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2 **Board Bill 293**

**Introduced by: Alderman Gregory Carter**

3  
4 An ordinance adopting the Uniform Plumbing Code, 2009 Edition, as the Plumbing Code  
5 of the City of Saint Louis; repealing Ordinance 66615, which adopted the Uniform  
6 Plumbing Code, 2003 Edition; repealing Ordinance 61713, Ordinance 62610, Ordinance  
7 62682, Ordinance 65031 and Ordinance 65932, all of which modified Ordinance 60826;  
8 and containing a penalty clause, a savings clause and an emergency clause.

9 **BE IT ORDAINED BY THE CITY OF SAINT LOUIS AS FOLLOWS:**

10 **SECTION ONE.**

11 An ordinance repealing Ordinance 60826 approved July 18, 1989, pertaining to the  
12 Plumbing Code of the City of Saint Louis which adopted the National Standard Plumbing  
13 Code/1987; repealing Ordinance 61713 approved December 20, 1989, which dealt with  
14 lawn sprinklers; repealing Ordinance 62610, approved April 7, 1992, which dealt with  
15 annual inspections; repealing Ordinance 62682 approved July 27, 1992, which dealt with  
16 licensing fees; repealing Ordinance 65031 approved August 9, 2000, which dealt with the  
17 Plumbing Board; repealing Ordinance 65932 approved June 26, 2003, which amended  
18 Plumbing fees; repealing Ordinance 66615, which adopted the Uniform Plumbing  
19 Code/2003 and enacting in lieu thereof a new Plumbing Code and adopting the Uniform  
20 Plumbing Code/2009.

21 The Uniform Plumbing Code/2009, Twenty-Fourth Edition, as published by the  
22 International Association of Plumbing and Mechanical Officials, three copies of which  
23 are filed on record in the Office of the Register of the City of Saint Louis, being marked  
24 and designated as the Uniform

25 Plumbing Code, including Appendix Chapters A, B, D, E, H, I and M be and is hereby  
26 adopted as 'The Plumbing Code of the City of Saint Louis, in the State of Missouri; for  
27 the control of buildings and structures as herein provided; and that each and all of the  
28 regulations, provisions, penalties, conditions and terms of said Building Code are hereby  
29 referred to, adopted and made a part hereto, as if fully set out in this ordinance with the  
30 additions, insertions, deletions and changes prescribed in Section Three of this ordinance.

31 Section Three.

32 That the Uniform Plumbing Code/2009 is amended and changed in the following  
33 respects:

34 Delete Chapter 1 in its entirety with the following substitution:

35 **SECTION 101**

36 **GENERAL**

37  
38 **101.1 Title.** These regulations shall be known as the Plumbing Code of the City of St.  
39 Louis, hereinafter referred to as "this code."  
40

41 **101.2 Scope.** This code shall regulate the design, erection, installation, alteration,  
42 repairs, relocation, replacement, addition to, removal, use, maintenance and inspection of  
43 plumbing equipment and systems within the City of St. Louis.  
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45 **101.2.1 Appendices.** Provisions in the appendices shall not apply unless  
46 specifically adopted. Appendices A, B, D, E, I, L, M are hereby adopted for use  
47 by the City of Saint Louis. Appendices, and Chapter 16 are accepted as reference  
48 only and may be used as an engineered system if approved by the Authority  
49 Having Jurisdiction. .  
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51 **101.3 Code intent.** The purpose of this code is to provide minimum standards to  
52 safeguard life and limb, health, property and public welfare by regulating and controlling  
53 the design, erection, installation, alteration, repairs, relocation, replacement, addition to,  
54 use, maintenance and inspection of plumbing equipment and systems. This code shall be  
55 construed to secure its expressed intent, which is to insure public health, safety and  
56 welfare insofar as they are affected by the design, erection, installation, alteration,  
57 repairs, relocation, replacement, addition to, use, maintenance and inspection of  
58 plumbing equipment and systems.  
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## 60 **SECTION 102** 61 **APPLICABILITY** 62

63 **102.1 General.** The provisions of this code shall apply to all matters affecting or relating  
64 to structures and premises as set forth in Section 101. Where, in a specific case, different  
65 sections of this code specify different materials, methods of construction or other  
66 requirements, the most restrictive sections shall govern.  
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68 **102.2 Existing installations.** Except as otherwise provided for in this chapter, a  
69 provision in this code shall not require the removal, alteration or abandonment of, nor  
70 prevent the continued utilization and maintenance of an existing plumbing system  
71 lawfully in existence at the time of adoption of this code.  
72

73 **102.3 Maintenance.** Plumbing systems, materials and appurtenances, both existing and  
74 new, and all parts thereof shall be maintained in proper operating condition in accordance  
75 with the original design and in a safe and sanitary condition. All devices or safeguards  
76 which are required by this code shall be maintained in compliance with the code edition  
77 under which installed. The owner or the owner's designated agent or the person  
78 collecting rent shall be responsible for maintenance of plumbing systems. To determine  
79 compliance with this provision, the code official shall have the authority to require any  
80 plumbing system to be re-inspected.  
81

82 **102.4 Additions, alterations or repairs.** Additions, alterations, renovations or repairs to  
83 any plumbing system shall conform to that required for a new plumbing system without  
84 requiring the existing plumbing system to comply with all the requirements of this code.  
85 Additions, alterations or repairs shall not cause an existing plumbing system to become  
86 unsafe, unsanitary, hazardous or overloaded.

87 Installed fixtures, piping or plumbing equipment of any premises found to be in  
88 an unsatisfactory or hazardous condition shall be repaired, renovated, replaced or  
89 removed immediately subsequent to the issuance of a written notice of the unsanitary or  
90 hazardous condition by the Plumbing Inspection Section of the Division of Building and  
91 Inspection, or by the Health Commissioner.

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92 Minor additions, alteration, renovations and repairs to existing plumbing systems  
93 shall meet the provisions for new construction, unless such work is done in the same  
94 manner and arrangement as was in the existing system, is not hazardous and is approved.  
95

96 **102.5 Change in occupancy.** It shall be unlawful to make any change in the occupancy  
97 of any structure which will subject the structure to any special provision of this code  
98 applicable to the new occupancy without approval of the code official. The code official  
99 shall certify that such structure meets the intent of the provisions of law governing  
100 building construction for the proposed new occupancy and that such change of occupancy  
101 does not result in any hazard to public health, safety or welfare.  
102

103 **102.6 Historic buildings.** The provisions of this code relating to the construction,  
104 alteration, repair, enlargement, restoration, relocation or moving of building or structures  
105 shall not be mandatory for existing buildings or structures identified and classified by the  
106 state or City of Saint Louis as historic buildings when such buildings or structures are  
107 judged by the code official to be safe and in the public interest of health, safety and  
108 welfare regarding any proposed construction, alteration, repair, enlargement, restoration,  
109 relocation or moving of buildings.  
110

111 **102.7 Moved buildings.** Except as determined by Section 102.2, plumbing systems that  
112 are a part of buildings or structures moved into or within the City of Saint Louis shall  
113 comply with the provisions of this code for new installations.

114 Before any structure that have been moved into or within the City of Saint Louis  
115 is occupied, the plumbing system shall be inspected and tested for safe operation and  
116 compliance with the requirements of this code. This testing shall be performed by a  
117 licensed plumber.

118 *Exception: Unaltered plumbing systems within manufactured units bearing*  
119 *certification of the Missouri Public Service Commission.*  
120

121 **102.8 Referenced codes and standards.** The codes and standards referenced in this  
122 code shall be those that are listed in Chapter 14 and in Appendix I and shall be  
123 considered part of the requirements of this code to the prescribed extent of each such  
124 reference. Where differences occur between provisions of this code and the referenced  
125 standards, the most stringent provision shall apply. Referenced standards shall be  
126 permitted to be updated by the rule making authority of the code official.  
127

128 **102.9 Requirements not covered by code.** Any requirements necessary for the strength,  
129 stability or proper operation of an existing or proposed plumbing system, or for the safety  
130 of the occupants thereof, or for the public safety, health and general welfare, not  
131 specifically covered by this code, shall be determined by the code official.  
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133 **102.10 Workmanship.** All work shall be conducted, installed and completed in a  
134 workmanlike and approved manner so as to secure the results intended by this code.  
135

## 136 SECTION 103

### 137 VALIDITY

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139 **103.1 Partial invalidity.** In the event that any part or provision of this code is held to be  
140 illegal or void, this shall not have the effect of making void or illegal any or the other  
141 parts or provisions thereof, which are determined to be legal; and it shall be presumed  
142 that this code would have been passed without such illegal or invalid parts or provisions.

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144 **103.2 Segregation of invalid provisions.** Any invalid part of this code shall be  
145 segregated from the remainder of the code by the court holding such part invalid, and the  
146 remainder shall remain effective.

147

148 **103.3 Decisions involving existing structures.** The invalidity of any provision in any  
149 section of this code as applied to existing buildings and structures shall not be held to  
150 affect the validity of such section in its application to buildings and structures hereafter  
151 erected.

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## 153 **SECTION 104**

### 154 **SECTION OF PLUMBING REGULATIONS AND INSPECTIONS**

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156 **104.1 General.** There is hereby created the Section of Plumbing Regulations and  
157 Inspections within the Division of Building and Inspection which shall have control and  
158 enforce all codes, regulations and ordinances pertaining to plumbing and drainlaying  
159 installations and systems in accordance with this code. The head of this section shall be  
160 known as the Plumbing Inspection Supervisor, who shall be appointed by the Building  
161 Commissioner. Throughout this code, the Plumbing Inspection Supervisor, the Chief  
162 Mechanical Engineer and the Building Commissioner shall be referred to as the code  
163 official.

164

165 **104.2 Plumbing inspection supervisor (Chief Plumbing Inspector).** There shall be  
166 appointed by the Building Commissioner a Plumbing Inspection Supervisor (Chief  
167 Plumbing Inspector). The Plumbing Inspection Supervisor shall have served an  
168 apprentice training program or shall have a certificate of completion in plumbing  
169 technology from an accredited trade or technical institute. The Plumbing Inspection  
170 Supervisor shall also have ten (10) years experience as a licensed plumber and possess  
171 the qualifications established by the Department of Personnel.

172

173 **104.3 Plumbing inspectors.** There shall be appointed by the code official a sufficient  
174 number of Plumbing Inspectors to adequately perform all inspection duties and enforce  
175 all ordinances pertaining to the Section of Plumbing Regulations and Inspections in  
176 accordance with subsequent sections of this code and City of Saint Louis budgetary  
177 constraints. All plumbing inspectors shall have had at least five (5) years experience as a  
178 licensed plumber and possess the qualifications set forth by the Department of Personnel.

179

180 **104.3.1 Assistant to the supervisor.** One such inspector shall assist the  
181 Plumbing Inspection Supervisor. The assistant shall assume the responsibilities  
182 of the Plumbing Inspection Supervisor in the Supervisor's absence or disability.

183

184 **104.3.2 Restriction of employees.** An official or employee connected with the  
185 Section of Plumbing Regulations and Inspections, except one whose only  
186 connection is that of a member of the Board of Examiners for Master Plumber,  
187 Drainlayer and Journeyman Plumbers, or a member of the Board of Examiners for  
188 Sprinkler System Contractors, or a member of the Committee of Plumbing  
189 Review shall not be engaged in or directly or indirectly be connected with the  
190 furnishing of labor, materials, equipment or appliances for the construction,  
191 alteration or maintenance of a building, or the preparation of construction  
192 documents thereof, unless that person is the owner of the building, or a first  
193 degree relative of the owner of the building, nor shall such code official or

194 employee engage in any work that conflicts with official duties or with the  
195 interests of the department.

196

197 **104.4 Relief from personal liability.** The code official and employees charged with the  
198 enforcement of this code, while acting for the City of Saint Louis, shall not thereby be  
199 rendered liable personally, and are hereby relieved from all personal liability for any  
200 damage accruing to persons or property as a result of any act required or permitted in the  
201 discharge of official duties.

202 Any suit instituted against any code official or employee because of an act  
203 performed by that person in the lawful discharge of duties and under the provisions of  
204 this code shall be defended by the City of Saint Louis City Counselor's Office until the  
205 final termination of the proceedings. The code official or any employees shall not be  
206 liable for any costs or judgment in or arising from any action, suit or proceeding that is  
207 instituted in pursuance of the provisions of this code. Any code official or employee of  
208 the Division of Building and Inspection, Department of Public Safety, acting in good  
209 faith and without malice, shall be free from liability for acts performed under any of its  
210 provisions or by reason of any act or omission in the performance of official duties in  
211 connection therewith.

212 The above protection shall also extend to former employees for work performed  
213 during their period of employment with the City of Saint Louis.

214

215 **104.5 Official records.** An official record shall be kept of all business and activities of  
216 the department specified in the provisions of this code, and all such records shall be open  
217 to public inspection at all appropriate times.

218 A reasonable charge shall be established for making copies of documents. If staff  
219 time is required to assemble requested data, an estimate shall be made of personnel  
220 charges, including fringe benefits, and a signed agreement made prior to undertaking  
221 such projects. The Section of Plumbing Regulations and Inspections is not obligated to  
222 assemble data into formats that it does not use or need in the ordinary prosecution of its  
223 work.

224

## 225 **SECTION 105**

### 226 **DUTIES AND POWERS OF THE CODE OFFICIAL**

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228 **105.1 General.** The code official shall enforce all of the provisions of this code and shall  
229 act on any question relative to the mode or manner of construction and the materials to be  
230 used in the erection, installation, alteration, repair, removal, maintenance or operation of  
231 all plumbing systems, devices, equipment and appliances, except as otherwise  
232 specifically provided for by statutory requirements or as provided for in Sections 105.2  
233 through 105.7.

234

235 **105.2 Applications and permits.** It shall be the duty of the code official to examine all  
236 applications and construction documents of proposed plumbing and drainlaying, and if  
237 the same are in all respects found to be in conformity with the provisions of this code, the  
238 code official shall approve them. The code official shall investigate all reported cases of  
239 improper plumbing, pipefitting and sprinkler fitting work or material, old or new, and of  
240 improper sanitation as to established principles of public health. The code official shall  
241 cause an inspection to be made of all water and sewer connections and approve all  
242 permits for excavations made for the purpose of making or repairing same. The code  
243 official shall cause the inspection of the plumbing and drain laying of all buildings,  
244 public and private, in the course of erection, alteration, reconstruction or repair and cause

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245 the inspection of existing plumbing as often as may be necessary in a manner and to the  
246 extent necessary to carry out the provisions of this code regulating plumbing and drain  
247 laying.

