. This change is substantiated with the following technical information and articles:
 - a. Watts Industries Five-Year Highlight Review
 - b. 2001 DE Magazine article (Spokane WA survey)
 - c. 2001 National Board Bulletin www.nationalboard.org
 - d. Web sites & articles
 - i. Spencer OK
<http://74.125.47.132/search?q=cache:ul94g7XlaPoJ:www.sfpe.org/upload/fl0812.pdf+star+elementary+school+water+heater+explosion+spencer+ok+1982&hl=en&ct=clnk&cd=3&gl=us>
 - ii. Avon MA
<http://www.masterplumbers.com/plumbnews/2001/dec/avon.asp>
 - iii. Phoenix AZ
<http://www.kpho.com/news/17189420/detail.html>
 - iv. Mifflinburg PA
http://news.mifflinburgtelegraph.com/Archive/House_Explosion_Caused_by_Faulty_Water_Heater_printer.shtml
 - v. Kannapolis NC
<http://www.wsocvtv.com/news/14480623/detail.html>
 - vii. Burien WA
http://seattlepi.nwsourc.com/local/33094_boom28.shtml

Cost Impact: The code change proposal will increase the cost of construction.

Analysis: Review of the proposed new requirement CSA 1-06 US indicated that, in the opinion of ICC staff, the requirement did not comply with ICC standards criteria.

PART I – IPC

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: 2009-2010-ccboilerplate

P64–09/10

504.6; IRC P2803.6.1

Proponent: Tom Hedges, representing the Arizona Building Officials

Part I - IPC

Revise as follows:

504.6 Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap located in the same room as the water heater except where the discharge is to the outdoors, not subject to freezing and the piping terminates not less than 6 inches (152mm) and not more than 12 inches (305mm) above grade.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.
5. Discharge to the floor, to the pan serving the water heater or storage tank, to a waste receptor or to the outdoors.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed so as to flow by gravity.
10. Not terminate more than 6 inches (152 mm) above the floor or waste receptor.
11. Not have a threaded connection at the end of such piping
12. Not have valves or tee fittings.
13. Be constructed of those materials listed in Section 605.4 or materials tested, rated and approved for such use in accordance with ASME A112.4.1.
14. Direct the discharge in a downward direction.

Part II – IRC

Revise as follows:

P2803.6.1 Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap located in the same room as the water heater except where the discharge is to the outdoors, not subject to freezing and the piping terminates not less than 6 inches (152mm) and not more than 12 inches (305mm) above grade.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.
5. Discharge to the floor, to the pan serving the water heater or storage tank, to a waste receptor or to the outdoors.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed so as to flow by gravity.
10. Not terminate more than 6 inches (152 mm) above the floor or waste receptor.
11. Not have a threaded connection at the end of such piping
12. Not have valves or tee fittings.

13. Be constructed of those materials listed in Section P2904.5 or materials tested, rated and approved for such use in accordance with ASME A112.4.1.
14. Direct the discharge in a downward direction.

Reason: This change will allow the P & T relief drain pipe to extend direct from the water heater to an exterior location where no freeze potential exists. This is consistent with the IPC Section 504.6 (IRC Section P2803.6.1), Item no. 5 which allows the discharge to go to the outdoors. The 6" minimum termination height provides the required air gap. This proposed change also establishes a maximum termination height of 12" for outdoor termination. This method of drainage and termination is very common in locations that have previously utilized the Uniform Plumbing Code for over 50 years. No data exists to suggest this method has created unsafe conditions. The Committee reason for disapproval of Item P50-07/08 clarifies that the code allows a discharge pipe to terminate over a water heater drip pan. The code currently establishes drip pan drain terminations at 6" minimum and 24" maximum termination heights in IPC Section 504.7.2 (IRC Section P2801.5.2). If it's safe to drain a discharge pipe from a drip pan using these heights, then it certainly would be no more harmful to use the similar heights for an outdoors termination.

This proposal improves the termination requirements.

This method is also more energy efficient by not creating a direct open pipe for air flow from and to the out doors as will occur where an untrapped waste receptor for the P & T relief valve discharge drains to the outdoors.

In many commercial tenant spaces it is common practice to locate a water heater above the lay-in ceiling in an attic or interstitial space. Many times these locations are above a restroom or storage room. IPC Section 802.3 prohibits a waste receptor in such locations. A drain pipe needs to extend beyond the room or space containing the water heater.

Also, IPC 802.3 prohibits waste receptors in rest rooms and IPC Section 504.6 Item no. 2 requires an air gap in the same room as the water heater, thereby prohibiting water heaters in rest rooms. This change would allow a reasonable option where the need exists.

Cost Impact: The code change proposal will not increase the cost of construction and may decrease cost.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: HEDGES-P1-504.6

P65–09/10 504.7; IRC P2801.5

Proponent: Shawn Strausbaugh–Arlington County, VA representing Virginia Plumbing and Mechanical Inspectors Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

504.7 Required pan. Where a storage tank-type water heaters or a hot water storage tanks ~~are~~ is installed in a locations where water leakage from of the tanks ~~or connections will~~ could cause damage, the tank ~~or water heater~~ shall be installed in a galvanized steel pan having a material thickness of not less than 0.236 inch (0.6010mm) (No. 24 gage), or other pans approved for such use.

PART II – IRC

Revise as follows:

P2801.5 Required pan. Where a storage tank-type water heaters or a hot water storage tanks ~~are~~ is installed in a locations where water leakage from of the tanks ~~or connections will~~ could cause damage, the tank ~~or water heater~~ shall be installed in a galvanized steel pan having a material thickness of not less than 0.236 inch (0.6010mm) (No. 24 gage), or other pans approved for such use.

Reason: The existing text is not clear about whether tankless-type water heaters require a pan. A tankless water heater does not have a storage tank and does not present any greater risk of water leakage than a water distribution piping system that has been installed and pressure tested in accordance with this code. This proposal changes the text to make the pan requirement specific to storage tank water heaters and hot water storage

tanks. This section is in the code because it is a well known fact that the majority of storage-type water heater tanks and hot water storage tanks have a relatively short life span that often ends in causing catastrophic damage to the building. Tankless water heaters are constructed of materials that are much more corrosion resistant than the materials (glass-lined carbon steel) of most water heater tanks and hot water tanks. Tankless water heaters should not be required to have drip pans installed.

The language concerning connections was removed because connections made in accordance with this code have no greater risk of leakage than any other connection in the water distribution system. Finally, the language of this section has been cleaned up to read better.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: STRAUSBAUGH-P1-504.7

P66–09/10 504.7; IRC P2801.5

Proponent: Pat Clark, Colorado Association of Plumbing and Mechanical Officials (CAPMO)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

504.7 Required pan. Where water heaters or hot water storage tanks are installed in locations where leakage of the tanks or connections will cause damage, the tank or water heater shall be installed in a galvanized steel pan having a material thickness of not less than 0.0236 inch (0.6010 mm) (No 24 gage), or other pans approved for such use.

Exception: This section shall not apply to tankless water heaters.

PART II – IRC

Revise as follows:

P2801.5 Required pan. Where water heaters or hot water storage tanks are installed in locations where leakage of the tanks or connections will cause damage, the tank or water heater shall be installed in a galvanized steel pan having a material thickness of not less than 0.0236 inch (0.6010 mm) (No 24 gage), or other pans for such use. Listed pans shall comply with CSA LC3.

Exception: This section shall not apply to tankless water heaters.

Reason: It doesn't make sense to require a pan under a tankless water heater. First of all there is no storage of water. Would the pan need to be fastened to the wall in a way that would be liquid tight? Would the intent be to catch a leak? If so, all piping should have pans under them to catch a possible leak.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: CLARK-P2-504.7

P67–09/10

504.7, 504.7.1; IRC P2801.5, P2801.5.1

Proponent: Jim Whitehead, IPS Corporation, representing self

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

504.7 Required pan. Where water heaters or hot water storage tanks are installed in locations where leakage of the tanks or connections will cause damage, the tanks or water heaters shall be installed in a galvanized steel pan having a thickness of not less than 0.0236 inch (0.6010mm) No. 24 gage, an aluminum pan having a thickness of not less than 0.030 inch (0.8mm), a plastic pan having a bottom thickness of not less than 0.036 inch (0.9mm) or other pans of other materials approved for such use.

504.7.1 Pan size and drain. The pan shall be not less than 1 ½ inches (38 mm) deep and shall be ~~of sufficient size and shape to receive all dripping or condensate from the tank or water heater,~~ at least 2 inches (51mm) larger in diameter than the water heater or hot water storage tank. The pan shall be drained by an indirect waste pipe having a ~~minimum~~ diameter of not less than 3/4 inch (19 mm). Piping for safety pan drains shall be of those listed in Table 605.4.

PART II – IRC

Revise as follows:

P2801.5 Required pan. Where water heaters or hot water storage tanks are installed in locations where leakage of the tanks or connections will cause damage, the tanks or water heaters shall be installed in a galvanized steel pan having a thickness of not less than 0.0236 inch (0.6010mm) No. 24 gage, an aluminum pan having a thickness of not less than 0.030 inch (0.8mm), a plastic pan having a bottom thickness of not less than 0.036 inch (0.9mm) or other pans of other materials approved for such use. Listed pans shall comply with CSA LC3.

P2801.5.1 Pan size and drain. The pan shall be not less than 1 ½ inches (38 mm) deep and shall be ~~of sufficient size and shape to receive all dripping or condensate from the tank or water heater,~~ at least 2 inches (51mm) larger in diameter than the water heater or hot water storage tank. The pan shall be drained by an indirect waste pipe having a ~~minimum~~ diameter of not less than 3/4 inch (19 mm). Piping for safety pan drains shall be of those listed in Table P2905.5.

Reason: The standard materials used in construction of pans are galvanized steel, aluminum and plastic. Each of these standard materials should have a minimum thickness requirement to prevent substandard pans from being installed and causing possible damages and losses due to failure. Most water heater installation instructions require pans to be at least 2 inches in diameter larger than the tank diameter. The code should include this requirement so that it is clear that safety pans must be larger than the tank that rests in the pan.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: WHITEHEAD-P1-504.7

P68–09/10

Table 605.3, Chapter 13; IRC Table P2905.4, Chapter 44

Proponent: Michael Cudahy, Plastic Pipe and Fittings Association (PPFA) for the Plastic Pipe and Fittings Association (PPFA).

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

1. Revise table as follows:

**TABLE 605.3
WATER SERVICE PIPE**

MATERIAL	STANDARD
Polyethylene (PE) plastic pipe	ASTM D 2239; ASTM D 3035; <u>AWWA C901</u> ; CSA-B137.1
Polyethylene (PE) plastic tubing	ASTM D 2737; <u>AWWA C901</u> ; CSA B137.1

(Portions of table not shown remain unchanged)

2. Add standard to Chapter 13 as follows:

AWWA

C901-08 Polyethylene (PE) Pressure Pipe and Tubing, ½ In. (13 mm) Through 3 In. (76 mm), for Water Service

PART II – IRC

1. Revise table as follows:

**TABLE P2905.4
WATER SERVICE PIPE**

MATERIAL	STANDARD
Polyethylene (PE) plastic pipe	ASTM D 2104; ASTM D 2239; <u>AWWA C901</u> ; CSA-B137.1
Polyethylene (PE) plastic tubing	ASTM D 2737; <u>AWWA C901</u> ; CSA B137.1

(Portions of table not shown remain unchanged)

2. Add standard to Chapter 44 as follows:

AWWA

C901-08 Polyethylene (PE) Pressure Pipe and Tubing, ½ In. (13 mm) Through 3 In. (76 mm), for Water Service

Reason: To add AWWA C901, “Polyethylene (PE) Pressure Pipe and Tubing, ½ In. (13 mm) Through 3 In. (76 mm), for Water Service”, to the PE service pipe and tubing sections of IPC Table 605.3 (IRC Table P2905.4). AWWA C901 describes polyethylene (PE) pressure pipe and tubing for use primarily as service lines in the construction of underground water distribution systems for use in potable water, reclaimed water, and wastewater service.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Review of proposed new standard, AWWA C901-08, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

PART I – IPC

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

ICCFILENAME: CUDAHY-P3-Table 605.3

P69–09/10

Table 605.3, Chapter 13; IRC Table P2905.4, Chapter 44

Proponent: Michael Cudahy, Plastic Pipe and Fittings Association (PPFA)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

1. Revise table as follows:

**TABLE 605.3
 WATER SERVICE PIPE**

MATERIAL	STANDARD
Cross-linked polyethylene (PEX) plastic <u>pipe and</u> tubing	ASTM F 876; ASTM F 877; <u>AWWA C904</u> ; CSA B137.5

(Portions of table not shown remain unchanged)

2. Add standard to Chapter 13 as follows:

AWWA

C904-06 Cross-Linked Polyethylene (PEX) Pressure Pipe, ½ In. (12 mm) Through 3 In. (76 mm) for Water Service

PART II – IRC

1. Revise as follows:

**TABLE P2905.4
 WATER SERVICE PIPE**

MATERIAL	STANDARD
Cross-linked polyethylene (PEX) plastic <u>pipe and</u> tubing	ASTM F 876; ASTM F 877; <u>AWWA C904</u> ; CSA B137.5

(Portions of table not shown remain unchanged)

2. Add standard to Chapter 44 as follows:

AWWA

C904-06 Cross-Linked Polyethylene (PEX) Pressure Pipe, ½ In. (12 mm) Through 3 In. (76 mm) for Water Service

Reason

(PART I): This proposal adds another applicable standard to the code for PEX water service piping. The standard added describes cross-linked polyethylene (PEX) pressure pipe for use primarily as service lines in the construction of underground water distribution systems. This standard describes pipe and tubing made with a materials designation code of PEX 1006 in ASTM F876. This standard describes pipe in sizes ½ in. through 3 in. (12 mm through 76 mm) with a standard dimension ratio of 9 (SDR9) and pressure class of 160 psi.

(PART II): To add AWWA C904, "Cross-Linked Polyethylene (PEX) Pressure Pipe, ½ in. (12 mm) Through 3 In. (76 mm), for Water Service", to the PEX sections of Table P2905.4 of the IRC-P. This standard describes cross-linked polyethylene (PEX) pressure pipe for use primarily as service lines in the construction of underground water distribution systems. This standard describes pipe and tubing made with a materials designation code of PEX 1006 in ASTM F876. This standard describes pipe in sizes ½ in. through 3 in. (12 mm through 76 mm) with a standard dimension ratio of 9 (SDR9) and pressure class of 160 psi.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Review of proposed new standard, AWWA C904-06, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

PART I – IPC

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

ICCFILENAME: CUDAHY-P2-TABLE 605.3

P70–09/10

Table 308.5, Table 605.3, Table 605.4, Table 605.5, 605.25 (New), 605.25.1 (New), 605.25.2 (New), Chapter 13; IRC P2904.3.1, Table P2605.1, Table P2904.6.2(8), Table P2904.6.2(9), Table P2905.4, Table P2905.5, Table P2905.6, P2905.19 (New), P2905.19.1(New), P2905.19.2 (New), Chapter 44

Proponent: Larry Gill, IPEX Inc. representing IPEX Inc.

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART - IPC

1. Revise tables as follows:

**TABLE 308.5
HANGER SPACING**

PIPING MATERIAL	MAXIMUM HORIZONTAL SPACING (feet)	MAXIMUM VERTICAL SPACING (feet)
Polyethylene of Raised Temperature (PE-RT) pipe	<u>2.67</u> (32 inches)	<u>10^b</u>

(Portions of table not shown remain unchanged)

**TABLE 605.3
WATER SERVICE PIPE**

MATERIAL	STANDARD
Polyethylene of raised temperature (PE-RT) plastic tubing	<u>ASTM F 2769</u>

(Portions of table not shown remain unchanged)

**TABLE 605.4
WATER DISTRIBUTION PIPE**

MATERIAL	STANDARD
Polyethylene of raised temperature (PE-RT) plastic tubing	<u>ASTM F 2769</u>

(Portions of table not shown remain unchanged)

**TABLE 605.5
PIPE FITTINGS**

MATERIAL	STANDARD
Fittings for polyethylene of raised temperature (PE-RT) plastic tubing	<u>ASSE 1061; ASTM F 877; ASTM F 1807; ASTM F 2080; ASTM F2098; ASTM F 2159; ASTM F2434; ASTM F 2735; CSA B137.5</u>

Fittings for cross-linked polyethylene (PEX) plastic tubing	ASSE 1061, ASTM F 877; ASTM F 1807; ASTM F 1960; ASTM F 2080; ASTM F 2098, ASTM F 2159; ASTM F2434; <u>ASTM F 2735</u> ; CSA B137.5
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(Portions of table not shown remain unchanged)

2. Add new text as follows:

605.25 Polyethylene of raised temperature plastic. Joints between polyethylene of raised temperature plastic tubing and fittings shall be in accordance with Section 605.25.1 and Section 605.25.2

605.25.1 Flared joints. Flared pipe ends shall be made by a tool designed for that operation.

605.25.2 Mechanical joints. Mechanical joints shall be installed in accordance with the manufacturer's instructions. Fittings for polyethylene of raised temperature plastic tubing shall comply with the applicable standards listed in Table 605.5 and shall be installed in accordance with the manufacturer's installation instructions. Polyethylene of raised temperature plastic tubing shall be factory marked with the applicable standards for the fittings that the manufacturer of the tubing specifies for use with the tubing.

3. Add standards to Chapter 13 as follows:

ASTM

F 2735-09 Standard Specification for SDR9 Cross-linked Polyethylene (PEX) and Raised Temperature (PE-RT) Tubing

F 2769-09 Polyethylene of Raised Temperature (PE-RT) Plastic Hot and cold-Water Tubing and Distribution Systems

PART II - IRC

1. Revise tables as follows:

**TABLE P2605.1
PIPING SUPPORT**

PIPING MATERIAL	MAXIMUM HORIZONTAL SPACING (feet)	MAXIMUM VERTICAL SPACING (feet)
<u>Polyethylene of Raised Temperature (PE-RT) pipe</u>	<u>2.67</u> (32 inches)	<u>10^b</u>

(Portions of table not shown remain unchanged)

**TABLE P2904.6.2(8)
ALLOWABLE PIPE LENGTH FOR ³/₄-INCH PEX AND PE-RT TUBING**

(Portions of table not shown remain unchanged)

**TABLE P2904.6.2(9)
ALLOWABLE PIPE LENGTH FOR 1-INCH PEX AND PE-RT TUBING**

(Portions of table not shown remain unchanged)

**TABLE P2905.4
WATER SERVICE PIPE**

MATERIAL	STANDARD
<u>Polyethylene of raised temperature (PE-RT) plastic tubing</u>	<u>ASTM F 2769</u>

(Portions of table not shown remain unchanged)

**TABLE P2905.5
WATER DISTRIBUTION PIPE**

MATERIAL	STANDARD
<u>Polyethylene of raised temperature (PE-RT) plastic tubing</u>	<u>ASTM F 2769</u>

(Portions of table not shown remain unchanged)

**TABLE P2905.6
PIPE FITTINGS**

MATERIAL	STANDARD
Fittings for polyethylene of raised temperature (PE-RT) plastic tubing	ASSE 1061; ASTM F 877; ASTM F 1807; ASTM F 2080; ASTM F2098; ASTM F 2159; ASTM F2434; ASTM F 2735; CSA B137.5
Fittings for cross-linked polyethylene (PEX) plastic tubing	ASSE 1061, ASTM F 877; ASTM F 1807; ASTM F 1960; ASTM F 2080; ASTM F2098, ASTM F 2159; ASTM F2434; ASTM F 2735; CSA B137.5

(Portions of table not shown remain unchanged)

2. Revise as follows:

P2904.3.1 Nonmetallic pipe and tubing. Nonmetallic pipe and tubing, such as CPVC, ~~and~~ PEX, and PE-RT shall be listed for use in residential fire sprinkler systems.

3. Add new text as follows:

P2905.19 Polyethylene of raised temperature plastic. Joints between polyethylene of raised temperature plastic tubing and fittings shall be in accordance with Section P2905.19.1 and Section P2905.19.2

P2905.19.1 Flared joints. Flared pipe ends shall be made by a tool designed for that operation.

P2905.19.2 Mechanical joints. Mechanical joints shall be installed in accordance with the manufacturer's instructions. Fittings for polyethylene of raised temperature plastic tubing shall comply with the applicable standards listed in Table P2905.6 and shall be installed in accordance with the manufacturer's installation instructions. Polyethylene of raised temperature plastic tubing shall be factory marked with the applicable standards for the fittings that the manufacturer of the tubing specifies for use with the tubing.

3. Add standards to Chapter 44 as follows:

ASTM

F 2735-09 Standard Specification for SDR9 Cross-linked Polyethylene (PEX) and Raised Temperature (PE-RT) Tubing

F 2769-09 Polyethylene of Raised Temperature (PE-RT) Plastic Hot and cold-Water Tubing and Distribution Systems

Reason: This change adds a new standard ASTM F2769 for Polyethylene of Raised Temperature (PE-RT) Plastic Hot and Cold-Water Tubing and Distribution Systems to the IPC for water service and water distribution. The change also adds fittings for this product similar to PEX fittings standards currently listed in the Code and also adds a new fittings standard ASTM F2735 to the code. The pipe support table is amended to provide the maximum spacing for Polyethylene of Raised Temperature (PE-RT) pipe.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Review of proposed new standards, ASTM F 2735-09 and ASTM F2769-09, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Gill-P2-T308.5

P71-09/10

Table 605.4, Chapter 13; IRC Table P2905.5, Chapter 44

Proponent: Mark Kuykendall, Easyflex, representing Kofulso, Co. LTD

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

1. Revise as follows:

**TABLE 605.4
WATER DISTRIBUTION PIPE**

MATERIAL	STANDARD
Stainless steel pipe (type 304/304L)	ASTM A 312; ASTM A 778; <u>ASTM A 240</u>
Stainless steel pipe (type 316/316L)	ASTM A 312; ASTM A 778; <u>ASTM A 240</u>

(Portions of table not shown do not change)

2. Add standard to Chapter 13 as follows:

ASTM

A 240/A 240M-08a Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.

PART II – IRC

1. Revise as follows:

**TABLE P2905.5
WATER DISTRIBUTION PIPE**

MATERIAL	STANDARD
Stainless steel pipe (type 304/304L)	ASTM A 312; ASTM A 778; <u>ASTM A 240</u>
Stainless steel pipe (type 316/316L)	ASTM A 312; ASTM A 778; <u>ASTM A 240</u>

(Portions of table not shown do not change)

2. Add standard to Chapter 44 as follows:

ASTM

A 240/A 240M-08a Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.

Reason: The inclusion of this material standard will provide another option for an engineered system for hot-cold, potable water distribution. This standard has been applied to approve the system under NSF/ANSI 61 and IAPMO IGC 233 testing, and meets the requirements specified in 605.4 (committee has been sent test reports).

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Review of proposed new standard, ASTM A240/A240M-08a, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

PART I – IPC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: KUYKENDALL-P1-TABLE 605.4

P72–09/10 604.9; IRC P2903.5

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

Proponent: Rand Ackroyd, Rand Technical Consulting, representing The Plumbing and Drainage Institute

Part I - IPC

1. Revise as follows:

604.9 Water hammer. The velocity of the water distribution system shall be controlled to reduce the possibility of water hammer. A water-hammer arrestor shall be installed where quick-closing valves are utilized. Water hammer arrestors shall be installed in accordance with the manufacturer's specifications. Water-hammer arrestors shall conform to ASSE1010 or PDI WH201.

2. Add standard to Chapter 13 as follows:

PDI
WH201-2006 Water Hammer Arrestors

PART II – IPC

1. Revise as follows:

P2903.5 Water hammer. The flow velocity of the water distribution system shall be controlled to reduce the possibility of water hammer. Water-hammer arrestors shall be installed in accordance with the manufacturer's installation instructions. Water hammer arrestors shall conform to ASSE 1010 or PDI WH201.

2. Add standard to Chapter 44 as follows:

PDI
WH201-2006 Water Hammer Arrestors

Reason: PDI WH201 is the original US standard for water hammer arrestors first published over 40 ago. With copywriter permission the PDI performance requirements were allowed to be duplicated in the equivalent standard that is currently referenced in the Code, ASSE standard 1010. PDI WH201 was updated in 2006. This standard PDI WH201 is available to the public at no cost on www.pdionline.org.

Cost Impact: The code change will not increase the cost of construction.

Analysis: Review of proposed new standard, PDI WHI201-2006, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Ackroyd-P5-604.9

P73-09/10

605.5 (New), Chapter 13; IRC P2905.19 (New), Chapter 44

Proponent: Sid Cavanaugh, Cavanaugh Consulting representing Cohesant, Inc.

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

1. Add new text as follows:

605.5 Epoxy coating. Epoxy coating used on existing water service or water distribution piping systems shall comply with NSF 61 and shall comply with ASTM F???? or AWWA C210.

(Renumber subsequent sections)

2. Add standards to Chapter 13 as follows:

ASTM

F????-?? Epoxy Lining Systems for Water Piping

AWWA

C210-03 Liquid-Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines

PART II - IRC

1. Add new text as follows:

P2905.19 Epoxy coating. Epoxy coating used on existing water service or water distribution piping systems shall comply to NSF 61 and shall comply to ASTM F???? or AWWA C210.

(Renumber subsequent sections)

2. Add standards to Chapter 44 as follows:

ASTM

F????-?? Epoxy Lining Systems for Water Piping

AWWA

C210-03 Liquid-Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines

Reason: While the technology is allowed by the code and various jurisdictions it needs to be recognized and accepted in the body of the code with appropriate requirements and standards to assure proper approved installation in the field.

Cost Impact: None. It will probably save money for the user in many cases.

Analysis: Review of proposed new standards, ASTM F????-?? and AWWA C210-03, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME:CAVANAUGH-P4-605.5

P74-09/10

606.7 (New)

Proponent: Gregory A. Farmer, PE, Vice President, Legislative representing ASPE

Add new text as follows:

606.7 Labeling of water distribution pipes in bundles. Where water distribution piping is bundled at installation, each pipe in the bundle shall be indentified using stenciling or commercially available pipe labels. The identification shall indicate the pipe contents and the direction of flow in the pipe. The interval of the identification markings on the pipe shall not exceed 25 feet. There shall be not less than one identification label on each pipe in each room, space or story.

Reason: Bundled piping can causes confusion as to what the content of the individual pipes. Tracing them back to the source is often difficult and time consuming. Marking piping with the identification of the content and the direction of flow will help eliminate cross connection when repairing or renovating these plumbing systems.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: FARMER-P4-606.7 NEW

P75-09/10

607.1.1 (New); IRC P2903.11 (New)

Proponent: Ronald L, George, CIPE, CPD, President of Ron George Design & Consulting Services representing himself

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Add new text as follows:

607.1.1 Temperature limiting means. A thermostat control for a water heater shall not serve as the temperature limiting means for the purposes of complying with the requirements of this code for maximum allowable hot or tempered water delivery temperatures at fixtures.

PART II – IRC

Add new text as follows:

P2903.11 Temperature limiting means. A thermostat control for a water heater shall not serve as the temperature limiting means for the purposes of complying with the requirements of this code for maximum allowable hot or tempered water delivery temperatures at fixtures.

Reason: Water Heater Thermostats: I cringe every time I hear someone tell people to turn the water heater thermostat down to prevent scalding. I see the same misguided advice dispensed in newspaper columns and safety brochures or websites. Water heater thermostats cannot be relied upon to control the outlet hot water temperature of a water heater. The reason this burner “on” and Burner “off” control is being used to control how water system temperatures is there is nothing mandating thermostatic controls to be installed on hot water systems. Although water heater manufacturers are recommending that installers set thermostats at 120 to 125 degrees F, and most of them ship the water heaters at lower temperature settings.

Plumbing engineers continue to recommend hot water systems be designed with the intended storage temperatures for several reasons.

1. The water heater is sized based on 140 degrees Fahrenheit so if you turn down the temperature you will most likely run out of hot water during peak periods.
2. Higher temperatures reduce the threat of Legionellae bacteria growth in the water heater tank.
3. Using 140 degree hot water and mixing down to a safe delivery temperature around 120-125 degrees Fahrenheit allows a constant hot water delivery temperature.
4. If a water heater burner control thermostat is turned down to a lower temperature, the water heater has a reduced capacity to deliver hot water.

When users run out of hot water and the water heater thermostat is readjusted, it is often adjusted to an even higher temperature. Even if the fixtures are protected with compensating type anti-scald shower valves the maximum temperature limit stop on every valve must be readjusted. The failure to re-adjust these valves often leads to scalding incidents. When there is a master thermostatic mixing valve the hot water will be delivered at a relatively constant temperature to the fixtures.

Water Heater Burner Control Accuracy

Water heater thermostats were never intended to provide precise temperature controls for hot water system temperatures. For example: The thermostat dial calibration test of ANSI Z21.10.1-1998, which is the applicable standard for gas-fired water heaters, allows the temperature to vary 10 degrees above or below the thermostat setting. I have talked to water heater manufacturers that have indicated the controls can vary as much as 15 to 18 degrees Fahrenheit above or below the set point. The thermostat is inserted into the lower portion of a water heater tank and turns the fuel supply to the water heater "on" and "off". There is no way to know what the temperature in the tank is with most water heater thermostat dials.