248 *Exception: Buildings, structures or premises owned and occupied by the United*  
249 *States of America or the State of Missouri.*

250  
251 **105.3 Notices and orders.** The code official shall issue all necessary notices or orders in  
252 writing to assure compliance with this code. The notice to the person having  
253 responsibility for the building, structure or premises found by the code official to be  
254 dangerous or in violation of this code shall be directed to that person by name, if known;  
255 if not known, then under the name of the owner or owners of the building, structure or  
256 premises as indicated by the records of the Assessors Office of the City of Saint Louis,  
257 and shall be served in any one of the following ways:

- 258 A. Deliver to owner - by causing said notice to be delivered to such owner,  
259 either in the City of Saint Louis or elsewhere.
- 260 B. Posting - by posting a copy of such notice upon the building or structure or  
261 premise.
- 262 C. Mailing - by mailing such notice or copy thereof enclosed in a sealed  
263 envelope, postage prepaid, directed to such owner, either at the owner's  
264 place of business or residence address in the city or elsewhere; said notice  
265 to be deemed served twenty-four (24) hours after the mailing of said  
266 notice, in case it is directed to the business or residence address of the  
267 owner in the city. Provided that if said owner or owners be nonresidents  
268 of he city and have no business addresses or offices in the city, then the  
269 said notice shall be deemed served at the end of such period after the  
270 mailing thereof as in the ordinary course of transmission of the mail by the  
271 United States Postal Service.
- 272 D. Publication - by publication in a newspaper of general circulation in the  
273 City of Saint Louis or in "The City Journal", said notice to be deemed  
274 served twenty-four (24) hours after publication.

275  
276 **105.3.1 Emergency condemnation.** Whenever the code official shall find any  
277 building, structure, premises or portion thereof no matter for what purpose used,  
278 to be in an unsafe or dangerous condition and that there is an actual and potential  
279 danger to the occupants or those in the proximity of any building, structure or  
280 premises which poses an immediate danger to public safety or welfare, the code  
281 official shall order the immediate evacuation of said building, structure or  
282 premises. All of the occupants so notified shall immediately vacate the building,  
283 structure, or premises and no person shall re-enter until authorized to do so by the  
284 code official.

285 Any person who refuses to leave, interferes with the evacuation of other  
286 occupants, or continues any operation after having been given an evacuation order  
287 by the code official, except such person(s) directed to perform work to remove a  
288 violation or unsafe condition shall be deemed in violation of this section  
289 whereupon it shall be the duty of the Police Department to immediately remove  
290 such person(s) from said building, structure, or premises and prevent anyone from  
291 re-entering the building, structure or premises until such time that the Police  
292 Department shall have been notified by the Building Division that the same is in a  
293 safe condition.

294 Any person who shall violate any provisions of this section shall, upon  
295 conviction thereof, be penalized as set forth in Section Four.

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**105.3.2 Authority to placard.** The code official has the authority to post a placard in a conspicuous place on a building or premises where the plumbing system has been found to be unsafe or inadequate.

**105.3.3 Placarded building.** Placards shall remain on said building until the required repairs, replacements or improvements have been made and accepted by the code official, and it shall be unlawful to deface or willfully remove any such placard that has been posted on a building without first obtaining consent of the code official. It shall be unlawful for any person to reside in, use, rent lease or occupy such building for any purpose while so placarded and no person shall remove said placards without the consent of the code official.

**105.4 Inspections.** The code official shall make all of the required inspections, or the code official shall accept reports of inspection by approved agencies, design professionals or individuals, and all reports of said inspections shall be in writing and certified by a responsible officer of said approved agency or by the responsible individual. The code official is authorized to engage such expert opinion as deemed necessary to report upon unusual technical issues that arise subject to the approval of the appointing authority. The owner shall provide such special inspections as are required by the code official.

**105.4.1 Dangerous, hazardous, unsanitary, or unapproved installations.** The code official shall have the authority to seal out of service plumbing equipment, devices and appurtenances covered by the Building and Plumbing Codes when, in the code official's opinion, any of these items are in an unsafe, hazardous, or unsanitary condition, or if the installation was made without obtaining the necessary permit or permits, or if the installation violates the provisions of these codes.

**105.4.2 Notice of sealing out of service.** Before sealing any device out of service, the code official shall, except in cases of emergency, serve ten-(10) calendar days written notice upon the building owner, occupant, or collector of rent as directed in Section 105.2.

**105.4.3 Unlawful to remove seal.** Any device sealed out of service by the code official shall be plainly marked with a sign or tag indicating such sealing, and any defacing or removal of the sign or tag, or any tempering with or removal of the seal without approval of the code official, or operation of the sealed unit, shall constitute a violation of this code. The penalty for violation of this section shall be as set forth in Section Four.

**105.4.4 Utility disconnect.** Whenever the code official determines that there is an eminent danger to public safety, the code official may request that the public utilities be disconnected to that structure or premises.

**105.5 Identification.** The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

**105.6 Rule making authority.** The code official shall have authority as necessary in the interest of public health, safety, and general welfare, to adopt and promulgate rules and regulations to interpret and approve a variance to the code for that particular instance the

347 provisions of this code to secure the intent thereof, and to designate requirements  
348 applicable because of local climatic or other conditions. Such rules shall not have the  
349 effect of waiving structural or fire performance requirements specifically provided for in  
350 this code or of violating accepted engineering practice involving public safety.

351  
352 **105.6.1 Accepted engineering practice.** In the absence of provisions not  
353 specifically contained in this code or approved rules, the regulations,  
354 specifications and standards listed in Chapter 14 and Appendix I shall be deemed  
355 to represent accepted engineering practice in respect to the material, equipment,  
356 system or method of construction therein specified.

357  
358 **105.6.2 Suspensions and cancellations.** The code official shall have the power  
359 and is directed to suspend for a definite time or to cancel any license granted  
360 hereunder, if, after notice and opportunity to be heard, the party named therein is  
361 found guilty by the Board of Examiners of violating rules and regulations  
362 established by the Section of Plumbing Regulation and Inspections, and do all  
363 other acts necessary to carry out these provisions. The code official shall review  
364 all notices and licenses required to be issued by the Section of Plumbing  
365 Regulations and Inspections and keep a record of all transactions.

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367 **105.7 Department records.** The code official shall keep official records of plumbing  
368 applications received, permits issued, licenses issued, fees collected, reports of  
369 inspections, and notices and orders issued. Such records shall be retained in the official  
370 records for three (3) years, except notices and orders which have been complied need not  
371 be kept.

372 Original or file copies, when subpoenaed, shall be electrostatic copies certified by  
373 the code official to be true and accurate copies of original documents. Original  
374 documents shall remain in the possession of the Section of Plumbing Regulations and  
375 Inspections, unless filed with the Central File Section of the Division of Building and  
376 Inspection.

377  
378 **105.8 Right of entry.** Whenever it is necessary to make an inspection to enforce the  
379 provisions of this code, or whenever the code official has reasonable cause to believe that  
380 there exists in a building or upon any premises any condition or violation of this code  
381 which makes the building or premises unsafe, unsanitary, dangerous or hazardous, the  
382 code official shall have the authority to enter the building or premises at all reasonable  
383 times to inspect or to perform the duties imposed upon the code official by this code. If  
384 such building or premises is occupied, the code official shall present credentials to the  
385 occupant and request entry. If such building or premises is unoccupied, the code official  
386 shall first make a reasonable effort to locate the owner or other person having charge or  
387 control of the building or premises and request entry. If entry is refused, the code official  
388 has recourse to every remedy provided by law to secure entry.

389 When the code official has first obtained a proper inspection warrant or other  
390 remedy provided by law to secure entry, an owner or occupant or person having charge,  
391 care or control of the building or premises shall not fail or neglect, after proper request is  
392 made as herein provided, to promptly permit entry therein by the code official for the  
393 purpose of inspection and examination pursuant to this code.

394  
395 *Change to read as follows:*

397 **105.9 By whom work is performed.** The code official shall see that all plumbing,  
398 pipefitting, sprinkler fitting, drain laying and sewer work is done in accordance with the  
399 provisions of this code and that the work is performed by a Master Plumber, Master  
400 Drain Layer, Master Mechanical Pipefitter, Master Sprinkler Fitter and/or Journeymen  
401 and Apprentices licensed within the City of St. Louis and employed by a Master Plumber,  
402 Master Drain Layer, Master Mechanical Pipe Fitter and/or Master Sprinkler Fitter  
403 Contractor licensed within the City of Saint Louis.

404  
405 License, Registration Or Certification – Required.

406  
407 1. *Plumbing.* Except as otherwise provided in this Code, no person shall  
408 engage in or perform the work of installing, altering or repairing plumbing  
409 including the initial installation of backflow prevention devices  
410 appurtenant to a plumbing system, including the installation testing and  
411 repair of drainage waste and vent piping and hot and cold water piping to  
412 laboratory equipment in hospitals, clinics, first-aid stations, dispensaries,  
413 and all elementary school, high schools, and college level schools  
414 including graduate level schools, except minor repairs, and except work  
415 performed in accordance with Home Owner Permits issued under this  
416 Code, unless licensed as a Master Plumber, a Journeyman Plumber, or an  
417 Interim Journeyman Plumber under this Code or unless he shall be  
418 registered as a Plumber Apprentice or Experienced Plumber Apprentice  
419 under this Code and working under the direction of a licensed Master  
420 Plumber.

421 In addition to those licenses authorized by the Mechanical Code, a Master  
422 Plumber, Journeyman Plumber, Interim Journeyman Plumber, Plumber  
423 Apprentice, or Experienced Plumber Apprentice under this Code and  
424 working under the direction of a licensed Master Plumber, may work on  
425 wet or dry standpipes under this Code, that are not part of an automatic  
426 Fire Sprinkler system and that do not have as a part of the standpipe  
427 system one or more sprinkler heads. A licensed Master, Journeyman,  
428 Interim Journeyman, Experienced Apprentice, and an Apprentice Plumber  
429 may install fuel gas systems in one (1) and two (2) family dwellings under  
430 this Code. No person shall hold herself/himself out as being available to  
431 perform any such work unless she/he shall be licensed as aforesaid. No  
432 partnership, corporation or other legal entity, or person conducting  
433 business under a fictitious name shall hold out such entity as being  
434 available to perform any such work in any advertising medium or  
435 publication unless a principal or employee of such entity shall be licensed  
436 as aforesaid.

437  
438 2. *Drainlaying.* Except as otherwise provided in this Code, no person  
439 shall engage in or perform the work of installing the sanitary or storm  
440 building sewer, starting five (5') feet beyond the building foundation wall  
441 (end of building drain) or any work concerning the installation of sanitary  
442 or storm, trunk, main and lateral sewers, in public property, recorded  
443 easements or private property unless said person is a Master Drainlayer or  
444 under the direct supervision of a Master Drainlayer duly licensed pursuant  
445 to this Code. No person shall hold herself/himself out as being available to  
446 perform any such work unless she/he shall be licensed as aforesaid. No  
447 person shall engage in or perform the work of installing or repairing

448 private sewage systems unless licensed to perform such work by the  
449 Missouri Department of Health and Senior Services (MoDHSS), and  
450 unless said person is a Master Drainlayer or under the direct supervision of  
451 a Master Drainlayer duly licensed pursuant to this Code. No partnership,  
452 corporation or other legal entity, or person conducting business under a  
453 fictitious name shall hold out such entity as being available to perform any  
454 such work in any advertising medium or publication unless a principal or  
455 employee of such entity shall be licensed as aforesaid.

456  
457 a. Direct Supervision shall mean that the Master Drainlayer is  
458 directly responsible for the installation of the drainlaying work and shall  
459 supervise such installations, or provide a competent person to be on site to  
460 supervise the work.

461  
462 The actual installation of all piping, setting of grade, and competent person to  
463 supervise the work shall be employees of and on the direct payroll of the entity  
464 which has the assignment of the Master Drainlayers license, who holds the permit  
465 for the work. The person (s) who does the excavation, backfill, and/or hauling  
466 may be subcontractors, and not on the direct payroll as indicated above however,  
467 they shall be under the supervision of the Master Drainlayer or his representative.

468  
469 *Exception: In order to not void material warranties, persons who*  
470 *have been trained by methods satisfactory to the manufacturer for this*  
471 *installation may do the installation of proprietary components. This does*  
472 *not relieve the manufacturer from providing training where practical to*  
473 *the employees of the Master Drainlayer. At all times the installation shall*  
474 *be supervised by the competent person employed by the Master Drainlayer*  
475 *and assisted by equivalent minimum number of personnel employed by the*  
476 *Master Drainlayer equal to the number of manufacturer personnel*  
477 *required.*

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479 3. *Cross-Connection Control Backflow Prevention Device Testing And*  
480 *Repair.* No person shall test, repair, undertake to test or repair or hold  
481 himself/herself as being available for the testing, or repair of any backflow  
482 prevention assembly or device unless he/she shall possess a Backflow  
483 Prevention Device Tester Certificate for the particular application  
484 involved pursuant to this Code. No person shall hold herself/himself out as  
485 being available to perform any such work unless she/he shall be certified  
486 as aforesaid. No partnership, corporation or other legal entity, or person  
487 conducting business under a fictitious name shall hold out such entity as  
488 being available to perform any such work in any advertising medium or  
489 publication unless a principal or employee of such entity shall be certified  
490 as aforesaid.

491  
492 4. *Process Piping Systems.* Except as otherwise provided in this Code, no  
493 person shall install, test or repair backflow prevention devices within or  
494 appurtenant to process drains, process drain facilities, process drainage  
495 systems or piping drains, drainage systems or facilities from mechanical  
496 manufacturing, industrial processing, refrigeration, heating, air  
497 conditioning or parts, materials, devices or appurtenances in connection  
498 therewith, drainage waste or vent piping specifically installed for

499 laboratories in commercial, industrial, research, and manufacturing plants  
500 and like entities, the primary purpose of these installations being the  
501 development, improvement, research, or discovery of a product or  
502 products, unless he/she shall be a licensed Journeyman Pipefitter or a  
503 licensed Master Pipefitter pursuant to this Code. No person shall test or  
504 repair backflow prevention devices within or appurtenant to process  
505 drains, process drain facilities, process drainage systems or piping drains,  
506 drainage systems or facilities from mechanical manufacturing, industrial  
507 processing, refrigeration, heating, air conditioning or parts, materials,  
508 devices or appurtenances in connection therewith unless he/she shall be  
509 certified as a Backflow Prevention Device Tester pursuant to this Code.  
510 No person shall hold himself/herself out as being available to perform  
511 such work unless he/she shall be a licensed Journeyman Pipefitter or  
512 registered and bonded as a licensed Master Pipefitter and possess the  
513 appropriate Backflow Prevention Device Tester Certificate pursuant to this  
514 Code. No person shall hold herself/himself out as being available to  
515 perform any such work unless she/he shall be licensed, certified, or  
516 registered as aforesaid. No partnership, corporation or other legal entity, or  
517 person conducting business under a fictitious name shall hold out such  
518 entity as being available to perform any such work in any advertising  
519 medium or publication unless a principal or employee of such entity shall  
520 be licensed, certified or registered as aforesaid.

521

522 5. *Fire Suppression Systems.* Except as otherwise provided in this Code,  
523 no person shall install, undertake to install or hold himself/herself out as  
524 being available for the installation of backflow prevention devices  
525 appurtenant to fire suppression systems, unless he/she shall be a licensed  
526 Journeyman Sprinkler fitter or a Licensed and Bonded Master Sprinkler  
527 Fitter pursuant to this Code. No person shall test or repair backflow  
528 prevention devices appurtenant to fire suppression systems, unless he/she  
529 shall be Certified as a Backflow Prevention Device Tester pursuant to this  
530 Code. No person shall hold herself/himself out as being available to  
531 perform any such work unless she/he shall be licensed, certified, or  
532 registered as aforesaid. No partnership, corporation or other legal entity, or  
533 person conducting business under a fictitious name shall hold out such  
534 entity as being available to perform any such work in any advertising  
535 medium or publication unless a principal or employee of such entity shall  
536 be licensed, certified or registered as aforesaid.

537

538 6. *Lawn Irrigation Systems.* Except as otherwise provided in this Code,  
539 no person shall install, test or repair, undertake to install, test or repair  
540 or hold himself/herself out as being available for the testing or repair  
541 of backflow prevention devices appurtenant to lawn irrigation systems  
542 unless he/she shall be a Licensed and Bonded Master Plumber or a  
543 Licensed Journeyman Plumber when in the employ of a Master  
544 Plumber and possess the appropriate Backflow Prevention Device  
545 Tester Certificate pursuant to this Code. No person shall hold  
546 herself/himself out as being available to perform any such work unless  
547 she/he shall be licensed, certified, or registered as aforesaid. No  
548 partnership, corporation or other legal entity, or person conducting  
549 business under a fictitious name shall hold out such entity as being

550 available to perform any such work in any advertising medium or  
551 publication unless a principal or employee of such entity shall be  
552 licensed, certified or registered as aforesaid.

553  
554 7. *Residential Hydronic Heat Systems.* Except as otherwise provided in this  
555 Code, no person shall install, test or repair, undertake to install, test or repair  
556 or hold himself/herself out as being available for the installation, testing or  
557 repair of backflow prevention devices appurtenant to residential heating  
558 systems of a size not exceeding four hundred thousand (400,000) BTUH  
559 heating, and steam generators intended for the production of steam for single  
560 person, single family residential steam saunas, unless he/she shall be a  
561 Licensed and Bonded Master Pipefitter or Master Plumber or a Licensed  
562 Journeyman Pipefitter or Journeyman Plumber when in the employ of a  
563 Master Pipefitter or Master Plumber and possess the appropriate Backflow  
564 Prevention Device Tester Certificate pursuant to this Code.

565  
566 No person shall hold herself/himself out as being available to perform any  
567 such work unless she/he shall be licensed, certified or registered as aforesaid.  
568 No partnership, corporation or other legal entity, or person conducting  
569 business under a fictitious name shall hold out such entity as being available  
570 to perform any such work in any advertising medium or publication unless a  
571 principal or employee of such entity shall be licensed, certified or registered  
572 as aforesaid.

573  
574 8. *Hardship Clause.* In the event of a loss of a Master Licensee to a  
575 company licensed in St. Louis City, through no fault of that company,  
576 a licensed Journeyman of the trade of the absent Master Licensee; or in  
577 the event of the loss of a Master Drainlayer to a company through no  
578 fault of that company, a person who would otherwise be eligible to  
579 qualify as a Master Drainlayer in the trade of the absent Master  
580 Drainlayer; and who shall be a full time employee of that company,  
581 shall be designated as an Interim Master after meeting all bonding and  
582 insurance requirements. That company may operate under an Interim  
583 Master, who will have the same rights, responsibilities and standing of  
584 a Master in that trade, for a period of not more than one (1) year from  
585 the date of the hardship. That company must submit to the person  
586 responsible for maintaining license data the standard submittals any  
587 other Master would submit to activate a Master License. The Acting  
588 Secretary of the Board of Examiners shall determine judgment of fault.

589  
590 If anyone has information and wishes to appeal the existence of a  
591 hardship license that person may appeal to the Board of Plumbing  
592 Examiners who shall hold an emergency hearing at the next regularly  
593 scheduled meeting of the Board no sooner than (7) calendar days and  
594 no later than thirty-eight (38) calendar days following the date appeal  
595 is received by the Board Secretary. The appeal must state the reasons  
596 for the appeal and must be accompanied by a fee of one hundred  
597 (\$100.00) dollars. The decision of the Board involving a hardship  
598 clause is appealable in the same manner as other decisions of the  
599 Board. Additional appeals may be made pursuant to the procedures of  
600 the City of St. Louis.

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*Exception: Buildings, structures or premises owned and occupied by the United States of America or the State of Missouri.*

## SECTION 106 APPROVAL

*Change 106.1 to read as follows:*

**106.1 Approved materials and equipment.** All materials, equipment, and devices approved for use by the Committee of Plumbing Review and the code official shall be constructed and installed in accordance with such approval.

**106.2 Modifications.** Whenever there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases, provided the code official shall first find that the special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, life and fire safety requirements.

**106.2.1 Records.** The application for modification and the final decision of the code official shall be in writing, and shall be officially recorded with the application for the permit in the records of the Division of Building and Inspection.

**106.3 Used material, equipment, and devices.** Materials, equipment, and devices shall not be reused unless such elements have been reconditioned, tested and placed in good and proper working condition and approved by the code official.

**106.4 Alternative materials, methods, and equipment.** The provisions of this code are not intended to prevent the installation of any material or equipment or to prohibit any method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, equipment or method of construction shall be approved where the Committee of Plumbing Review and the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code for quality, strength, effectiveness, fire resistance, durability and safety.

**106.4.1 Research and investigations.** The Committee of Plumbing Review and the code official shall require that a nationally accredited listing agency approve the proposed use of any material or assembly, and if it is determined that the evidence submitted is satisfactory proof of performance for the use intended, the Committee of Plumbing Review and the code official shall approve its use subject to the requirements of this code. The costs of all tests, reports and investigations required under these provisions shall be paid by the applicant or owner.

**106.4.2 Research reports.** Supporting data, when required by the Committee of Plumbing Review and the code official to assist in the approval of all materials or

651 assemblies not specifically provided for in this code, shall consist of duly  
652 authenticated research reports from approved sources.

653

654 **106.5 Required testing.** Whenever there is insufficient evidence of compliance with the  
655 provisions of this code, or evidence that a material or method does not conform to the  
656 requirements of this code, the Committee of Plumbing Review and the code official shall  
657 require that sufficient technical data and/or test data be submitted to substantiate the  
658 proposed use of any material, equipment, assembly or method, and if it is determined that  
659 the evidence submitted by an approved agency is satisfactory proof of performance for  
660 the use intended, the Committee of Plumbing Review and the code official shall approve  
661 its use subject to the requirements of this code. The costs of all tests, reports and  
662 investigations required under these provisions shall be paid by the applicant.

663

664 **106.5.1 Test methods.** Test methods shall be as specified in this code or by other  
665 recognized test standards. In the absence of recognized and accepted test  
666 methods, the code official shall approve the testing procedure.

667

668 **106.5.2 Testing agency.** All tests shall be performed by an approved independent  
669 testing agency.

670

671 **106.5.3 Test reports.** Reports of test shall be retained by the code official for a  
672 period required for the retention of public records.

673

674 **106.6 Alternative engineered design.** The design, documentation, inspection, testing  
675 and approval of an alternative engineered design plumbing system shall comply with  
676 sections 106.6.1 through 106.6.6.

677

678 **106.6.1 Design criteria.** An alternative engineered design shall conform to the  
679 intent of the provisions of this code, and shall provide an equivalent level of  
680 quality, strength, effectiveness, fire resistance, durability and safety. Material,  
681 equipment or components shall be designed and installed in accordance with the  
682 manufacturer's installation instructions.

683

684 **106.6.2 Submittal.** The registered design professional shall indicate on the  
685 permit application that the plumbing system is an alternative engineered design.  
686 The permit and permanent permit records shall indicate that an alternative  
687 engineered design was part of the approved installation.

688

689 **106.6.3 Technical data.** The registered design professional shall submit  
690 sufficient technical data to substantiate the proposed alternative engineered design  
691 and to prove that the performance meets the intent of the code.

692

693 **106.6.4 Construction documents.** The registered design professional shall  
694 submit to the Committee of Plumbing Review and the code official two complete  
695 sets of sealed, signed and dated construction documents for the alternative  
696 engineered design. The construction documents shall include floor plans and a  
697 riser diagram of the work. When appropriate, the construction documents shall  
698 indicate the direction of flow, all pipe sizes, grade of horizontal piping, loading  
699 and location of fixtures and appliances.

700

701 **106.6.5 Design approval.** Where the Committee of Plumbing Review and the  
702 code official determine that the alternative engineered design conforms to the  
703 intent of this code, the plumbing system shall be approved. If the alternative  
704 engineered system is not approved, the code official shall notify the registered  
705 design professional in writing, stating the reasons.

706  
707 **106.6.6 Inspection and test.** The alternative engineered design shall be tested  
708 and inspected in accordance with the requirements of Section 108 and 301.2. If  
709 the alternative engineered design does not pass the test and inspection to the  
710 satisfaction of the code official, the system must be modified, re-tested and re-  
711 inspected until testing and inspection of the alternative engineered system is  
712 shown to meet the intent of the provisions of this code to the satisfaction of the  
713 code official.

## 714 715 **SECTION 107** 716 **PERMITS** 717

718 *Change 107.1 to read as follows:*  
719

720 **107.1 When required.** Any owner, lessee, authorized agent or contractor who desires to  
721 construct, enlarge, alter, repair, move, demolish or change the occupancy of a building or  
722 structure or premises, or to erect, install, enlarge, alter, repair, remove, convert or replace  
723 any plumbing system and/or drainlaying work, the installation of which is regulated by  
724 this code, or to cause any work to be done, shall engage a licensed plumbing contractor  
725 who shall first make application to the code official and obtain the required permit for the  
726 work. All work shall be done by the person or corporation in whose name the permit or  
727 permits required by this section are issued. Any person who shall fail to comply with or  
728 who shall violate any of the provisions of this section shall be subject to the penalty  
729 provisions of Section Four.

730  
731 **107.2 Permits not required.** Permits shall not be required for any of the following:

- 732 A. The stopping of leaks in drains, water, soil, waste or vent pipe; provided,  
733 however, that if any concealed trap, drainpipe, water, soil, waste or vent  
734 pipe becomes defective and it becomes necessary to remove and replace  
735 the same with new material, such work shall be considered as new work  
736 and a permit shall be obtained and inspection made as provided in this  
737 code.
- 738 B. The cleaning of stoppages or the repairing of leaks in pipes, valves or  
739 fixtures, provided such repairs do not involve or require the replacement  
740 or rearrangement of valves, pipes or fixtures.
- 741 C. Minor Repairs as used in this section shall mean repairs to traps or cocks,  
742 opening waste or supply pipes, traps or drains or frozen pipes. Minor  
743 repairs shall not include the doing of any work where connection to soil  
744 pipes, supply pipes, waste pipes or vent pipes are disturbed or inside  
745 leader pipes are used; nor shall it include the setting or replacing of  
746 fixtures.
- 747 D. Temporary plumbing installations for demonstration purposes which are  
748 not connected to either the public water supply or the public sewer system.  
749

750 Exemption from the permit requirements of this code shall not be deemed to grant  
751 authorization for work to be done in violation of the provisions of this code or other laws  
752 or ordinances of the City of Saint Louis.

753  
754 *Change 107.3 to read as follows:*

755  
756 **107.3 Application for permit.** Each application for a permit, with the required fees,  
757 shall be filed with the code official in such written form as the code official prescribes  
758 and shall be accompanied by an adequate written description of the proposed plumbing  
759 and/or drainlaying work and its location.

760  
761 **107.4 By whom application is made.** The application for permit shall be made by the  
762 license holder responsible for the proposed installation of all or part of any plumbing  
763 system. The applicant shall meet all qualifications established by rules promulgated with  
764 this code or by ordinance, resolution, or statute. The full names, addresses and telephone  
765 numbers of the owner, lessee, and the applicant shall be stated in the application.

766  
767 **107.5 Description of work.** The applicant shall list the number of fixtures of each type  
768 to be installed, the location of the work, and the use and occupancy of the building in  
769 which the work is to be performed.

770  
771 **107.6 Construction documents.** The code official is authorized to require the  
772 submission and approval of a set of construction documents showing the nature and  
773 extent of the proposed work before a permit is issued. If, in the course of the work, it is  
774 found necessary to make any change from the approved construction documents on  
775 which a permit has been issued, amended construction documents shall be submitted, and  
776 if approved, a supplementary permit shall be issued, after payment of any additional fees,  
777 to cover the change after the same conditions required to secure the original permit have  
778 been satisfied. The code official is permitted to waive the requirements for filing  
779 construction documents where the work involved is of a minor nature. When the quality  
780 of the materials is essential for conformity to this code, specific information shall be  
781 given to establish such quality, and this code shall not be cited, or the term “legal” or its  
782 equivalent used as a substitute for specific information.

783 A plumbing hold or denial shall be placed on construction documents that are  
784 incomplete or are not drawn in compliance with this code.

785 When inspection by the Section of Plumbing Regulations and Inspection reveals  
786 that work is not being performed in compliance with this code, the code official shall be  
787 authorized to require the submission and approval of construction documents if these  
788 documents have not been submitted and approved prior to the issue of the plumbing  
789 permit.

790 The code official is authorized to require the submission of specific information in  
791 order to determine compliance with this code.

792 All construction documents prepared by a registered design professional shall  
793 bear the original seal, date and signature in ink of that person. Where applicable,  
794 construction documents shall indicate how required structural and fire resistance rating  
795 integrity will be maintained, and where penetrations will be made for plumbing systems.