Theoretically, if the water heater thermostatic element is set at 120 degrees Fahrenheit, the burner would come on when the temperature at the thermostat reaches about 105 degrees Fahrenheit. The burner stays on until the water around the thermostatic element (near the bottom of the heater) reaches about 135 degrees Fahrenheit then it turns the fuel supply to the burner or heating element off. (15 degrees F above the set-point of the thermostat). The maximum temperature limit test of ANSI Z21.10.1 gas water heater standard allows the outlet water temperature of the water heater to rise about 30 degrees F above the thermostat setting. This provision accounts for the phenomenon known as "stacking" or "layering" of hot water in the top of a water heater. Stacking or layering occurs when hot water rises to the top of the water heater due to recurring short duration heating cycles caused by a frequent number of small quantity hot water uses which draws cold water into the bottom of the heater. Although the above example addresses gas water heaters, this phenomenon can also occur in other types of storage water heaters. So at the top of a water heater that is theoretically set for 120 degrees Fahrenheit, the outlet hot water temperatures can easily reach 165 degrees Fahrenheit.

This is why we should mandate a thermostatic mixing valve conforming to ASSE 1017 or CSA B-125.3 on the outlet piping of a water heater to limit the hot water distribution temperatures to a maximum safe delivery temperature of 120 to 125 degrees Fahrenheit. If high temperature hot water uses are required for a process application a thermostatic mixing valve conforming to ASSE 1070 can be installed on the local branch piping serving a fixture or group of fixtures. Additional supporting information is shown on my website at: www.rongergedesign.com

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: GEORGE-P5-607.1.3 NEW

P76–09/10

607.1, 607.1.1(New)

Proponent: Ronald L, George, CIPE, CPD, President of Ron George Design & Consulting Services representing himself

Revise as follows:

607.1 Where required. In residential *occupancies*, *hot water* shall be supplied to all plumbing fixtures and equipment utilized for bathing, washing, culinary purposes, cleansing, laundry or building maintenance. In nonresidential *occupancies*, *hot water* shall be supplied for culinary purposes, cleansing, laundry or building maintenance purposes. In nonresidential *occupancies*, *hot water* or *tempered water* shall be supplied for bathing and washing purposes. ~~Tempered water shall be supplied through a water temperature limiting device that conforms to ASSE 1070 and shall limit the tempered water to a maximum of 110°F (43°C). This provision shall not supersede the requirement for protective shower valves in accordance with Section 424.3.~~

Add new text as follows:

607.1.1 Tempered water temperature control. Tempered water shall be supplied through a water temperature limiting device that conforms to ASSE 1070 and shall limit the tempered water to a maximum of 110°F (43°C). This provision shall not supersede the requirement for protective shower valves in accordance with Section 424.3.

Reason: Water heater thermostats cannot be relied upon to accurately control the hot water temperature to a hot water distribution system. All water heater thermostats have an allowable tolerance plus or minus 11 to 15 degrees Fahrenheit that allows

temperature swings in the hot water distribution system of up to 30 degrees from the burner or heating element “on” temperature setting to the burner or heating element “off” temperature setting. Coupled with thermal layering (“stacking”) in un-circulated storage type water heaters, the temperature variation can be as much as 50 degrees in an un-circulated storage type heater. Instantaneous heaters have temperature fluctuations as the flow changes. A thermostatic mixing valve installed in the hot water piping downstream of the water heater will mix cold water with the varying hot water temperatures to deliver a relatively constant and safe temperature of hot water to the domestic hot water system.

Cost Impact: Minimal

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: GEORGE-P8-607.1

P77–09/10

607.1.1(New)

Proponent: Ronald L, George, CIPE, CPD, President of Ron George Design & Consulting Services representing himself

Add new text as follows:

607.1.1 Hot water temperature control. Hot water shall be supplied to systems utilized for bathing or washing purposes through a temperature actuated mixing valve conforming to ASSE 1017 or CSA B-125.1 for master mixing valve applications or through a device conforming to ASSE 1069 for gang showers or a device conforming to ASSE 1070 for point-of-use mixing valve applications. Master thermostatic mixing valves shall be adjusted to deliver hot water at a temperature not to exceed 120°F (49°C).

Reason: Water heater thermostats cannot be relied upon to accurately control the hot water temperature to a hot water distribution system. All water heater thermostats have an allowable tolerance plus or minus 11 to 15 degrees Fahrenheit that allows temperature swings in the hot water distribution system of up to 30 degrees from the burner or heating element “on” temperature setting to the burner or heating element “off” temperature setting. Coupled with thermal layering (“stacking”) in un-circulated storage type water heaters, the temperature variation can be as much as 50 degrees in an un-circulated storage type heater. Instantaneous heaters have temperature fluctuations as the flow changes. A thermostatic mixing valve installed in the hot water piping downstream of the water heater will mix cold water with the varying hot water temperatures to deliver a relatively constant and safe temperature of hot water to the domestic hot water system.

Cost Impact: Minimal

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: GEORGE-P7-607.1.1 NEW

P78–09/10

607.2

Proponent: Guy Tomberlin of Virginia representing himself.

Revise as follows:

607.2 Hot water supply temperature maintenance. Where the developed length of hot water piping from the source of hot water supply to the furthest fixture exceeds 100 feet (30 480 mm), the hot water supply system shall be provided with a method of maintaining the temperature of hot water to within 100 feet (30 480 mm) of the fixtures. The methods of maintaining energy efficiency shall be in accordance with the International Energy Conservation Code.

Reason: This text was contained in the 2000 IPC and stated that where the furthest fixture was 100 feet away from the hot water source, a method for maintaining hot water to the furthest fixture must be provided and then it went on to list the two options I have presented. Unfortunately, the current section no longer states the maximum distance that the hot water is required to be located within the water distribution system when you have exceeded the 100 feet. It also fails to provide the methods to maintain the hot water within a system. Now it sends you to the International Energy Conservation Code which unfortunately does not provide any methods for maintaining the hot water temperature. This has created a deadend and failed to require anything if the 100 foot distance is exceeded. The proposed change is correct these issues and re-instate the two

commonly used methods for maintaining hot water temperature back into the IPC. The IECC does not need to be mentioned in this section as the Energy Code always applies.

This is in attempt to provide the information on maintaining hot water in a system and delivering it to the fixtures. Energy conservation must be observed in the IPC. Hot water supply is an area where design is critical to enable huge energy and water savings. Either locate the water heating source near the utilization point, the fixtures, or install a circulating system or heat trace.

Cost Impact: This proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: TOMBERLIN-P2-607.2

P79–09/10

607.2

Proponent: Guy Tomberlin of Virginia representing himself.

Revise as follows:

607.2 Hot or tempered water supply to fixtures supply temperature maintenance. ~~Where the developed length of hot water piping from the source of hot water supply to the furthest fixture exceeds 100 feet (30 480 mm), the hot water supply system shall be provided with a method of maintaining the temperature in accordance with the International Energy Conservation Code. The developed length of hot or tempered water piping, from the source of hot water to the fixtures that require hot or tempered water, shall not exceed 40 feet (12192mm). Recirculating system piping and heat traced piping shall be considered to be sources of hot or tempered water.~~

Reason: Energy conservation needs to be observed in the IPC. Hot water supply is an area where design is critical. Either locate the water heating source near the fixtures or install a circulating system or heat trace system. This is in attempt to minimize the time it takes to get hot water to a fixture. I believe that 100 feet is entirely too much distance between the fixture and the water heating source. A huge amount of water and energy is wasted while running the water and waiting for the heated water to get to the outlet.

Current text in the IPC is easily manipulated to permit unwanted systems, that comply with the language as written, but that fail to serve the intended purpose. This proposal changes the text to say what it means, and maintain the original intent which is to get hot water to the fixture without wasting unnecessary energy and water.

In essence, this is in attempt to minimize the time it takes to get hot water to a fixture. Energy conservation must be observed in the IPC/IRC. Hot water supply is an area where design is critical to enable huge energy and water savings.

Cost Impact: This proposal may increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: TOMBERLIN-P3-607.2

P80–09/10

607.2

Proponent: Ronald L, George, CIPE, CPD, President of Ron George Design & Consulting Services representing himself

607.2 Hot water supply temperature maintenance. Where the *developed length* of hot water piping from the source of hot water supply to the farthest fixture exceeds ~~400~~ 50 feet (15 240mm), the hot water supply system shall be provided with a method of maintaining the temperature in accordance with the *International Energy Conservation Code*.

Reason: This proposed change is intended to address the waste of water and energy associated with systems with up to 100 feet of HW piping from the water heater to the farthest fixture. The *Domestic Water Heating Design Manual* Published by the American Society of Plumbing Engineers addresses hot water temperature maintenance in the book. Chapter 10 and 11 of the manual describes how to promptly deliver hot water to all fixtures, depending on the type of facility. The *Domestic Water Heating Design Manual* recommends a maximum of 25 feet of un-circulated pipe or 30 seconds as minimally acceptable.

The code currently states, when the distance from the water heater to the farthest outlet exceeds 100 feet, the water should be circulated. The 100-foot recommendation is subjective, as was pointed out by an engineer from ASHRAE who selected this distance many years ago when fixtures flow far more water than they do now. When the 100-foot criteria the code is followed, it creates considerable problems, such as lack of hot water at fixtures, insufficient water heater capacity and thermal temperature escalation in showers when heated hot water finally arrives many minutes after the shower comes on.

The 100-foot length criterion was developed in 1973 after the Middle East oil embargo, when energy costs were more important than water conservation. Since the energy codes now require significant insulation on circulated hot water piping the circulation of hot water causes a very minor loss of energy due to radiation and convection. In fact this heat loss into the building actually helps the building heating load in the winter months. With a timer on the circulated loop, coupled with the added insulation, the energy loss is minor when compared to the energy loss of water that was heated and poured down the drain and the lack of hot any hot water at fixtures nearly 100 feet from the water heater, especially the intermittent use fixtures such as lavatories. The previous code language arbitrarily picked the 100-foot maximum length criterion and with lower flow fixtures we may as well not have recirculation. The ultimate goal is to have hot water at the sink in a timely fashion.

Length and Time Criteria

In the latest publication of the *Domestic Water Heating Design Manual*, it recommends changes to the 100-foot length criteria. Water that is wasted because of the long delay in obtaining hot water at the fixtures has become more critical of an issue than the energy losses caused by hot water temperature maintenance systems. To significantly reduce the wasting of cooled hot water, I reevaluated the permissible distances for un-circulated, dead-end branches to periodically used plumbing fixtures. The existing 100-foot allowable distances for un-circulated, dead-end branches represent a trade-off between the energy utilized by the hot water temperature maintenance system and the cost of the insulation, on the one hand. On the other hand, with long dead end branches there is the cost of energy to heat the excess cold water makeup, the cost of wasted potable water, decreased capacity of the water heater, extra sewer surcharges added to the water meter and the loss of valuable water down the drain waiting for the hot water branch piping to drain ambient temperature water in order to get useable hot water. The International Energy Code required a timer to shut off the circulator during off hours so there would be no nighttime energy losses, when the energy to the self-regulating heater cable or circulating pump is turned off during night time hours.

Reasonable Delays

What are reasonable delays in obtaining hot water at a fixture? The *Domestic Water Heating Design Manual* describes it as follows; For anything beside very infrequently used fixtures (such as those in industrial facilities or certain fixtures in office buildings), a delay of 0 to 10 seconds is normally considered acceptable for most residential occupancies and public fixtures in office buildings. A delay of 11 to 30 seconds is marginal but possibly acceptable, and a time delay longer than 31 seconds is normally considered unacceptable and a significant waste of time, water and energy. Therefore, when designing hot water systems, it is prudent for the codes to provide some means of getting hot water to the fixtures closer to or within these acceptable time limits during peak hours. This means that there should be a maximum distance of approximately 25 feet (7.6 meters) between the hot water maintenance system and each of the plumbing fixtures requiring hot water. The distance should depend on the water flow rate of the plumbing fixture at the end of the line and the size of the line. (See Tables 3, 4, and 5.) Additional delays in getting hot water to the fixture may be caused by the rerouting of the pipes for structural conditions or other flow related problems. The tables support the 25-foot distance, although past experience shows the industry may resist such a drastic change. Therefore the I am suggesting a maximum of 50 feet because it would be a vast improvement and most homes and small businesses can deliver hot water from a centrally located water heater without having a temperature maintenance system. (See table 5)

New Low Flow Fixtures are Required by Energy Policy Act and ASHRAE 90.1

With the advent of low fixture discharge rates mandated by the Energy Policy act of 1992, a federal law, it takes considerably longer to obtain hot water from fixtures that are close to 100 feet from the hot water source. For example, a public lavatory with a half gallon per minute or a metering faucet with 0.25 gallons per minute maximum discharge rate would take an excessive amount of time to obtain hot water from 100 feet of un-circulated, un-insulated hot water branch and main piping. (See Tables 1 through 7.) These tables give conservative approximations of the amount of time it takes to obtain hot water at a fixture. The times are based on the size of the line, the fixture flow rate, and the times required to replace the cooled-off hot water, to heat the pipe, and to offset the convection energy lost by the insulated hot water line.

Table 1 Water Contents and Weight of Tube or Piping per Linear Foot (English Units)

Nominal Diameter (in.)	Copper Pipe Type L		Copper Pipe Type M		Steel Pipe Schedule 40		CPVC Pipe Schedule 40	
	Water (gal/ft)	Wgt. (lb/ft)	Water (gal/ft)	Wgt. (lb/ft)	Water (gal/ft)	Wgt. (lb/ft)	Water (gal/ft)	Wgt. (lb/ft)
½	.012	.285	.013	.204	0.016	.860	0.016	.210
¾	.025	.445	.027	.328	0.028	1.140	0.028	.290
1	.043	.655	.045	.465	0.045	1.680	0.045	.420
1 ¼	.065	.884	.068	.682	0.077	2.280	0.078	.590
1 ½	.093	1.14	.100	.940	0.106	2.720	0.106	.710

Table 2 Water Contents and Weight of Tube or Piping per Meter (Metric Units)

Nominal Diameter (mm) ^a	Copper Pipe Type L		Copper Pipe Type M		Steel Pipe Schedule 40		CPVC Pipe Schedule 40	
	Water (L)	Wgt. (kg)	Water (L)	Wgt. (kg)	Water (L)	Wgt. (kg)	Water (L)	Wgt. (kg)
DN15	0.045	0.129	0.049	0.204	0.061	0.390	0.061	0.099
DN20	0.095	0.202	0.102	0.328	0.106	0.517	0.106	0.132
DN25	0.163	0.297	0.170	0.465	0.170	0.762	0.170	0.191
DN32	0.246	0.401	0.257	0.682	0.291	1.034	0.295	0.268
DN40	0.352	0.517	0.379	0.940	0.401	1.233	0.401	0.322

a. Pipe sizes are indicated for mild steel pipe sizing.

Table 3 Approximate Fixture and Appliance Water Flow Rates

Fittings	Maximum Flow Rates ^a	
	GPM	L/Sec
Lavatory faucet Public non-metering Public metering	2.0 0.5 0.25 gal/cycle	1.3 0.03 0.946 L/cycle
Sink faucet	2.5	0.16
Shower head	2.5	0.16
Bathtub faucets Single-handle Two-handle	2.4 minimum 4.0 minimum	0.15 minimum 0.25 minimum
Service sink faucet	4.0 minimum	0.25 minimum
Laundry tray faucet	4.0 minimum	0.25 minimum
Residential dishwasher	1.87 average	0.12 average
Residential washing machine	7.5 average	0.47 average

a. Unless otherwise noted.

Table 4 Approximate Time Required to Get Hot Water to a Fixture

Fixture Flow Rate (gpm)	Pipe Size	Delivery Time (sec)							
		0.5 GPM		1.5 GPM		2.5 GPM		4.0 GPM	
Piping Length (ft)		10	25	10	25	10	25	10	25
Copper Pipe	½ in. ¾ in.	25 48 ^a	63 ^a 119 ^a	8 16	21 40 ^a	5 10	13 24	3 6	8 15
Galv. Stl. Pipe Sched. 40	½ in. ¾ in.	63 ^a 91 ^a	157 ^a 228 ^a	21 30 ^a	52 ^a 76 ^a	13 18	31 ^a 46 ^a	8 11	20 28 ^a
CPVC Pipe Sched. 40	½ in. ¾ in.	64 ^a 95 ^a	159 ^a 238 ^a	21 32 ^a	53 ^a 79 ^a	13 19	32 ^a 48 ^a	8 12	20 30 ^a

Note: Table based on various fixture flow rates, piping materials, and dead-end branch lengths. Calculations are based on the amount of heat required to heat the piping, the water in the piping, and the heat loss from the piping.

a. Delays longer than 30 seconds are not acceptable according to the *Domestic Water Heating Design Manual*.

Table 5 Approximate Time Required to Get Hot Water to a Fixture

Fixture Flow Rate (gpm)	Pipe Size	Delivery Time (sec)							
		0.5 GPM		1.5 GPM		2.5 GPM		4.0 GPM	
Piping Length (ft)		10	50	10	50	10	50	10	50
Copper Pipe	½ in. ¾ in.	25 48 ^a	125 ^a 238 ^a	8 16	42 160 ^a	5 10	26 48	3 6	16 30
Galv. Stl. Pipe Sched. 40	½ in. ¾ in.	63 ^a 91 ^a	314 ^a 456 ^a	21 30 ^a	104 ^a 152 ^a	13 18	62 ^a 92 ^a	8 11	40 56 ^a
CPVC Pipe	½ in.	64 ^a	318 ^a	21	106 ^a	13	64 ^a	8	40

Sched. 40	¾ in.	95 ^a	476 ^a	32 ^a	158 ^a	19	96 ^a	12	60 ^a
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Note: Table based on various fixture flow rates, piping materials, and dead-end branch lengths. Calculations are based on the amount of heat required to heat the piping, the water in the piping, and the heat loss from the piping.

- a. Delays longer than 30 seconds are not acceptable according to the *Domestic Water Heating Design Manual*.

Table 6 Comparison of Time Delays for Current Code Text of 100 Feet vs Proposed Code Text of 50 feet.

		Approximate Time Required to Get Hot Water to a Fixture Delivery Time (sec)							
Fixture Flow Rate (gpm)	Pipe Size	0.5 GPM		1.5 GPM		2.5 GPM		4.0 GPM	
Piping Length (ft)		100 ^b	50	100	50	100	50	100	50
Copper Pipe	½ in.	250 ^a (4.1 min.)	125 ^a	80 ^a	40	50 ^a	26	30 ^a	16
	¾ in.	480 ^a (8.0 min.)	238 ^a	160 ^a	80 ^a	100 ^a	48	60 ^a	30
Galv. Stl. Pipe Sched. 40	½ in.	630 ^a (10.5 min.)	314 ^a	210 ^a	104 ^a	130 ^a	62 ^a	80 ^a	40
	¾ in.	910 ^a (15.1 min.)	456 ^a	300 ^a	152 ^a	180 ^a	92 ^a	110 ^a	56 ^a
CPVC Pipe Sched. 40	½ in.	640 ^a (10.6 min.)	318 ^a	210 ^a	106 ^a	130 ^a	64 ^a	80 ^a	40
	¾ in.	950 ^a (15.8 min.)	476 ^a	320 ^a	158 ^a	190 ^a	96 ^a	120 ^a	60 ^a

Note: Table based on various fixture flow rates, piping materials, and dead-end branch lengths of 50 and 100 feet. Calculations are based on the amount of heat required to heat the piping, the water in the piping, and the heat loss from the piping.

- a. Delays longer than 30 seconds are not acceptable according to the *Domestic Water Heating Design Manual*.
b. Current code text allows 100 feet from hot water source. Delay in seconds (minutes) are listed in this column. This is the time you would have to wait at a sink for hot water to arrive. Try counting two 250 and then to see how ridiculously long this is.

Table 7 Approximate Time Required to Get Hot Water to a Fixture (Metric)

		Delivery Time (sec)							
Fixture Flow Rate (L/sec)		0.03 LPS		0.10 LPS		0.16 LPS		0.25 LPS	
Piping Length (m)		3.1	7.6	3.1	7.6	3.1	7.6	3.1	7.6
Copper Pipe	DN15	25	63 ^a	8	21	5	13	3	8
	DN22	48 ^a	119 ^a	16	40 ^a	10	24	6	15
Galv. Stl. Pipe Sched. 40	DN15	63 ^a	157 ^a	21	52 ^a	13	31 ^a	8	20
	DN20	91 ^a	228 ^a	30	76 ^a	18	46 ^a	11	28
CPVC Pipe Sched. 40	DN15	64 ^a	159 ^a	21	53 ^a	13	32 ^a	8	20
	DN20	95 ^a	238 ^a	32	79 ^a	19	48 ^a	12	30

Note: Table based on various fixture flow rates, piping materials, and dead-end branch lengths. Calculations are based on the amount of heat required to heat the piping, the water in the piping, and the heat loss from the piping.

- a. Delays longer than 30 seconds are not acceptable according to the *Domestic Water Heating Design Manual*

Results of Delays in Delivering Hot Water to Fixtures

As shown in table 6 above, when there is a long delay in obtaining hot water at the fixture, there is significant waste of potable water as the cooled hot water supply is simply discharged down the drain unused. Concerns about total life cycle costs have realized that the total cost of this previously heated water includes:

1. The original cost for obtaining potable water
2. The cost of fuel used to previously heat the water
3. The final cost of the waste treatment of this excess potable water, which results in larger sewer surcharges
4. The cost of heating the incoming cold that is replacing the wasted water to bring it up to the required temperature.
5. Increased municipal water booster pumping costs.
6. Increased wastewater treatment pumping and processing costs.

Loss of Water Heater Capacity

When there is a long delay in obtaining hot water at the fixtures, the faucets are turned on for long periods of time to draw the hot water from the water heater to the fixture to get the hot water up to the desired temperature. This is allowing cold water to flow into the water heater during this several minute delay and can cause the water heater burner to cycle longer and in some cases can cause hot water shortages. The water heater will have to heat the extra cold water brought into the system in a short period of time.

Methods of Delivering a Reasonably Prompt Hot Water Supply

Hot water maintenance systems are varied. They can be grouped into three basic categories, though any actual installation may be a combination of more than one of these types of system. The three basic categories are

1. Circulation systems.
2. Self-regulating heat trace systems.
3. Point of use water heaters (locating the water heater close to the fixtures).

Cost Impact: Minimal

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: GEORGE-P4-607.2

P81–09/10

607.2.1, 607.5 (New)

Proponent: Guy Tomberlin of Virginia representing himself.

1. Delete without substitution as follows:

~~**607.2.1 Piping insulation.** Circulating hot water system piping shall be insulated in accordance with the International Energy Conservation Code.~~

(Renumber subsequent sections)

2. Add new text as follows:

[E] 607.5 Pipe insulation. Automatic-circulating hot water system piping shall be insulated with 1 inch (25 mm) of insulation having a conductivity not exceeding 0.27 Btu per inch/h ft² °F (1.53 W per 25 mm/m² K). The first 8 feet (2438 mm) of hot water piping from a hot water source that does not have heat traps shall be insulated with 0.5 inch (12.7mm) of material having a conductivity not exceeding 0.27 Btu per inch/h ft² °F (1.53 W per 25 mm/m² K).

Reason: This is a simple helpful piece of information to prevent a plumbing contractor from having to purchase another document besides the IPC just to figure out what type insulation is required on a hot water piping system

Cost Impact: The proposal will increase the cost of construction.

Analysis: The new text proposed to be added is an extract word-for-word from the IECC. This proposal is being put before the IPC committee with the intent to place the section in the code without modification.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: TOMBERLIN-P4-607.2.1

P82–09/10

607.2.1

Proponent: John R. Addario, P.E., New York State Department of State - Division of Code Enforcement and Administration

Revise as follows:

~~**607.2.1 Piping insulation.** Circulating Hot water piping in temperature maintenance systems piping that is required to have the water temperature maintained shall be insulated in accordance with the *International Energy Conservation Code*.~~

Reason: The intent of this section is to require systems that maintain system hot water temperature to be properly insulated. Heat traced systems, like circulating systems, should be required to limit the amount of energy they consume by requiring a minimum amount of insulation. This proposed change includes heat trace systems within the intent of this section.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: Addario-P2-607.2.1

P83-09/10

608.13.8, Chapter 13; IRC Table P2902.3, Chapter 44

Proponent: Abraham I. Murra, Canadian Standards Association, representing the Canadian Standards Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

1. Revise as follows:

608.13.8 Spill-proof resistant pressure vacuum breakers. Spillproof resistant pressure vacuum breakers (SVB) shall conform to ASSE 1056 or CSA B64.1.3. These devices are designed for installation under continuous-pressure conditions when the critical level is installed at the required height.

2. Add standard to Chapter 13 as follows:

CSA

B64.1.3-07 Spill resistant pressure vacuum breakers (SRPVB)

PART II – IRC

1. Revise as follows:

**TABLE P2902.3
APPLICATION FOR BACKFLOW PREVENTERS**

DEVICE			APPLICABLE STANDARDS
Spillproof resistant pressure vacuum breaker			ASSE 1056, CSA B64.1.3

(Portions of table not shown remain unchanged)

2. Add standard to Chapter 44 as follows:

CSA

B64.1.3-07 Spill resistant pressure vacuum breakers (SRPVB)

Reason: The acceptance of the proposed change will enable manufacturers with products certified to CSA B64.1.3 to have their products used as options to products that meet the requirements of ASSE 1056. This change will also allow the authorities having jurisdiction to allow the use of products that meet either CSA B64.1.3 or ASSE 1056.

Cost Impact: The code change proposal will not increase the cost of production.

Analysis: Review of proposed new standard, CSA B64.1.3-07, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

PART I – IPC

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: Murra-P4-608.13.8

P84-09/10

605.16.2; IRC P2905.9.1.2

Proponent: Paul Coble, Lewis Pipe Company, Ardmore, TN

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

605.16.2 Solvent cementing. Joint surfaces shall be clean and free from moisture, and an approved primer shall be applied. Solvent cement, orange in color and conforming to ASTM F 493, shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and in accordance with ASTM D 2846 or ASTM F 493. Solvent-cement joints shall be permitted above or below ground.

Exception: A primer is not required where all of the conditions apply:

1. The solvent cement is third party certified as conforming to ASTM F-493.
2. The solvent cement used is yellow or blue in color.
3. The solvent cement is used only for joining ½ (12.7 mm) inch through 2 inch (51 mm) diameter pipe and fittings.
4. The CPVC pipe and fittings are manufactured in accordance with ASTM D2846.

PART II - IRC

Revise as follows:

P2905.9 Solvent cementing. Joint surfaces shall be clean and free from moisture, and an approved primer shall be applied. Solvent cement, orange in color and conforming to ASTM F 493, shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and in accordance with ASTM D 2846 or ASTM F 493. Solvent-cement joints shall be permitted above or below ground.

Exception: A primer is not required where all of the conditions apply:

1. The solvent cement is third party certified as conforming to ASTM F-493.
2. The solvent cement used is yellow or blue in color.
3. The solvent cement is used only for joining ½ (12.7 mm) inch through 2 inch (51 mm) diameter pipe and fittings.
4. The CPVC pipe and fittings are manufactured in accordance with ASTM D2846.

Reason: The yellow color indicated matches a competitor products trademark color. The blue indicated would match our trademark color. This is the only code which gives a single company or product a competitive advantage in the market. This color has actually been used against our product in the market with representatives from our competitor in at least 5 states claiming yellow one step cement would not work with a blue pipe system. The products in question are FLOWGUARD GOLD marketed by Lubrizol and Lewis Blue marketed by Lewis Pipe Company. We have developed a blue one step and would like to market this accordingly. The same standards for the cement would still apply.

Cost Impact: There will be no cost impact to builders, plumbers, or home buyers as the products will be virtually the same price and represent a very small portion of the building process.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Coble-P1-605.16.2

P85-09/10

711.2, 711.3.1

Proponent: Julius Ballanco, P.E., CPD, FASPE/JB Engineering and Code Consulting, P.C. representing himself

1. Delete without substitution:

~~**711.2 Horizontal branch connections to horizontal stack offsets.** Where a horizontal stack offset is located more than four branch intervals below the top of the stack, a Horizontal branch connections shall not connect within the horizontal stack offset or within 2 feet (610 mm) above or below such offset.~~

(Renumber subsequent sections)

2. Revise as follows:

704.3 Connections to offsets and bases of stacks. Horizontal branches shall connect to the bases of stacks at a point located not less than 10 times the diameter of the drainage *stack* downstream from the *stack*. ~~Except as prohibited by Section 711.2, a~~ Horizontal branches shall connect to horizontal *stack* offsets at a point located not less than 10 times the diameter of the drainage *stack* downstream from the upper *stack*.

711.3.1 Omission of vents for horizontal stack offsets. Vents for horizontal stack offsets required by Section 711.3 shall not be required where the stack and its offset are one pipe size larger than required for a building drain [see Table 710.1(1)] and the entire stack and offset are not less in cross-sectional area than that required for a straight stack plus the area of an offset vent as provided for in Section 915. ~~Omission of offset vents in accordance with this section shall not constitute approval of horizontal branch connections within the offset or within 2 feet (610 mm) above or below the offset.~~

Reason: The current requirement connection limitations in these sections are archaic and unfounded. Research has shown that the turbulent flow in the horizontal offset occurs within the first 10 pipe (stack) diameters downstream of the stack. This is the same condition that occurs in a building drain, downstream of the base of a stack. Beyond the ten pipe diameters point downstream of a stack, the flow in the horizontal pipe becomes nonturbulent open channel flow. Any connection downstream of where turbulent action is known to occur should be permitted. The allowance for horizontal connections to a horizontal offset should mirror the requirements at the base of the stack because the concerns for avoiding connections in a turbulent zone are identical.

This modification is consistent with one of the legacy codes, See Section 604.3 of the 1993 BOCA National Plumbing Code.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: BALLANCO-P4-711.2

P86-09/10

608.7, 608.15.4.2; IRC P2902.4.3, P2903.9.5

Proponent: Judson Collins, JULYCO, representing Woodford Manufacturing Co.

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

608.7 Valves and outlets prohibited below grade. Potable water outlets and combination stop-and-waste valves shall not be installed underground or below grade. Freezeproof yard hydrants that drain the riser into the ground are considered to be stop-and-waste valves.

Exception: Freezeproof yard hydrants that drain the riser into the ground shall be permitted to be installed, provided that the potable water supply to such hydrants is protected upstream of the hydrants with a field

testable backflow preventer assembly in accordance with Section 608 and the hydrants are permanently identified as nonpotable outlets by approved signage that reads as follows: "Caution, Nonpotable Water. Do Not Drink."

608.15.4.2 Hose connections. Sillcocks, hose bibs, wall hydrants and other openings with a hose connection shall be protected by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker, a two-check type backflow preventer or a permanently attached hose connection vacuum breaker. All devices used for such protection shall be field testable.

PART II – IRC

Revise as follows:

P2902.4.3 Hose connection. Sillcocks, hose bibs, wall hydrants and other openings with a hose connection shall be protected by an atmospheric-type ~~or vacuum breaker,~~ a pressure-type vacuum breaker, a two-check type backflow preventer or a permanently attached hose connection vacuum breaker. All devices used for such protection shall be field testable.

Exceptions:

1. This section shall not apply to water heater and boiler drain valves that are provided with hose connection threads and that are intended only for tank or vessel draining.
2. This section shall not apply to water supply valves intended for connection of clothes washing machines where backflow prevention is otherwise provided or is integral with the machine.

P2903.9.5 Valves and outlets prohibited below grade. Potable water outlets and combination stop-and-waste valves shall not be installed underground or below grade. Freezeproof yard hydrants that drain the riser into the ground are considered to be stop-and-waste valves.

Exception: Installation of freezeproof yard hydrants that drain the riser into the ground shall be permitted if the potable water supply to such hydrants is protected upstream of the hydrants with a field testable backflow preventer assembly in accordance with Section P2902 and the hydrants are permanently identified as nonpotable outlets by *approved* signage that reads as follows: "Caution, Nonpotable Water. Do Not Drink."

Reason: A study that evaluated vacuum breakers after they were installed found that the frost proof sillcocks, conforming to ASSE 1019 that had been installed for 5 or more years, have a high probability of failure of the vacuum breaker. Therefore, property owners have no guarantee of backflow protection from ASSE 1019 devices and no way of testing to determine if the devices are working properly. Requiring a field testable backflow preventer, other than atmospheric-type vacuum breakers, for protection of hose connections will allow owners to determine if proper protection is being provided.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: COLLINS-P10-608.7

P87–09/10
608.8; IRC P2901.1

Proponent: Gary Kreutziger, City of San Antonio, TX, representing the Planning and Development Services Department

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

608.8 Identification of nonpotable water. ~~In buildings w~~Where nonpotable water systems are installed, the piping conveying the nonpotable water shall be identified either by color marking or metal tags in accordance with Sections 608.8.1 through 608.8.3. All nonpotable water outlets such as hose connections, open ended pipes, and faucets shall be identified at the point of use for each outlet with the words, "Nonpotable-not safe for drinking." The words shall be indelibly printed on a tag or sign constructed of corrosion-resistant waterproof material or shall be indelibly printed on the fixture. The letters of the words shall be not less than 0.5 inches in height and in colors in contrast to the background on which they are applied.

PART II – IRC

Revise as follows:

P2901.1 Potable water required. *Dwelling units* shall be supplied with potable water in the amounts and pressures specified in this chapter. ~~In a building~~ Where a nonpotable water-distribution system is installed, the nonpotable system shall be identified by color marking, metal tags or other appropriate method. Where color is used for marking, purple shall be used to identify municipally reclaimed water, rainwater and graywater distribution systems. Any nonpotable outlet that could inadvertently be used for drinking or domestic purposes shall be posted.

Reason: The purpose of the proposed code change is to require all nonpotable water systems to be identified, not just the systems "in buildings". As currently written section 608.8 limits the identification of nonpotable water systems to systems installed "in buildings" and creates confusion as to whether or not outlets not in buildings need to be identified. All systems and outlets for nonpotable water should be identified regardless of location. The change will provide a cost effective, minimum level of protection for the health and welfare of the public with minimal change to the code or its intent.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: KREUTZIGER-P1-608.8

P88–09/10
608.14

Proponent: Guy McMann, Jefferson County Colorado, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

608.14 Location of backflow preventers. Access shall be provided to backflow preventers as specified by the installation instructions of the approved manufacturer's installation instructions.

Reason: This is a simple cleanup. Code officials approve products and methods, not manufacturers.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: MCMANN-P2-608.14

P89–09/10

608.14

Proponent: Richard Grace, Fairfax County, VA Plumbing and Mechanical Inspectors, VA Building and Code Officials

Revise as follows:

608.14 Location of backflow preventers. Access shall be provided to backflow preventers as specified by the installation instructions of the ~~approved~~ manufacturer.

Reason: The code official or AHJ does not approve or disapprove manufacturers.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: GRACE-P2-608.14

P90–09/10

608.14; IRC P2902.6

Proponent: Matthew Kapcia, Michigan Code Study and Development Committee

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

608.14 Location of backflow preventers. ~~Access shall be provided to~~ Backflow preventers shall be installed only in locations where access for testing and maintenance does not require the use of a portable ladder, step stool, or similar device. Clearances around backflow preventers shall be in accordance with the manufacturer's as specified by the installation instructions ~~of the approved manufacturer.~~

PART II – IRC

Revise as follows:

P2902.6 Location of backflow preventers. ~~Access shall be provided to~~ Backflow preventers shall be installed only in locations where access for testing and maintenance does not the require use of a portable ladder, step stool, or similar device. Clearances around backflow preventers shall be in accordance with as specified by the manufacturer's installation instructions.

Reason: Backflow preventers are required to be maintained and tested at least annually, and are routinely installed in locations that pose a hazard to test personnel as well as maintenance personnel. Such locations include ceilings, mid-air in high locations, and over equipment requiring the use of a ladder while trying to use tools and gauges. Such locations often have improper access to enable a person lift components of test equipment. This is a health and safety issue for maintenance personnel. Code officials can always grant modifications under code section 105.1 Modifications.

Cost Impact: The code change proposal will increase the cost of construction and will decrease the cost of maintenance, equipment, lost work time, and medical expenses.

PART I – IPC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: KAPCIA-P2-608.14

P91–09/10 608.16.6

Proponent: Dave Watson, Dave Watson Associates representing himself

Revise as follows:

608.16.6 Connections subject to backpressure. Where a potable water connection is made to a non-potable line, fixture, tank, vat, pump or other equipment subject to high hazard back-pressure, the potable water connection shall be protected by a reduced pressure principle backflow preventer.

Reason: Section as written is vague- it could (and is) interpreted as also applying to low hazard cross connections. Table 608.1 lists numerous air gaps and backflow prevention devices for low hazard back pressure. These devices are not reduced pressure principle backflow preventers as existing 608.16.6 appears to require. Therefore, adding "high hazard" to 608.16.6 clarifies.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME:WATSON-P1-608.16.6

P92–09/10 202; IRC 202

Proponent: Michael S. Moss, American Backflow Prevention Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

1. Revise as follows:

BACKFLOW PREVENTER. A backflow prevention assembly, a device or other means methods to prevent backflow into the potable water supply.

CONTAMINATION. An impairment of the quality of potable water that creates an actual hazard to the public health risk through poisoning, or through the spread of disease by or contact with sewage, industrial fluids, or waste or radioactivity. See "Pollution".

POLLUTION. An impairment of the quality of potable water to a degree that does not create a hazard to the public health risk but that does adversely and unreasonably affect the aesthetic qualities of such potable water intended for domestic-use drinking, bathing or culinary purposes. See "Contamination".

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER/ION ASSEMBLY. A backflow prevention device assembly consisting of two independently acting check valves, internally force-loaded to a normally closed position and separated by an intermediate chamber with a (or zone) of reduced pressure. in which there is The reduced pressure zone is provided with an automatic relief means of venting to the atmosphere, internally loaded to a normally

open position between two tightly closing shutoff valves and with a means for testing for tightness of the checks and opening of the relief means.

2. Add new definitions as follows:

HAZARD, DEGREE OF

High or Health. A condition or arrangement that could cause contamination of a potable water supply or system supply. See “Contamination”.

Low or Non-health. A condition or arrangement that could cause pollution of a potable water supply or system supply. See “Pollution”.

PART II – IRC

1. Revise as follows:

BACKFLOW PREVENTER. A backflow prevention assembly, a device or other means methods to prevent backflow into the potable water supply.

CONTAMINATION. An impairment of the quality of potable water that creates an ~~actual hazard to the public health risk~~ through poisoning, ~~or through~~ the spread of disease ~~by~~ or contact with sewage, industrial fluids, ~~or waste or~~ radioactivity. See “Pollution”.

POLLUTION. An impairment of the quality of potable water ~~to a degree~~ that does not create a ~~hazard to the public health risk~~ but that does adversely and unreasonably affect the aesthetic qualities of ~~such~~ potable water intended for domestic use drinking, bathing or culinary purposes. See “Contamination”.

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTERION ASSEMBLY. A backflow prevention ~~device~~ assembly consisting of two independently acting check valves, internally ~~force~~-loaded to a normally closed position and separated by an intermediate chamber with a (or zone) of reduced pressure. in which there is The reduced pressure zone is provided with an automatic ~~relief~~ means of venting to the atmosphere, internally loaded to a normally open position between two tightly closing shutoff valves and with a means for testing for tightness of the checks and opening of the relief means.

2. Add new definitions as follows:

HAZARD, DEGREE OF

High or Health. A condition or arrangement that could cause contamination of a potable water supply or system supply. See “Contamination”.

Low or Non-health. A condition or arrangement that could cause pollution of a potable water supply or system supply. See “Pollution”.

Reason: BACKFLOW PREVENTER: The change in this term’s definition is necessary to better understand the use of Table 608.1(IRC Table P2902.3) APPLICATION OF BACKFLOW PREVENTERS. I have submitted a companion proposal for rearranging the information in Table 608.1 to show that BACKFLOW PREVENTERS are categorized in three groups: Backflow Prevention Assemblies, Backflow Devices, and Other Methods. The purpose of the three groupings is to illustrate that Backflow Prevention Assemblies are field testable (having shutoff valves and test cock fittings), Backflow Devices are not field testable; and Other Methods are not field testable but by observation, can be determined that proper backflow protection exists.

CONTAMINATION and POLLUTION: Table 608.1 (IRC Table P2902.3) has a footnote concerning the relationship between the terms “high” and “low” hazard and the defined terms of CONTAMINATION and POLLUTION, respectively. The backflow prevention community also uses the terms “health hazard” and “non-health hazard” in describing applications and connections. The proposed amendments to these definitions are necessary so that code officials, backflow prevention specialists, plumbers and plumbing system designers clearly understand the relationships between these terms and are able to properly select appropriate backflow preventers in accordance with the table.

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY: This definition needs changed to be in alignment with the 3 groups of Backflow Preventers that are identified in the proposed amended definition of BACKFLOW PREVENTER and the proposed rearrangement of Table 608.1. For the IRC, the term “REDUCED PRESSURE-ZONE BACKFLOW PREVENTER” is not found in the IRC text, therefore, the term is being corrected to match terminology corrections that are being proposed by companion proposals for numerous code sections.

All proposed changes in the above definitions have no technical impact. These changes, along with other proposed companion changes are necessary to provide meaningful and consistent terminology throughout the code for better understanding of the application of backflow preventers.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

ICCFILENAME: Moss-P1-202

P93–09/10

Table 608.1, 608.13.6; IRC Table P2902.3, P2902.3.2

Proponent: Michael S. Moss of the American Backflow Prevention Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

1. Revise table as follows:

**TABLE 608.1
 APPLICATION OF BACKFLOW PREVENTERS**

BACKFLOW PREVENTION ASSEMBLIES			
DEVICE	DEGREE OF HAZARD^a		APPLICABLE STANDARDS
Double check backflow prevention assembly and Double check fire protection backflow prevention assembly	Low hazard		ASSE 1015, AWWA C510, CSA B64.5, CSA B64.5.1
Double check detector fire protection backflow prevention assemblies	Low hazard		ASSE 1048
Pressure vacuum breaker assembly	High or low hazard		ASSE 1020, CSA B64.1.2
Reduced pressure principle backflow preventer on assembly and Reduced pressure principle fire protection backflow preventer on assembly	High or low hazard		ASSE 1013, AWWA C511, CAN/CSA B64.4, CSA B64.4.1
Reduced pressure detector fire protection backflow prevention assembly	High or low hazard		ASSE 1047
Spillproof –resistant vacuum breaker assembly	High or low hazard		ASSE 1056
BACKFLOW PREVENTER DEVICES			
DEVICE	DEGREE OF HAZARD^a		APPLICABLE STANDARDS

Antisiphon-type fill valves for gravity water closet flush tanks	High hazard		ASSE 1002, CSA B125.3
Pipe-applied Atmospheric vacuum breaker	High or low hazard		ASSE 1001, CAN/CSA B64.1.1
Backflow preventer for carbonated beverage dispensing equipment machines	Low hazard		ASSE 1022
Backflow preventer with intermediate atmospheric vents	Low hazard		ASSE 1012, CAN/CSA B64.3
Dual check valve type backflow preventer	Low hazard		ASSE 1024, CSA B64.6
Hose connection backflow preventer	High or Low hazard		ASSE 1052, CSA B64.2.1.1
Hose connection vacuum breaker	High or Low hazard		ASSE 1011, CAN/CSA B64.2, CSA B64.2.1
Laboratory faucet backflow preventer	High or Low hazard		ASSE 1035, CSA B64.7
Vacuum breaker wall hydrants, frost freeze-resistant, automatic draining type	High or Low hazard		ASSE 1019, CAN/CSA B64.2.2
<u>OTHER METHODS</u>			
DEVICE	DEGREE OF HAZARD^a		APPLICABLE STANDARDS
Air gap	High or low hazard		ASME A112.1.2
Air gap fittings for use with plumbing fixtures, appliances and appurtenances	High or low hazard		ASME A112.1.3
Barometric loop	High or low hazard		(See Section 608.13.4)

(Portions of table not shown remain unchanged)

2. Revise as follows:

608.13.6 Atmospheric-type vacuum breakers. Pipe-applied Atmospheric-type vacuum breakers shall conform to ASSE 1001 or CAN/CSA B64.1.1. Hose-connection vacuum breakers shall conform to ASSE 1011, ASSE 1019, ASSE 1035, ASSE 1052, CAN/CSA B64.2, CSA B64.2.1, CSA B64.2.1.1, CAN/CSA B64.2.2 or CSA B64.7. These devices shall operate under normal atmospheric pressure when the critical level is installed at the required height.

PART II – IRC

1. Revise table as follows:

**TABLE P2902.3
APPLICATION OF BACKFLOW PREVENTERS**

<u>BACKFLOW PREVENTION ASSEMBLIES</u>			
DEVICE	DEGREE OF HAZARD^a		APPLICABLE STANDARDS
Double check backflow prevention assembly and	Low hazard		ASSE 1015, AWWA C510, CSA B64.5, CSA B64.5.1
Double check fire protection backflow prevention assembly			
Double check detector fire protection backflow prevention assemblies	Low hazard		ASSE 1048
Pressure vacuum breaker assembly	High or low hazard		ASSE 1020, CSA B64.1.2
Reduced pressure principle backflow preventer ion assembly and	High or low hazard		ASSE 1013, AWWA C511, CAN/CSA B64.4, CSA B64.4.1
Reduced pressure principle fire protection backflow preventer ion assembly			

Reduced pressure detector fire protection backflow prevention assembly	High or low hazard		ASSE 1047
Spillproof-resistant vacuum breaker assembly	High or low hazard		ASSE 1056
<u>BACKFLOW PREVENTER DEVICES</u>			
DEVICE	DEGREE OF HAZARD^a		APPLICABLE STANDARDS
Antisiphon-type fill valves for gravity water closet flush tanks	High hazard		ASSE 1002, CSA B125.3
Pipe-applied Atmospheric vacuum breaker	High or low hazard		ASSE 1001, CAN/CSA B64.1.1
Backflow preventer with intermediate atmospheric vents	Low hazard		ASSE 1012, CAN/CSA B64.3
Dual check valve type backflow preventer	Low hazard		ASSE 1024, CSA B64.6
Hose connection backflow preventer	High or Low hazard		ASSE 1052, CSA B64.2.1.1
Hose connection vacuum breaker	High or Low hazard		ASSE 1011, CAN/CSA B64.2, CSA B64.2.1
Laboratory faucet backflow preventer	High or Low hazard		ASSE 1035, CSA B64.7
<u>OTHER METHODS</u>			
DEVICE	DEGREE OF HAZARD^a		APPLICABLE STANDARDS
Air gap	High or low hazard		ASME A112.1.2
Air gap fittings for use with plumbing fixtures, appliances and appurtenances	High or low hazard		ASME A112.1.3

(Portions of table not shown remain unchanged)

2. Revise as follows:

P2902.3.2 Atmospheric-type vacuum breakers. Pipe-applied Atmospheric-type vacuum breakers shall conform to ASSE 1001 or CSA B64.1.1. Hose-connection vacuum breakers shall conform to ASSE 1011, ASSE 1019, ASSE 1035, ASSE 1052, CSA B64.2, CSA B64.2.1, CSA B64.2.1.1, CSA B64.2.2 or CSA B64.7. These devices shall operate under normal atmospheric pressure when the critical level is installed at the required height.

Reason: There is much confusion concerning protection provided by any 'backflow preventer'. This table would better identify proper and correct applications by identifying the different protection methods: assemblies, plumbing devices and other methods. The existing table gives the mistaken understanding that "any of the above provides adequate protection for any job". This is not true. Adequate protection is based on hazard classification, application and proper installation. Backflow prevention assemblies are specifically recognized and accepted as separate and distinct units based on Section 312.10.2 because of their requirement for periodic testing to ensure proper and reliable operation in order to protect public health. Titles are in accordance with ASSE Standards listing from Plumbing Standards magazine January-March 2009.

No new assemblies, devices or means have been added to Table 608.1 and none have been deleted. The assemblies, devices and methods are simply grouped in 3 categories for simplicity and better understanding as to how they are to be applied. The HIGH hazard was taken off the hose connection backflow preventer, the hose connection vacuum breaker and the laboratory faucet vacuum breaker as these devices are never suitable for high hazard applications. Section 608.13.6 (IRC Section P2902.3.2) was revised to align the terminology to the standards and Table 608.1 (IRC Table P2902.3) as well as eliminate the confusing term "pipe-applied".

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: MOSS-P18-605.3.1

P94-09/10

608.13.7, 608.15.4.1, 608.15.4.2; IRC P2902.3.6, P2902.4, P2902.4.2, P2904.4.3, P2902.5.5

Proponent: Michael S. Moss of the American Backflow Prevention Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

608.13.7 Double check-valve backflow prevention assemblies. Double check-valve backflow prevention assemblies shall conform to ASSE 1015, CSA B64.5, CSA B64.5.1 or AWWA C510. Double-~~detector~~ check-valve detector backflow prevention assemblies shall conform to ASSE 1048. These devices shall be capable of operating under continuous pressure conditions.

608.15.4.1 Deck-mounted and integral vacuum breakers. *Approved* deck-mounted or equipment-mounted vacuum breakers and faucets with integral atmospheric vacuum breakers or integral spillproof -resistant vacuum breakers assemblies shall be installed in accordance with the manufacturer's instructions and the requirements for labeling. ~~with~~ The critical level of the breakers and assemblies shall be located at not less than 1 inch (25 mm) above the *flood level rim*.

608.15.4.2 Hose connections. Sillcocks, hose bibbs, wall hydrants and other openings with a hose connection shall be protected by an atmospheric-~~type~~ vacuum breaker, ~~or a pressure-type~~ vacuum breaker assembly or a permanently attached hose connection vacuum breaker.

Exceptions:

1. This section shall not apply to water heater and boiler drain valves that are provided with hose connection threads and that are intended only for tank or vessel draining.
2. This section shall not apply to water supply valves intended for connection of clothes washing machines where backflow prevention is otherwise provided or is integral with the machine.

PART II – IRC

Revise as follows:

P2902.3.6 Double check-valve backflow prevention assemblies. Double check-valve backflow prevention assemblies shall conform to ASSE 1015, CSA B64.5, CSA B64.5.1 or AWWA C510. Double-~~detector~~ check-valve detector backflow prevention assemblies shall conform to ASSE 1048. These devices shall be capable of operating under continuous pressure conditions.

P2902.4 Protection of potable water outlets. Potable water openings and outlets shall be protected by an air gap, a reduced pressure principle backflow prevention assembly with atmospheric vent, ~~an atmospheric-type~~ vacuum breaker, a ~~pressure-type~~ vacuum breaker assembly or a hose connection backflow preventer.

P2902.4.2 Deck-mounted and integral vacuum breakers. *Approved* deck-mounted or equipment-mounted vacuum breakers and faucets with integral atmospheric vacuum breakers or integral spillproof -resistant vacuum breakers assemblies shall be installed in accordance with the manufacturer's instructions and the requirements for labeling. ~~with~~ The critical level of the breakers and assemblies shall be located at not less than 1 inch (25 mm) above the *flood level rim*.

P2902.4.3 Hose connections. Sillcocks, hose bibbs, wall hydrants and other openings with a hose connection threads shall be protected by an atmospheric-~~type~~ vacuum breaker, ~~or a pressure-type~~ vacuum breaker assembly or a permanently attached hose connection vacuum breaker.

Exceptions:

1. This section shall not apply to water heater and boiler drain valves that are provided with hose connection threads and that are intended only for tank or vessel draining.
2. This section shall not apply to water supply valves intended for connection of clothes washing machines where backflow prevention is otherwise provided or is integral with the machine.

P2902.5.5 Solar systems. The potable water supply to a solar system shall be equipped with a backflow preventer with intermediate atmospheric vents complying with ASSE 1012 or a reduced pressure principle backflow prevention assembly complying with ASSE 1013. Where chemicals are used, the potable water supply shall be protected by a reduced pressure principle backflow prevention assembly.

Exception: Where all solar system piping is a part of the potable water distribution system, in accordance with the requirements of the *International Plumbing Code*, and all components of the piping system are listed for potable water use, ~~cross-connection protection measures~~ backflow protection shall not be required.

Reason: To provide consistent terminology throughout the code for reference and comparison.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: MOSS-P19-608.13.7

P95–09/10
608.13.2; IPC P2902.3.5

Proponent: Michael S. Moss of the American Backflow Prevention Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

608.13.2 Reduced pressure principle backflow prevention assemblies. Reduced pressure principle backflow prevention assemblies and reduced pressure principle fire protection backflow prevention assemblies shall conform to ASSE 1013, AWWA C511, CSA B64.4 or CSA B64.4.1. Reduced pressure detector fire protection assembly backflow prevention assemblies shall conform to ASSE 1047. These devices shall be permitted to be installed where subject to continuous pressure conditions. The relief opening shall discharge by air gap and shall be prevented from being submerged.

PART II – IRC

Revise as follows:

P2902.3.5 Reduced pressure principle backflow prevention assemblies. Reduced pressure principle backflow prevention assemblies and reduced pressure principle fire protection backflow prevention assemblies shall conform to ASSE 1013, AWWA C511, CSA B64.4 or CSA B64.4.1. Reduced pressure detector fire protection assembly backflow prevention assemblies shall conform to ASSE 1047. These devices shall be permitted to be installed where subject to continuous pressure conditions. The relief opening shall discharge by air gap and shall be prevented from being submerged.

Reason: To provide consistent terminology throughout the code for reference and comparison.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Moss-P7-608.13.2

P96–09/10

608.13.5; IRC P2902.3.4

Proponent: Michael S. Moss of the American Backflow Prevention Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

608.13.5 Pressure-type vacuum breakers assemblies. Pressure-type vacuum breakers assemblies shall conform to ASSE 1020 or CSA B64.1.2, and Spillproof-resistant vacuum breaker assemblies shall comply with ASSE 1056. These devices assemblies are designed for installation under continuous pressure conditions where the critical level is installed at the required height. Pressure-type vacuum breakers assemblies shall not be installed in locations where spillage could cause damage to the structure.

PART II – IRC

Revise as follows:

P2902.3.4 Pressure-type vacuum breakers assemblies. Pressure-type vacuum breakers assemblies shall conform to ASSE 1020 or CSA B64.1.2, and Spillproof-resistant vacuum breaker assemblies shall comply with ASSE 1056. These devices assemblies are designed for installation under continuous pressure conditions where the critical level is installed at the required height. Pressure-type vacuum breakers assemblies shall not be installed in locations where spillage could cause damage to the structure.

Reason: The purpose of this proposal is to provide consistent terminology throughout the code for reference and comparison. Reference to 608.15.4, Manufacturer's installation instructions require that the critical level of pressure vacuum breaker assemblies and spill-resistant vacuum breaker assemblies be at least 12 inches above downstream openings and outlets. Because atmospheric vacuum breakers are required to have their critical level installed at least 6 inches above downstream outlets, installers as well as code officials mistakenly assumed that PVBs and SVBs required the same installation height because these assemblies are also named "vacuum breakers". This is incorrect.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Moss-P8-608.13.5

P97–09/10

608.13.8

Proponent: Michael S. Moss of the American Backflow Prevention Association

Revise as follows:

608.13.8 ~~Spillproof -resistant vacuum breakers assemblies.~~ Spillproof -resistant vacuum breakers assemblies (SVB) shall conform to ASSE 1056. These ~~devices assemblies~~ are designed for installation under continuous-pressure conditions where the critical level is installed at the required height.

Reason: To provide consistent terminology throughout the code for reference and comparison. The removal of the term "(SVB)" is editorial as the use of abbreviations and acronyms do not comply with ICC rules for code language and other code sections concerning backflow protection assemblies. Reference to 608.15.4, Manufacturer's installation instructions require that the critical level of pressure vacuum breaker assemblies and spill-resistant vacuum breaker assemblies be at least 12 inches above downstream openings and outlets. Because atmospheric vacuum breakers are required to have their critical level installed at least 6 inches above downstream outlets, installers as well as code officials mistakenly assumed that PVBs and SVBs required the same installation height because these assemblies are also named "vacuum breakers". This is incorrect.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: Moss-P9-608.13.8

P98–09/10

608.3.1

Proponent: Michael S. Moss of the American Backflow Prevention Association

Revise as follows:

608.3.1 Special equipment, water supply protection. The water supply for hospital fixtures shall be protected against backflow with a reduced pressure principle backflow prevention assembly, an atmospheric or spill-proof resistant vacuum breaker assembly, or an air gap. Vacuum breakers for bedpan washer hoses shall not be located less than 5 feet (1524 mm) above the floor. Vacuum breakers for hose connections in health care or laboratory areas shall not be less than 6 feet (1829 mm) above the floor.

Reason: To provide consistent terminology throughout the code for reference and comparison.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: Moss-P13-608.3.1

P99–09/10

608.16.4, 608.16.4.1; IRC P2902.5.4, P2902.5.4.1

Proponent: Michael S. Moss of the American Backflow Prevention Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

608.16.4 Connections to automatic fire sprinkler systems and standpipe systems. The potable water supply to automatic fire sprinkler and standpipe systems shall be protected against backflow by a double check-valve fire protection backflow prevention assembly or a reduced pressure principle fire protection backflow prevention assembly.

Exceptions:

1. Where systems are installed as a portion of the water distribution system in accordance with the requirements of this code and are not provided with a fire department connection, isolation of the water supply system shall not be required.
2. Isolation of the water distribution system is not required for deluge, pre-reaction or dry pipe systems.

608.16.4.1 Additives or nonpotable source. Where systems under continuous pressure contain chemical additives or antifreeze, or where systems are connected to a nonpotable secondary water supply, the potable water supply shall be protected against backflow by a reduced pressure principle fire protection backflow prevention assembly. Where chemical additives or antifreeze are added to only a portion of an automatic fire sprinkler or standpipe system, the reduced pressure principle fire protection backflow prevention assembly shall be permitted to be located so as to isolate that portion of the system. Where systems are not under continuous pressure, the potable water supply shall be protected against backflow by an air gap or an ~~air gap~~ atmospheric vacuum breaker conforming to ASSE 1001 or CSA B64.1.1.

PART II – IRC

Revise as follows:

P2902.5.4 Connections to automatic fire sprinkler systems. The potable water supply to automatic fire sprinkler shall be protected against backflow by a double check ~~valve~~ fire protection backflow prevention assembly or a reduced pressure principle fire protection backflow prevention assembly.

Exception: Where systems are installed as a portion of the water distribution system in accordance with the requirements of this code and are not provided with a fire department connection, ~~isolation~~ backflow protection ~~of~~ for the water supply system shall not be required.