796  
797 **107.6.1 Types of construction documents.** Construction documents, where  
798 required by the code official, shall include a floor plan and a riser diagram  
799 showing the work. Such documents shall show the direction of flow, pipe size,  
800 grade of horizontal piping, elevations, drainage fixture unit loads of both stacks

801 and drains in the drain, waste and vent systems, and the supply fixture unit load  
802 for the water system and any branch supplies which serve more than one  
803 plumbing fixture, appliance or hose outlet.

804

805 **107.6.2 Requirements for plumbing construction documents.** Plumbing  
806 construction documents shall be available for review at the job site on every  
807 project requiring a plumbing permit except construction or renovation of:

- 808 1. Residential structures, four families or less;
- 809 2. Structures with less than twenty (20) plumbing fixtures and less  
810 than ten thousand (10,000) square feet of roof area.

811

812 *Change 107.6.3 to read as follows:*

813

814 **107.6.3 Construction document content.** Plumbing construction documents  
815 submitted for review shall contain the following:

- 816 1. A plot plan drawn to scale showing sewer and water services;
- 817 2. Floor plans and roof plan;
- 818 3. Schematic stack/vent diagram indicating fixture units connected to  
819 each stack at each level, fixture unit totals carried by each stack,  
820 and totals collected by the under floor drains (ground work);
- 821 4. Pipe sizes for all piping covered above;
- 822 5. Flow line elevations for all under floor piping and outside piping;  
823 also the percent of slope on which pipe sizing is based. Depth of  
824 footings and sleeves shall be indicated. Profiles are preferred;
- 825 6. Schematic roof leader diagram, showing each roof drain, its  
826 collection area, and the leader it connects to;
- 827 7. Total roof area connected to each roof leader, total roof areas  
828 carried by connecting storm drains, and the combined load carried  
829 by the main house sewer;  
830 **NOTE:** City of Saint Louis code uses six (6) inches per hour  
831 rainfall;
- 832 8. Details for pipe bracing and supports, bath trap access, size of  
833 interceptors, clean out locations, expansion joints, manholes, house  
834 traps, sump pump settings, garage traps, stack flashing, back water  
835 protection, and sub-soil drains;
- 836 9. Schematic supply riser diagrams showing total supply fixture units  
837 connected at each level, the total carried by each riser, and the total  
838 supply fixture units carried by supply headers and water service;
- 839 10. Pipe sizes for items covered above;
- 840 11. Location of pressure regulators to restrict pressure on fixtures to  
841 less than eighty (80) psi (where house pumps are used);
- 842 12. Details for backflow protection at special equipment and fire  
843 suppression systems, water heater relief valves, safe pans, hot  
844 water circulation, system and riser valves, pipe supports and  
845 bracing, and water metering arrangements.
- 846 13. Plans for new plumbing systems or alterations to existing plumbing  
847 systems shall be accompanied by a diagram showing the relative  
848 elevation of the lowest fixture, elevation of the next upstream  
849 manhole cover and flow line, and the next downstream manhole  
850 cover and flow line and the top of the public sewer referred to the  
851 established datum of Metropolitan St. Louis Sewer District or other

- 852 appropriate sewer district when such public sewer is available. The  
853 plans shall show the size, number, location, and potential date of  
854 availability of all new sewer connections.
- 855 14. Requirements for plans may be waived by the Code Official, for  
856 commercial plumbing installation(s) and for strip stores with  
857 twenty (20) fixtures or less, and for any plumbing installation for a  
858 single family dwelling with twenty-five (25) fixtures or less,  
859 and/or when the work is of a minor nature. However, plumbing  
860 and sewer plans and specifications shall be submitted where  
861 required by the Code Official.
- 862 15. Details of Plumbing work in 1 & 2 Family dwellings, and details  
863 of Plumbing work in a commercial plumbing installation and for  
864 strip stores with twenty (20) fixtures, or less may be submitted as  
865 shop drawings prepared by a Master Plumber. Such shop drawings  
866 shall be signed by the Master Plumber and bear his St. Louis City  
867 License number.
- 868 16. Commercial buildings housing beauty, medical facilities or  
869 restaurants shall be prepared by the appropriate registered design  
870 professional consistent with the professional registration laws of  
871 the State of Missouri and shall bear an original embossed or wet  
872 ink seal, the date and original signature of the registered design  
873 professional.

874  
875 *Exception: Addition of three (3) or less, fixtures or equipment; in*  
876 *an existing beauty/hair/nail/spa facility, medical facilities or*  
877 *restaurants, shop drawings may be signed by the Master Plumber*  
878 *and bear his St. Louis County License Number if permitted by the*  
879 *Code Official.*  
880

881 **107.6.4 Drain-waste-vent pipe (DWV).** Specifications for DWV pipe materials,  
882 supply pipe materials, valves, pumps, fixtures and backflow prevention devices  
883 shall be included on the plumbing construction documents or attached thereto.

884  
885 **107.6.5 Site plan.** There shall also be filed a site plan showing the location of  
886 water service and sewer connections with respect to any building in which a  
887 plumbing system is to be installed. Vent stack terminations shall be shown with  
888 respect to building ventilation openings which could allow introduction of sewer  
889 gases into the building or any adjacent building.

890  
891 **107.6.6 Seismic installations.** Construction documents for installations which  
892 must meet the seismic requirements of the building code shall show the details of  
893 all pertinent anchorage and bracing and shall bear the original seal, date and  
894 signature in ink of a registered design professional licensed to practice in the State  
895 of Missouri.

896  
897 **107.6.7 Engineering details.** The code official shall require adequate details of  
898 plumbing work, including computations and other technical data, to be filed.

899 The plumbing drawings submitted for a permit shall be sealed, dated and  
900 signed by a registered professional engineer with current Missouri registration, or  
901 submitted by a Licensed Plumbing Contractor with their license number and  
902 notarized signature.

903

904 **107.7 Amendments to application.** Subject to the time limitations of Section 107.8,  
905 amendments to the construction documents, application or other records accompanying  
906 the same shall be filed at any time before completion of the work for which the permit is  
907 sought or issued. Such amendments shall be deemed part of the original application and  
908 shall be filed in the same manner as the original.

909

910 **107.8 Time limit of application.** An application for a permit for any proposed work  
911 shall be deemed to have been abandoned six (6) months after the date of filing, unless  
912 such application has been diligently prosecuted or a permit shall have been issued. The  
913 code official shall grant one or more extensions of time for additional periods not  
914 exceeding one hundred eighty (180) days if there is reasonable cause.

915

916 **107.9 Previous approvals.** Except for unsafe plumbing systems, this code shall not  
917 require changes in the construction documents or plumbing work for which a lawful  
918 permit has been heretofore issued or otherwise lawfully authorized, and the installation of  
919 which shall have been actively prosecuted within ninety (90) days after the effective date  
920 of this code and completed with dispatch.

921

922 **107.10 Permit issuance.** The application, construction documents and other data filed  
923 by an applicant for permit shall be reviewed by the code official. If the code official  
924 finds that the proposed work conforms to the requirements of this code and all laws and  
925 ordinances applicable thereto, and that the fees specified in Section 107.11 have been  
926 paid, a permit shall be issued to the applicant. A plumbing permit shall not be  
927 transferable.

928 If the application or the construction documents do not conform to the  
929 requirements of all pertinent ordinances of the City of Saint Louis, the code official shall  
930 reject such application in writing, stating the reasons therefore.

931

932 **107.10.1 Approved construction documents.** When the code official issues a  
933 permit where construction documents are required, such approved construction  
934 documents shall not be changed, modified or altered without authorization from  
935 the design professional and the code official. Work shall be done in accordance  
936 with the approved construction documents.

937

938 **107.10.2 Approval in part.** The code official is authorized to issue a permit for  
939 the installation of a part of a plumbing system before the whole system has been  
940 submitted or approved, provided adequate information and detailed statements  
941 have been filed complying with all the pertinent requirements of this code. The  
942 holder of such permit shall proceed at their own risk without assurance that the  
943 permit for the entire plumbing system will be granted.

944

945 **107.10.3 Validity.** The issuance of a permit or approval of construction  
946 documents shall not be construed to be a permit for, or an approval of, any  
947 violation of any of the provisions of this code or of other ordinances of the City of  
948 Saint Louis. A permit presuming to give authority to violate or cancel the  
949 provisions of this code shall be invalid.

950

951 The issuance of a permit based upon construction documents and other  
952 data shall not prevent the code official from thereafter requiring the correction of  
errors in said construction documents and other data or from preventing building

953 operations from being carried on there under when in violation of this code or of  
954 other ordinances of the City of Saint Louis.

955

956 **107.10.4 Expiration.** Every permit issued by the code official under the  
957 provisions of this code shall expire by limitation and become null and void if the  
958 work authorized by such permit is not commenced within one hundred eighty  
959 (180) days from the date of such permit, or if the work authorized by such permit  
960 is suspended or abandoned at any time after the work is commenced for a period  
961 of one hundred eighty (180) days. Before such work recommences, a new permit  
962 shall be first obtained and a new fee paid.

963

964 **107.10.5 Extensions.** Any permittee holding an unexpired permit shall have the  
965 right to apply for an extension of the time within which the permittee will  
966 commence work under that permit when work is unable to be commenced within  
967 the time required by this section for good and satisfactory reasons. The code  
968 official may grant one or more extensions of time for additional periods if there is  
969 reasonable cause, the total of which shall not exceed one hundred eighty (180)  
970 days.

971

972 **107.10.6 Suspension or revocation of permit.** The code official shall suspend or  
973 revoke a permit or approval issued under the provisions of this code in case of any  
974 false statement or misrepresentation of fact in the application or on the  
975 construction documents upon which the permit or approval was based. A permit  
976 shall also be considered for revocation under the following provisions:

977

978 1. The owner of the property or the contractor shall request  
979 cancellation in writing stating the reasons for the request for  
cancellation. No refund of fees shall be made.

980

981 2. The code official may revoke the permit for fraud.  
982 3. The code official may revoke the permit for non-compliance with  
the code.

983

984 4. The code official may revoke the permit for failure to pay the  
prescribed fees.

985

986 5. A permit may be revoked if payment is returned for insufficient  
funds.

987

988 Before a permit is considered for revocation prior to the completion of all  
989 work, the permit holder shall request an inspection of the work that has been  
990 completed. Upon inspection, if the work complies with the code and is done in a  
991 workmanlike manner, the code official shall so indicate in writing to the person  
requesting revocation.

992

993 **107.10.7 Work not in compliance.** Should the plumbing contractor install work  
994 that is not in compliance with the plumbing, fire or building code, the contractor  
995 shall be directed by the code official to make necessary corrections to assure code  
996 compliance and no other permits shall be issued to said contractor until such work  
997 is corrected and approved by the code official.

998

999 **107.10.8 Retention of construction documents.** One (1) set of construction  
1000 documents shall be retained by the code official until final approval of the work  
1001 covered therein. One (1) set of construction documents shall be returned to the  
1002 applicant and said set shall be kept at the site of the building or work at all times  
1003 during which the work authorized thereby is in progress.

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**107.10.9 Posting of permit.** A true copy of the permit shall be kept on the site of operations, open to public inspection during the entire time of prosecution of the work and until the completion of the same.

**107.11 Fees.** A permit shall not be issued until the fees prescribed in Table 107.11.3 have been paid, nor shall an amendment to a permit necessitating an additional fee because of the additional work involved be released until the additional fee has been paid. Fees for the inspections herein prescribed shall be paid to and collected by the City of Saint Louis. A permit may be revoked if payment is returned for insufficient funds.

**107.11.1 Work commencing before permit issuance.** In case any work for which a permit required by this code is started or proceeded with prior to the permit being issued, the total normal fees applicable shall be increased by the amount as set forth in Table 107.11.1. The payment of said surcharge shall not relieve any persons from fully complying with the requirements of this code for performance or execution of the work, nor from other penalties prescribed by law.

*Change Tables 107.11.1 & 107.11.3 to read as follows:*

**TABLE 107.11.1  
SCHEDULE FOR SURCHARGE**

<b>PERMIT FEE</b>	<b>SURCHARGE</b>
\$ 0 TO \$ 50	\$ <b>35.00</b>
\$ 51 TO 200	\$ <b>95.00</b>
\$ 201 TO \$ 500	\$ <b>245.00</b>
\$ 501 TO \$ 2,000	\$ <b>365.00</b>
\$ 2,001 TO \$ 10,000	\$ <b>485.00</b>
OVER \$ 10,000	\$ <b>1005.00</b>

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**107.11.2 Inspection fees.** It shall be the duty of the code official to cause the following inspections to be made as required by this code. An inspection is to be made of each tap, water connection or extension, each sewer extension, and for repairs of water service pipe, or of sewer pipe, whether on a public or private street, alley, thoroughfare or premises. Inspection shall also be made after completion of all work and be known as a finish inspection. Mechanical pipefitting and sprinkler fitting installations shall also be inspected.

**107.11.3 Fee schedule.** Fees for new construction or alteration of plumbing systems and inspections thereof shall be paid to and collected by the City of Saint Louis as indicated in Table 107.11.3.

**TABLE 107.11.3  
PLUMBING FEES**

<b>TYPE</b>	<b>FEE</b>
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Application Fee	<b>\$30.00</b>
Tap, water connection or extension, each	<b>\$ 25.00</b>
Sewer extension, connection or repair, each	<b>\$ 25.00</b>
Irrigation System (does not include backflow device), each	<b>\$ 25.00</b>
Fixtures, each (floor drain, sump, water heater, reduced pressure backflow device or double gate/double check valve, roof drain or trapped outlet)	<b>\$ 10.00</b>
Test of a reduced pressure backflow device or double gate/double check valve	<b>\$ 40.00</b>
Late fee for all backflow tests not performed within 30 days of anniversary date, each	<b>\$ 30.00</b>
Rough inspection, each	<b>\$ 25.00</b>
Finish inspection, each	<b>\$ 25.00</b>
Re-inspection, each	<b>\$ 30.00</b>
Special inspection, each	<b>\$ 45.00</b>

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One rough inspection and one finish inspection for every 20 fixtures or fraction thereof; one additional rough inspection and one additional finish inspection for every 20 additional fixtures or fraction thereof.

**107.11.4 Re-inspections.** Re-inspections of plumbing installations and systems on any premises shall be made when deemed necessary by the code official. Where a re-inspection is required to be made due to faulty workmanship or work not completed at the time of a requested inspection. Fees for a re-inspection fee shall be as indicated in Table 107.11.3.

**107.11.5 Fees for abandoned work or revoked permit.** Fees shall not be waived or refunded for any plumbing permit that has been abandoned, canceled or revoked.

**107.11.6 Special inspections.** A special inspection may be requested by the owner or occupant of a building or premises. Fees for special inspections shall be as indicated in Table 107.11.3.