P2902.5.4.1 Additives or nonpotable source. Where systems contain chemical additives or antifreeze, or where systems are connected to a nonpotable secondary water supply, the potable water supply shall be protected against backflow by a reduced pressure principle fire protection backflow prevention assembly. Where chemical additives or antifreeze is added to only a portion of an automatic fire sprinkler or standpipe-system, the reduced pressure principle fire protection backflow prevention assembly shall be permitted to be located so as to isolate that portion of the system.

Reason: To provide consistent terminology throughout the code for reference and comparison.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Moss-P15-608.16.4

P100–09/10
608.16.5; IRC P2902.5.3

Proponent: Michael S. Moss of the American Backflow Prevention Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

608.16.5 Connections to lawn irrigation systems. The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker assembly or a reduced pressure principle backflow preventerion assembly. A Valves shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventerion assembly.

PART II – IRC

Revise as follows:

P2902.5.3 Lawn irrigation systems. The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker assembly or a reduced pressure principle backflow preventerion assembly. A Valves shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventerion assembly.

Reason: To provide consistent terminology throughout the code for reference and comparison.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Moss-P16-608.16.5

P101–09/10

608.16.6

Proponent: Michael S. Moss of the American Backflow Prevention Association

Revise as follows:

608.16.6 Connections subject to backpressure. Where a potable water connection is made to a nonpotable line, fixture, tank, vat, pump or other equipment subject to back-pressure, the potable water connection shall be protected by a reduced pressure principle backflow preventerion assembly.

Reason: To provide consistent terminology throughout the code for reference and comparison.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Moss-P17-608.16.6

P102-09/10
608.6; IRC P2902.1

Proponent: Michael S. Moss of the American Backflow Prevention Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

608.6 Cross-connection control. Cross connections shall be prohibited, except where approved ~~protective backflow preventers~~ devices are installed to protect the potable water supply.

PART II - IRC

Revise as follows:

P2902.1 General. A potable water supply system shall be designed and installed as to prevent contamination from nonpotable liquids, solids or gases being introduced into the potable water supply. Connections shall not be made to a potable water supply in a manner that could contaminate the water supply or provide a cross-connection between the supply and a source of contamination ~~unless an approved backflow prevention device is provided.~~ except where approved backflow preventers are installed to protect the potable water supply. Cross-connections between an individual water supply and a potable public water supply shall be prohibited.

Reason: Because the term "Protective devices" is not included in the definitions, this change clarifies the intent of Section 608.6. The change for the definition of "Backflow preventer" makes the definition more descriptive and precise.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Moss-P2-608.6

P103-09/10
608.13.3, 608.16.2; IRC P2902.3.3, P2902.5.1

Proponent: Michael S. Moss of the American Backflow Prevention Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

608.13.3 Backflow preventer with intermediate atmospheric vent. Backflow preventers with intermediate atmospheric vents shall conform to ASSE 1012 or CAN/CSA B64.3. These devices shall be permitted to be installed where subject to continuous pressure conditions. The relief opening shall discharge by air gap and shall be prevented from being submerged. Backflow preventers with intermediate atmospheric vents shall be prohibited as a means of protection for potable water connections to boilers or where chemicals are introduced downstream of the device.

608.16.2 Connections to boilers. ~~The potable supply to a boiler shall be equipped with a backflow preventer with an intermediate atmospheric vent complying with ASSE 1012 or CSA B64.3. Where conditioning chemicals are introduced into the system,~~ The potable water connection to a boiler shall be protected by an air gap or a reduced pressure principle backflow preventer on assembly, complying with ASSE 1013, CSA B64.4 or AWWA C511. The use of a backflow preventer with atmospheric vents for potable water connections to a boiler shall be prohibited.

PART II – IRC

P2902.3.3 Backflow preventer with intermediate atmospheric vent. Backflow preventers with intermediate atmospheric vents shall conform to ASSE 1012 or CAN/CSA B64.3. These devices shall be permitted to be installed where subject to continuous pressure conditions. The relief opening shall discharge by air gap and shall be prevented from being submerged. Installation of this type of backflow preventer shall be prohibited where chemicals are introduced downstream of the device.

P2902.5.1 Connections to boilers. The potable water supply to the boiler shall be equipped with a backflow preventer with an intermediate atmospheric vent complying with ASSE 1012 or CSA B64.3. Where conditioning chemicals are introduced into the boiler system, the potable water connection shall be protected by an air gap or a reduced pressure principle backflow preventer on assembly, complying with ASSE 1013, CSA B64.4 or AWWA C511

Reason

(Part I) These devices are designed for low or non-health hazard installations according to manufacturer specification sheets. They are inadequate for protection against chemical additions or injections downstream of the device. Buildings covered by the IPC are mostly “commercial” in nature and as such, it is difficult to know whether chemicals will be used to clean the boilers at some point during the life of the boiler unit. Based upon our experience, there is a high probability that chemical addition or injection will occur. This poses a significant risk to the building’s inhabitants as well as to the public water supply. Although we have found that most boiler installers “do the right thing” and install reduced pressure principle backflow protection assemblies on these “commercial” boilers, some installers take the code minimum approach by indicating that no chemicals will be added and thus, by code, are permitted to install a backflow preventer with intermediate atmospheric vents. Unfortunately, code officials have no alternative other than to accept the installation based upon the word of the installer that chemicals will not be added. In a commercial environment, this poses a significant risk to public health. Note that the addition of the “prohibition against installation where chemicals are involved” language to this section does not introduce a new requirement. Section 608.16.2 currently requires a different type of backflow protection for boilers where chemicals are involved.

(Part II) These devices are designed for low or non-health hazard installations according to manufacturer specification sheets. They are inadequate for protection against chemical additions or injections downstream of the device. In 1 and 2 family dwellings, backflow preventers with atmospheric vents are primarily used for connecting the potable water supply to a boiler. Chemical additions or injections into the boiler are rarely, if ever, performed. These “residential” boiler systems simply do not require the cleaning or conditioning that is often necessary for a boiler in a “commercial” environment. However, in the rare event that chemicals are added to the boiler system and the backflow preventer with atmospheric vents fail is inoperative or is malfunctioning, the event would directly affect only the limited number of inhabitants usually in 1 or 2 family dwellings. Given that most boilers in one or two family dwellings operate at low pressures (15 psi or less), that the potable water system pressure is usually at least 40 psi, and that the occurrence of a complete loss of water supply pressure during a chemical cleaning event would be extremely rare, the probability of a contamination event is extremely low. Therefore, for one and two family dwellings, requiring greater protection than that provided by a backflow preventer with atmospheric vents is not required unless it evident that chemical addition or injection downstream of the device will occur. Note that the addition of language to this section does not introduce a new requirement but is only a reminder of the limits of these devices. Section P2902.5.1 currently requires a different type of backflow protection for boilers where chemicals are involved.

Cost Impact: NONE because the majority of the time, installers are doing the right thing.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Moss-P3-608.13.3

P104–09/10
608.15.4; IRC P2902.3.4

Proponent: Michael S. Moss of the American Backflow Prevention Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

608.15.4 Protection by a vacuum breaker or vacuum breaker assembly. Openings and outlets shall be protected by atmospheric-type vacuum breakers or pressure-type vacuum breakers assemblies. Vacuum breakers and vacuum breaker assemblies shall not be installed under exhaust hoods or in similar locations that will contain toxic fumes or vapors. The critical level of the an atmospheric vacuum breaker shall be not less than set a minimum of 6 inches (152 mm) above the flood level rim of the fixture, receptor or device served. ~~Fill valves shall be set in accordance with Section 425.3.1. Pipe-applied vacuum breakers shall be installed not less than 6 inches (152 mm) above the flood level rim of the fixture, receptor or device served.~~ The critical level of a pressure vacuum breaker assembly or spill-resistant vacuum breaker assembly shall be not less than 12 inches (304 mm) above the flood level rim of the fixture, receptor or device served. The critical level of anti-siphon fill valves shall be in accordance with Section 425.3.1.

PART II – IRC

Revise as follows:

P2902.3.4 Pressure-type vacuum breakers assemblies. Pressure-type vacuum breakers assemblies shall conform to ASSE 1020 or CSA B64.1.2. and Spillproof –resistant vacuum breakers assemblies shall comply with ASSE 1056. The critical level of a pressure vacuum breaker assembly or spill-resistant vacuum breaker assembly shall be not less than 12 inches (304 mm) above the flood level rim of the fixture, receptor or device served. These devices are designed for installation under continuous pressure conditions where the critical level is installed at the required height. Pressure-type vacuum breakers assemblies shall not be installed in locations where spillage could cause damage to the structure.

Reason

(Part I): This proposal changes terminology to align with that used by those in backflow industry, with the referenced standards and with other proposed changes to code sections concerning backflow protection. The changes help make a clear distinction between vacuum breakers and vacuum breaker assemblies so that they are installed with the critical height at the proper elevation above openings and outlets. This proposal also resolves a conflict between the code and manufacturer’s installation instructions concerning the required critical level installation height for pressure vacuum breaker assemblies and spill-resistant vacuum breaker assemblies. The critical level of pressure vacuum breaker assemblies and spill-resistant vacuum breaker assemblies must be at least 12 inches above openings and outlets. The current code language implied that the critical level only needed to be 6 inches above. Installers as well as code officials are often not aware of the critical height requirements for PVBs and SVBs because installation instructions are lost or not at the jobsite. Inclusion of the critical height installation requirement(s) in the code for PVBs and SVBs will guarantee the level of backflow protection that these devices are designed to provide and to ensure protection of public health. Other changes in this section are editorial to align the language with ICC format.

(Part II): This proposal changes terminology to align with that used by those in backflow industry, with the referenced standards and with other proposed changes to code sections concerning backflow protection. Manufacturer’s installation instructions require that the critical level of pressure vacuum breaker assemblies and spill-resistant vacuum breaker assemblies be at least 12 inches above downstream openings and outlets. Because atmospheric vacuum breakers are required to have their critical level installed at least 6 inches above downstream outlets, installers as well as code officials mistakenly assumed that PVBs and SVBs required the same installation height because these assemblies are also named “vacuum breakers”. This is incorrect. Installers as well as code officials are typically not aware of the critical height requirements for PVBs and SVBs because installation instructions are lost or not at the jobsite. Inclusion of the critical height installation requirement(s) in the code for PVBs and SVBs will guarantee the level of backflow protection that these devices are designed to provide and to ensure protection of public health.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: MOSS-P6-608.15.4

P105–09/10 608.15.2

Proponent: Michael S. Moss of the American Backflow Prevention Association

Revise as follows:

608.15.2 Protection by a reduced pressure principle backflow prevention assembly. Openings and outlets shall be protected by a reduced pressure principle backflow prevention assembly on potable water supplies or by a reduced pressure principle fire protection backflow prevention assembly on dedicated fire line water supplies.

Reason: To provide consistent terminology throughout the code for reference and comparison.

Cost Impact: NONE

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Moss-P10-608.15.2

P106–09/10 312.10.2, Chapter 13; IRC P2503.8.2, Chapter 44

Proponent: Michael S. Moss of the American Backflow Prevention Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

1. Revise as follows:

312.10.2 Testing of Backflow Prevention Assemblies. Reduced pressure principle backflow prevention assemblies, reduced pressure principle fire protection backflow prevention assemblies, double check valve backflow prevention assemblies, double check fire protection backflow prevention assemblies, pressure vacuum breaker assemblies, reduced pressure detector fire protection backflow prevention assemblies, double check detector fire protection backflow prevention assemblies, hose connection backflow preventers, and spill-proof resistant vacuum breakers assemblies shall be tested at the time of installation, immediately after repairs or relocation and at least annually. The testing procedure shall be performed in accordance with one of the following standards: ASSE 5013, ASSE 5015, ASSE 5020, ASSE 5047, ASSE 5048, ~~ASSE 5052~~, ASSE 5056, CSA B64.10, or CSA B64.10.1 or ABPA Field Test Procedures for Backflow Prevention Assemblies.

2. Add standard to Chapter 13 as follows:

American Backflow Prevention Association
P.O. Box 3051
Bryan, TX 77805-3051

ABPA

Field Test Procedures for Backflow Prevention Assemblies dated 2-24-98

PART II – IRC

1. Revise as follows:

P2503.8.2 Testing of Backflow Prevention Assemblies. Reduced pressure principle backflow prevention assemblies, reduced pressure principle fire protection backflow prevention assemblies, double check valve backflow prevention assemblies, double detector check-valve fire protection backflow prevention assemblies, reduced pressure detector fire protection backflow prevention assemblies, double check detector fire protection backflow prevention assemblies, and pressure vacuum breaker assemblies and spill-resistant vacuum breaker assemblies shall be tested at the time of installation, immediately after repairs or relocation and at least annually. The testing procedure shall be performed in accordance with one of the following standards:

ASSE 5013, ASSE 5015, ASSE 5020, ASSE 5047, ASSE 5048, ASSE 5056, CSA B64.10,-CSA B64.10.1 or ABPA Field Test Procedures for Backflow Prevention Assemblies.

2. Add standard to Chapter 44 as follows:

American Backflow Prevention Association
P.O. Box 3051
Bryan, TX 77805-3051

ABPA

Field Test Procedures for Backflow Prevention Assemblies dated 2-24-98

Reason

(Part I) : The proposed changes correct the terminology for the backflow protection assemblies listed so that they are in alignment with the titles of the ASSE standards, the backflow industry terminology and the terminology changes proposed in companion proposals for various code sections. The list of assemblies in the current section is incomplete as compared those listed in Table 608.1 and therefore, additional terminology is proposed for consistency. Because a hose connection vacuum breaker is not a backflow protection assembly, the term was removed from the list and ASSE 5052 was removed from the list of procedures. The ABPA Field Test Procedures for Backflow Prevention Assemblies was added to the list of procedures because the Field Test Procedures are excerpted from The Manual of Cross-Connection Control, 9th edition published by the Foundation for Cross-Connection Control and Hydraulic Research published by the University of Southern California. Many jurisdictions have used the procedures in the Manual of Cross-Connection Control since it was first published and have established those procedures as the foundation of their cross-connection control programs. The ABPA Field Test Procedures is an abbreviated form of the Manual's procedures and is frequently used in the field to meet a jurisdiction's mandate for using the Manual's procedures instead of the ASSE procedures. The addition of the ABPA Field Test Procedures will allow those jurisdictions mandating use of the Manual's procedures to be in compliance with the code.

(Part II): The proposed changes are to align the IRC text with the proposed text for the IPC. Although it might be rare for some of the assemblies listed to be used for a 1 and 2 family residential dwelling, this section covers all possible assemblies that could be used. Aligning this sections text with that used in the IPC will make it easier to maintain. Note that the changes do not require that any of the added backflow assemblies be installed. This section only requires that if those assemblies are installed for whatever reason, testing is required as indicated.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Review of proposed new standard ABPA Field Test Procedures for Backflow Prevention Assemblies dated 2-24-98 indicated that, in the opinion of ICC staff, the standard did not comply with ICC standards criteria.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Moss-P12-312.10.2

P107–09/10

608.18 (New)

Proponent: Robert Burke University of Colorado representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Add new text as follows:

608.18 Dead ends. Dead ends exceeding 4 feet in developed length shall be prohibited unless protected by an approved backflow preventer .

Reason: Stagnant water is unhealthy and a prime cause of Legionella disease. ASHRAE Standard 12-200 addresses this issue; minimizing the risk of Legionellosis associated with building water system.

Cost Impact: The cost impact to construction will be minimal.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Burke-P3-608.18

P108–09/10

611.1, 611.2, Chapter 13; IRC P2908.1, P2908.2, Chapter 44

Proponent: Abraham I. Murra, Canadian Standards Association, representing the Canadian Standards Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

1. Revise as follows:

611.1 Design. Drinking water treatment units shall meet the requirements of NSF42, NSF 44, NSF 53, ~~or~~ NSF 60 or CSA B483.1.

611.2 Reverse osmosis systems. The discharge from a reverse osmosis drinking water treatment unit shall enter the drainage system through an *air gap* or an *air gap* device that meets the requirements of NSF 58 or CSA B438.1.

2. Add standard to Chapter 13 as follows:

CSA
B483.1-07 Drinking water treatment systems

PART II – IRC

1. Revise as follows:

P2908.1 Design. Drinking water treatment units shall meet the requirements of NSF42, NSF 44, NSF 53, ~~or~~ NSF 60 or CSA B483.1.

P2908.2 Reverse osmosis drinking water treatment units. Point-of-use reverse osmosis drinking water treatment units, designed for residential use, shall meet the requirements of NSF 58 or CSA B438.1. Waste or discharge from reverse osmosis drinking water treatment units shall enter the drainage system through an air gap or an air gap device that meets the requirements of NSF 58.

2. Add standard to Chapter 44 as follows:

CSA
B483.1-07 Drinking water treatment systems

Reason: Although a drinking water treatment system might comply with or be certified to the applicable NSF standard, plumbing, mechanical, and electrical requirements for components used for the installation of drinking water treatment systems are generally not covered by existing standards. CSA B483.1, which was developed to complement NSF standards, addresses such plumbing, mechanical, and electrical requirements.

Cost Impact: The code change proposal will not increase the cost of production.

Analysis: Review of proposed new standard, CSA B483.1-07, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Murra-P1-611.1

P109–09/10

703.6 (New); IRC P3001.4 (New)

Proponent: James Ranfone, American Gas Association, American Gas Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Add next text as follows:

703.6 Tracer wire required. An electrically continuous corrosion-resistant tracer tape or wire shall be buried with building sewer pipes of plastic material. One end of the tracer tape or wire shall be brought above ground at a building wall or at a cleanout. Where tracer wire is used, the wire size shall be not smaller than 14 AWG.

PART II – IRC

Add next text as follows:

P3001.4 Tracer wire required. An electrically continuous corrosion-resistant tracer tape or wire shall be buried with building sewer pipes of plastic material. One end of the tracer tape or wire shall be brought above ground at a building wall or at a cleanout. Where tracer wire is used, the wire diameter shall be not smaller than 14 AWG.

Reason: Installing underground utilities includes a method known as directional boring. The use of directional boring equipment eliminates the need for open trench or ditch work but may have some uncertainty concerning the location of existing underground utilities. The new section will provide a method to locate building sewer and drain pipes that will help reduce the damage to such underground facilities. A similar proposal has been submitted to the IRC to add Section P3001.3 with the same language.

Cost Impact: This code change proposal will increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: RANFONE-P1-703.6

P110–09/10

705.8.2, 705.14; IRC P3003.9.2, P3003.14.2

Proponent: Michael Cudahy, Plastic Pipe and Fittings Association (PPFA)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

705.8.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent-cement joints shall be permitted above or below ground.

Exception: A primer is not required where all of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM D 2564.
2. The materials joined are drain, waste and vent pipe and fittings installed in non-pressure service applications.
3. The pipe and fitting size does not exceed 4 inches (100 mm) in diameter.

705.14.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent-cement joints shall be permitted above or below ground.

Exception: A primer is not required where all of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM D 2564.
2. The materials joined are drain, waste and vent pipe and fittings installed in non-pressure service applications.
3. The pipe and fitting size does not exceed 4 inches (100 mm) in diameter.

PART II – IRC

Revise as follows:

P3003.9.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3 or CSA B181.2 shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and shall be in accordance with ASTM D 2855. Solvent-cement joints shall be permitted above or below ground.

Exception: A primer is not required where all of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM D 2564.
2. The materials joined are drain, waste and vent pipe and fittings installed in non-pressure service applications.
3. The pipe and fitting size does not exceed 4 inches (100 mm) in diameter.

P3003.14.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3 or CSA B181.2 shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and shall be in accordance with ASTM D 2855. Solvent-cement joints shall be permitted above or below ground.

Exception: A primer is not required where all of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM D 2564.
2. The materials joined are drain, waste and vent pipe and fittings installed in non-pressure service applications.
3. The pipe and fitting size does not exceed 4 inches (100 mm) in diameter.

Reason: To introduce an exception in IPC Chapter 7 (IRC Chapter 30), Sanitary Drainage, allowing for the practice of one-step solvent cementing of non-pressure DWV systems 4" and under.

This exception allows for an optional one-step procedure for joining non-pressure DWV PVC piping systems 4" in diameter and below with solvent cement conforming to ASTM D 2564. This method is practiced, and the code should include specific language to indicate when it is acceptable.

Pressure testing completed by NSF International has shown that solvent cement conforming to ASTM D 2564, when used without primer on PVC DWV pipe and fittings, both solid wall and cell core, generates bonding forces well in excess of what is required for these systems. The strength of the joint often exceeds the pipe and fitting pressure capacity.

Bibliography: NSF International report J-00036842 can be found on the PPFA website, www.ppfa.com/ppfa_home.org/ICC09/PPFA_NSF_J-00036842.pdf

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: CUDAHY-P1-705.8.2

P111–09/10
706.2; IRC P3002.3.1

Proponent: Brian D. Havens, Front Range Refrigeration, Co., Inc., representing himself

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

706.2 Obstructions. The fittings shall not have ledges, shoulders or reductions capable of retarding or obstructing flow in the piping. Threaded drainage pipe fittings shall be of the recessed drainage type. This section shall not be applicable to tubular waste fittings used to convey vertical flow upstream of the trap seal liquid level of a fixture trap.

PART II – IRC

Revise as follows:

P3002.3.1 Drainage. Drainage fittings shall have a smooth interior waterway of the same diameter as the piping served. All fittings shall conform to the type of pipe used. Drainage fittings shall have no ledges, shoulders or reductions which can retard or obstruct drainage flow in the piping. Threaded drainage pipe fittings shall be of the recessed drainage type, black or galvanized. Drainage fittings shall be designed to maintain one-fourth unit vertical in 12 units horizontal (2-percent slope) grade. This section shall not be applicable to tubular waste fittings used to convey vertical flow upstream of the trap seal liquid level of a fixture trap.

Reason: The proposed change clears up a conflict between the code and the accepted practices for tubular waste piping installations. The current language literally prohibits the installation of tubular “baffle tees” (needed for double bowl kitchen sink disposal installations) as well pop-drain drain assemblies and other specialized tubular fittings. This is because the internal components such as baffles, the pop-up rods, pop up stopper and internal guides could all be considered “reductions capable of retarding flow”. Where these types of tubular waste fittings have been commonly used to convey vertical waste flow, the reduced internal flow area due to baffles or other internal protrusions has not created any significant flow retarding problems. The added text in this section will allow the code to be in alignment with commonly accepted and approved practices.

The inclusion of the term “tubular waste fittings” in this section also confirms that the first two sentences of this section do apply to tubular waste fitting installations. This is valuable for enforcement by the code official where tubular waste fittings having internal components are improperly installed. For example, use of a baffle tee on its back or side would significantly restrict horizontal flow and would be an unacceptable installation practice, although currently, the code does not prohibit this.

Cost Impact: The code change will not increase the cost of construction.

PART I – IPC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: Havens-P1-706.2

P112-09/10

Table 709.1

Proponent: Richard Grace, Fairfax County, VA Plumbing and Mechanical Inspectors, VA Building and Code Officials

Revise table as follows:

**TABLE 709.1
DRAINAGE FIXTURE UNITS FOR FIXTURES AND GROUPS**

FIXTURE TYPE	DRAINAGE FIXTURE UNIT VALUE AS LOAD FACTORS	MINIMUM SIZE OF TRAP (inches)
Bathroom group as defined in Section 202 (1.6 gpf water closet) ^f	5	—
Bathroom group as defined in Section 202 (water closet flushing greater than 1.6 gpf) ^f	6	—

(Portions of table not shown remain unchanged)

- a. For traps larger than 3 inches, use Table 709.2.
- b. A showerhead over a bathtub or whirlpool bathtub attachment does not increase the drainage fixture unit value.
- c. See Sections 709.2 through 709.4.1 for methods of computing unit value of fixtures not listed in this table or for rating of devices with intermittent flows.
- d. Trap size shall be consistent with the fixture outlet size.
- e. For the purpose of computing loads on building drains and sewers, water closets and urinals shall not be rated at a lower drainage fixture unit unless the lower values are confirmed by testing.
- f. For fixtures added to a dwelling unit bathroom group, add the dfu value of those additional fixtures to the bathroom group fixture count.
- g. See Section 406.3 for sizing requirements for fixture drain, branch drain, and drainage stack for an automatic clothes washer standpipe.
- h. See Sections 709.4 and 709.4.1.

Reason: Bathroom groups can be found in any type of building, not just in a dwelling unit, and the footnote should not be restricted to just dwelling units.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

ICCFILENAME: GRACE-P1-TABLE 709.1

P113-09/10

711.2, 711.3.1

Proponent: Julius Ballanco, P.E., CPD, FASPE/JB Engineering and Code Consulting, P.C. representing himself

1. Delete without substitution:

~~**711.2 Horizontal branch connections to horizontal stack offsets.** Where a horizontal stack offset is located more than four branch intervals below the top of the stack, a Horizontal branch connections shall not connect within the horizontal stack offset or within 2 feet (610 mm) above or below such offset.~~

(Renumber subsequent sections)

2. Revise as follows:

704.3 Connections to offsets and bases of stacks. Horizontal branches shall connect to the bases of stacks at a point located not less than 10 times the diameter of the drainage stack downstream from the stack. ~~Except as prohibited by Section 711.2, h~~ Horizontal branches shall connect to horizontal stack offsets at a point located not less than 10 times the diameter of the drainage stack downstream from the upper stack.

711.3.1 Omission of vents for horizontal stack offsets. Vents for horizontal stack offsets required by Section 711.3 shall not be required where the stack and its offset are one pipe size larger than required for a building drain [see Table 710.1(1)] and the entire stack and offset are not less in cross-sectional area than that required for a straight stack plus the area of an offset vent as provided for in Section 915. ~~Omission of offset vents in accordance with this section shall not constitute approval of horizontal branch connections within the offset or within 2 feet (610 mm) above or below the offset.~~

Reason: The current requirement connection limitations in these sections are archaic and unfounded. Research has shown that the turbulent flow in the horizontal offset occurs within the first 10 pipe (stack) diameters downstream of the stack. This is the same condition that occurs in a building drain, downstream of the base of a stack. Beyond the ten pipe diameters point downstream of a stack, the flow in the horizontal pipe becomes nonturbulent open channel flow. Any connection downstream of where turbulent action is known to occur should be permitted. The allowance for horizontal connections to a horizontal offset should mirror the requirements at the base of the stack because the concerns for avoiding connections in a turbulent zone are identical.

This modification is consistent with one of the legacy codes, See Section 604.3 of the 1993 BOCA National Plumbing Code.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: BALLANCO-P4-711.2

P114-09/10

712.3.2.1 (New); IRC P3007.3.2.1 (New)

Proponent: Ronald L, George, CIPE, CPD, President of Ron George Design & Consulting Services representing himself

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Add new text as follows:

712.3.2.1 Sump pit cover. Sump pit covers shall be pedestrian traffic rated to support a live load of 300 lbs/ft² (14.4 kPa) with a maximum deflection of 1/150th of the largest span dimension.

PART II – IRC

Add new text as follows:

P3007.3.2.1 Sump pit cover. Sump pit covers shall be pedestrian traffic rated to support a live load of 300 lbs/ft² (14.4 kPa) with a maximum deflection of 1/150th of the largest span dimension.

Reason: This proposal is a result of a recent failure of a thin wooden sump cover where a child was severely burned when he fell through the lid into heated water because the sump pump was stuck in the "on" position and had heated the water in the sump pit. The boy basically fell into a boiling sump of wastewater. The incident brought to light the fact there are no code requirements for sump basin lid material or structural requirements. Currently you can use cardboard as a sump pit cover and it would not be a code violation. The proposed code language requires the sump pit cover to be capable of handling pedestrian traffic. The weight and deflection requirements come from specifications for access hatches in floors or on roofs.

Cost Impact: Minimal

PART I – IPC

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: GEORGE-P1-712.3.2.1 NEW

P115-09/10

712.3.3, 712.3.3.1 (New), 712.3.3.2 (New); IRC P3007.3.3 (New), P3007.3.3.1 (New), P3007.3.3.2 (New)

Proponent: Michael Cudahy, Plastic Pipe and Fittings Association (PPFA)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

712.3.3 Discharge piping and fittings. Discharge pipe and fittings serving sump pumps and ejectors shall be constructed of ~~approved~~ materials in accordance with Sections 712.3.3.1 and 712.3.3.2 and shall be *approved*.

712.3.3.1 Materials. Pipe and fitting materials shall be constructed of brass, copper, CPVC, ductile iron, PE, or PVC.

712.3.3.2 Ratings. Pipe and fittings shall be rated for the maximum system operating pressure and temperature. Pipe fitting materials shall be compatible with the pipe material. Where pipe and fittings are buried in the earth, they shall be approved for burial.

PART II – IRC

Revise as follows:

P3007.3.3 Discharge piping and fittings. Discharge pipe and fittings serving sump pumps and ejectors shall be constructed of ~~approved~~ materials in accordance with Sections P3007.3.3.1 and P3007.3.3.2 and shall be *approved*.

P3007.3.3.1 Materials. Pipe and fitting materials shall be constructed of brass, copper, CPVC, ductile iron, PE, or PVC.

P3007.3.3.2 Ratings. Pipe and fittings shall be rated for the maximum system operating pressure and temperature. Pipe fitting materials shall be compatible with the pipe material. Where pipe and fittings are buried in the earth, they shall be approved for burial.