1066 **SECTION 108**  
1067 **INSPECTIONS AND TESTING**

1068  
1069 *Change 108.1 number 4 to read as follows:*  
1070

1071 **108.1 Required inspections and testing.** The code official upon notification from the  
1072 permit holder or the permit holder's agent shall make the following inspections and other  
1073 such inspections as necessary, and shall either release that portion of the construction or  
1074 shall notify the permit holder or agent of any violation which must be corrected. The  
1075 holder of the permit shall be responsible for the scheduling of such inspections. All  
1076 inspections are visual inspections. The contractor shall be responsible for repairing  
1077 defects hidden from the inspector.

- 1078 1. Underground inspections shall be made after trenches or ditches are  
1079 excavated and bedded, piping installed, and before any backfill is put in  
1080 place. When excavated soil contains rocks, broken concrete, frozen  
1081 chunks and other rubble which would damage, break the piping or cause  
1082 corrosive action, clean backfill shall be on the job site next to trenches or  
1083 ditches.
- 1084 2. Rough-in inspection shall be made after the roof, framing, fireblocking,  
1085 firestopping, draftstopping and bracing is in place and all sanitary, storm  
1086 and water distribution piping is roughed-in, and prior to the installation of  
1087 wall and ceiling membranes. Any portion of the plumbing system covered  
1088 by the permit which is intended to be concealed by any permanent portion  
1089 of the structure shall not be concealed until inspected. The code official  
1090 shall have the authority to require any concealment to be removed.  
1091 Failure to comply with this order of the code official may result in  
1092 condemnation of the structure or any part thereof and prohibition of  
1093 occupancy. Furthermore, the plumbing contractor shall not be issued any  
1094 other permits until such work is properly inspected and approved by the  
1095 code official.
- 1096 3. Final inspection shall be made after the building is complete, all plumbing  
1097 fixtures are in place and properly connected, and the structure is ready for  
1098 occupancy. All violations of any code, any approved construction  
1099 document or the plumbing permit shall be noted, and the holder of the  
1100 plumbing permit shall be notified in writing of the discrepancies. All  
1101 violations shall be abated before final approval. If the plumbing  
1102 contractor refuses to abate any violation, the contractor shall not be issued  
1103 any other permits until such violation is remedied, properly inspected and  
1104 approved by the code official.
- 1105 4. Exposure of Work. All new, altered, extended or replaced plumbing and  
1106 drainlaying shall be left uncovered and unconcealed until it has been  
1107 tested and approved. Where such work has been covered or concealed  
1108 before it is tested and approved, the Code Official may require that it be  
1109 exposed for testing and approval.

1110  
1111 **108.1.1 Approved inspection agencies.** The code official shall accept reports of  
1112 approved inspection agencies, provided such agencies satisfy the requirements as  
1113 to qualification and reliability.  
1114  
1115  
1116

1117 **108.1.2 Evaluation and follow-up inspection services.** Prior to the approval of  
1118 a closed, prefabricated plumbing system and the issuance of a plumbing permit,  
1119 the code official shall require the submittal of an evaluation report on each  
1120 prefabricated plumbing system, indicating the complete details of the plumbing  
1121 system, including a description of the system and its components, the basis upon  
1122 which the plumbing system is being evaluated, test results and similar  
1123 information, and other data as necessary to the code official to determine  
1124 conformance to this code.

1125  
1126 **108.1.2.1 Evaluation service.** The code official shall designate the  
1127 evaluation service of an approved agency as the evaluation agency, and  
1128 review such agency's evaluation report for adequacy and conformance to  
1129 this code.

1130  
1131 **108.1.2.2 Follow-up inspection.** Except where ready access is provided  
1132 to plumbing systems, service equipment and accessories for complete  
1133 inspection at the site without disassembly or dismantling, the code official  
1134 shall conduct the in-plant inspections as frequently as necessary to assure  
1135 conformance to the approved evaluation report or shall designate an  
1136 independent approved inspection agency to conduct such inspections. The  
1137 inspection agency shall furnish the code official with the follow-up  
1138 inspection manual and a report of inspections upon request, and the  
1139 plumbing system shall have an identifying label permanently affixed to the  
1140 system indicating that factory inspections have been performed.

1141  
1142 **108.1.2.3 Test and inspection records.** All required test and inspection  
1143 records shall be available to the code official at all times during the  
1144 fabrication of the plumbing system and the erection of the building; or  
1145 such records as the code official designates shall be filed.

1146  
1147 **108.2 Special inspections.** Special inspections of alternative engineered design  
1148 plumbing systems shall be conducted in accordance with Sections 108.2.1 and 108.2.2.

1149  
1150 **108.2.1 Periodic inspection.** The registered design professional or designated  
1151 inspector shall periodically inspect and observe the alternative engineered design  
1152 to determine that the installation is in accordance with the approved plans. All  
1153 discrepancies shall be brought to the immediate attention of the plumbing  
1154 contractor for correction. Records shall be kept of all inspections.

1155  
1156 **108.2.2 Written report.** The registered design professional shall submit a final  
1157 report in writing to the code official upon completion of the installation, certifying  
1158 the alternative engineered design conforms to the approved construction  
1159 documents. A notice of approval for the plumbing system shall not be issued  
1160 until a written certification has been submitted.

1161  
1162 **108.3 Testing.** Plumbing systems shall be tested as required in this code and in  
1163 accordance with Sections 108.3.1 through 108.3.3. Tests shall be made by the permit  
1164 holder and observed by the code official.

1165  
1166 **108.3.1 New, altered, extended or repaired systems.** New plumbing systems  
1167 and parts of existing systems, which have been altered, extended or repaired shall

1168 be tested as prescribed herein to disclose leaks and defects, except that testing is  
1169 not required in the following cases:

- 1170 1. In any case which does not include addition to, replacement,  
1171 alteration or relocation of any water supply, drainage or vent  
1172 piping.
- 1173 2. In any case where plumbing equipment is set up temporarily for  
1174 exhibition purposes and is not connected to the public water supply  
1175 or the public sewer system.

1176  
1177 **108.3.2 Equipment, material and labor for tests.** All equipment, material and  
1178 labor required for testing a plumbing system or part thereof shall be furnished by  
1179 the permit holder.

1180  
1181 **108.3.3 Re-inspection and testing.** Where any work or installation does not pass  
1182 an initial test or inspection, the necessary corrections shall be made so as to  
1183 achieve compliance with this code. The work or installation shall then be  
1184 resubmitted to the code official for inspection and testing.

1185  
1186 **108.4 Contractor's responsibilities.** It shall be the duty of every contractor who enters  
1187 into contracts for the installation or repair of plumbing systems for which a permit is  
1188 required to comply with adopted federal, state and local rules and regulations concerning  
1189 certification and licensing.

1190  
1191 **108.5 Coordination of inspections.** Whenever in the enforcement of this code or  
1192 another code or ordinance, the responsibility of more than one code official is involved, it  
1193 shall be the duty of the code officials involved to coordinate their inspections and  
1194 administrative orders as fully as practicable so that the owners and occupants of the  
1195 structure shall not be subjected to visits by numerous inspectors or multiple or conflicting  
1196 orders. Whenever an inspector from any agency or department observes an apparent or  
1197 actual violation of some provision of some law, ordinance, or code not within the  
1198 inspector's authority to enforce, the inspector shall report the findings to the code official  
1199 having jurisdiction.

1200  
1201 **108.5.1 Legal compliance.** All legal assistance necessary to effect compliance of  
1202 the plumbing systems of such premises with this section shall be supplied to the  
1203 code official by the City Counselor and other City of Saint Louis agencies. The  
1204 Fire and Police Departments of the City of Saint Louis shall, upon request, assist  
1205 the code official in the enforcement of this code.

1206  
1207 **108.6 Approval.** After the prescribed tests and inspections indicate that the work  
1208 complies in all respects with this code, a notice of approval shall be issued by the code  
1209 official.

1210  
1211 **108.7 Temporary connection.** The code official shall have the authority to authorize the  
1212 temporary connection of the building or system to the utility source for the purpose of  
1213 testing plumbing systems or for a temporary certificate of occupancy.

1214  
1215 **108.8 Plumbing inspection certificate.** The Section of Plumbing Regulations and  
1216 Inspection, upon completion of repair and remodeling work, as per permit issued, shall,  
1217 upon request of the property owner, the occupant or the licensed plumbing contractor,  
1218 furnish a plumbing inspection certificate to the property owner or occupant who has

1219 authorized the work to be performed. The plumbing inspection certificate shall state the  
1220 address of where the work was performed, name and license number of the licensed  
1221 plumbing contractor performing the work, permit number, approved by inspector's  
1222 signature, the inspector's identification number, date and time of inspection. Certificates  
1223 are filled out by plumbing inspectors within ninety (90) days of the final inspection.  
1224

1225 **SECTION 109**  
1226 **VIOLATIONS**

1227  
1228 **109.1 Unlawful acts.** It shall be unlawful for any person, firm or corporation to erect,  
1229 construct, alter, repair, remove demolish or utilize any plumbing system, or cause same to  
1230 be done, in conflict with or in violation with any of the provisions of this code. All work  
1231 shall be conducted, installed and completed in a workmanlike and approved manner so as  
1232 to secure the results intended by this code.  
1233

1234 **109.2 Notice of violation.** The code official shall serve a written notice of violation or  
1235 order, as heretofore described in Section 105.3, to the person, firm, or corporation  
1236 responsible for the erection, installation, alteration, extension, repair, removal, demolition  
1237 or operation of plumbing equipment or systems in violation of the provisions of this code,  
1238 or in violation of a detailed statement, or the approved construction documents  
1239 thereunder, or in violation of a permit issued under the provisions of this code. Such  
1240 order shall direct the discontinuance of the illegal action or condition and the abatement  
1241 of the violation. Failure to comply with the written order of the code official may result  
1242 in revocation of the bond and/or license of that person, firm, or corporation. Failure to  
1243 comply with the order of the code official shall result in the denial to issue any additional  
1244 permits in that person's, firm's, or corporation's name.  
1245

1246 **109.2.1 Written notice of violation.** If the building inspection, re-inspection, or  
1247 test reveals failure of any new installation, addition, alteration, maintenance or  
1248 replacement to comply with the provisions of this code, the installation shall be  
1249 declared unlawful by the code official, and a written notice of violation shall be  
1250 given or mailed to either the responsible individual, person, firm or corporation to  
1251 whom the permit was issued, or to the legally authorized representative of the  
1252 permit holder.  
1253

1254 **109.3 Prosecution of violation.** If the notice of violation is not complied within the time  
1255 stated in the Notice of Violation, but no longer than thirty (30) days, the code official  
1256 shall request the legal counsel of the City of Saint Louis to institute the appropriate  
1257 proceedings at law or in equity to restrain, correct or abate such violation, or to require  
1258 the removal or termination of the unlawful occupancy of the structure in violation of the  
1259 provisions of this code or of the order or direction made pursuant thereto. The time for  
1260 compliance may be extended by the code official, upon written request, if there are  
1261 extenuating circumstances.  
1262

1263 **109.4 Violation penalties.** Any person, partnership or corporation who shall violate a  
1264 provision of this code or shall fail to comply with any of the requirements thereof or who  
1265 shall erect, construct, alter or repair plumbing equipment or systems in violation of the  
1266 approved construction documents or directive of the code official, or of a permit or  
1267 license issued under the provisions of this code, shall, upon conviction thereof, be  
1268 penalized as set forth in Section Four.  
1269

1270 **109.5 Stop work order.** Upon notice from the code official that plumbing work is being  
1271 done contrary to the provisions of this code or in a dangerous or unsafe manner, or  
1272 without permit, or by unlicensed individuals, such work shall immediately cease. Such  
1273 notice shall be in writing and shall be given to the owner of the property involved, or to  
1274 the owner's agent, or to the person doing the work. The stop work order shall state the  
1275 conditions under which work is authorized to resume. Where an emergency exists, the  
1276 code official shall not be required to give a written notice prior to stopping the work.  
1277 Any person who shall continue any work on the system after having been served with a  
1278 stop work order, except such work as that person is directed to perform to remove a  
1279 violation or unsafe conditions, shall be subject to immediate arrest and, upon conviction  
1280 thereof, be penalized as set forth in Section Four.

1281

1282 **109.6 Abatement of violation.** The imposition of the penalties herein prescribed shall  
1283 not preclude the legal officer of the City of Saint Louis from instituting appropriate action  
1284 to prevent unlawful construction or to restrain, correct or abate a violation, or to prevent  
1285 illegal occupancy of a building, structure or premises, or to stop an illegal act, the conduct  
1286 of business or the utilization of plumbing equipment or systems on or about any  
1287 premises.

1288

1289 **109.7 Unsafe plumbing.** Any plumbing system that is unsafe, constitutes a fire or health  
1290 hazard, unsanitary condition or is otherwise dangerous to human life, as regulated by this  
1291 code, is hereby declared as an unsafe plumbing system. Use of a plumbing system  
1292 regulated by this code constituting a hazard to health, safety, or public welfare by reason  
1293 of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage, or  
1294 abandonment is hereby declared an unsafe use. Such unsafe equipment is hereby  
1295 declared to be a public nuisance and shall be abated by repair, rehabilitation, demolition,  
1296 or removal.

1297

1298 **109.7.1 Authority to condemn plumbing systems.** Whenever the code official  
1299 determines that any plumbing system, or portion thereof, regulated by this code  
1300 has become hazardous to life, health, property, or has become unsanitary, the code  
1301 official shall order in writing that such plumbing either be removed or restored to  
1302 a safe condition. A time limit for compliance with such order shall be specified in  
1303 the written notice. A person shall not use or maintain a defective plumbing  
1304 system after receiving such notice.

1305

1306 When such plumbing system is to be disconnected, written notice as  
1307 prescribed in Section 109.2 shall be given. In cases of immediate danger to life or  
1308 property, such disconnection shall be made immediately without such notice.

1308

1309 **109.7.2 Authority to order disconnection of utilities.** The code official shall  
1310 have the authority to order disconnection of any utility supplied to a building,  
1311 structure or plumbing system regulated by this code when it is determined that the  
1312 plumbing system or any portion thereof has become hazardous, unsafe or  
1313 unsanitary. Written notice of such order to disconnect service and the causes  
1314 therefore shall be given within twenty-four (24) hours to the owner and occupant  
1315 of such building, structure, or premises, provided, however, that in cases of  
1316 immediate danger to life of property; such disconnection shall be made  
1317 immediately without such notice. The code official shall immediately notify the  
1318 serving utility in writing of the issuance of such order to disconnect.