Reason: PPFA is submitting this language to expand on what materials are suitable for pressurized sewage discharge (forced main) applications. An attempt was made to develop a table of materials by ASTM designation, size, pressure rating and other parameters, but it became overly complex. A simple listing of materials by type seems acceptable and would improve the code. Currently, there is little guidance.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: CUDAHY-P4-712.3.3

P116-09/10

712.3.5; IRC P3007.3.5

Proponent: John T.E. Walters, Prince William County, VA., representing the Virginia Plumbing and Mechanical Inspectors Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

712.3.5 Ejector connection to the drainage system. Pumps connected to the drainage system shall connect to the a building sewer, or shall connect to a wye fitting in the building drain, soil stack, waste stack or horizontal branch drain. a minimum of 10 feet (3048 mm) from the base of any soil stack, waste stack or fixture drain. Where the discharge line connects into horizontal drainage piping, the connection shall be made through a wye fitting into the top of the drainage piping and such wye fitting shall be located not less than 10 feet (3048 mm) from the base of any soil stack, waste stack or fixture drain.

PART II- IRC

Revise as follows:

P3007.3.5 Ejector connection to the drainage system. Pumps connected to the drainage system shall connect to the a building sewer, or shall connect to a wye fitting in the building drain, soil stack, waste stack or horizontal branch drain. a minimum of 10 feet (3048 mm) from the base of any soil stack, waste stack or fixture drain. Where the discharge line connects into horizontal drainage piping, the connection shall be made through a wye fitting into the top of the drainage piping and such wye fitting shall be located not less than 10 feet (3048 mm) from the base of any soil stack, waste stack or fixture drain.

Reason: In addition to building sewers and building drains, soil stacks, waste stacks and horizontal branch drains are acceptable points of termination for ejector discharge lines. Fittings acceptable for changes of direction are already addressed in Table 706.3.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: WALTERS-P1-712.3.5

P117-09/10

802.1.3

Proponent: Cort Strain University of Colorado representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

802.1.3 Potable clear-water waste. ~~Where devices and equipment~~ plumbing appliances and appurtenances such as sterilizers, and relief valves, discharge potable water to the building drainage system, the discharge shall be through an indirect waste pipe by means of an air gap.

Reason: The intent is to use clearly defined terms to improve code.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Strain-P4-802.1.3

P118–09/10

802.1.5

Proponent: Cort Strain University of Colorado representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

802.1.5 Non-potable clear-water waste. Where ~~devices and equipment~~ plumbing or mechanical appliances such as process tanks, filters, drips, and boilers discharge non-potable water to the building drainage system, the discharge shall be through an indirect waste pipe by means of an air break or an air gap.

Reason: The intent is to use clearly defined terms to improve code.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Strain-P3-802.1.5

P119–09/10

802.1.8

Proponent: Robert G. Konyndyk, Chief, Plumbing Division, Bureau of Construction Codes, State of Michigan

Revise as follows:

802.1.8 Food utensils, dishes, pots and pans sinks. Sinks used for the washing, rinsing or sanitizing of utensils, dishes, pots, pans or service ware used in the preparation, serving or eating of food shall discharge indirectly through an air gap or an air break ~~or directly connect~~ to the drainage system.

Reason: The insertion of the new section into the 09 edition of the code attempted to list the three options for connections of the named fixtures. While any one of the three options may be accepted in different jurisdictions, the lead in clarification of "indirectly" obviates the direct connection choice. If a code change was to be submitted removing the directive "indirectly" the choice of three methods would be merely a laundry list which is contrary to modern code text processes.

Cost Impact: The clarification will not increase the cost of construction from that of the present language.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: KONYNDYK-P2-802.1.8

P120-09/10

802.2

Proponent: Cort Strain University of Colorado representing (CAPMO) Colorado Association of Plumbing and Mechanical Officials

Revise as follows:

802.2 Installation. All indirect waste piping shall discharge through an air gap or air break into a waste receptor or standpipe. Waste receptors and standpipes shall be trapped and vented and shall connect to the building drainage system. All indirect waste piping that exceeds ~~2 feet~~ 30 inches (762mm) in developed length measured horizontally, or ~~4 feet~~ 54 inches (1372mm) in total developed length, shall be trapped.

Exception: Where a waste receptor receives only clear water waste and does not directly connect to a sanitary drainage system, the receptor shall not require a trap.

Reason: Because the IPC allows 30 inches center-to-center for a combination fixture (see Section 1002.1 exception 2), horizontal continuous waste tubing of up to 30 inches in length is allowed by the code. Therefore, a horizontal indirect waste pipe should be allowed to be 30 inches long elsewhere, so as to be consistent. The 54 inch total developed length allowance is simply the 30 inches horizontal length allowance plus the 24 inches vertical distance allowed from a fixture to its trap (see Section 1002.1) The proposed lengths seem to make a lot more sense and will be consistent with other allowances in the code. The added exception should be self evident; no traps are necessary with clear water waste in an indirect piping system.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: Strain-P1-802.2

P121-09/10

802.3; IRC P2706.1

Proponent: Guy McMann, Jefferson County Colorado, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

802.3 Waste receptors. Every waste receptor shall be of an approved type. A removable strainer or basket shall cover the waste outlet of waste receptors. Waste receptors shall be installed in ventilated spaces. Waste receptors shall not be installed in bathrooms, or toilet rooms, plenums, crawl spaces, attics, interstitial spaces above ceilings and below floors or in any inaccessible or unventilated space such as a closet or storeroom. Ready access shall be provided to waste receptors.

PART II - IRC

Revise as follows:

P2706.1 General. Every waste receptor shall be of an approved type. Plumbing fixtures or other receptors receiving the discharge of indirect waste pipes shall be shaped and have a capacity to prevent splashing or flooding and shall be readily accessible for inspection and cleaning. Waste receptors and standpipes shall be trapped and vented and shall connect to the building drainage system. A removable strainer or basket shall cover the waste outlet of waste receptors. Waste receptors shall be installed in ventilated spaces. Waste receptors shall not be installed in bathrooms, attics, crawl spaces, interstitial spaces above ceilings and below floors or in any inaccessible or unventilated space such as a closet. Ready access shall be provided to waste receptors.

Reason: An open unattended trap located in a crawl space, attic or other unobservable location is problematic at best. This is a common practice when looking for a place to park a condensate drain. These fixtures are prone to flooding such that they are not noticed for extended periods of time resulting in damage and a severe insanitary condition. Back water valves are also problematic. They are prone to tampering and in some cases removal for maintenance operations and never reinstalled. It doesn't take much to break a backwater valve and the smallest amount of debris stops the valve from fully closing. Traps in plenums may run dry even if primers are installed as trap primers are mechanical devices that will eventually fail in time. Traps in attics are subject to freezing. Currently, the code is silent on this matter but common sense would tell us that interceptors including standpipes should not be located in these areas.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: MCMANN-P3-802.3

P122–09/10

901.2.1

Proponent: Gregory A Farmer, PE, representing ASPE Legislative Committee

Revise as follows:

901.2.1 Venting Required. Every trap and trapped fixture except emergency floor drains connected to a branch drain six feet or more from a building drain shall be vented in accordance with one of the venting methods specified in this chapter.

Reason: These drains are installed as a convenience in case of accidental spills, overflows, snow melt, or wash down. The stated purpose of venting per 901.2 is to "...permit the admission or emission of air so that the seal of any fixture trap shall not be subjected to a pneumatic pressure differential of more than 1 inch of water column". When the drain is more than 6 feet away from the source of reduced pressure, the trap seal is not affected and therefore a vent is not necessary. Vents close to a floor drain trap increase the evaporation rate of the trap seal and degrade effectiveness by allowing lower humidity air to be introduced to the outlet side of the trap.

Introduction of water from normal activities such as mopping the floor, hose stream or from snow melt is not sufficient to fill the horizontal pipe so venting occurs in the same manner as any horizontal vent. IN the case of accidental flooding in the area, the trap seal will remain when the area is drained.

Requiring a vent in branch piping forces the piping to be installed deeper than necessary to allow for the slope of the vent piping. Increasing the depth of the drain piping sometimes forces a sump pit and pump to be installed that otherwise would not be needed.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: FARMER-P2-901.2.1

P123–09/10

901.3, 917.8, Chapter 13

Proponent: Jack Beuschel, Studor, Inc. representing himself.

1. Revise as follows:

901.3 Chemical waste vent systems. The vent system for a chemical waste system shall be independent of the sanitary vent system and shall terminate separately through the roof to the open-air outdoors or to an air admittance valve that complies with ASSE 1049. Air admittance valves for chemical waste systems shall be constructed of materials approved in accordance with Section 702.5 and shall be tested for chemical resistance in accordance with ASTM F1412.

917.8 Prohibited installations. Air admittance valves shall not be installed in non-neutralized special waste systems as described in Chapter 8 except where such valves are in compliance with ASSE 1049, are constructed of materials approved in accordance with Section 702.5 and are tested for chemical resistance in accordance with ASTM F1412. Air admittance valves shall not be located in spaces utilized as supply or return air plenums.

2. Add standards to Chapter 13 as follows:

ASSE

1049-2009 Performance Requirements for Individual and Branch Type Air Admittances Valves for Chemical Waste Systems.

ASTM

F1412-01 Standard Specification for Polyolefin Pipe and Fittings for Corrosive Waste Drainage Systems.

Reason: The purpose of this code change is to add new provisions to the code to allow air admittance valves that are chemically-resistant (AAVCs) to serve as vents for a chemical waste system as an option to chemical waste vent piping terminating outdoors.

Laboratory sinks into which acids and chemicals are dumped are usually located in islands in the middle of rooms. To vent the traps for these sinks using vent piping that can only terminate outdoors requires extensive labor and material. Because acid- and chemically-resistant pipe and fittings are very costly (as compared to materials used in sanitary drainage systems), allowing the use of AAVCs will significantly reduce material costs for installing chemical waste systems. A reduction in the amount of required material vent piping material will result in reduced labor costs for installing chemical waste systems.

ASSE has recently developed ANSI/ASSE Standard 1049 - *Performance Requirements for Individual and Branch Type Air Admittance Valves for Chemical Waste Systems*. Section 702.5 of the IPC requires that drainage systems for chemical wastes and vent pipes shall be of an approved material that is resistant to corrosion and degradation for the concentrations of chemicals involved. Therefore, AAVs that comply with ANSI/ASSE 1049 and are manufactured from materials that meet recognized industry standards for chemical and acid resistant material in compliance with Section 702.5 and tested to ASTM F1412 for chemical resistance must be permitted to serve as the vent for nonneutralized special waste systems.

Referenced Standards:

ASSE 1049
ASTM F1412-01
ASTM D4104-05

Cost Impact: This code change proposal will not increase the cost of construction.

Analysis: Review of proposed new standards, ASSE 1049-2009 and ASTM F1412-01, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: BEUSCHEL-P1-901.3

P124-09/10

904.4; IRC P3103.4

Proponent: John T.E. Walters, Prince William County, VA., representing the Virginia Plumbing and Mechanical Inspectors Association (VPMIA)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

904.4 Prohibited use. A vent terminal shall not be used for any purpose other than a vent terminal. ~~as a flag pole or to support flag poles, television serials or similar items, except when the piping has been anchored in an approved manner.~~

PART II - IRC

Revise as follows:

P3103.4 Prohibited use. A vent terminal shall not be used for any purpose other than a vent terminal. ~~as a flag pole or to support flag poles, television serials or similar items, except when the piping has been anchored in an approved manner.~~

Reason: The vent terminal should only be used for that purpose alone. There are no "approved anchoring" methods for the vent terminal to support anything.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: WALTERS-P2-904.4

P125–09/10

906.2

Proponent: Gregory A Farmer, PE, representing ASPE Legislative Committee

Revise as follows:

906.2 Venting of fixture drains. ~~The total fall in a fixture drain due to pipe slope shall not exceed the diameter of the fixture drain, nor shall the~~ The vent connection to the a fixture drain, except for water closets, shall be below above the weir of the trap.

Reason: The removed verbiage refers to sanitary drainage piping and therefore is in the wrong code section. It also limits the length of a 2" branch pipe to a maximum of eight feet, a 3" pipe to 24 feet, and a 4" pipe to 48 feet. These limitations are not in the sanitary drainage section and there is no viable reason why they should be included in the vent section.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: FARMER-P6-906.2

P126–09/10

912.1

Proponent: Robert Burke, University of Colorado representing Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

912.1 Type of fixtures. A combination drain and vent system shall not serve fixtures other than floor drains, sinks, lavatories, and drinking fountains. Combination drain and vent systems shall not receive ~~discharge from a food waste grinder or clinical sink~~ grease laden waste or solid waste.

Reason: By design, combination drain and vent systems are intended for clear and gray water waste. See 2006 IPC code commentary.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Burke-P2-912.1

P127-09/10
912.3; IRC P3111.3

Proponent: John R. Addario, P.E., New York State Department of State - Division of Code Enforcement and Administration

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

912.3 Size. The minimum size of a combination drain and vent pipe shall be in accordance with Table 912.3. The horizontal length of a combination drain and vent system shall be unlimited.

PART II- IRC

Revise as follows:

P3111.3 Size. The minimum size of a combination drain and vent pipe shall be in accordance with Table 3111.3. The horizontal length of a combination drain and vent system shall be unlimited.

Reason: This proposed change clarifies the intent of the code by adding that a combination drain and vent system, sized per code, shall be unlimited in horizontal length. Combination drain and vent systems are critical when used in piping systems serving floor drains, especially in large commercial kitchens. It is a source of confusion as to whether the length of the combination drain and vent is limited in length; this proposed change clarifies the intent of the code.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Addario-P1-912.3

P128-09/10
202, 912, 912.1, 912.2, 912.2.1, 912.2.2, 912.2.4, 912.3, Table 912.3; IRC R202, P3111.2

Proponents: Richard Grace, Fairfax County, VA Plumbing and Mechanical Inspectors, VA Building and Code Officials
Logan G. Sauter – Salt Lake City, Utah representing Utah Chapter of ICC

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

1. Revise definition as follows:

COMBINATION WASTE AND VENT SYSTEM. A specially designed system of waste piping embodying the horizontal wet venting of one or more sinks, lavatories, drinking fountains, or floor drains by means of a common waste and vent pipe adequately sized to provide free movement of air above the flow line of the drain.

2. Revise as follows:

SECTION 912
COMBINATION ~~DRAIN~~ WASTE AND VENT SYSTEM

912.1 Type of fixtures. A combination ~~drain~~ waste and vent system shall not serve fixtures other than floor drains, sinks, lavatories and drinking fountains. Combination ~~drain~~ waste and vent systems shall not receive the discharge from a food waste grinder or clinical sink.

912.2 Installation. The only vertical pipe of a combination ~~drain~~ waste and vent system shall be the connection between the fixture drain and the horizontal combination ~~drain~~ waste and vent pipe. The maximum vertical distance shall be 8 feet (2438 mm).

912.2.1 Slope. The horizontal combination ~~drain~~ waste and vent pipe shall have a maximum slope of one-half unit vertical in 12 units horizontal (4-percent slope). The minimum slope shall be in accordance with Table 704.1.

912.2.2 Connection. The combination ~~drain~~ waste and vent system shall be provided with a dry vent connected at any point within the system or the system shall connect to a horizontal drain that is vented in accordance with one of the venting methods specified in this chapter. Combination ~~drain~~ waste and vent systems connecting to building drains receiving only the discharge from a stack or stacks shall be provided with a dry vent. The vent connection to the combination ~~drain~~ waste and vent pipe shall extend vertically a minimum of 6 inches (152 mm) above the flood level rim of the highest fixture being vented before offsetting horizontally.

912.2.4 Fixture branch or drain. The fixture branch or fixture drain shall connect to the combination ~~drain~~ waste and vent within a distance specified in Table 906.1. The combination ~~drain~~ waste and vent pipe shall be considered the vent for the fixture.

912.3 Size. The minimum size of a combination ~~drain~~ waste and vent pipe shall be in accordance with Table 912.3.

TABLE 912.3
SIZE OF COMBINATION ~~DRAIN~~ WASTE AND VENT PIPE
(Portions of table not shown remain unchanged)

PART II – IRC

1. Revise definition as follows:

COMBINATION WASTE AND VENT SYSTEM. A specially designed system of waste piping embodying the horizontal wet venting of one or more sinks, lavatories or floor drains by means of a common waste and vent pipe adequately sized to provide free movement of air above the flow line of the drain.

2. Revise as follows:

P3111.2 Installation. The only vertical pipe of a combination ~~drain~~ waste and vent system shall be the connection between the fixture drain and the horizontal combination waste and vent pipe. The maximum vertical distance shall be 8 feet (2438 mm).

Reason

Part I

(Grace) The definition of “drain” per chapter 2 - “Any pipe that carries wastewater or water-borne wastes in a building drainage system.” The definition of “waste” per chapter 2 - “The discharge from any fixture, appliance, area or appurtenance that does not contain fecal matter.” Section 912 specifically states that only floor drains, sinks, lavatories and drinking fountain are to be served on a combination drain and vent system. These fixtures, as specifically listed, will not have fecal matter discharged to them thus section 912 should reflect this with the correctly defined terms. Additionally, the IRC currently uses the term “combination waste and vent pipe” in all but one location of Section P3111 (there is a proposed change to correct that one location as well). This will promote consistency between the IPC and the IRC.

(Sauter) Section 202 has a definition for a Combination Waste and Vent System, not a Combination Drain and Vent System. Also, the IRC uses the term “Combination Waste and Vent System” in both Section R202 Definitions and in Section P3111. This change would bring terminology uniformity to the IPC and IRC. By definition, a “waste” pipe never carries fecal matter, where as some “drains”, such as building drains, do carry fecal matter. The intended application of a combination waste and vent system does not include fixtures handling fecal matter. The title change from “drain” to “waste” would help reinforce this application limitation.

Part II

(Grace)-The phrase “combination drain and vent” is found only once in Section P3111. All other language is “combination waste and vent”. It is my belief that this was simply an editorial error.
Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: GRACE-P4-912.1

**P129–09/10
914 (New)**

Proponent: Robert Evans, CPD/ASPE Legislative Committee/ASPE

Add new section as follows:

SECTION 914
SINGLE STACK VENT SYSTEM

914.1 Where permitted. A drainage stack shall serve as a single stack vent system where sized and installed in accordance with Sections 914.2 through 914.9. The drainage stack and branch piping shall be the vents for the drainage system. The drainage stack shall have a stack vent.

914.2 Stack size. Drainage stacks shall be sized in accordance with Table 914.2. Stacks shall be uniformly sized based on the total connected drainage fixture unit load. The stack vent shall be the same size as the drainage stack. A 3-inch stack shall serve not more than two water closets.

TABLE 914.2
SINGLE STACK SIZE

<u>STACK SIZE</u> <u>(inches)</u>	<u>MAXIMUM CONNECTED DRAINAGE FIXTURE UNITS</u>		
	<u>Stacks less than 75 feet</u> <u>in height</u>	<u>Stacks 75 feet to less than 160</u> <u>feet in height</u>	<u>Stacks 160 feet and greater in</u> <u>height</u>
<u>3</u>	<u>24</u>	<u>NP</u>	<u>NP</u>
<u>4</u>	<u>225</u>	<u>24</u>	<u>NP</u>
<u>5</u>	<u>480</u>	<u>225</u>	<u>24</u>
<u>6</u>	<u>1,015</u>	<u>480</u>	<u>225</u>
<u>8</u>	<u>2,320</u>	<u>1,015</u>	<u>480</u>
<u>10</u>	<u>4,500</u>	<u>2,320</u>	<u>1,015</u>
<u>12</u>	<u>8,100</u>	<u>4,500</u>	<u>2,320</u>
<u>15</u>	<u>13,600</u>	<u>8,100</u>	<u>4,500</u>

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

914.3 Branch size. Horizontal branches connecting to a single stack vent system shall be sized in accordance with Table 710.1(2). Not more than one water closet shall discharge into a 3 inch (76.2 mm) horizontal branch at a point within a developed length of 18 inches (457.2 mm) measured horizontally from the stack.

Where a water closet is within 18 inches (457.2 mm) measured horizontally from the stack and not more than one fixture with a drain size of not more than 1-1/2 inch (38.1 mm) connects to a 3 inch (76.2 mm) horizontal branch, the branch drain connection to the stack shall be made with a sanitary tee.

914.4 Length of horizontal branches. The length of horizontal branches shall conform to the requirements of Sections 914.4.1 through 914.4.3.

914.4.1 Water closet connection. Water closet connections shall be not greater than 4 feet (1219 mm) in developed length measured horizontally from the stack.

Exception: Where the connection is made with a sanitary tee, the maximum developed length shall be 8 feet (2438 mm).

914.4.2 Fixture connections. Fixtures other than water closets shall be located not greater than 12 feet (3657 mm) in developed length measured horizontally from the stack.

914.4.3 Vertical piping in branch. The length of vertical piping in a fixture drain connecting to a horizontal branch shall not be considered in computing the fixture's distance in developed length measured horizontally from the stack.

914.5 Minimum vertical piping size from fixture. The vertical portion of piping in a fixture drain to a horizontal branch shall be 2 inches (50.8 mm). The minimum size of the vertical portion of piping for a water supplied urinal or standpipe shall be 3 inches (76.2 mm). The maximum vertical drop shall be 4 feet. Fixture drains that are not increased in size, or have a vertical drop in excess of 4 feet shall be individually vented.

914.6 Additional venting required. Additional venting shall be provided where more than one water closet discharges to a horizontal branch and where the distance from a fixture trap to the stack exceeds the limits in Section 914.4. Where additional venting is required, the fixture(s) shall be vented by individual vents, common vents, wet vents, circuit vents, or a combination waste and vent pipe. The dry vent extensions for the additional venting shall connect to a branch vent, vent stack, stack vent, air admittance valve, or shall terminate outdoors.

914.7 Stack offsets. Where fixture drains are not connected below a horizontal offset in a stack, a horizontal offset shall not be required to be vented. Where horizontal branches or fixture drains are connected below a horizontal offset in a stack, the offset shall be vented in accordance with Section 915. Fixture connections shall not be made to a stack within 2 feet (609.6 mm) above or below a horizontal offset.

914.8 Prohibited lower connections. Stacks greater than 2 branch intervals in height shall not receive the discharge of horizontal branches on the lower two floors. Where a separate stack is provided for the lower two floors, There shall be no connections to the stack between the lower two floors and shall connect to the building drain at a distance of not less than 10 pipe diameters downstream from the base of the connection of any single stack vented system.

914.9 Sizing building drains and sewers. The building drain and building sewer receiving the discharge of a single stack vent system shall be sized in accordance with Table 710.1(1).

Reason: Last cycle, the Plumbing Code Change Committee approved this code change. It failed at the final hearing before a small crowd at a very late hour. ASPE has long recognized this form of venting. The details are addressed in the ASPE Plumbing Engineering Design Handbook. Single stack venting is currently permitted in the UPC and NSPC. The IPC is the only model plumbing code that does not have provisions for the single stack venting system. There is no justification for not including this type of venting system.

There is over 100 years of experience with single stack venting systems. If the stack is large enough, additional venting is not required provided that the fixtures are within a limited distance to the stack. It should be noted that the single stack system is one without long horizontal branches, nor drops in piping. By limiting the length of the branch and the vertical drops into the branch, you can control the pressure excursions in the piping system.

In addition to the more than 100 years of field experience, there are computer models that verify the performance of the single stack system. If the IPC is to be an all inclusive code, then single stack venting should be a part of the code.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: In Section 914.8, it is not clear which pipe is referred to relative to the "10 pipe diameters." (The stack or the building drain diameter?)

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: EVANS-P2-914 NEW

P130 –09/10

916.4.1

Proponent: James R. (Bob) Glaze, Instructor/Advisor Chief Plumbing, Gas and Mechanical Inspector (Retired), City of Birmingham, Alabama, representing self

Delete without substitution:

~~916.4.1 Branch vents exceeding 40 feet in developed length. Branch vents exceeding 40 feet (12 192 mm) in developed length shall be increased by one nominal size for the entire developed length of the vent pipe.~~

Reason: This very requirement is included in Section 916.2. Vent Other Than Stack Vents or Vent Stacks. This is an unnecessary section and is repetitious.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: GLAZE-P1-916.4.1

P131–09/10

916.5.1; IRC P3113.4.1

Proponent: James R. (Bob) Glaze, Instructor/Advisor Chief Plumbing, Gas and Mechanical Inspector (Retired), City of Birmingham, Alabama, representing self

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

916.5.1 Sewage pumps and sewage ejectors other than pneumatic. Drainage piping below sewer level shall be vented in ~~a similar the same~~ manner ~~to as~~ that of a gravity system. Building sump vent sizes for sumps with sewage pumps or sewage ejectors, other than pneumatic, shall be determined in accordance with Table 916.5.1.

PART II – IRC

Revise as follows:

P3113.4.1 Sewage pumps and sewage ejectors other than pneumatic. Drainage piping below sewer level shall be vented in ~~a similar the same~~ manner ~~to as~~ that of a gravity system. Building sump vent sizes for sumps with sewage pumps or sewage ejectors, other than pneumatic, shall be determined in accordance with Table P3113.4.1.

Reason: The definition of **similar**: “Related in appearance or nature; alike though not identical”. This change will make it a requirement that the drainage below sewer level to be vented as a gravity system, which it is until it gets to the sump.

Cost Impact: The code change will not increase the cost of construction.

PART I – IPC

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: GLAZE-P2-916.5.1

P132 –09/10

917.3.1

Proponent: Richard Grace/Fairfax County/Virginia Plumbing and Mechanical Inspectors Association /VA Building and Code Officials

Delete without substitution:

~~**917.3.1 Location of branch.** The horizontal branch drain shall connect to the drainage stack or building drain a maximum of four branch intervals from the top of the stack.~~

(Renumber subsequent sections)

Reason: Section 917.3.1 says nothing because you don't have to be a maximum of 4 branch intervals from the top of a stack. You can comply with 917.3.2 instead. Current 917.3.1 says you must do something and then 917.3.2 tells you what to do when you violate 917.3.1? This is not typical format within the I codes. The main section 917.3, says you have a choice but the first choice is just the flip side of the second choice. If the branch is more than 4 branch intervals from the top, you have to install a relief vent, but if you are NOT more than 4 branch intervals from the top, nothing needs to be said.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: GRACE-P9-917.3.1

P133–09/10

917.3, 917.3.1, 917.3.2, 917.3.3

Proponent: Judson Collins, JULYCO, representing self

1. Delete and substitute as follows:

~~**917.3 Where permitted.** Individual, branch and circuit vents shall be permitted to terminate with a connection to an individual or branch-type air admittance valve. Stack vents and vent stacks shall be permitted to terminate to stack-type air admittance valves. Individual and branch-type air admittance valves shall vent only fixtures that are on the same floor level and connect to a horizontal branch drain. The horizontal branch drain having individual and branch-type air admittance valves shall conform to Section 917.3.1 or 917.3.2. Stack-type air admittance valves shall conform to Section 917.3.3.~~

~~**917.3.1 Location of branch.** The horizontal branch drain shall connect to the drainage stack or building drain a maximum of four branch intervals from the top of the stack.~~

~~**917.3.2 Relief vent.** Where the horizontal branch is located more than four branch intervals from the top of the stack, the horizontal branch shall be provided with a relief vent that shall connect to a vent stack or stack vent, or extend outdoors to the open air. The relief vent shall connect to the horizontal branch drain between the stack and the most downstream fixture drain connected to the horizontal branch drain. The relief vent shall be sized in accordance with Section 916.2 and installed in accordance with Section 905. The relief vent shall be permitted to serve as the vent for other fixtures.~~

~~**917.3 Where permitted.** Individual, branch and circuit vents shall be permitted to terminate with a connection to an individual or branch-type air admittance valve in accordance with Section 917.3.1. Stack vents and vent stacks shall be permitted to terminate to stack-type air admittance valves in accordance with 917.3.2.~~

~~**917.3.1 Horizontal branches.** Individual and branch-type air admittance valves shall vent only fixtures that are on the same floor level and connect to a horizontal branch drain. Where the horizontal branch is located more than four branch intervals from the top of the stack, the horizontal branch shall be provided with a relief vent that shall connect to a vent stack or stack vent, or extend outdoors to the open air. The relief vent shall connect to the horizontal branch drain between the stack and the most downstream fixture drain connected to the horizontal branch drain. The relief vent shall be sized in accordance with Section 916.2 and installed in accordance with Section 905. The relief vent shall be permitted to serve as the vent for other fixtures.~~

(Renumber subsequent sections)

2. Revise as follows:

917.3.3 Stack. Stack-type air admittance valves shall be prohibited from serving as the vent terminal for vent stacks or stack vents that serve drainage stacks exceeding six branch intervals.

Reason: There are no technical changes to the sections involved. The proposed language clarifies the intent of the current language and makes it easier to read and understand.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

ICCFILENAME: COLLINS-P1-917.3

P134–09/10
1002.1

Proponent: Donald R. Monahan, PE, Walker Parking Consultants, representing the National Parking Association and the Automated & Mechanical Parking Association

Revise as follows:

1002.1 Fixture traps. Each plumbing fixture shall be separately trapped by a liquid-seal trap, except as otherwise permitted by this code. The vertical distance from the fixture outlet to the trap weir shall not exceed 24 inches (610 mm), and the horizontal distance shall not exceed 30 inches (610 mm) measured from the centerline of the fixture outlet to the centerline of the inlet of the trap. The height of a clothes washer standpipe above a trap shall conform to Section 802.4. A fixture shall not be double trapped.

Exceptions:

1. This section shall not apply to fixtures with integral traps.
2. A combination plumbing fixture is permitted to be installed on one trap, provided that one compartment is not more than 6 inches (152 mm) deeper than the other compartment and the waste outlets are not more than 30 inches (762 mm) apart.
3. A grease interceptor intended to serve as a fixture trap in accordance with the manufacturer’s installation instructions shall be permitted to serve as the trap for a single fixture or a combination sink of not more than three compartments where the vertical distance from the fixture outlet to the inlet of the interceptor does not exceed 30 inches (762 mm) and the *developed length* of the waste pipe from the most upstream fixture outlet to the inlet of the interceptor does not exceed 60 inches (1524 mm).
4. Where floor drains in multi-level parking structures are required to discharge to a combined building sewer system, the floor drains shall not be required to be individually trapped provided that they are connected to a main trap in accordance with Section 1103.1.

Reason: Floor drain traps in unheated multi-level parking structures are problematic because the traps can be damaged during freezing conditions. The liquid in traps for floor drains in covered parking levels usually evaporates as there is little, if any, water runoff on the covered levels. Heat tracing and insulation are not reliable in these locations. A main trap for the parking structure floor drain system is typically required as many jurisdictions require a sand/oil separator prior to discharge to the sanitary sewer.

Cost Impact: The code change will not increase the cost of construction. There will be a construction cost savings to install only a main trap at the lowest level as opposed to traps at all floor drains on the upper levels.

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

ICCFILENAME: MONAHAN-P1-1002.1

P135–09/10
1002.3, Chapter 13; IRC P3201.5, Chapter 44

Proponent: Gary S. Duren, President, Code Compliance, Inc representing Code Compliance, Inc.

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

1. Revise as follows:

1002.3 Prohibited traps. The following types of traps are prohibited:

1. Traps that depend on moving parts to maintain the seal.

Exception: A sanitary waste valve conforming to ASME A112.18.8, installed as a substitute for 1 ¼ inch (32mm) and 1 ½ inch (38mm) tubular traps. Such valves shall be provided with ready access.

2. Bell traps.
3. Crown-vented traps.
4. Traps not integral with a fixture and that depend on interior partitions for the seal, except those traps constructed of an approved material that is resistant to corrosion and degradation.
5. "S" traps.
6. Drum traps.

Exception: Drum traps used as solids interceptors and drum traps serving chemical waste systems shall not be prohibited.

2. Add a new standard to Chapter 13 as follows:

ASME

A112.18.8-09, In-line Sanitary Waste Valves for Plumbing Drainage Systems

PART II – IRC

1. Revise as follows:

P3201.5 Prohibited traps. The following types of traps are prohibited:

1. Traps that depend on moving parts to maintain the seal.

Exception: A sanitary waste valve conforming to ASME A112.18.8, installed as a substitute for 1 ¼ inch (32mm) and 1 ½ inch (38mm) tubular traps. Such valves shall be provided with ready access.

2. Bell traps.
3. Crown-vented traps.
4. Traps not integral with a fixture and that depend on interior partitions for the seal, except those traps constructed of an approved material that is resistant to corrosion and degradation.
5. "S" traps.
6. Drum traps.

Exception: Drum traps used as solids interceptors and drum traps serving chemical waste systems shall not be prohibited.

2. Add a new standard to Chapter 44 as follows:

ASME

A112.18.8-09, In-line Sanitary Waste Valves for Plumbing Drainage Systems

Reason: To add the appropriate verbiage to permit the use of sanitary waste valves and to add the appropriate new standard to specify sanitary waste valves.

Cost Impact: The adoption of this proposal will not increase costs.

Analysis: Review of proposed new standard, ASME A112.18.8-09, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Duren-P1-1002.3

P136–09/10

1002.4, Chapter 13; IRC P3201.2, Chapter 44

Proponent: Julius Ballanco, P.E./JB Engineering and Code Consulting, P.C. representing Sure Seal

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

1. Revise as follows:

1002.4 Trap seals. Each fixture trap shall have a liquid seal of not less than 2 inches (51 mm) and not more than 4 inches (102 mm), or deeper for special designs relating to accessible fixtures. Where a trap seal is subject to loss by evaporation, a trap seal primer shall be connected to the trap valve or a trap seal protection device shall be installed. The discharge pipe from a trap seal primer valves shall connect to the trap at a point above the level of the trap seal. Trap seal protection devices shall be installed in accordance with the manufacturer's installation instructions. A Potable water-type trap seal primers valve shall conform to ASSE 1018, or Drainage waste-type and nonpotable water-type trap seal primers shall conform to ASSE 1044. Trap seal protection devices shall conform to ASSE 1072.

2. Add standard to Chapter 13 as follows:

ASSE

1072-06 Performance Requirements for Barrier Type Floor Drain Trap Seal Protection Devices.

PART II - IRC

1. Revise as follows:

P3201.2 Trap seals and trap seal protection. Traps shall have a liquid seal of not less than 2 inches (51 mm) and not more than 4 inches (102 mm). Traps for floor drains shall be ~~fitted with~~ connected to a trap seal primer, ~~fitted with a trap seal protection device~~ or be of deep seal design. The discharge pipe from a trap seal primer valves shall connect to the trap at a point above the level of the trap seal. Trap seal protection devices shall be installed in accordance with the manufacturer's installation instructions. Trap seal protection devices shall conform to ASSE 1072.

2. Add standard to Chapter 44 as follows:

ASSE

1072-06 Performance Requirements for Barrier Type Floor Drain Trap Seal Protection Devices.

Reason:

Part I- The current code text does not distinguish between nonpotable water-type/ waste-type trap seal primers and potable water-type trap seal primers. This change will make that distinction clear. This is necessary for where municipal-reclaimed water will be used for trap seal priming. The proposed text also includes the standard for trap seal protection devices. This standard regulates a new form of trap seal protection that does not rely on water or drainage waste-type primers. Trap seal protection devices are a green design concept that provides an effective means of preventing evaporation of the trap seal without the use of water.

Part II- The proposed text includes trap seal protection devices as a means to prevent trap evaporation. The added standard regulates this new form of trap seal protection that does not rely on water or drainage waste-type primers. Trap seal protection devices are a green design concept that provides an effective means of preventing evaporation of the trap seal without the use of water.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Review of proposed new standard ASSE 1072-06 indicated that, in the opinion of ICC staff, the standard did comply with ICC standards criteria.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: BALLANCO-P1-1002.4

P137–09/10 1003.1

Proponent: Judson Collins, JULYCO, representing himself.

Delete and substitute as follows:

~~**1003.1 Where required.** Interceptors and separators shall be provided to prevent the discharge of oil, grease, sand and other substances harmful or hazardous to the building drainage system, the public sewer, the private sewage disposal system or the sewage treatment plant or processes.~~

1003.1 Where required. Interceptors shall be provided and installed as required by Sections 1003.3, 1003.4, 1003.6, 1003.7 and 1003.8. In other occupancies or locations where fixtures discharge substances that could be detrimental to the drainage system, the sewer system or wastewater treatment processes, an approved interceptor shall be provided and installed.

Reason: The current text says “provide interceptors and separators to prevent discharge.” It does not say where the discharge is to go. The intent of the text is to keep waste that is harmful to drainage systems, sewer systems or wastewater treatment processes from reaching them. Revising the section as proposed will clarify the intent of the section, give reference to the appropriate sections and reiterate that approved interceptors are required. The word “separators” is not used in the proposed text since the definition of the word is the same as that for “interceptor”. Since the two words are used interchangeably and the code only defines “interceptor”, “separators” was deleted.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: COLLINS-P11-1003.1

P138–09/10 1003.1

Proponent: Richard Grace/Fairfax County/ VA Plumbing and Mechanical Inspectors/VA Building and Code Officials

Revise as follows:

1003.1 Where required. Interceptors and separators shall be provided to prevent the discharge of oil, grease, sand and other substances harmful or hazardous to the ~~building drainage system~~, the public sewer, the private sewage system or the sewage treatment plant or processes.

Reason: With the incorporation of the new exception to Section 1003.3.4 it is abundantly clear that waste is permitted to flow within the building drainage system. This concept has always been the intent because in almost every application the waste must travel through some portion of the building drainage system in order to get to the interceptor. If the actual code text were applied literally the interceptors would need to attach directly to fixture outlets. That is not the intent. Striking this text will remove the misconception that a device is required to install adjacent to each and every fixture that discharges any liquid that may need to be separated prior to entering the public or private systems.

Cost Impact: None. There will be a cost savings.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: GRACE-P6-1003.1

P139–09/10 1003.3.1

Proponent: Sid Cavanaugh, Cavanaugh Consulting representing Thermaco

Revise as follows:

1003.3.1 Grease interceptors and automatic grease removal devices required. A grease interceptor or automatic grease removal device shall be required to receive the drainage from fixtures and equipment with grease-laden waste located in food preparation areas, such as in restaurants, hotel kitchens, hospitals, school kitchens, bars, factory cafeterias and clubs. Fixtures and equipment shall include pot sinks, prerinse sinks; soup kettles or similar devices; wok stations; floor drains or sinks into which kettles are drained; automatic hood wash units and dishwashers without prerinse sinks. Grease interceptors and automatic grease removal devices shall receive waste only from fixtures and equipment that allow fats, oils or grease to be discharged. Commercial food waste grinders shall connect to the sanitary drainage system at a point that is downstream of all grease interceptors unless the code official requires the connection point to be upstream of a grease interceptor.

Reason: This proposal addresses the issues raised by the IPC Committee during the last code cycle. This code change is important and recognizes the need for combinations of grease interceptors for renovation projects (change of occupancy) involving existing buildings where there is insufficient space or it is cost prohibitive to install a large enough in-ground interceptor (usually a gravity type) to meet local sewer ordinance requirements.

Cost Impact: None. It will probably save money for the user in many cases.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: CAVANAUGH-P1-1003.3.1

P140–09/10 1003.3.2

Proponent: Sid Cavanaugh, Cavanaugh Consulting representing In Sink Erator

Revise as follows:

1003.3.2 Food Waste Grinders. Where food waste grinders connect to grease interceptors, ~~a solids interceptor shall separate the discharge before connecting to the grease interceptor.~~ Solids interceptor and the grease interceptor shall be sized for the discharge of the food waste grinder. Emulsifiers, chemicals, enzymes and bacteria shall not discharge into the food waste grinder.

Reason: Current language implies solids interceptors are used in conjunction with the installation of all food waste grinders, but food waste grinders are connected to grease interceptors only when required by the authority having jurisdiction, and this should be the exception not the rule. Data indicates it is impractical to discharge food waste grinders into interceptors. Language that specifies using a solids interceptor upstream of all grease interceptors is illogical since none are manufactured large enough to accommodate food waste grinder

The intent of grease interceptors is to reduce the introduction of fats, oils and greases (FOG) into sewers. Sewer clogs associated with FOG are well documented, and results from a collaborative research project undertaken by the Water Environment Research Foundation published in the fall 2008 characterized the composition of sewer deposits and provided much insight on these blockages.^[1] The data revealed that 84% of the FOG deposit samples analyzed contained high concentrations of saturated fatty acids and calcium, higher than normal background levels, and appeared to be metallic salts of fatty acids. One of the researchers, Dr. Kevin Keener, has reported that no food waste particles were evident in these deposits. The report suggests a chemical reaction is occurring in the sewers, saponification, with calcium chemically selected over sodium. These insoluble deposits are difficult to remove and provide significant challenges for sewage collection system managers and plumbers as well. A supplemental report to the FROG study provided additional insight on the effluent of grease interceptors. 90% of flows through interceptors are on average 1/3 the peak design flow, which equates to detention times in the order of hours, not minutes, interceptors are mainly acidic, with pH's in the range of 4-8, and dissolved oxygen concentrations are less than 0.5 mg/L.

Together, the information provided in these studies suggests FOG deposits may indeed be the result of free fatty acids from the effluent of grease interceptors reacting with calcium. If pumped and maintained infrequently, or retained solids digest anaerobically, or if interceptors are improperly sized, conditions are conducive for promoting the formation of FOG deposits. While it is inappropriate to introduce grease into sewers

without remediation through such devices as interceptors, ground food waste should only be discharged directly to sanitary sewers, bypassing interceptors.

¹ Ducoste, Joel J., Kevin M. Keener, John W. Groninger, Leon M. Holt. "Fats, Roots, Oils and Grease (FROG) in Centralized and Decentralized Systems." WERF. 2008

Cost Impact: Minimal.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: CAVANAUGH-P7-1003.3.2

P141-09/10

202 (New), 1003.3.4, Chapter 13

Proponent: Rand Ackroyd, Rand Technical Consulting, representing The Plumbing and Drainage Institute

1. Delete and substitute as follows:

~~**GREASE INTERCEPTOR.** A plumbing appurtenance that is installed in a sanitary drainage system to intercept oily and greasy wastes from a wastewater discharge. Such device has the ability to intercept free-floating fats and oils.~~

GREASE INTERCEPTOR.

HYDRO-MECHANICAL. Plumbing appurtenances that are installed in the sanitary drainage system to intercept free-floating fats, oils and grease from wastewater discharge. Continuous separation is accomplished by air entrainment, buoyancy and interior baffling.

GRAVITY. Plumbing appurtenances of not less than 500 gallons (1893 L) capacity that are installed in the sanitary drainage system to intercept free-floating fats, oils and grease from wastewater discharge. Separation is accomplished by gravity during a retention time of not less than 30 minutes.

2. Revise as follows:

1003.3.4 Hydromechanical grease interceptors and automatic grease removal devices. Hydromechanical grease interceptors and automatic grease removal devices shall be sized in accordance with PDI G101, ASME.14.3 Appendix A or ASME A112.14.4. Hydromechanical grease interceptors and automatic grease removal devices shall be designed and tested in accordance with PDI G101, PDI G102, ASME.14.3 Appendix A or ASME A112.14.4. Hydromechanical grease interceptors and automatic grease removal devices shall be installed in accordance with the manufacturer's instructions. The section shall not apply to gravity grease interceptors.

~~**Exception:** Interceptors that have a volume of not less than 500 gallons (1893 L) and that are located outdoors shall not be required to meet the requirements of this section.~~

3. Add standard to Chapter 13 as follows:

PDI
G102 Testing and Certification for Grease Interceptors with FOG Sensing and Alarm Devices

Reason: The industry has standardized on the terms "Hydro-Mechanical" and "Gravity" for the two general types of grease interceptors in the plumbing industry. The requirements in Section 1003.3.4 and its subsections were never intended to apply to gravity grease interceptors. The new terminology makes a clear distinction between the two types in order for the code to be clear about which type of grease interceptor the requirements apply to.

PDI G102 covers the Testing and Certification for Grease Interceptors with FOG Sensing and Alarm Devices. This standard expands on the already recognized PDI G101 by including testing and certification of alarm devices that can be provided on interceptors already complying with PDI G101. The alarm device on a hydromechanical grease interceptor monitors the level of the grease captured in the unit and provides both a loud audible signal and a visible signal when the accumulated grease (FOG) in the interceptor needs to be removed. Standard PDI G102 is available for free downloading from the PDI website www.pdionline.org.

The exception to this section that was put in last cycle by another proponent was an attempt to distinguish between the two general types of grease interceptors in order to clarify that Section 1003.3.4 did not apply to gravity grease interceptors. The new proposed terminology provides the necessary clarification and thus, the exception is no longer needed. However, in the spirit of the exception, the last line of text was added to reinforce that the reader should not try to apply the requirements of this section (including the subsections that follow) to gravity grease interceptors.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Review of proposed new standard PDI-G102 indicated, that in the opinion of ICC staff, the standard did not comply with the ICC standards criteria (Section 3.6.2.1).

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: Ackroyd-P3-1003.3.4

P142-09/10

1003.3.4, Chapter 13

Proponent: Abraham I. Murra, Canadian Standards Association, representing the Canadian Standards Association

1. Revise as follows:

1003.3.4 Grease interceptors and automatic grease removal devices. Grease interceptors and automatic grease removal devices shall be sized in accordance with PDI G101, ASME 112.14.3 Appendix A, ASME 112.14.4, or CSA B481.3. Grease interceptors and automatic grease removal devices shall be designed and tested in accordance with PDI G101, ASME A112.14.3, or ASME 112.14.4 or CSA B481.1. Grease interceptors and automatic grease removal devices shall be installed in accordance with the manufacturer's installation instructions. Where manufacturer's installation instructions are not provided, grease interceptors and grease removal devices shall be installed in compliance with CSA B481.3.

2. Add standards to Chapter 13 as follows:

CSA

B481.1-07 Testing and Rating of Grease Interceptors Using Lard

B481.3-07 Sizing, Selection, Location, and Installation of Grease Interceptors

Reason: CSA B481.1 covers performance of grease interceptors in accordance with ASME A112.14.3, but it also covers other very important aspects such as materials, design, and construction requirements as well as structural integrity tests for such devices.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Review of proposed new standard, CSA B481.1-07 and CSA B481.3-07, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: Murra-P5-1003.3.4

P143-09/10

1003.4.2

Proponent: Bob Eugene/Underwriters Laboratories Inc/Underwriters Laboratories Inc

1. Revise as follows:

1003.4.2 Oil separator design. Oil separators shall be listed and labeled in accordance with UL 2215, or designed in accordance with Sections 1003.4.2.1 and 1003.4.2.2.

2. Add standards to Chapter 13 as follows:

UL

2215-00 Outline of Investigation for Oil/Water Separators

Reason: This proposal provides an alternative for the use of listed oil/water separators that are built on-site. UL's Outline of Investigation includes a comprehensive set of construction and performance requirements that are used to evaluate and list oil/water separators used in garages and service stations. These requirements cover stationary gravity or pump fed aboveground and underground, atmospheric type oil/water separator systems intended to remove oil suspended in water from rainwater runoff or normal washdown of streets, highways, and parking lots at an inlet rate not exceeding the marked maximum influent concentration and flow rate. Oil/water separator systems covered by these requirements are fabricated,

inspected, and tested for leakage before shipment from the factory as completely assembled units, or with instructions for field assembly of minor components. Over 20 companies currently have oil/water separators listed.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Review of the proposed new requirement UL 2215-00 indicated that, in the opinion of ICC staff, the requirement did not comply with ICC standards criteria.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: EUGENE-P1-1003.4.2

P144-09/10

1003.9, 1003.10 (New)

Proponent: Cort Strain University of Colorado representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO).

1. Revise as follows:

1003.9 Venting of interceptors and separators. Interceptors and separators shall be designed so as not to become air bound where tight covers are utilized. ~~Each interceptor or separator shall be vented where subject to a loss of trap seal. The pipe connected to the outlet of an interceptor or separator shall be vented in accordance with the fixture trap venting requirements of Chapter 9. The invert of the outlet fitting of the interceptor or separator shall be considered as the trap weir elevation for the purposes of determining the maximum allowable distance from the outlet to the vent connection to the outlet pipe.~~

2. Add new text as follows:

1003.10 Cleanout for outlet pipe of interceptors or separators. A two-way cleanout arrangement shall be installed on the outlet pipe of interceptors and separators. The cleanout arrangement shall enable rodding of the outlet pipe in both the upstream and downstream directions.

(Renumber subsequent sections)

Reason: Although interceptor or separator manufacturer's installation instructions might state that a vent is not required on outlet pipe of the unit, the fact is that most instructions are silent on the issue. So how is the code official supposed to know if a particular unit in a specific installation arrangement could develop siphon action? The truth is, no one really knows. Therefore, the words in Section 1003.9 are deleted because there really isn't any way to know if siphonage will occur. In our experience, a fair number of interceptors and separators do develop siphons which result in the discharge of collected contents into drain and sewer systems. The outlet pipes of interceptors and separators should be vented to prevent siphoning from occurring. The need for outlet pipe venting is supported by Section 10.3 of standard PDI-101 (a code referenced standard) that states: "Grease interceptors shall have a vented waste on the outlet side, sized in accordance with code requirements for venting traps to retain water seal and prevent siphoning". The text added to Section 1003.9 brings this requirement to light and provides the details for properly locating and sizing the vent.

Unlike a fixture trap that can be easily removed for access to rod a fixture drain, interceptors and separators are not easily removed and rarely have the provisions necessary to gain adequate access for rodding of the pipe connected to the outlet. This is a location that can require frequent rodding especially if the interceptor or separator is not cleaned at the necessary intervals. In many cases, as a necessity, cleanouts are often added after installation. Unfortunately, many of these after-the-fact cleanout installations do not get permitted or inspected resulting problems. The new section 1003.10 adds text to require a two way cleanout arrangement on the outlet pipe of interceptors and separators.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: Strain-P2-1003.9

P145-09/10

1003.9 (New)

Proponent: Bob Gardner, City of Thornton, Colorado, representing the Colorado Association of Plumbing and Mechanical Officials

Add new text as follows:

1003.9 Hair interceptors required. A fixture intended to be used exclusively for the washing or rinsing of human or animal hair shall be provided with a hair interceptor installed downstream of the fixture outlet. Hair interceptors shall be equipped with a removable wire basket or other approved device to facilitate the removal of hair from the interceptor.

(Renumber subsequent sections)

Reason: Currently the only way for a code official to enforce the use of a hair trap for businesses that deal with large amount of cut or loose hair is by referring to IPC Section 302.1 which is generic and more generally defines hazardous materials than insoluble materials that obstruct a buildings sewer or drainage system. Large amounts of hair can and do obstruct the drainage system requiring the removal of the drainage components or mechanical auguring of the system to remove these obstructions. Adding this section will eliminate the obstructions associated with large quantities of loose hair in commercial establishments.

Cost Impact: This code change will increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME:Gardner-P1-1003.9

P146-09/10

1003.10, Chapter 13

Proponent: Abraham I. Murra, Canadian Standards Association, representing the Canadian Standards Association

1. Revise as follows:

Section 1003.10 Access and maintenance of interceptors and separators. Access shall be provided to each interceptor and separator for service and maintenance. Interceptors and separators shall be maintained by periodic removal of accumulated grease, scum, oil, or other floating substances and solids deposited in the interceptor or separator. Maintenance shall be performed in accordance with CSA B481.4.

2. Add standard to Chapter 13 as follows:

CSA

B481.4-07 Maintenance of Grease Interceptors.

Reason: CSA B481.4 covers the maintenance requirements for grease interceptors and separators.

Cost Impact: The code change proposal will not increase the cost of production.

Analysis: Review of proposed new standard, CSA B481.4-07, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Murra-P7-1003.10

P147–09/10

1102.6, Chapter 13

Proponent: Julius Ballanco, PE, CPD, FASPE, JB Engineering and Code Consulting, PC representing Froet Industries.

1. Revise as follows:

1102.6 Roof drains. Roof drains shall conform to ASME ~~A112.21.2M~~ A112.6.4, ASME A112.6.9 or ASME A112.3.1.

2. Add standards to Chapter 13 as follows:

ASME

A112.6.4—2003 Roof, Deck, and Balcony Drains
A112.6.9—2005 Siphonic Roof Drains

Reason: ASME A112.21.2M was withdrawn in 1995. The standard was replaced with ASME A112.6.4. This new standard includes roof drains, deck drains and balcony drains. The other standard referenced is for siphonic roof drains. These standards regulate the dimensional requirements of roof drains, the dome free area, the grate free area, the material requirements, and the rating of the drains. This change will update the code to the current standards for roof drains.

Cost Impact: The code change proposal will not increase the cost of construction

Analysis: Review of proposed new standards, ASME A112.6.4-2003 and A112.6.9-2005, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: BALLANCO-P2-1102.6 AS

P148–09/10

1102.6, Chapter 13

Proponent: Guy Tomberlin, Fairfax County, Virginia representing himself.

1. Revise as follows:

1102.6 Roof Drains. Roof drains shall conform to ASME ~~A112.21.2M~~ A112.6.4 or ASME A112.3.1.

2. Add standard to Chapter 13 as follows:

ASME

A112.6.4-2003 (R2008) Roof, Deck and Balcony Drains

Reason: The reference to A112.21.2M is obsolete. The standard no longer exists nor is it in print circulation. The last print edition was 1983. The A112.6.4 2003 edition is titled: Roof, Deck and Balcony Drains and it is the most current applicable ASME printed standard to cover the roof drain application as referenced in Section 1106.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Review of proposed new standard, ASME A112.6.4-2003 (R2008), for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: TOMBERLIN-P6-1102.6

P149–09/10

1105.1, 1105.2

Proponent: Julius Ballanco, P.E., CPD, FASPE/JB Engineering and Code Consulting, P.C. representing Froet Industries

1. Delete without substitution:

~~**1105.1 Strainers.** Roof drains shall have strainers extending not less than 4 inches (102 mm) above the surface of the roof immediately adjacent to the roof drain. Strainers shall have an available inlet area, above roof level, of not less than one and one-half times the area of the conductor or leader to which the drain is connected.~~

~~**1105.2 Flat decks.** Roof drain strainers for use on sun decks, parking decks and similar areas that are normally serviced and maintained shall comply with Section 1105.1 or shall be of the flat surface type, installed level with the deck, with an available inlet area not less than two times the area of the conductor or leader to which the drain is connected.~~

2. Add new text as follows:

1105.1 General. Roof drains shall be installed in accordance with the manufacturer's installation instructions. The inside opening for the roof drain shall not be obstructed by the roofing membrane material.

(Renumber subsequent sections)

Reason: The two sections proposed for deletion predate the roof drain standard. These requirements originally appeared in the ANSI A40.8-1955 standard. This was the basis of the legacy codes. With the reference to the roof drain standard, the sizing and design of the roof drain is regulated by the standard. The following table provides a comparison of the sizing of current Section 1105.1 to the ASME standard. Obviously, the existing code language does not require nearly the flow area of the strainer as compared to what the current standards require.

Pipe Size	Inside Diameter	Inside Area	Min. Dome Area Per ASME A112.6.4	IPC Minimum Dome Area
(inches)	(inches)	(sq inches)	(sq inches)	(sq inches)
2	1.96	3.02	18	4.53
3	2.96	6.88	25	10.32
4	3.94	12.19	36	18.29
5	4.94	19.17	50	28.75
6	5.94	27.71	70	41.57

With a reference to the roof drain standard in Section 1102.6, the roof drain section only has to reference the installation instructions of the manufacturer for regulating the installation. One of the common errors in a roof drain is the overlapping of the roof membrane into the roof drain. Contractors have been known to cut a smaller opening in the roof membrane than the size of the roof drain. The addition of the language in Section 1105.1 will emphasize that after installation, the inside opening of the roof drain outlet must not be blocked by roofing membrane materials.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: BALLANCO-P3-1105.1

150-09/10

1106.5

Proponent: Don Surrena, National Association of Home Builders (NAHB)

Revise as follows:

1106.5 Parapet wall scupper location. Parapet wall roof drainage scupper and overflow scupper location shall comply with the requirements of Section 1503.4 of the International Building Code.

Reason: The purpose of this proposal is to clarify the requirements for roof drains and the requirements for secondary emergency overflow drains, their sizing, location and quantity as well as their section reference in the IBC.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: Surrena-P3-1106.5

P151-09/10

1107 (New), 1107.1 (New), Chapter 13

Proponent: Robert Evans, CPD/ASPE Legislative Committee/ASPE

1. Add a new section as follows:

Section 1107 Siphonic Roof Drainage Systems

1107.1 General. Siphonic roof drainage systems shall be designed in accordance with ASPE 45.

2. Add standard to Chapter 13 as follows:

American Society of Plumbing Engineers
8614 Catalpa Avenue, Suite 1007
Chicago, IL 60656-1116

ASPE

45-2007 Siphonic Roof Drainage Systems

Reason: This section will add requirements for the design of siphonic roof drainage systems. ASPE developed a standard for the plumbing engineers to use when designing these systems. This is a complex design that needs to be properly addressed in the code. Without the reference to the proper standard, the plumbing official has no requirements by which to evaluate siphonic roof drainage systems.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Review of proposed new standard, ASPE 45-2007, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: EVANS-P1-1107 NEW

P152-09/10

202 (New), 301.3, Chapter 13 (New), Appendix C; IRC R202, P2601.2, Section P3009 (New), Appendix O

Proponent: Guy Tomberlin of Fairfax County, Virginia, Virginia Plumbing and Mechanical Inspectors, Virginia Building and Code Officials and ICC Region 7.

PART I – IPC

1. Add definition as follows:

GRAY WATER. Waste discharged from lavatories, bathtubs, showers, clothes washers and laundry trays.

2. Revise as follows:

301.3 Connections to drainage system. All Plumbing fixtures, drains, appurtenances and appliances used to receive or discharge liquid wastes or sewage shall be directly connected to the sanitary drainage system of the building or premises, in accordance with the requirements of this code. This section shall not be construed to prevent indirect waste systems required by Chapter 8.

Exception: Bathtubs, showers, lavatories, clothes washers and laundry trays shall not be required to discharge to the sanitary drainage system where such fixtures discharge to an approved gray water system for flushing of water closets and urinals or for subsurface landscape irrigation.

3. Delete Appendix C in its entirety without substitution

(Renumber subsequent appendices)

4. Add new chapter and text as follows:

Chapter 13 Gray Water Recycling Systems

SECTION 1301 GENERAL

1301.1 Scope. The provisions of Chapter 13 shall govern the materials, design, construction and installation of gray water systems for flushing of water closets and urinals and for subsurface landscape irrigation. See Figures 1301.1(1) and 1301.1(2).