1319

1320 **109.7.3 Connection after order to disconnect.** A person shall not make utility  
1321 connections to plumbing systems regulated by this code which have been  
1322 disconnected or ordered to be disconnected by the code official, or the use of  
1323 which has been ordered to be discontinued by the code official until the code  
1324 official authorizes the reconnection and use of such plumbing system.

1325 When any plumbing system is maintained in violation of this code, and in  
1326 violation of a notice issued pursuant to the provisions of this section, the code  
1327 official shall institute any appropriate action to prevent, restrain, correct or abate  
1328 the violation.

1329  
1330 **109.7.4 Authority to order vacation of structure.** When there is an actual and  
1331 immediate condition which would endanger life, the code official is hereby  
1332 authorized and empowered to order and require the occupants to vacate a structure  
1333 forthwith. The code official shall cause to be posted at each entrance to such  
1334 structure a notice reading as follows: **DANGER! THIS BUILDING IS**  
1335 **UNSAFE. ALL PERSONS ARE WARNED TO KEEP AWAY.** It shall be  
1336 unlawful for any person to enter such structure except for the purpose of making  
1337 the required repairs or removal. The procedure for this notice shall be as set forth  
1338 in Section 105.3.

1339  
1340 **109.8 Time for compliance and notification to department.** All notices of violation  
1341 shall indicate the requirement of immediate compliance. Upon compliance of violation,  
1342 the recipient of the notices, the recipient's agent, contractor, or subcontractor shall notify  
1343 the code official according to the procedure set forth in this code. Upon notification, the  
1344 code official shall re-inspect the premises in which the violation was found, and if  
1345 compliance is shown to exist, the violation notice shall be terminated and type of  
1346 inspection recorded.

1347  
1348 **109.8.1 Noncompliance.** On new construction, alterations, additions, or  
1349 replacements, violations not abated within 10 days shall be referred to court. On  
1350 existing structures which involve occupancy, general rehabilitation, or other  
1351 problems which involve the development of construction documents or issuance  
1352 of a building permit, restoration to original occupancy, or other problems which  
1353 require concurrent action by other departments of the City of Saint Louis, the  
1354 code official may make its compliance date of any violation notice with regard to  
1355 any given premises coincide with the compliance date of violations against the  
1356 same premises by said other departments of the City of Saint Louis.

1357  
1358 **109.8.2 Immediate compliance.** The following types of violations may be  
1359 followed immediately by referral to court:

- 1360 1. Failure to secure any required plumbing permit or permits;  
1361 2. Operating as a Plumbing Contractor, Drainlayer, Sprinkler Fitter or  
1362 Mechanical Pipefitter Contractor or as an installer of plumbing  
1363 without compliance with licensing and registration requirements of  
1364 this code;  
1365 3. Failure to maintain a plumbing system in a safe and/or sanitary  
1366 condition;  
1367 4. Creation of a nuisance or a hazard to either health or safety.

1368  
1369 **109.8.3 Compliance.** Any violation pertaining to any otherwise illegal  
1370 installation of plumbing may be referred to a court of competent jurisdiction if not

1371 abated within a reasonable time after issuance of the notice of violation by the  
1372 code official.

1373

1374 **109.8.4 City counselor.** The City Counselor shall assign such employees as from  
1375 time to time are necessary to prepare and present to the City Court, or if  
1376 necessary, to higher courts, the facts pertaining to any violation which has  
1377 exceeded the time specified in sections of this code, or if no time is specified, any  
1378 reasonable time in the judgment of the code official.

1379

1380 **109.8.5 Court dates and re-inspections.** Before requesting the court to hear any  
1381 incomplete violation case, the premise involved shall be re-inspected and then the  
1382 code official assigned to act as a witness for the case shall set forth the facts in a  
1383 record and the court shall specify the date of the hearing.

1384

1385 *Change 109.9 to read as follows:*

1386 **109.9 Authority of Board of Examiners for Master Plumbers, Master Drainlayers,  
1387 and Journeyman Plumbers to levy fines.**

1388

1389 A. Any person or entity that violates any provision of the Code shall be  
1390 guilty of a Class A Misdemeanor.

1391

1392 The Board of Examiners for Master Plumbers, Master  
1393 Drainlayers, and Journeyman Plumbers (Board) shall have  
1394 the authority to take disciplinary action as set out in the  
1395 Code and to impose civil penalties, not to exceed one  
1396 thousand dollars (\$1,000.00), per offense, if the Board  
1397 finds, after such notice to the individual and a hearing on  
1398 the matter, that the individual or entity has violated any  
1399 provisions of the Code.

1400

1401 In determining the amount of penalty to be imposed, the  
1402 Board may consider both any mitigating circumstances and  
1403 severity of the violation in relation to the deterrent value of  
1404 the fine.

1405

1406 Any final order imposing a civil penalty is subject to appeal or review as specified  
1407 in Section 110.0.

1408

1409 Payment of a civil penalty shall be made within (30) thirty days after the decision  
1410 of the Board, pending an appeal. Failure to pay a civil penalty by any person  
1411 licensed under this code shall be grounds for non-renewal or denial of  
1412 reinstatement of a license. In addition, action will be taken against any bonds  
1413 which may exist to obtain payment of civil penalty.

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1422 **SECTION 110**  
1423 **MEANS OF APPEAL**  
1424

1425 **110.1 Appeals.** Any person aggrieved by the decision of the code official, or any Board  
1426 hereunder, may appeal said decision to the Board of Building Appeals in the manner  
1427 prescribed in the building code. The fee for said appeal shall be as prescribed in said  
1428 building code.

1429  
1430 **SECTION 111**  
1431 **BOARD OF EXAMINERS FOR MASTER PLUMBERS, MASTER**  
1432 **DRAINLAYERS AND JOURNEYMAN PLUMBERS**  
1433

1434 *Change 111.1 and 111.2 to read as follows:*  
1435

1436 **111.1 How constituted.** The Mayor, with the approval of the Board of Aldermen, shall  
1437 appoint one (1) City of Saint Louis certified master plumber, who will act as Chairman of  
1438 the Board, one (1) City of Saint Louis licensed master drain layer; one (1) City of Saint  
1439 Louis licensed journeyman plumber, one (1) practicing plumbing designer holding a  
1440 Certified in Plumbing Design Certificate, CPD, issued by the American Society of  
1441 Plumbing Engineers who has actually engaged in the design of plumbing or sanitary or  
1442 sewer systems, and one (1) representative from the Plumbing Division, the Plumbing  
1443 Supervisor or his duly appointed representative. Each of whom shall be a resident of the  
1444 City of St. Louis or a resident of St. Louis County, each of whom shall be a United States  
1445 Citizen, and each of whom shall have been actively engaged at the trade or business of  
1446 plumbing for five (5) years in the Saint Louis metropolitan area. These five (5) members  
1447 shall constitute the Board of Examiners. A majority of the members of said committee  
1448 shall constitute a quorum for the transaction of business.  
1449

1450 **111.2 Term of office, compensation.** The members of the Board of Examiners, except  
1451 the Plumbing Supervisor or the Plumbing Supervisor's duly appointed representative,  
1452 shall hold office for a term of four (4) years or until their successors are duly qualified,  
1453 unless removed by the Mayor. They shall, except the Plumbing Supervisor or the  
1454 Plumbing Supervisor's duly appointed representative, receive compensation for their  
1455 services, as provided by separate ordinance on a per-meeting basis.  
1456

1457 *Change 111.3 to read as follows:*  
1458

1459 **111.3 Powers and duties of the Board of Examiners.** It shall be the duty of the Board  
1460 of Examiners to meet on the fourth Monday of each month (the Board may make  
1461 variances when a holiday falls on this date) to: hear and determine any charges or  
1462 complaints which may be lawfully made against any Master Plumber, Drainlayer or  
1463 licensed Journeyman Plumber; approve apprentice applications; transact any other lawful  
1464 business of the Board. Additional meetings may be held at the request of the chairman of  
1465 the board. Suitable quarters for the use of the Board of Plumbing Examiners shall be  
1466 provided. Three (3) members of the Board of Examiners in attendance shall constitute a  
1467 quorum. A majority vote of the board members is necessary for the approval of any  
1468 motion.  
1469

- 1470 1. Administration - The Board of Examiners shall receive applications and  
1471 they shall approve or deny licenses as described herein based on Sections  
1472 111.7, 111.8, 111.9, 111.10 and 111.11.

February 24, 2012

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Board Bill No. 293 Introduced by: Alderman Gregory Carter

- 1473 2. Test - The Board of Examiners shall prescribe the administration, form  
1474 and content of tests for master plumbers, master drainlayers, journeyman  
1475 plumbers and the form and content of licenses as described herein. The  
1476 Board shall also determine the passing grade for each test.
- 1477 3. Notice - All complaints by citizens concerning plumbing or drainlaying  
1478 procedures or rules and regulations shall be made to the Board of  
1479 Examiners in writing. After a thorough investigation, the Board shall  
1480 respond in writing to each complaint.
- 1481 4. Adoption of Rules - The Board of Examiners shall adopt rules and  
1482 regulations, when and as required at the discretion of the Board, consistent  
1483 with the provisions of this ordinance and the laws of the City of Saint  
1484 Louis, related to the Board's powers and duties as herein stated. Such  
1485 rules and regulations adopted by the Board shall be posted in the Section  
1486 of Plumbing Regulations and Inspections for two weeks prior to becoming  
1487 effective.
- 1488 5. Inspection - Order the inspection of any plumbing or drain system  
1489 whenever deemed necessary for the public safety.
- 1490 6. Revocation/Suspension of Licenses - After investigation and hearings in  
1491 accordance with Section 111.12, the Board may revoke or suspend any  
1492 license that it has issued.
- 1493 7. The Board shall, pursuant to the regulations and standards herein set forth,  
1494 determine the qualifications of and provide for the examining, licensing,  
1495 registration and/or certification of applicants who meet the qualifications  
1496 and successfully pass the appropriate examination, if required, under this  
1497 code. Evidence of license "The License" shall be provided to those who  
1498 meet the qualifications and successfully pass the appropriate examination,  
1499 or successfully meet all requirements of renewal of the license. This  
1500 evidence of license "The License" shall remain the property of St. Louis  
1501 City and shall be surrendered immediately when demanded under  
1502 conditions listed elsewhere in this document.
- 1503

1504 **111.4 Secretary of the Board, duties.** The code official or his duly appointed  
1505 representative shall act as Secretary to the Board of Examiners. The Secretary of the  
1506 Board shall be nonvoting. It shall be the duty of the Secretary to:

- 1507 1. Keep full and complete records of the proceedings of said Board;
- 1508 2. Keep a file of the name, residence and place of business of every licensed  
1509 person engaged in or working at the business of plumbing and drainlaying  
1510 in the City of Saint Louis (these records shall be updated within ninety  
1511 days of the renewal period stated in Section 111.5);
- 1512 3. Give all applicants for examination a written notice of the date and place  
1513 of examination. The Secretary shall give the applicant an informational  
1514 letter on examination procedures with an outline of suggested study for the  
1515 examination applied for;
- 1516 4. Return all incomplete applications to the applicants;
- 1517 5. All records shall be open to supervised public inspection during normal  
1518 working hours, subject to staff availability. Test questions and answers  
1519 shall not be open to the public.
- 1520 6. The Secretary shall maintain and secure all examinations, examination  
1521 documents and materials for the examinations given by the Board as  
1522 directed by the Board
- 1523

1524 *Change 111.5 through 111.6 to read as follows:*

1525  
1526 **111.5 Renewal date for licenses.** The renewal of all licenses for Master Plumbers,  
1527 Master Drainlayers and Journeyman Plumbers shall be due on one date, December 31,  
1528 2009, and every three (3) years thereafter.

1529  
1530 1. A person applying for renewal of a license, registration or  
1531 certification may file his/her application up to one hundred twenty (120)  
1532 days prior to but not more than thirty (30) days after the license,  
1533 registration or certificate expires. A person applying for such renewal,  
1534 prior to its expiration, shall file only a new application form, surety bond,  
1535 (if required) and pay the fee(s) required under this Code.

1536  
1537 2. Upon written application and for good cause shown, waivers or  
1538 extension of time of the credit hour or reporting requirements of this Code  
1539 may be granted by the Board in individual cases or classes of cases  
1540 involving hardship or extenuating circumstances. Extensions granted by  
1541 the Board may be conditioned on the payment of a late filing fee of thirty  
1542 (\$30) dollars. If the Board grants an extension, the license expiration date  
1543 shall be extended to the date set by the Board for completion of the credit  
1544 hour and reporting requirements.

1545  
1546 3. A person who fails to comply with all of the above requirements for  
1547 renewal of his/her license, registration or certificate prior to its expiration shall be  
1548 renewed within a grace period of thirty (30) following the renewal date.  
1549 Following the grace period, any master plumber, master drainlayer, journeyman  
1550 plumber, Master Pipefitter, Journeyman Pipefitter, Master Sprinklerfitter or  
1551 Journeyman Sprinklerfitter that has not renewed shall be required to re-apply and  
1552 re-test in order to obtain a new license at the discretion of the Board of Examiners  
1553 (if examination is required) under the same terms and conditions imposed upon  
1554 new applicants.

1555  
1556 4. Failure to receive an application for renewal of a license or certificate of  
1557 authority shall not relieve the licensee or certificate holder from their duty to  
1558 timely renew, nor shall it relieve them from the obligation to any additional fee(s)  
1559 necessitated by any late renewal.

1560  
1561 **111.5.1 Licenses obtained between renewal dates.** Any new license issued  
1562 more than thirty days prior to the renewal date shall expire on the renewal date.  
1563 There shall be prorating of license fees.

1564  
1565 **111.5.2** Failure of Master Plumber, Master Drainlayer, Master Pipefitter, or  
1566 Master Sprinklerfitter to renew. The failure of any Master Plumber or Master  
1567 Drainlayer, Master Pipefitter or Master Sprinklerfitter to renew their license  
1568 during the grace period shall terminate their license, and no permit for doing work  
1569 under this or any other ordinance of the City of Saint Louis shall be issued them  
1570 until after they have obtained a new license following re-application and re-  
1571 testing (if necessary), and they shall be disqualified from carrying on any work  
1572 authorized to be done under any permit theretofore issued to them or any job  
1573 unfinished at the date of termination of their license.

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**NOTE:** Failure to renew Department of Natural Resources Backflow Prevention Assembly Certification or to notify the Office of Plumbing and Sewer Inspection of such renewal shall cancel any registration or certification issued by the Board of Plumbing Examiners for the testing of Backflow Prevention Assemblies on the expiration date indicated on the Department of Natural Resources certification.