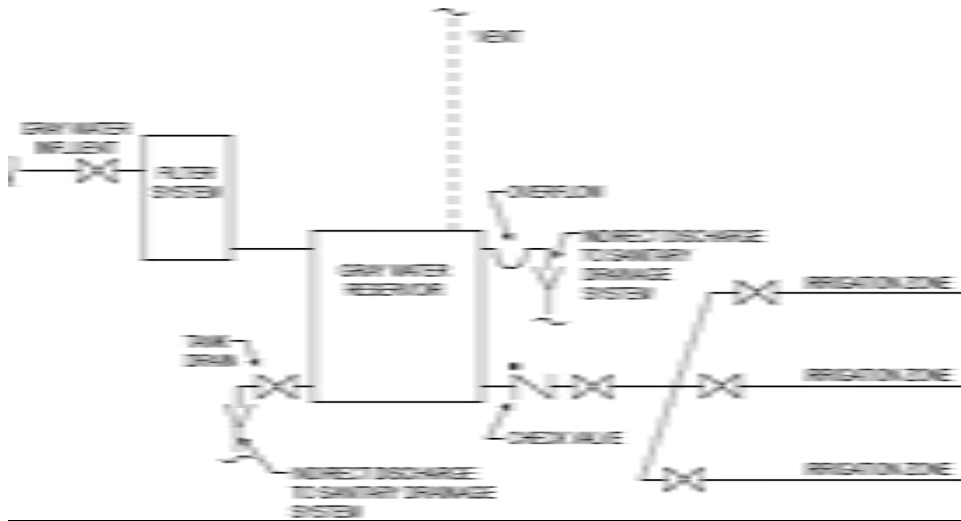


FIGURE 1301.1 (1)
GRAY WATER RECYCLING SYSTEM FOR
SUBSURFACE LANDSCAPE IRRIGATION

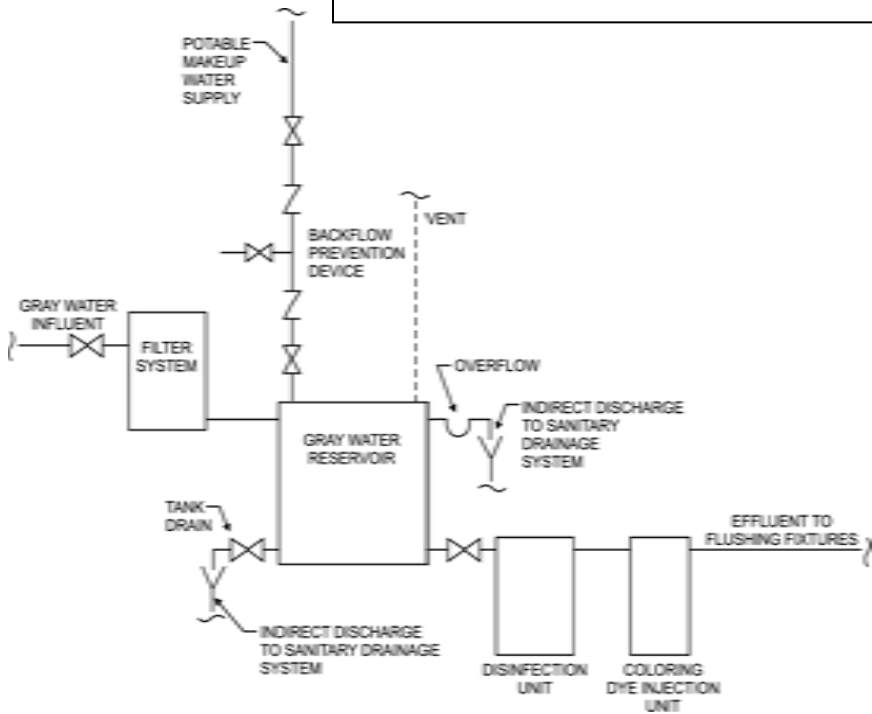


FIGURE 1301.1(2)
GRAY WATER RECYCLING SYSTEM FOR
FLUSHING WATER CLOSETS AND URINALS

1301.2 Installation. In addition to the provisions of Section 1301, systems for flushing of water closets and urinals shall comply with Section 1302 and systems for subsurface landscape irrigation shall comply with Section 1303. Except as provided for in this chapter, all systems shall comply with the provisions of the other chapters of this code.

1301.3 Materials. Above-ground drain, waste and vent piping for gray water systems shall conform to one of the standards listed in Table 702.1. Gray water underground building drainage and vent pipe shall conform to one of the standards listed in Table 702.2.

1301.4 Tests. Drain, waste and vent piping for gray water systems shall be tested in accordance with Section 312.

1301.5 Inspections. Gray water systems shall be inspected in accordance with Section 107.

1301.6 Potable water connections. Only connections in accordance with Section 1302.3 shall be made between a gray water recycling system and a potable water system.

1301.7 Waste water connections. Gray water recycling systems shall receive only the waste discharge of bathtubs, showers, lavatories, clothes washers or laundry trays.

1301.8 Collection reservoir. Gray water shall be collected in an approved reservoir constructed of durable, nonabsorbent and corrosion-resistant materials. The reservoir shall be a closed and gas-tight vessel. Access openings shall be provided to allow inspection and cleaning of the reservoir interior.

1301.9 Filtration. Gray water entering the reservoir shall pass through an approved filter such as a media, sand or diatomaceous earth filter.

1301.9.1 Required valve. A full-open valve shall be installed downstream of the last fixture connection to the gray water discharge pipe before entering the required filter.

1301.10 Overflow. The collection reservoir shall be equipped with an overflow pipe having the same or larger diameter as the influent pipe for the gray water. The overflow pipe shall be trapped and shall be indirectly connected to the sanitary drainage system.

1301.11 Drain. A drain shall be located at the lowest point of the collection reservoir and shall be indirectly connected to the sanitary drainage system. The drain shall be the same diameter as the overflow pipe required in Section 1301.10.

1301.12 Vent required. The reservoir shall be provided with a vent sized in accordance with Chapter 9 and based on the diameter of the reservoir influent pipe.

SECTION 13 02 **SYSTEMS FOR FLUSHING WATER** **CLOSETS AND URINALS**

1302.1 Collection reservoir. The holding capacity of the reservoir shall be a minimum of twice the volume of water required to meet the daily flushing requirements of the fixtures supplied with gray water, but not less than 50 gallons (189 L). The reservoir shall be sized to limit the retention time of gray water to a maximum of 72 hours.

1302.2 Disinfection. Gray water shall be disinfected by an approved method that employs one or more disinfectants such as chlorine, iodine or ozone that are recommended for use with the pipes, fittings and equipment by the manufacturer of the pipes, fittings and equipment.

1302.3 Makeup water. Potable water shall be supplied as a source of makeup water for the gray water system. The potable water supply shall be protected against backflow in accordance with Section 608. There shall be a full-open valve located on the makeup water supply line to the collection reservoir.

1302.4 Coloring. The gray water shall be dyed blue or green with a food grade vegetable dye before such water is supplied to the fixtures.

1302.5 Materials. Distribution piping shall conform to one of the standards listed in Table 605.4.

1302.6 Identification. Distribution piping and reservoirs shall be identified as containing nonpotable water. Piping identification shall be in accordance with Section 608.8.

SECTION 1303
SUBSURFACE LANDSCAPE IRRIGATION
SYSTEMS

1303.1 Collection reservoir. Reservoirs shall be sized to limit the retention time of gray water to a maximum of 24 hours.

1303.1.1 Identification. The reservoir shall be identified as containing nonpotable water.

1303.2 Valves required. A check valve and a full-open valve located on the discharge side of the check valve shall be installed on the effluent pipe of the collection reservoir.

1303.3 Makeup water. Makeup water shall not be required for subsurface landscape irrigation systems. Where makeup water is provided, the installation shall be in accordance with Section 1302.3.

1303.4 Disinfection. Disinfection shall not be required for gray water used or subsurface landscape irrigation systems.

1303.5 Coloring. Gray water used for subsurface landscape irrigation systems shall not be required to be dyed.

1303.6 Estimating gray water discharge. The system shall be sized in accordance with the gallons-per-day-per-occupant number based on the type of fixtures connected to the gray water system. The discharge shall be calculated by the following equation:

$$\frac{C}{A} = \frac{A \times B}{A}$$

A = Number of occupants:

Residential—Number of occupants shall be determined by the actual number of occupants, but not less than two occupants for one bedroom and one occupant for each additional bedroom.

Commercial—Number of occupants shall be determined by the *International Building Code*[®].

B = Estimated flow demands for each occupant:

Residential—25 gallons per day (94.6 lpd) per occupant for showers, bathtubs and lavatories and 15 gallons per day (56.7 lpd) per occupant for clothes washers or laundry trays.

Commercial—Based on type of fixture or water use records minus the discharge of fixtures other than those discharging gray water.

C = Estimated gray water discharge based on the total number of occupants.

1303.7 Percolation tests. The permeability of the soil in the proposed absorption system shall be determined by percolation tests or permeability evaluation.

1303.7.1 Percolation tests and procedures. At least three percolation tests in each system area shall be conducted. The holes shall be spaced uniformly in relation to the bottom depth of the proposed absorption system. More percolation tests shall be made where necessary, depending on system design.

1303.7.1.1 Percolation test hole. The test hole shall be dug or bored. The test hole shall have vertical sides and a horizontal dimension of 4 inches to 8 inches (102 mm to 203 mm). The bottom and sides of the hole shall be scratched with a sharp-pointed instrument to expose the natural soil. All loose material shall be removed from the hole and the bottom shall be covered with 2 inches (51 mm) of gravel or coarse sand.

1303.7.1.2 Test procedure, sandy soils. The hole shall be filled with clear water to a minimum of 12 inches (305 mm) above the bottom of the hole for tests in sandy soils. The time for this amount of water to seep away shall be determined, and this procedure shall be repeated if the water from the second filling of the hole seeps away in 10 minutes or less. The test shall proceed as follows: Water shall be added to a point not more than 6 inches (152 mm) above the gravel or coarse sand. Thereupon, from a fixed reference point, water levels shall be measured at 10-minute intervals for a period of 1 hour. Where 6 inches (152mm) of water seeps away in less than 10 minutes, a shorter interval between measurements shall be used, but in no case shall the water depth exceed 6 inches (152 mm). Where 6 inches (152 mm) of water seeps away in less than 2 minutes, the test shall be stopped and a rate of less than 3 minutes per inch (7.2 s/mm) shall be reported. The final water level drop shall be used to calculate the percolation rate. Soils not meeting the above requirements shall be tested in accordance with Section 1303.7.1.3.

1303.7.1.3 Test procedure, other soils. The hole shall be filled with clear water, and a minimum water depth of 12 inches (305mm) shall be maintained above the bottom of the hole for a 4-hour period by refilling whenever necessary or by use of an automatic siphon. Water remaining in the hole after 4 hours shall not be removed. Thereafter, the soil shall be allowed to swell not less than 16 hours or more than 30 hours. Immediately after the soil swelling period, the

measurements for determining the percolation rate shall be made as follows: Any soil sloughed into the hole shall be removed and the water level shall be adjusted to 6 inches (152 mm) above the gravel or coarse sand. Thereupon, from a fixed reference point, the water level shall be measured at 30-minute intervals for a period of 4 hours, unless two successive water level drops do not vary by more than $\frac{1}{16}$ inch (1.59 mm). At least three water level drops shall be observed and recorded. The hole shall be filled with clear water to a point not more than 6 inches (152 mm) above the gravel or coarse sand whenever it becomes nearly empty. Adjustments of the water level shall not be made during the three measurement periods except to the limits of the last measured water level drop. When the first 6 inches (152 mm) of water seeps away in less than 30 minutes, the time interval between measurements shall be 10 minutes and the test run for 1 hour. The water depth shall not exceed 5 inches (127 mm) at any time during the measurement period. The drop that occurs during the final measurement period shall be used in calculating the percolation rate.

1303.7.1.4 Mechanical test equipment. Mechanical percolation test equipment shall be of an approved type.

1303.7.2 Permeability evaluation. Soil shall be evaluated for estimated percolation based on structure and texture in accordance with accepted soil evaluation practices. Borings shall be made in accordance with Section 1303.7.1 for evaluating the soil.

1303.8 Subsurface landscape irrigation site location. The surface grade of all soil absorption systems shall be located at a point lower than the surface grade of any water well or reservoir on the same or adjoining property. Where this is not possible, the site shall be located so surface water drainage from the site is not directed toward a well or reservoir. The soil absorption system shall be located with a minimum horizontal distance between various elements as indicated in Table 1303.8. Private sewage disposal systems in compacted areas, such as parking lots and driveways, are prohibited. Surface water shall be diverted away from any soil absorption site on the same or neighboring lots.

**TABLE 1303.8
LOCATION OF GRAY WATER SYSTEM**

<u>ELEMENT</u>	<u>MINIMUM HORIZONTAL DISTANCE</u>	
	<u>HOLDING TANK (feet)</u>	<u>IRRIGATION DISPOSAL FIELD (feet)</u>
<u>Buildings</u>	<u>5</u>	<u>2</u>
<u>Property line adjoining private property</u>	<u>5</u>	<u>5</u>
<u>Water wells</u>	<u>50</u>	<u>100</u>
<u>Streams and lakes</u>	<u>50</u>	<u>50</u>
<u>Seepage pits</u>	<u>5</u>	<u>5</u>
<u>Septic tanks</u>	<u>0</u>	<u>5</u>
<u>Water service</u>	<u>5</u>	<u>5</u>
<u>Public water main</u>	<u>10</u>	<u>10</u>

For SI: 1 foot = 304.8 mm.

1303.9 Installation. Absorption systems shall be installed in accordance with Sections 1303.9.1 through 1303.9.5 to provide landscape irrigation without surfacing of gray water.

1303.9.1 Absorption area. The total absorption area required shall be computed from the estimated daily gray water discharge and the design-loading rate based on the percolation rate for the site. The required absorption area equals the estimated gray water discharge divided by the design-loading rate from Table 1303.9.1.

**TABLE 1303.9.1
DESIGN LOADING RATE**

<u>PERCOLATION RATE (minutes per inch)</u>	<u>DESIGN LOADING FACTOR (gallons per square foot per day)</u>
0 to less than 10	1.2
10 to less than 30	0.8
30 to less than 45	0.72
45 to 60	0.4

For SI: 1 minute per inch = min/25.4 mm.
1 gallon per square foot = 40.7 L/m².

1303.9.2 Seepage trench excavations. Seepage trench excavations shall be a minimum of 1 foot (304 mm) to a maximum of 5 feet (1524 mm) wide. Trench excavations shall be spaced a minimum of 2 feet (610 mm) apart. The soil absorption area of a seepage trench shall be computed by using the bottom of the trench area (width) multiplied by the length of pipe. Individual seepage trenches shall be a maximum of 100 feet (30 480 mm) in developed length.

1303.9.3 Seepage bed excavations. Seepage bed excavations shall be a minimum of 5 feet (1524 mm) wide and have more than one distribution pipe. The absorption area of a seepage bed shall be computed by using the bottom of the trench area. Distribution piping in a seepage bed shall be uniformly spaced a maximum of 5 feet (1524mm) and a minimum of 3 feet (914 mm) apart, and a maximum of 3 feet (914mm) and a minimum of 1 foot (305 mm) from the sidewall or headwall.

1303.9.4 Excavation and construction. The bottom of a trench or bed excavation shall be level. Seepage trenches or beds shall not be excavated where the soil is so wet that such material rolled between the hands forms a soil wire. All smeared or compacted soil surfaces in the sidewalls or bottom of seepage trench or bed excavations shall be scarified to the depth of smearing or compaction and the loose material removed. Where rain falls on an open excavation, the soil shall be left until sufficiently dry so a soil wire will not form when soil from the excavation bottom is rolled between the hands. The bottom area shall then be scarified and loose material removed.

1303.9.5 Aggregate and backfill. A minimum of 6 inches of aggregate ranging in size from 1/2 to 2 1/2 inches (12.7 mm to 64 mm) shall be laid into the trench below the distribution piping elevation. The aggregate shall be evenly distributed a minimum of 2 inches (51 mm) over the top of the distribution pipe. The aggregate shall be covered with approved synthetic materials or 9 inches (229mm) of uncompacted marsh hay or straw. Building paper shall not be used to cover the aggregate. A minimum of 9 inches (229 mm) of soil backfill shall be provided above the covering.

1303.10 Distribution piping. Distribution piping shall be not less than 3 inches (76mm) in diameter. Materials shall comply with Table 1303.10. The top of the distribution pipe shall be not less than 8 inches (203mm) below the original surface. The slope of the distribution pipes shall be a minimum of 2 inches (51 mm) and a maximum of 4 inches (102 mm) per 100 feet (30 480 mm).

**TABLE 1303.10
DISTRIBUTION PIPE**

<u>MATERIAL</u>	<u>STANDARD</u>
Polyethylene (PE) plastic pipe	ASTM F 405
Polyvinyl chloride (PVC) plastic pipe	ASTM D 2729
Polyvinyl chloride (PVC) plastic pipe with a 3.5 inch O.D. and solid cellular core or composite wall.	ASTM F 1488

1303.11 Joints. Joints in distribution pipe shall be made in accordance with Section 705 of this code.

(Renumber subsequent chapters and sections)

PART II - IRC

1. Add definition as follows:

GRAY WATER. Waste discharged from lavatories, bathtubs, showers, clothes washers and laundry trays.

2. Revise as follows:

P2601.2 Connections to drainage system. Plumbing fixtures, drains, appurtenances and appliances used to receive or discharge liquid wastes or sewage shall be directly connected to the sanitary drainage system of the building or premises, in accordance with the requirements of this code. This section shall not be construed to prevent indirect waste systems.

Exception: Bathtubs, showers, lavatories, clothes washers and laundry trays shall not be required to discharge to the sanitary drainage system where such fixtures discharge to an approved gray water system for flushing of water closets and urinals or for subsurface landscape irrigation.

3. Delete Appendix O in its entirety without substitution

(Renumber subsequent appendices)

4. Add new section and text as follows:

SECTION P3009
GRAY WATER RECYCLING SYSTEMS

P3009.1 Scope. The provisions of Section P3009 shall govern the materials, design, construction and installation of gray water systems for flushing of water closets and urinals and for subsurface landscape irrigation. See Figures P3009.1(1) and P3009.1(2).

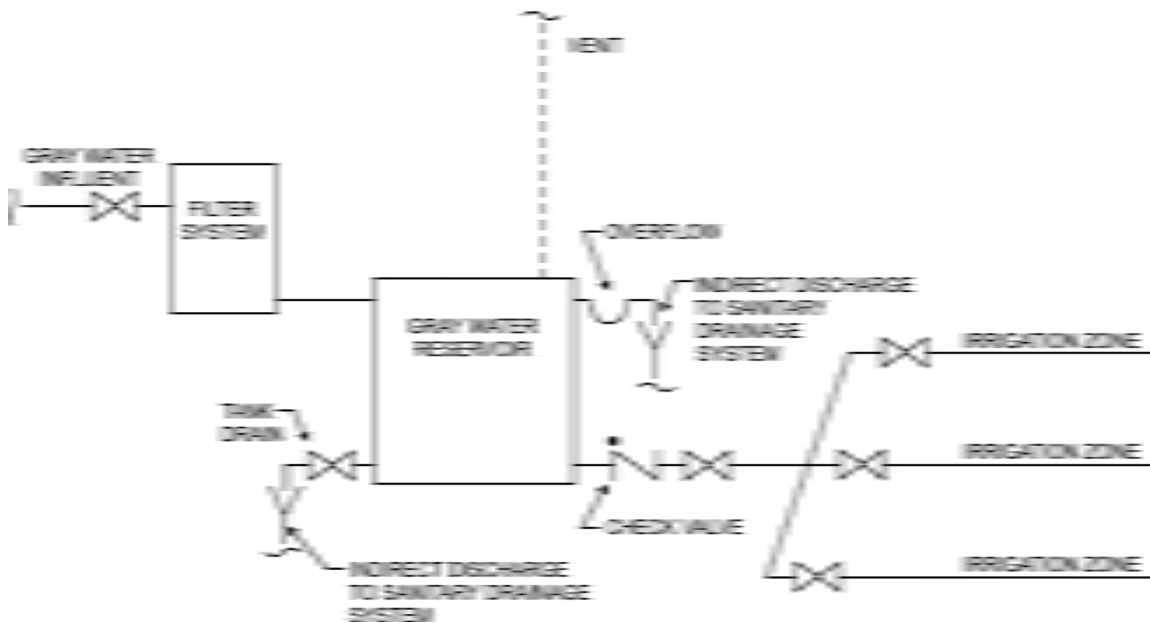


FIGURE P3009.1(1)
GRAY WATER RECYCLING SYSTEM FOR
SUBSURFACE LANDSCAPE IRRIGATION

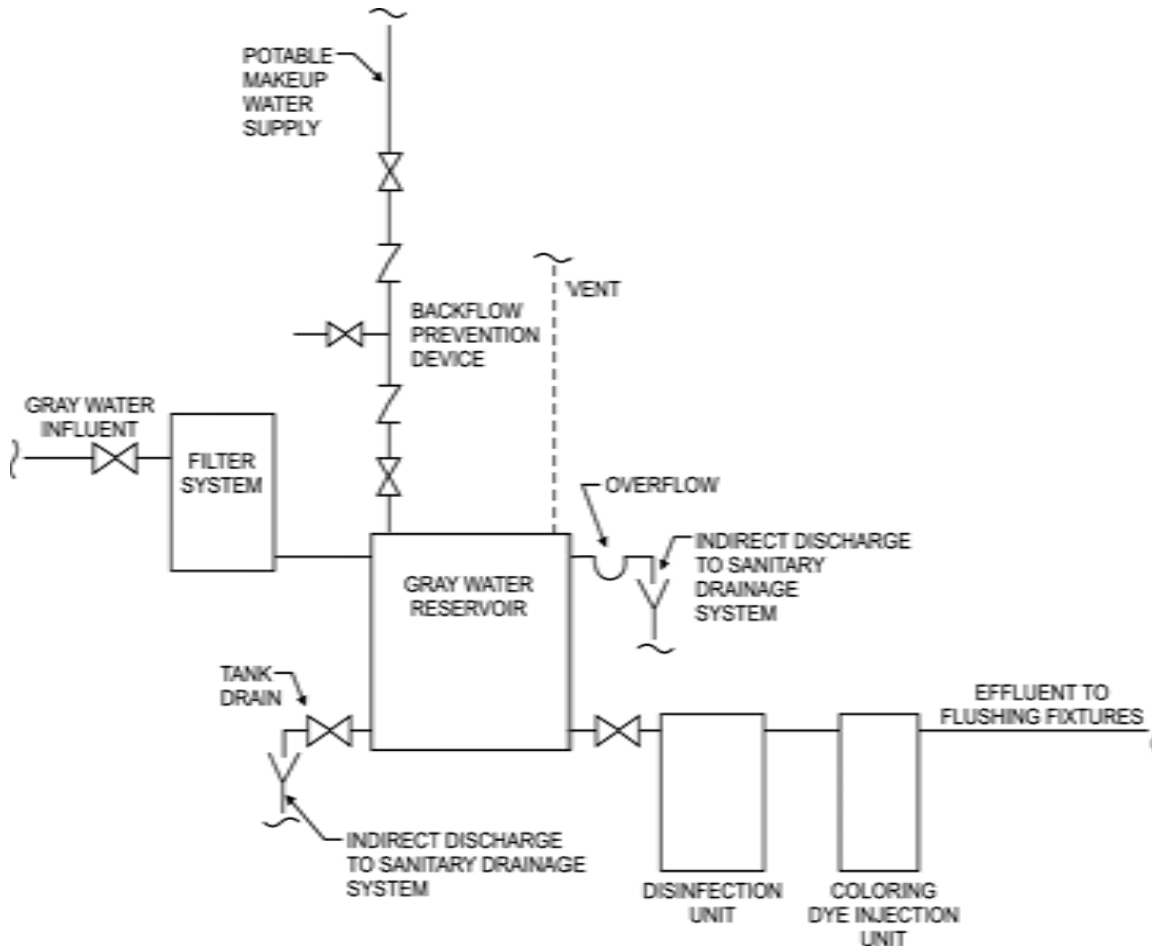


FIGURE P3009.1(2)
GRAY WATER RECYCLING SYSTEM FOR
FLUSHING WATER CLOSETS AND URINALS

P3009.2 Installation. In addition to the provisions of Section P3009, systems for flushing of water closets and urinals shall comply with Section P3009.13 and systems for subsurface landscape irrigation shall comply with Section P3009.14. Except as provided for in Section P3009, all systems shall comply with the provisions of the other sections of this code.

P3009.3 Materials. Above-ground drain, waste and vent piping for gray water systems shall conform to one of the standards listed in Table P3002.1(1). Gray water underground building drainage and vent pipe shall conform to one of the standards listed in Table P3002.1(2).

P3009.4 Tests. Drain, waste and vent piping for gray water systems shall be tested in accordance with Section P2503.

P3009.5 Inspections. Gray water systems shall be inspected in accordance with Section P2503.

P3009.6 Potable water connections. Only connections in accordance with Section 3009.13.1 shall be made between a gray water recycling system and a potable water system.

P3009.7 Waste water connections. Gray water recycling systems shall receive only the waste discharge of bathtubs, showers, lavatories, clothes washers or laundry trays.

P3009.8 Collection reservoir. Gray water shall be collected in an approved reservoir constructed of durable, nonabsorbent and corrosion-resistant materials. The reservoir shall be a closed and gas-tight vessel. Access openings shall be provided to allow inspection and cleaning of the reservoir interior.

P3009.9 Filtration. Gray water entering the reservoir shall pass through an approved filter such as a media, sand or diatomaceous earth filter.

P3009.9.1 Required valve. A full-open valve shall be installed downstream of the last fixture connection to the gray water discharge pipe before entering the required filter.

P3009.10 Overflow. The collection reservoir shall be equipped with an overflow pipe having the same or larger diameter as the influent pipe for the gray water. The overflow pipe shall be trapped and shall be indirectly connected to the sanitary drainage system.

P3009.11 Drain. A drain shall be located at the lowest point of the collection reservoir and shall be indirectly connected to the sanitary drainage system. The drain shall be the same diameter as the overflow pipe required in Section P3009.10.

P3009.12 Vent required. The reservoir shall be provided with a vent sized in accordance with Chapter 31 and based on the diameter of the reservoir influent pipe.

P3009.13 Flushing water systems. Systems for flushing water closets and urinals shall comply with Sections P3009.13.1 through P3009.13.6

P3009.13.1 Collection reservoir. The holding capacity of the reservoir shall be a minimum of twice the volume of water required to meet the daily flushing requirements of the fixtures supplied with gray water, but not less than 50 gallons (189 L). The reservoir shall be sized to limit the retention time of gray water to a maximum of 72 hours.

P3009.13.2 Disinfection. Gray water shall be disinfected by an approved method that employs one or more disinfectants such as chlorine, iodine or ozone that are recommended for use with the pipes, fittings and equipment by the manufacturer of the pipes, fittings and equipment.

P3009.13.3 Makeup water. Potable water shall be supplied as a source of makeup water for the gray water system. The potable water supply shall be protected against backflow in accordance with Section P2902. There shall be a full-open valve located on the makeup water supply line to the collection reservoir.

P3009.13.4 Coloring. The gray water shall be dyed blue or green with a food grade vegetable dye before such water is supplied to the fixtures.

P3009.13.5 Materials. Distribution piping shall conform to one of the standards listed in Table P2905.4.

P3009.13.6 Identification. Distribution piping and reservoirs shall be identified as containing nonpotable water. Piping identification shall be in accordance with Section P2901.1.

P3009.14 Landscape irrigation systems. Subsurface landscape irrigation systems shall comply with Sections P3009.14.1 through P3009.14.11

P3009.14.1 Collection reservoir. Reservoirs shall be sized to limit the retention time of gray water to a maximum of 24 hours.

P3009.14.1.1 Identification. The reservoir shall be identified as containing nonpotable water.

P3009.14.2 Valves required. A check valve and a full-open valve located on the discharge side of the check valve shall be installed on the effluent pipe of the collection reservoir.

P3009.14.3 Makeup water. Makeup water shall not be required for subsurface landscape irrigation systems. Where makeup water is provided, the installation shall be in accordance with Section 3009.13.3.

P3009.14.4 Disinfection. Disinfection shall not be required for gray water used or subsurface landscape irrigation systems.

P3009.14.5 Coloring. Gray water used for subsurface landscape irrigation systems shall not be required to be dyed.

P3009.14.6 Estimating gray water discharge. The system shall be sized in accordance with the gallons-per-day-per-occupant number based on the type of fixtures connected to the gray water system. The discharge shall be calculated by the following equation:

$$\begin{aligned} C & \equiv A \times B \\ A & \equiv \text{Number of occupants:} \end{aligned}$$

Number of occupants shall be determined by the actual number of occupants, but not less than two occupants for one bedroom and one occupant for each additional bedroom.

B = Estimated flow demands for each occupant:

Residential—25 gallons per day (94.6 lpd) per occupant for showers, bathtubs and lavatories and 15 gallons per day (56.7 lpd) per occupant for clothes washers or laundry trays.

C = Estimated gray water discharge based on the total number of occupants.

P3009.14.7 Percolation tests. The permeability of the soil in the proposed absorption system shall be determined by percolation tests or permeability evaluation.

P3009.14.7.1 Percolation tests and procedures. At least three percolation tests in each system area shall be conducted. The holes shall be spaced uniformly in relation to the bottom depth of the proposed absorption system. More percolation tests shall be made where necessary, depending on system design.

P3009.14.7.1.1 Percolation test hole. The test hole shall be dug or bored. The test hole shall have vertical sides and a horizontal dimension of 4 inches to 8 inches (102 mm to 203 mm). The bottom and sides of the hole shall be scratched with a sharp-pointed instrument to expose the natural soil. All loose material shall be removed from the hole and the bottom shall be covered with 2 inches (51 mm) of gravel or coarse sand.

P3009.14.7.1.2 Test procedure, sandy soils. The hole shall be filled with clear water to a minimum of 12 inches (305 mm) above the bottom of the hole for tests in sandy soils. The time for this amount of water to seep away shall be determined, and this procedure shall be repeated if the water from the second filling of the hole seeps away in 10 minutes or less. The test shall proceed as follows: Water shall be added to a point not more than 6 inches (152 mm) above the gravel or coarse sand. Thereupon, from a fixed reference point, water levels shall be measured at 10-minute intervals for a period of 1 hour. Where 6 inches (152mm) of water seeps away in less than 10 minutes, a shorter interval between measurements shall be used, but in no case shall the water depth exceed 6 inches (152 mm). Where 6 inches (152 mm) of water seeps away in less than 2 minutes, the test shall be stopped and a rate of less than 3 minutes per inch (7.2 s/mm) shall be reported. The final water level drop shall be used to calculate the percolation rate. Soils not meeting the above requirements shall be tested in accordance with Section 3009.14.7.1.3.

P3009.14.7.1.3 Test procedure, other soils. The hole shall be filled with clear water, and a minimum water depth of 12 inches (305mm) shall be maintained above the bottom of the hole for a 4-hour period by refilling whenever necessary or by use of an automatic siphon. Water remaining in the hole after 4 hours shall not be removed. Thereafter, the soil shall be allowed to swell not less than 16 hours or more than 30 hours. Immediately after the soil swelling period, the measurements for determining the percolation rate shall be made as follows: Any soil sloughed into the hole shall be removed and the water level shall be adjusted to 6 inches (152 mm) above the gravel or coarse sand. Thereupon, from a fixed reference point, the water level shall be measured at 30-minute intervals for a period of 4 hours, unless two successive water level drops do not vary by more than $\frac{1}{16}$ inch (1.59 mm). At least three water level drops shall be observed and recorded. The hole shall be filled with clear water to a point not more than 6 inches (152 mm) above the gravel or coarse sand whenever it becomes nearly empty. Adjustments of the water level shall not be made during the three measurement periods except to the limits of the last measured water level drop. When the first 6 inches (152 mm) of water seeps away in less than 30 minutes, the time interval between measurements shall be 10 minutes and the test run for 1 hour. The water depth shall not exceed 5 inches (127 mm) at any time during the measurement period. The drop that occurs during the final measurement period shall be used in calculating the percolation rate.

P3009.14.7.1.4 Mechanical test equipment. Mechanical percolation test equipment shall be of an approved type.

P3009.14.7.2 Permeability evaluation. Soil shall be evaluated for estimated percolation based on structure and texture in accordance with accepted soil evaluation practices. Borings shall be made in accordance with Section P3009.14.7.1 for evaluating the soil.

P3009.14.8 Subsurface landscape irrigation site location. The surface grade of all soil absorption systems shall be located at a point lower than the surface grade of any water well or reservoir on the same or adjoining property. Where this is not possible, the site shall be located so surface water drainage from the site is not directed toward a well or reservoir. The soil absorption system shall be located with a minimum horizontal distance between various elements as indicated in Table P3009.14.8. Private sewage disposal systems in compacted areas, such as parking lots and driveways, are prohibited. Surface water shall be diverted away from any soil absorption site on the same or neighboring lots.

**TABLE P3009.14.8
LOCATION OF GRAY WATER SYSTEM**

<u>ELEMENT</u>	<u>MINIMUM HORIZONTAL DISTANCE</u>	
	<u>HOLDING TANK (feet)</u>	<u>IRRIGATION DISPOSAL FIELD (feet)</u>
Buildings	<u>5</u>	<u>2</u>
Property line adjoining private property	<u>5</u>	<u>5</u>
Water wells	<u>50</u>	<u>100</u>
Streams and lakes	<u>50</u>	<u>50</u>
Seepage pits	<u>5</u>	<u>5</u>
Septic tanks	<u>0</u>	<u>5</u>
Water service	<u>5</u>	<u>5</u>
Public water main	<u>10</u>	<u>10</u>

For SI: 1 foot = 304.8 mm.

P3009.14.9 Installation. Absorption systems shall be installed in accordance with Sections P3009.14.9.1 through P3009.14.9.5 to provide landscape irrigation without surfacing of gray water.

P3009.14.9.1 Absorption area. The total absorption area required shall be computed from the estimated daily gray water discharge and the design-loading rate based on the percolation rate for the site. The required absorption area equals the estimated gray water discharge divided by the design-loading rate from Table P3009.14.9.1.

**TABLE P3009.14.9.1
DESIGN LOADING RATE**

<u>PERCOLATION RATE (minutes per inch)</u>	<u>DESIGN LOADING FACTOR (gallons per square foot per day)</u>
<u>0 to less than 10</u>	<u>1.2</u>
<u>10 to less than 30</u>	<u>0.8</u>
<u>30 to less than 45</u>	<u>0.72</u>
<u>45 to 60</u>	<u>0.4</u>

For SI: 1 minute per inch = min/25.4 mm,
1 gallon per square foot = 40.7 L/m².

P3009.14.9.2 Seepage trench excavations. Seepage trench excavations shall be a minimum of 1 foot (304 mm) to a maximum of 5 feet (1524 mm) wide. Trench excavations shall be spaced a minimum of 2 feet (610 mm) apart. The soil absorption area of a seepage trench shall be computed by using the bottom of the trench area (width) multiplied by the length of pipe. Individual seepage trenches shall be a maximum of 100 feet (30 480 mm) in developed length.

P3009.14.9.3 Seepage bed excavations. Seepage bed excavations shall be a minimum of 5 feet (1524 mm) wide and have more than one distribution pipe. The absorption area of a seepage bed shall be computed by using the bottom of the trench area. Distribution piping in a seepage bed shall be uniformly spaced a maximum of 5 feet (1524mm) and a minimum of 3 feet (914 mm) apart, and a maximum of 3 feet (914mm) and a minimum of 1 foot (305 mm) from the sidewall or headwall.

P3009.14.9.4 Excavation and construction. The bottom of a trench or bed excavation shall be level. Seepage trenches or beds shall not be excavated where the soil is so wet that such material rolled between the hands forms a soil wire. All smeared or compacted soil surfaces in the sidewalls or bottom of seepage trench or bed excavations shall be scarified to the depth of smearing or compaction and the loose material removed. Where rain falls on an open excavation, the

soil shall be left until sufficiently dry so a soil wire will not form when soil from the excavation bottom is rolled between the hands. The bottom area shall then be scarified and loose material removed.

P3009.14.9.5 Aggregate and backfill. A minimum of 6 inches of aggregate ranging in size from 1/2 to 2 1/2 inches (12.7 mm to 64 mm) shall be laid into the trench below the distribution piping elevation. The aggregate shall be evenly distributed a minimum of 2 inches (51 mm) over the top of the distribution pipe. The aggregate shall be covered with approved synthetic materials or 9 inches (229mm) of uncompacted marsh hay or straw. Building paper shall not be used to cover the aggregate. A minimum of 9 inches (229 mm) of soil backfill shall be provided above the covering.

P3009.14.10 Distribution piping. Distribution piping shall be not less than 3 inches (76mm) in diameter. Materials shall comply with Table P3009.14.10. The top of the distribution pipe shall be not less than 8 inches (203mm) below the original surface. The slope of the distribution pipes shall be a minimum of 2 inches (51 mm) and a maximum of 4 inches (102 mm) per 100 feet (30 480 mm).

**TABLE P3009.14.10
DISTRIBUTION PIPE**

MATERIAL	STANDARD
Polyethylene (PE) plastic pipe	ASTM F 405
Polyvinyl chloride (PVC) plastic pipe	ASTM D 2729
Polyvinyl chloride (PVC) plastic pipe with a 3.5 inch O.D. and solid cellular core or composite wall.	ASTM F 1488

P3009.14.11 Joints. Joints in distribution pipe shall be made in accordance with Section P3003.

(Renumber subsequent chapters and sections)

Reason: The purpose of this proposal is to bring the gray water recycling systems information in the appendix of the code out of obscurity so the technology can be implemented. The use of gray water as an alternative water source is becoming highly desirable and popular due to the water huge water savings and the shortage of potable water supplies in some areas of the country. This new chapter will promote the reuse of gray water for subsurface irrigation use and the flushing of water closets and urinals. Utilizing the provisions contained within this new chapter will advance the LEED point system for the owners benefit. The unfortunate reality is where provisions are located within an Appendix they are typically subject to adoption at the local level. Moving the current provisions to be included in the body of the code will eliminate the undesirable situation where a locality may not promote this "Green" concept based on the fact that is not code, only an Appendix.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

ICCFILENAME: TOMBERLIN-P5-Chapter 13 NEW

P153–09/10

Table E103.3(3); IRC Table P2903.6(1)

Proponent: Logan G. Sauter – Salt Lake City, Utah representing the Utah Chapter of ICC

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

**TABLE E103.3(3)
TABLE FOR ESTIMATING DEMAND**

SUPPLY SYSTEMS PREDOMINANTLY FOR FLUSH TANKS		SUPPLY SYSTEMS PREDOMINANTLY FOR FLUSHOMETER VALVES	
Load	Demand	Load	Demand

(Portions of table not shown remain unchanged)

PART II - IRC

Revise as follows:

**TABLE P2903.6(1)
CONVERSIONS FROM WATER SUPPLY FIXTURE UNIT TO GALLON PER MINUTE FLOW RATES**

SUPPLY SYSTEMS PREDOMINANTLY FOR FLUSH TANKS		SUPPLY SYSTEMS PREDOMINANTLY FOR FLUSHOMETER VALVES	
Load	Demand	Load	Demand

(Portions of table not shown remain unchanged)

Reason: "SYSTEM" should be plural to match the title of the left side of the table. A flush valve and a flushometer valve are not the same plumbing device. A flush valve (Douglas valve) is located in the bottom of a flush tank and, when actuated by the tank trip lever, controls the flushing action of that tank. A flushometer valve, on the other hand, is a valve that, when activated, dispenses a predetermined amount of water to flush a water closet, urinal, bedpan washer, and other fixtures designed for flushometer controlled flushing. Please note IRC R202 definition for a flush valve, "A device located at the bottom of a flush tank that is operated to flush water closets". Note also IPC 202 definition for a flush tank, "A tank designed with a fill valve and flush valve to flush the contents of the bowl or usable portion of the fixture".

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

ICCFILENAME: Sauter-P4-TE103.3(3)

**P154–09/10
608.16.3; IRC P2902.5.2**

Proponent: Gary Kreutziger, City of San Antonio, Tx. representing the Planning and Development Services Department

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

608.16.3 Heat exchangers. Heat exchangers ~~using an essentially toxic transfer fluid in a potable water system~~ shall be separated from the potable water by double-wall construction. An *air gap* open to the atmosphere shall be provided between the two walls. Heat exchangers ~~utilizing an essentially nontoxic transfer fluid in a nonpotable water system~~ shall be permitted to be of single-wall construction.

PART II – IRC

Revise as follows:

P2902.5.2 Heat exchangers. Heat exchangers ~~using an essentially toxic transfer fluid in a potable water system~~ shall be separated from the potable water by double-wall construction. An *air gap* open to the atmosphere shall be provided between the two walls. Heat exchangers ~~utilizing an essentially nontoxic transfer fluid in a nonpotable water system~~ shall be permitted to be of single-wall construction.

Reason: The purpose of the proposed code change is to provide clarification of Section 608.16.3 (IRC P2902.5.2) with out changing the intent. By eliminating the ambiguous language in this section such as “essentially non toxic” clarity and intent are achieved. The extra protection provided by a heat exchanger of double wall construction should be provided for all potable water systems regardless of the level of toxicity of the heat-transfer medium. The level of protection provided by a double wall heat exchanger is a cost effective method of ensuring that the publics water quality expectations are met, by reducing the possibility of introducing even “essentially nontoxic transfer fluid” into the potable water.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Kreutziger-P2-608.16.3

P155–09/10

310.2 (New), 310.4, 310.5, 405.3.2 (New), 405.3.3 (New), 405.3.4 (New)

Proponent: John T.E. Walters, Prince William County, VA., representing the Virginia Plumbing and Mechanical Inspectors Association (VPMIA)

1. Revise as follows:

310.2 405.3.2 Location of fixtures and piping. Piping, fixtures or equipment shall not be located in such a manner as to interfere with the normal operation of windows, doors or other means of egress openings.

310.4 405.3.3 Water closet compartment. Each water closet utilized by the *public* or employees shall occupy a separate compartment with walls or partitions and a door enclosing the fixtures to ensure privacy.

Exceptions:

1. Water closet compartments shall not be required in a single-occupant toilet room with a lockable door.
2. Toilet rooms located in day care and child-care facilities and containing two or more water closets shall be permitted to have one water closet without an enclosing compartment.
3. This provision is not applicable to toilet areas located within Group I-3 housing areas.

310.5 405.3.4 Urinal partitions. Each urinal utilized by the *public* or employees shall occupy a separate area with walls or partitions to provide privacy. The walls or partitions shall begin at a height not more than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal a minimum of 18 inches (457 mm) or to a point not less than 6

inches (152 mm) beyond the outermost front lip of the urinal measured from the finished backwall surface, whichever is greater.

Exceptions:

1. Urinal partitions shall not be required in a single occupant or family/assisted-use toilet room with a lockable door.
2. Toilet rooms located in day-care and child-care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.

(Renumber subsequent sections)

2. Add new text as follows:

310.2 Location of fixtures and compartments. Plumbing fixture location and the requirements for compartments and partitions shall be in accordance with Section 405.3.

(Renumber subsequent sections)

Reason: By moving these sections, it will make it easier for the reader to find the necessary information and be closer to where it is really needed. Because the current Section 405 does not contain requirements for separate compartments or privacy (urinal partitions), the reader can easily forget or be unaware that partitions/compartments are required. This affects the layout of the fixtures covered in section 405.3.1. The knowledge concerning compartments/partitions is critical to the proper fixture location and needs to be in the same related section as the fixture clearance dimension. The new section 310.2 serves as a pointer for the reader to not miss the requirements of Section 405.3.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: WALTERS-P5-310.2

P156–09/10

312.3; IRC P2503.5.1

Proponent: Judson Collins, JULYCO, representing himself.

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

312.3 Drainage and vent air test. Plastic piping shall not be tested using air. An air test shall be made by forcing air into the system until there is a uniform gauge pressure of 5 psi (34.5 kPa) or sufficient to balance a 10-inch (254 mm) column of mercury. This pressure shall be held for a test period of at least 15 minutes. Any adjustments to the test pressure required because of changes in ambient temperatures or the seating of gaskets shall be made prior to the beginning of the test period.

PART II – IRC

P2503.5.1 Rough plumbing. DWV systems shall be tested on completion of the rough piping installation by water or air with no evidence of leakage. Either test shall be applied to the drainage system in its entirety or in sections after rough piping has been installed, as follows:

1. Water test. Each section shall be filled with water to a point not less than 10 feet (3048 mm) above the highest fitting connection in that section, or to the highest point in the completed system. Water shall be held in the section under test for a period of 15 minutes. The system shall prove leak free by visual inspection.
2. Air test. Plastic piping shall not be tested using air. The portion under test shall be maintained at a gauge pressure of 5 pounds per square inch (psi) (34kPa) or 10 inches of mercury column (34 kPa). This pressure shall be held without introduction of additional air for a period of 15 minutes.

Reason:

PART I- Section 312.1 does not allow air to be used for testing any plastic piping plumbing system. Section 312.5 repeats the prohibition for water system testing. Section 312.3 does not. This proposal will identify the prohibition in Section 312.3.

PART II- The IRC should reflect the same concern for safety during testing as does the IPC.

Cost Impact: None

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

COLLINS-P7-312.3

P157–09/10

604.8, Chapter 13; IRC P2903.3.1, Chapter 44

Proponent: Abraham I. Murra, Canadian Standards Association, representing the Canadian Standards Association

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

1. Revise as follows:

604.8 Water pressure reducing valve or regulator. Where water pressure within a building exceeds 80 psi (552 kPa) static, an *approved* water-pressure reducing valve conforming to ASSE 1003 or CSA B356 with strainer shall be installed to reduce the pressure in the building water distribution piping to 80 psi (552 kPa) static or less.

2. Add standard to Chapter 13 as follows:

CSA

B356-00(2005) Water Pressure Reducing Valves for Domestic Water Supply Systems

PART II - IRC

1. Revise as follows:

P2903.3.1 Maximum pressure. Maximum static pressure shall be 80 psi (551 kPa). When main pressure exceeds 80 psi (551 kPa), an approved pressure-reducing valve conforming to ASSE 1003 or CSA B356 shall be installed on the domestic water branch main or riser at the connection to the water-service pipe.

2. Add standard to Chapter 44 as follows:

CSA

B356-00(2005) Water Pressure Reducing Valves for Domestic Water Supply Systems

Reason: The acceptance of the proposed change will enable manufacturers with products certified to CSA B356 to have their products used as options to products that meet the requirements of ASSE 1003. This change will also allow the authorities having jurisdiction to allow the use of products that meet either CSA B356 or ASSE 1003.

Cost Impact: The code change proposal will not increase the cost of production.

Analysis: Review of proposed new standard, CSA B356-00(2005), for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

PART I – IPC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: Murra-P3-604.8

P158–09/10
504.7.3 (New); IRC P2801.5.3 (New)

Proponent: Douglas Sabbag, Resource Conservation Technologies, Inc.

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

504.8 Leak detector required. Upon water heater installation, an alarm device shall be installed in the drain pan. The alarm shall sense when the water level in the drain pan exceeds ½ inch in depth and shall produce an audible alert.

PART II – IRC

Revise as follows:

P2801.5.3 Leak detector required. Upon water heater installation, an alarm device shall be installed in the drain pan. The alarm shall sense when the water level in the drain pan exceeds ½ inch in depth and shall produce an audible alert.

Reason: Water Heaters are generally considered a maintenance-free appliance, but they are also one of the single most damaging appliances in the home. Because water heaters are continually under pressure, even small pressurized leaks can quickly flood and devastate a home. Whether at home or at work, these flooding events can go undetected for hours or even days.

It is a common occurrence that water heaters leak, especially near the end of their standard or expected life cycle. Leaking water heaters are usually found months or years after their initial installation with their associated damages. One common cause of leaking is when the first two to three courses of galvanized threads begin to deteriorate since water is in contact with the copper and galvanized piping. This corrosion at the connections into the water heater, eventually lead to leaks.

A slow leak can cause a water heater to rust and the surrounding floors and walls to decay. The price tag from such damage can be significant: water heater failures cost an average of more than \$4,444 per incident. (http://www.disastersafety.org/text.asp?id=water_heaters)

Besides the frequently extensive damages to the surrounding building materials caused from the leaking water, there is also a very substantial loss of water occurring nationally and internationally from leaking hot water tanks. In just one county in Florida, i.e., Manatee County, it is estimated that there are currently 1,282 leaking water heaters, with a conservative water loss, (at one drop per second), of 2,700 gallons per year, per leaking water heater, or a total of 3,461,400 gallons of wasted water per year. At the ¼ GPM of loss rate, which given the pressurized water condition is frequently the case, the same number of leaking water heaters: (1,282) cause 572,351 gallons of lost water in one day; which extends to 208,908,229 gallons in a year.

On a national level, it is estimated that there are 957,788 leaking hot water heaters. At the ¼ GPM rate of leakage, that equals 156,058,166,261 gallons wasted in a year. One hundred and fifty six BILLION GALLONS of WASTED WATER.

The associated energy which was required to provide that wasted potable water is likewise, extensive.

Cost Impact: A simple to install audible alarm costs under \$30.

PART I – IPC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: SABBAAG-P1-504.7.3 NEW

P159–09/10
904.5; IRC P3103.5

Proponent: Guy McMann, Jefferson County Colorado, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I - IPC

Revise as follows:

904.5 Location of vent terminal. An open vent terminal from a drainage system shall not be located directly beneath any door, openable window, or other air intake opening of the building or of an adjacent building, and any such vent terminal shall not be within 10 feet (3048 mm) horizontally of such an opening unless it is at least ~~2 feet (610 mm)~~ 3 feet (914 mm) above the top of such opening.

PART II - IRC

Revise as follows:

P3103.5 Location of vent terminal. An open vent terminal from a drainage system shall not be located less than 4 feet (1219 mm) directly beneath any door, openable window, or other air intake opening of the building or of an adjacent building, nor shall any such vent terminal be within 10 feet (3048 mm) horizontally of such an opening unless it is at least ~~2 feet (610 mm)~~ 3 feet (914 mm) above the top of such opening

Reason: This dimension is inconsistent with many of the other code books such as IMC-401.4 #3; IRC-G2427.6.6 and G2427.8 #1; IFGC-503.6.7; IFGC-618.5 and IFGC-503.8 #1. This 3-foot dimension has been around for years and was also found in the legacy codes. It's very important that the entire family of codes is consistent. It's important that sources of contamination don't make their way into building openings and 3 feet will best accomplish this.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: MCMANN-P1-904.5

P160–09/10
608.16.3; IRC P2902.5.2

Proponent: Gary Kreutziger, City of San Antonio, Tx. representing the Planning and Development Services Department

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC PLUMBING COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IPC

Revise as follows:

715.1 Sewage backflow. Where ~~the flood level rims of~~ plumbing fixtures are installed on a floor with a finished floor elevation below the elevation of the manhole cover of the next upstream manhole in the *public sewer*, such fixtures shall be protected by a backwater valve installed in the *building drain*, or horizontal *branch* serving such fixtures. Plumbing fixtures ~~having flood level rims installed on a floor with a finished floor elevation~~ above the elevation of the manhole cover of the next upstream manhole in the *public sewer* shall not discharge through a backwater valve.

PART II – IRC

Revise as follows:

P3008.1 Sewage backflow. Where ~~the flood level rims of~~ plumbing fixtures are installed on a floor with a finished floor elevation below the elevation of the manhole cover of the next upstream manhole in the *public sewer*, such fixtures shall be protected by a backwater valve installed in the *building drain*, or horizontal *branch* serving such fixtures. Plumbing fixtures ~~having flood level rims installed on a floor with a finished floor elevation~~ above the elevation of the manhole cover of the next upstream manhole in the *public sewer* shall not discharge through a backwater valve.

Reason: The purpose of the proposed code change is to provide one consistent elevation for all fixtures on a floor that has an elevation less than the manhole cover of the next upstream manhole. This change will provide a substantial increase in the level of protection for some fixtures such as lavatories while having only a small increase in the level of protection a shower pan, floor drain, mop sink, but yet an overall increase in protection for the structure. The use of the finished floor elevation will eliminate the reliance on the seal between a floor flange and wax ring of a water closet to maintain a seal in a pressure situation in the direction of flow for which it is not intended. In an installation where a wax seal with the rubber boot is installed a backwater situation will force sewage between the boot and drain pipe and out through the floor flange. The cost will save on labor for installation due to only having to determine one elevation versus many.

Cost Impact: The code change proposal will not increase the cost of construction.

PART I – IPC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

PART II – IRC

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: Kreutziger-P3-715.1

P161–09/10
304.4

Proponent: Shawn Strausbaugh – Arlington County, VA representing Virginia Plumbing and Mechanical Inspectors Association

Revise as follows:

304.4 Openings for pipes. In or on structures where openings have been made in walls, floors or ceilings for the passage of pipes, ~~such openings~~ the annular space between the pipe and the sides of the opening shall be closed and protected by the installation of approved metal collars that are securely fastened to the adjoining structure, sealed with caulking materials or closed with gasketing systems compatible with the piping materials and locations.

Reason: The new wording is the same as the requirements of the International Energy Conservation Code section 502.4.3 and coordinates this section with similar language. What is an approved metal collar and how do you securely fasten this to the adjoining structure. Is the intent of the code as written to require an escutcheon type metal collar at every piping penetration? How do you address the dissimilar materials when piping is touching the metal collar. If the collar is not touching the piping materials, how is it going to protect against the passage of rodents or vermin?

Cost Impact: The code change proposal will not increase the cost of construction

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: STRAUSBAUGH-P2-304.4

P162-09/10

403.3 (IBC [P]2902.3)

Proponent: Donald R. Monahan, PE, Walker Parking Consultants, representing the National Parking Association and the Automated & Mechanical Parking Association

Add new text as follows:

403.3 (IBC [P] 2902.3) Required public toilet facilities. Customers, patrons and visitors shall be provided with public toilet facilities in structures and tenant spaces intended for public utilization. The number of plumbing fixtures located within the required toilet facilities shall be provided in accordance with Section 2902.1 for all users. Employees shall be provided with toilet facilities in all occupancies. Employee toilet facilities shall either be separate or combined employee and public toilet facilities.

Exception: Public toilet facilities shall not be required in open or enclosed parking garages. Toilet facilities shall not be required in parking garages where there are no parking attendants. Toilet facilities in buildings adjacent to parking garages shall be permitted to serve parking garage attendants provided that the location of the toilet facilities complies with Section 403.3.2.

Reason: Parking garages are not considered to be occupied buildings. Toilet facilities are generally provided in an adjacent building served by the parking garage. Public toilet facilities in particular can be a security and maintenance concern in parking garages as they are often vandalized during periods of low activity.

Cost Impact: There will be a significant cost savings not to install toilet facilities in parking garages as well as minimizing security concerns and potential vandalism.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME: MONAHAN-P2-403.3

P163-09/10

911.3

Proponent: Richard Grace/Fairfax County/Virginia VA Plumbing and Mechanical Inspectors/VA Building and Code Officials

Revise as follows:

911.3 Slope and size of horizontal branch. The maximum slope of the vent section of the horizontal branch drain shall be one unit vertical in 12 units horizontal (8.3-percent slope). The entire length of the vent section of the horizontal branch drain shall be sized for the total drainage discharge to the branch.

Reason: The slope percent for 1 in 12 is 8.3, not 8. This correction provides consistency throughout all codes that reference this slope.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICC FILENAME:GRACE-P3-911.3 CCC

P164-09/10

903, 904, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916

Proponent: Robert G. Konyndyk, Chief, Plumbing Division, Bureau of Construction Codes, State of Michigan

Revise as follows:

SECTION 903 904
OUTDOOR VENT EXTENSIONS
(Renumber sections not shown)

SECTION 904 903
VENT TERMINALS
(Renumber sections not shown)

SECTION 906 909
FIXTURE VENTS
(Renumber sections not shown)

SECTION 907 910
INDIVIDUAL VENTS
(Renumber sections not shown)

SECTION 908 911
COMMON VENTS
(Renumber sections not shown)

SECTION 909 912
WET VENTING
(Renumber sections not shown)

SECTION 940 913
WASTE STACK VENT
(Renumber sections not shown)

SECTION 944 914
CIRCUIT VENTING
(Renumber sections not shown)

SECTION 942 915
COMBINATION DRAIN AND VENT SYSTEM
(Renumber sections not shown)

SECTION 943 916
ISLAND FIXTURE VENTING
(Renumber sections not shown)

SECTION 944 908
**RELIEF VENTS--STACKS OF MORE THAN
10 BRANCH INTERVALS**
(Renumber sections not shown)

SECTION 945 907
VENTS FOR STACK OFFSETS
(Renumber sections not shown)

SECTION 946 906
VENT PIPE SIZING
(Renumber sections not shown)

Reason: This proposal changes the order of the subject matter to read in an orderly, systematic manner. No changes are being made to the technical content within the sections. Even though this seems like a bold move, the new order will make a great deal of sense to the design community. This is similar to the reorganization of the legacy codes into the common code format that occurred several years ago. The resulting new order of Chapter 9 will be as follows:

SECTION 901
GENERAL

SECTION 902
MATERIALS

SECTION 903
VENT TERMINALS

SECTION 904
OUTDOOR VENT EXTENSIONS

**SECTION 905
VENT CONNECTIONS AND GRADES**

**SECTION 906
VENT PIPE SIZING**

**SECTION 907
VENTS FOR STACK OFFSETS**

**SECTION 908
RELIEF VENTS STACKS OF MORE THAN
10 BRANCH INTERVALS**

**SECTION 910
INDIVIDUAL VENTS**

**SECTION 911
COMMON VENTS**

SECTION 911 COMMON VENTS

**SECTION 912
WET VENTING**

**SECTION 913
WASTE STACK VENT**

**SECTION 914
CIRCUIT VENTING**

**SECTION 915
COMBINATION DRAIN AND VENT SYSTEM**

**SECTION 916
ISLAND FIXTURE VENTING**

**SECTION 917
AIR ADMITTANCE VALVES**

**SECTION 918
ENGINEERED VENT SYSTEMS**

**SECTION 919
COMPUTERIZED VENT DESIGN**

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: The proposal does not change the technical content of the chapter.

Public Hearing: Committee:	AS	AM	D
Assembly:	ASF	AMF	DF

ICCFILENAME:KONYNDYK-P3-CHAPTER 9 CCC