**111.5.2 Licensed Renewal Applicants shall:**

A. Submit a completed application for license renewal, a full-face photograph, or the equivalent as determined by the Board, for identification purposes with each renewal.

B. As soon as practicable after the passage of this Code, the Board of Plumbing Examiners shall, after providing reasonable opportunity for public participation, adopt reasonable rules and regulations to interpret and implement the provisions of this Code with respect to continuing education. A licensee may obtain a copy of the rules and regulations upon application and upon payment of fee established for this purpose.

C. Holders of active licenses shall also submit verification that they have attended continuing education courses, seminars, films or other training approved by the Board of Plumbing Examiners in the following minimums starting January 1, 2012:

D. Holders of active licenses shall also submit verification that they have attended continuing education courses, seminars, films or other training approved by the Board of Sprinkler Fitter Examiners in the following minimums starting January 1, 2012:

1. Masters / Contractors twelve (12) PEU (Professional Education Units) per three-year (3) license cycle pro rated on a yearly base.
2. Journeyman Licensee twelve (12) PEU per three-year license cycle pro rated on a yearly base.
3. There may be a carryover of a maximum of four (4) PEU's in excess of the required amount of PEU's to the next license cycle.

1625 **111.5.3 License Limitations.** Any Master licensed or registered under this Code  
1626 shall be limited to obtaining permits required under the provisions of this Code, for a  
1627 single company, firm, proprietorship, partnership or corporation at any given date or  
1628 time and shall be registered with the Saint Louis City Office of Plumbing and Sewer  
1629 Inspection as an officer or a full time employee of said company at least thirty (30)  
1630 days prior to exercising the privileges of the license / registration on behalf of said  
1631 company. Such companies shall be registered with the state of Missouri, Office of  
1632 Secretary of State, Jefferson City, Missouri.

1633  
1634 **111.5.4 Advertising.** No person, corporation, partnership, joint venture or other  
1635 entity shall place or authorize the placement of an advertisement or message offering  
1636 services subject to any provision of this Code in any advertising medium unless the  
1637 advertisement or message clearly states the name, business address and license  
1638 number of at least one (1) appropriately licensed, certified and / or registered person  
1639 qualified to perform such services and who is in responsible charge and control of  
1640 work performed by said entity.

1641  
1642 **111.6 Inactive license.** Any licensed person who is not working at his/her licensed trade  
1643 and who desires to retain his/her license may do so by notifying the Board of Plumbing  
1644 Examiners that he/she wishes to be placed in inactive status. Such notice shall be in  
1645 writing and shall state that the license holder is not working at his/her licensed trade,  
1646 wishes to be placed in inactive status, understands that he/she is prohibited from working  
1647 while inactive and agrees to notify the Board to activate his/her license prior to resuming  
1648 work. It shall be a Violation of this Code for a license holder to perform work in his/her  
1649 license category while in inactive status. In order to keep an inactive license as a Master  
1650 Plumber, the license holder must maintain an active license as a Journeyman Plumber.

1651  
1652 The Board shall respond in writing to the license holder in each inactivation  
1653 or reactivation action and each such action shall be noted in the Board  
1654 minutes. An inactive license shall be issued stating the license number and  
1655 type, which is inactive. This inactive license shall be valid for a period of ten  
1656 (10) years. Three (3) months prior to the expiration date, the department  
1657 shall notify the holder at his last known address, the date that his inactive  
1658 license will expire so that it can be renewed at the holder's request and  
1659 payment of fees and other requirements of the Board.

1660  
1661 It is the responsibility of the Inactive License holder to notify the Board of any  
1662 license change or change in address. Maintenance of any other license will be  
1663 equivalent to notifying the Board of address change.

1664  
1665 License holders in inactive status, who renew their licenses, are not required to  
1666 accrue continuing education course hours, as a condition of renewal. However,  
1667 they are required to accrue the minimum continuing education hours for any prior  
1668 year or any part thereof in which their license was active.

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<b>TABLE 111</b>				
<b>BOARD AND COMMITTEE FEES</b>				
<b>Item</b>	<b>Fee</b>	<b>Duration</b>	<b>Section</b>	<b>Remarks and Requirements</b>
<b>Board of Plumbing Examiners</b>				
<b>Licenses:</b>				
Application Fee (all classes)	50.00			To cover cost of application only
Journeyman	50.00	3 years	111.10	To cover cost of licensing
Master Drainlayer	300.00	3 years	111.9	To cover cost of licensing
Master Plumber	300.00	3 years	111.8	To cover cost of licensing
Master Plumber/Drainlayer	600.00	3 years	111.8 & .9	To cover cost of licensing
Registration Fee (Apprentice)	25.00	5 years	111.7	To cover cost of registration
Replacement of lost license	25.00			To cover cost of replacement license
<b>Testing</b>				
Home owners examination	25.00	2 years	111.11	To cover cost of application & examination
All other tests administered by the City of Saint Louis	50.00			To cover cost of examination only
<b>Board of Sprinkler Contractors &amp; Sprinkler Fitters Licenses:</b>				
Application Fee (all classes)	50.00			To cover cost of application only
Sprinkler Contractor	300.00	3 years	112.7	To cover cost of licensing
Sprinkler Fitter	50.00	3 years	112.8	To cover cost of licensing
Registration Fee (Apprentice)	25.00	5 years	112.9	To cover cost of registration
Replacement of lost license	25.00			To cover cost of replacement license
<b>Backflow Tester</b>				
Mechanical Contractor	300.00	3 years	113.4	To cover cost of application & licensing
Journeyman Pipefitter	50.00	3 years	113.4	To cover cost of application & licensing
Replacement of lost license	25.00			To cover cost of replacement license

NOTE: FEES SHALL BE PRORATED

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1676

1677 *Change 111.7 to read as follows:*

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1679 **111.7 License as a Master Plumber.**

1680 1. An applicant for a Master Plumber's license shall have the following  
1681 qualifications:

1682

1683 A. At least five (5) years experience as a Journeyman Plumber  
1684 licensed under this Code, in addition to meet the requirements  
1685 of the Journeyman Plumber License, or under laws and  
1686 regulations requiring similar qualifications The intent of this  
1687 requirement is that the applicant for Master Plumber shall have  
1688 at least ten (10) years practical experience in the design,  
1689 planning, installation and supervision of plumbing systems  
1690 including but not limited to, drainage and vent piping facilities;  
1691 potable water supply and distribution piping systems; Plumbing  
1692 Appliances, Appurtenance, and fixtures, and potable water cross  
1693 connection control facilities. Or, in lieu thereof, possess such  
1694 experience or training, as is the equivalent thereto. Equivalent  
1695 training and experience shall mean that:

1696

1697 1. The applicant shall be a civil or mechanical engineer,  
1698 registered with the Missouri Board for Architects,  
1699 Professional Engineers and Land Surveyors, and have  
1700 four (4) years of experience in the design, planning and  
1701 installation of plumbing, drainage, vent piping

1702 facilities, potable water supply and distribution piping  
1703 and potable water cross connection control which must  
1704 be obtained under the direction of a Master Plumber  
1705 licensed under this Code or under laws and regulations  
1706 requiring similar qualifications;

1707 Or:

1708 2. The applicant shall have satisfactorily completed a five  
1709 (5) year course in practical plumbing, drainage, vent  
1710 piping facilities, potable water supply and distribution  
1711 piping and potable water cross connection control at a  
1712 recognized trade or technical school, and five (5) years  
1713 experience in the design, planning and installation of  
1714 plumbing, drainage, and vent piping facilities, potable  
1715 water supply and distribution piping and potable water  
1716 cross connection control, which must be obtained  
1717 under the direction of a Master Plumber licensed under  
1718 this Code or under laws and regulations requiring  
1719 similar qualifications;

1720 Or:

1721 3. The applicant shall be a Master Plumber who has  
1722 qualified for a license under examination, rules and  
1723 regulations, similar to the St. Louis City, Missouri,  
1724 Board of Plumbing Examiners Examination rules and  
1725 regulations; has been working under rules and  
1726 regulations equal to or exceeding the rules and  
1727 regulations of this Code; has been examined and  
1728 qualified for a St. Louis City Journeyman Plumber  
1729 license; and has worked under the direction of a  
1730 licensed St. Louis City, Missouri, Master plumber for  
1731 at least two (2) years;

1732 Or:

1733 4. Such other experience and/or training as the Board of  
1734 Plumbing Examiners determines is equivalent.

1735

1736 B. He/she shall possess the ability to direct other persons in the  
1737 performance of plumbing work and shall be skilled in  
1738 designing and installing plumbing fixtures and facilities,  
1739 and shall have a thorough knowledge of the art of plumbing  
1740 necessary for the protection of the public health.

1741

1742 2. Applicant's qualifications shall be presented to the Board of Examiners for  
1743 approval to take the written examination.

1744

1745 3. Approved applicant shall be notified by the Secretary of the Board as to  
1746 the date and place of the written examination. The Secretary shall also  
1747 give the applicant an informational letter on the examination procedures  
1748 with an outline of suggested study for the examination. The applicant is  
1749 responsible for all testing fees.

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1751 4. An applicant shall be required to successfully pass an examination designed or  
1752 selected by the Board of Examiners in addition to the foregoing requirements.

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5. Applicant shall be notified in writing by the Secretary of the Board of the examination results. Applicants that pass shall be notified to come to the Section of Plumbing Regulations and Inspection and obtain their license within ninety - (90) days. Applicants that have not passed the examination for the first time shall be notified that they may re-take the examination after three (3) months (90 days) and shall be eligible every three (3) months (90 days) there after until he/she has passed the examination.
6. Successful applicant shall bring a 3/4" by 3/4" color photograph and / or bring a digital picture, a certificate of liability insurance for bodily injury and property damage in the amount of at least one million dollars (\$1,000,000) naming the applicant as an additionally insured, and the license fee required by Table 111 to the Section of Plumbing Regulations and Inspections in order to be issued a license as a master plumber.
7. No journeyman plumber shall be allowed to hold a master plumber's license. When a journeyman plumber qualifies as a master plumber, the journeyman must relinquish the journeyman plumber's license to the Board of Plumbing Examiners before a master plumber license can be issued.

*Change 111.8 to read as follows:*

**111.8 License as a Master Drainlayer.**

1. An applicant for a Master Drainlayers license shall possess a current Master Plumber license issued by St. Louis City or have the following qualifications:
  - A. Five (5) years experience in drainlaying under the personal direction of a Master Drainlayer licensed under the rules and regulations of this Code, or under laws and regulations requiring similar qualifications or such other experience and/or training as the Board of Plumbing Examiners determines is equivalent. In lieu thereof the applicant shall have a degree in civil or mechanical engineering from an accredited college or university, and three (3) years experience in design, installation, and planning of private and public sanitary storm sewers and sewerage systems.
  - B. The applicant shall possess the ability to direct other persons in the installation of sanitary and storm sewers, and sewerage systems, private and public and shall have a thorough knowledge of the art of drainlaying necessary for the protection of the public health.
  - C. An applicant shall be required to successfully pass an examination designed or selected by the Board of Examiners in addition to the foregoing requirements.

- 1803           2.     Applicant's qualifications shall be presented to the Board of Examiners for  
1804           approval to take the written examination.  
1805  
1806           3.     Approved applicant shall be notified by the Secretary of the Board as to  
1807           the date and place of the written examination. The Secretary shall also  
1808           give the applicant an informational letter on the examination procedures  
1809           with an outline of suggested study for the examination. The applicant is  
1810           responsible for all testing fees.  
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1812           4.     Applicant shall be notified in writing by the Secretary of the Board of the  
1813           examination results. Applicants that pass shall be notified to come to the  
1814           Section of Plumbing Regulations and Inspection and obtain their license  
1815           within ninety - (90) days. Applicants that have not passed the examination  
1816           for the first time shall be notified that they may re-take the examination  
1817           after ninety (90) days (3 months) and shall be eligible every ninety (90)  
1818           days (3 months) there after until he/she has passed the examination.  
1819  
1820           5.     Successful applicant shall bring a 3/4" by 3/4" color photograph and / or a  
1821           digital picture, a certificate of liability insurance for bodily injury and  
1822           property damage in the amount of at least one million dollars (\$1,000,000)  
1823           naming the applicant as an additionally insured, and the license fee  
1824           required by Table 111 to the Section of Plumbing Regulations and  
1825           Inspections in order to be issued a license as a Master Drainlayer.  
1826

1827     *Change 111.9 to read as follows:*  
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1829     **111.9 License as a Journeyman Plumber.**  
1830

- 1831           1.     Journeyman Plumber  
1832           An applicant for a Journeyman Plumber license shall possess training  
1833           and experience in all phases of the plumbing industry, they shall be  
1834           skilled in installing plumbing fixtures and facilities and shall have a  
1835           thorough knowledge of the art of the plumbing system for the  
1836           protection of the public health and shall have at least five (5) years of  
1837           experience as an Apprentice Plumber under the direction and  
1838           supervision of a Master or Journeyman Plumber licensed under the  
1839           rules and regulations of this Code, or under laws and regulations  
1840           requiring similar qualifications, or under an established code having  
1841           comparable requirements, or, in lieu thereof, the applicant shall  
1842           possess such experience or training as is the equivalent thereto.  
1843           Equivalent training and experience may be considered to mean either:  
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1845           a.     A degree in civil or mechanical engineering from an accredited  
1846           college or university, and three (3) years of experience in the  
1847           design, planning and/or installation of plumbing, drainage,  
1848           vent piping facilities, potable water supply and distribution  
1849           piping and potable water cross connection control under the  
1850           direction of a Master or Journeyman Plumber licensed under  
1851           the rules and regulations of this Code, or under laws and  
1852           regulations requiring similar qualifications;  
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Or

- b. The satisfactory completion of a three (3) year course in practical plumbing, drainage, vent piping facilities, potable water supply and distribution piping, and potable water cross connection control at a recognized trade or technical school and five (5) years experience as an Apprentice Plumber under the personal direction of a Master or Journeyman Plumber licensed under the rules and regulations of this Code, or under rules and regulations requiring similar qualifications;

Or

- c. Such other experience and/or training as the Board of Plumbing Examiners determines is equivalent.

Note 1. A maximum of one (1) years experience may be used as a part of required experience while employed in plumbing maintenance. It may be deemed equivalent experience for one (1) year of experience required for Master or Journeyman Plumber license.

Note 2. Experience for this license may not be acquired during the same time period as experience is acquired for another license

- 2. Applicant's qualifications shall be presented to the Board of Examiners for approval to take the written examination.
- 3. Approved applicant shall be notified by the Secretary of the Board as to the date and place of the written examination. The Secretary shall also give the applicant an informational letter on the examination procedures with an outline of suggested study for the examination. The applicant is responsible for all testing fees.
- 4. An applicant shall be required to successfully pass an examination designed or selected by the Board of Examiners in addition to the foregoing requirements.
- 5. Applicant shall be notified in writing by the Secretary of the Board of the examination results. Applicants that pass shall be notified to come to the Section of Plumbing Regulations and Inspection and obtain their license within ninety - (90) days. Applicants that have not passed the examination for the first time shall be notified that they may re-take the examination after ninety (90) days (3 months) and shall be eligible every ninety (90) days (3 months) there after until he/she has passed the examination.
- 4. Successful applicant shall bring a 3/4" by 3/4" color photograph and / or a digital picture and the license fee required in Table 111 to the Section of Plumbing Regulations and Inspections in order to be issued a license as a journeyman plumber.

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5. The intent of this section is that candidates meet the approval of the Board of Plumbing Examiners as having acquired the experience requirements for each license for which an application has been reviewed by this Board of Plumbing Examiners, and in addition successfully pass an examination designed or selected by the Board of Examiners. The order of obtaining approval from the Board or in acquiring a passing grade does not remove the requirements that both are obtained.

*Change 111.10 to read as follows:*

**111.10 Registration as an Apprentice Plumber.**

1. A Master licensed by St. Louis City, who employs an apprentice in St. Louis County, and/or the Missouri Counties of St. Louis, Jefferson, Franklin, and St. Charles County, and/or the Illinois Counties of Monroe, Madison, and St. Clair County shall register that apprentice in St. Louis City under the rules contained in this ordinance. All persons serving an apprenticeship in any trade registered under this Code shall register with the Board of Plumbing Examiners prior to the start of their work training in that trade. The Master is held solely responsible to register all apprentices. Penalties for failure to register an apprentice shall be as defined in this code for violations, and shall also be subject to suspension or revocation of license by the Board of Plumbing Examiners. A Joint Apprenticeship Training Committee (JATC), registered with the Labor Department, may act on behalf of an employer who is not licensed as a Master under this Plumbing Code to facilitate the registration of apprentices.

a. The word "apprentice" as used in this Code shall mean a person learning, or already having experience in, the principles and art of the trade category in which the person is registered, under the personal direction and supervision of a licensed Master or Journeyman.

b. The word "Experienced Apprentice" as used in this Code shall mean a person, who in the judgment of the Board of Plumbing Examiners, previous to his application, has received a minimum of two and one-half (2-1/2") years equivalent training and experience learning the principles and art of the trade category in which the person is registered during which the applicant has received a minimum of five hundred (500) hours of approved classroom training, and who has received a minimum of ten (10) hours of OSHA approved Safety Training for Construction, and who has been certified by the Master for whom he/she is currently employed that said apprentice is capable of performing installations that are in compliance with the Code and with the principals and art of the trade category, and who shall continue his training and experience under the direction and supervision of a licensed Master until qualified to apply for Journeyman in that trade.

c. An Apprentice applicant whose training was not received under a St. Louis City licensed Master may also apply for "Experience Apprentice" upon meeting the requirements listed in the above paragraph or the equivalent as determined by the Board.

1956 **2. Personal Supervision of Apprentices.**

1957  
1958 An Apprentice is to be under the supervision of a Master or Journeyman at all  
1959 times. Experienced apprentices are not authorized to supervise an apprentice. The  
1960 Master or Journeyman is not required to constantly watch the Apprentice but is to  
1961 lay out the work required and permit the Apprentice to perform the work on  
1962 his/her own. Masters or Journeymen are permitted to leave the immediate work  
1963 area and remain on job site without being accompanied by the Apprentice. But,  
1964 the Apprentice should know where the Master or Journeyman is located on the  
1965 jobsite, so she/he can request assistance and/or direction.

1966  
1967 Job site is defined as follows:

- 1968  
1969 I. A single building or structure, or a group of related and supporting  
1970 buildings, on one site covered by one or more permits, or  
1971  
1972 II. A designated subdivision consisting of more than one single family  
1973 residence on one contiguous section of land, or  
1974  
1975 III. A residential complex containing one or more multi-family structures on  
1976 one contiguous section of land and contained within one designated  
1977 development.

1978  
1979 **3.** The minimum term of apprenticeship or experienced apprentice or experienced  
1980 apprentice registrations shall continue until the apprentice or experienced apprentice  
1981 *passes the Journeyman examination or the Board cancels the registration. An apprentice*  
1982 *or experienced apprentice must make an initial application to the Board within twelve*  
1983 *(12) months of completion of the experience requirement for license (minimum term as*  
1984 *set forth in this section). The Board may revoke an apprentice license for failure to make*  
1985 *such application for Journeyman License. The Board may review all apprentice and*  
1986 *experienced apprentice's registrations that have extended more than two (2) years beyond*  
1987 *the listed minimum term. Registration may be canceled if the Board determines, after*  
1988 *providing the registrant with notice and an opportunity to be heard, that the registrant is*  
1989 *not learning the principles and art of the trade category in which he or she is registered,*  
1990 *and is not making an attempt to become licensed. The Board may remove "Experienced*  
1991 *Apprentice" status, if the Board determines that the registrant has inadequate knowledge*  
1992 *of the principals and art of the trade category to hold such registration in which he or she*  
1993 *is registered. The Board may return such registrant to a lesser classification. The decision*  
1994 *of the Board involving a registration may be appealed in the same manner as other*  
1995 *decisions of the Board.*

1996  
1997 a. Plumber Apprentice - minimum term of apprenticeship shall be five (5)  
1998 years.

1999  
2000 b. Experienced Plumber Apprentice - minimum term of apprenticeship shall  
2001 be as determined by the Board of Plumbing Examiners but no less than a total of  
2002 five (5) years equivalent training and experience.

2003  
2004 **4.** Apprentices and/or Experienced Apprentices are prohibited from registering in  
2005 more than one (1) trade category in the same time period.

- 2007 5. An applicant for Apprentice or Experienced Apprentice Registration shall:  
2008  
2009 a. Register with the Board of Plumbing Examiners using the form approved  
2010 and provided by the Board. Said registration shall include the applicant's  
2011 name, Social Security Number, address, zip Code, age and telephone  
2012 number. The applicant shall also include on the application the name of  
2013 the licensed Master under which the applicant will be receiving training  
2014 and instructions.  
2015  
2016 b. Furnish a letter from a St. Louis City Master, licensed in the trade in  
2017 which he/she is registering confirming the apprentice's or experienced  
2018 apprentice's employment and previous experience and accepting responsibility for  
2019 training said apprentice.  
2020  
2021 c. Furnish a listing of all journeymen, apprentice and experienced apprentices  
2022 currently in the St. Louis City Master's employ by name and license or  
2023 registration number, or indicate no apprentices employed.  
2024  
2025 d. Proof of enrollment within six months of application in (This requirement  
2026 to become effective Jan 1, 2011):  
2027  
2028 1. (A) An applicable apprenticeship program certified by the Bureau of  
2029 Apprenticeship and Training of the United States Department of Labor  
2030 (BAT/ATELS); OR  
2031  
2032 (B) A Board approved equivalent apprenticeship program such as  
2033 classroom/laboratory training by Ranken Technical College, Vatterott  
2034 Educational Center, Jefferson College or Southwestern Illinois College or by  
2035 any school or organization approved, accredited or certified, as applicable, by:  
2036  
2037 (i) The Higher Learning Commission, a Commission of the North  
2038 Central Association of Colleges and Schools; or  
2039  
2040 (ii) The Accrediting Commission of Career Schools and Colleges of  
2041 Technology; or  
2042  
2043 (iii) The National Center for Construction Education and Research; or  
2044  
2045 (C) An applicable, integrated five (5) year combined classroom and field  
2046 training apprenticeship program that is conducted by any school or  
2047 organization approved, accredited or certified, as applicable, by:  
2048  
2049 (i) The Higher Learning Commission, a Commission of the North  
2050 Central Association of Colleges and Schools; or  
2051  
2052 (ii) The Accrediting Commission of Career Schools and Colleges of  
2053 Technology; or  
2054  
2055 (iii) The National Center for Construction Education and Research; or  
2056

2057 2. Presentation by the applicant or any Entity or organization of a written,  
2058 individual training program providing five (5) years combined of educational  
2059 training or classes and field work or on-the-job training obtained as follows:

2060  
2061 (A) At least 500 classroom hours of educational training or classes  
2062 covering work that requires a license under this Section as allowed by the  
2063 (Note to this subsection below) that is conducted by any combination of  
2064 schools or other organizations approved, accredited, or certified as applicable  
2065 by:

- 2066  
2067 (i) The Higher Learning Commission, a Commission of the North  
2068 Central Association of Colleges and Schools; or  
2069 (ii) The Accrediting Commission of Career Schools and Colleges of  
2070 Technology; or  
2071 (iii) The National Center for Construction Education and Research  
2072 and;

2073  
2074 (B) The balance of the required hours needed to equal five (5) years through  
2075 field work and/or on-the-job training under the supervision and inspection of  
2076 a Journeyman licensed under this Section to perform the work involved.

2077  
2078 **Note:** Within the total 500 classroom hours presented as part of any  
2079 individualized training program the individual program must contain a  
2080 minimum of 440 hours technical instruction in the installation, alteration,  
2081 reconstruction, repair, replacement and/or servicing of Plumbing Systems.

2082  
2083 (C) Applicants shall also have taken by St. Louis City, a full-face photograph or the  
2084 equivalent as determined by the Board, for identification purposes, and pay a  
2085 registration fee of Ten Dollars (\$25.00).

2086  
2087 6. Apprentices and Experience Apprentices shall, during the [first] month of July of  
2088 each year after registration, report their training and employment status to the Board.  
2089 Such report shall be on a form provided by the Board, shall list for the past year, (July 1  
2090 to June 30,) all employers, and period of time worked.

2091  
2092 **NOTE:** Failure to report this required information to the Board of Examiners  
2093 may cause the registration to be canceled.

2094  
2095 7. Any Master employing an apprentice and/or an experienced apprentice shall  
2096 advise the Board in writing immediately upon the commencement or termination of the  
2097 apprentice's employment. In addition by the last work day of July [January] of each year  
2098 the Master shall provide to the Board a list of each apprentice and/or experienced  
2099 apprentice in their employ as of June 30<sup>th</sup> [December 31<sup>st</sup>] of the prior month .

2100  
2101 8. The total number of apprentices and experienced apprentices employed by a  
2102 Master at any given time shall not exceed the total number of licensed Journeyman  
2103 employed at that time plus one (1) additional apprentice or experienced apprentice for  
2104 each active Master. In times of work shortages, upon application, consideration may be  
2105 given by the Board of Plumbing Examiners to a St. Louis City licensed Master or JATC  
2106 which supervises the training of apprentices, to waive this rule with the intention of  
2107 maintaining training of previously registered apprentices.

February 24, 2012

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Board Bill No. 293 Introduced by: Alderman Gregory Carter

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*Change 111.11 and 111.11.1 to read as follows:*

**111.11 Interim Journeyman License:**

In the event the Board of Plumbing Examiners determines that a shortage of licensed Journeymen in a particular trade exists in St. Louis City, an Interim Journeyman License for that trade may be granted.

A. An applicant for an Interim Journeyman License for that trade may be granted to a person whose most recent residence and employment as a journeyman or apprentice was more than 125 miles from the St. Louis City courthouse and who has previously registered and is currently registered as an apprentice working under a bonded St. Louis City Licensed Master in that trade and who meets all the practical experience and training qualifications required by this Code for license as a Journeyman in that trade, and by the applicants choice has not passed the required written examination. Applicants for an Interim Journeyman License shall submit a written application to the Board and pay the same fee(s) as an applicant for a regular Journeyman License.

B. Interim Journeyman licenses shall expire one year after the date of issuance and are non-renewable. A person who's Interim Journeyman License has expired is not eligible to apply for another Interim Journeyman license in that trade.

C. An Interim Journeyman license may be upgraded to a regular Journeyman license by passing the appropriate examination. Applicant for the appropriate examination must apply for issuance of the exam credentials during the term of the Interim License. If the Interim license has expired, a new application must be made to the Board. The Board will accept the previous review of qualification for experience and training unless there is information that the previous review considered information that was falsified or otherwise invalid.

D. An interim Journeyman License may not be used to qualify the number of Apprentices that may be approved for an entity employing Journeymen.

111.11.1 The intent of this section is that candidates meet the approval of the Board of Plumbing Examiners as having the experience requirements for each license for which an application has been reviewed by this Board of Plumbing Examiners, and in addition successfully pass an examination designed or selected by the Board of Examiners. The order of obtaining approval from the Board or in acquiring a passing grade does not remove the requirement that both are obtained.

2159 *Add 111.11.2 to read as follows:*

2160

2161 **111.11.2 Interceptors (Separators) – Registration, Maintenance and**  
2162 **Inspection Required.**

2163

2164 1. Upon adoption of Rules and Regulations by The Metropolitan St. Louis Sewer  
2165 District, MSD, for inspections of existing interceptors to be scheduled annually, the  
2166 Building Commissioner and/or the Code Official is authorized to enter into a contract  
2167 with MSD for record keeping of such inspections per the requirements of this section.

2168 2. Interceptors, including but not limited to grease interceptors, oil  
2169 interceptors/separators, installed in accordance with this code shall be inspected and  
2170 certified as to proper maintenance and operation annually, by persons who are properly  
2171 licensed Plumbers pursuant to this Code. The owner/user shall maintain all interceptors  
2172 in proper working condition.

2173 3. The owner of these devices shall maintain a written record of interceptor maintenance  
2174 for two years. All such records shall be available at all times and shall be submitted to  
2175 the inspector at the inspector's request. These records shall contain the date of inspection  
2176 or maintenance, name of the person performing the inspection or maintenance, and the  
2177 manager's signature or initials for verification.

2178 (A). Hydromechanical grease interceptors shall be cleaned as required by use  
2179 and as required by the manufacturer, but at intervals not longer than ninety (90) days at  
2180 the owners/users expense. Gravity Grease interceptors and Oil and sand interceptors  
2181 shall be cleaned as required by use, but at intervals not longer than one hundred eighty  
2182 (180) days. Interceptors shall be kept free of inorganic solid materials such as grit, rocks,  
2183 gravel, sand, eating utensils, cigarettes, shells, towels, rags, etc., which could settle into  
2184 the interceptor and thereby reduce the effective volume. The use of biological chemicals  
2185 as a grease degradation agent is conditionally permissible upon written approval of the  
2186 Chief Plumbing Inspector. Any establishment using this method shall maintain the  
2187 interceptor in such a manner that abatement from the interceptor's outlet is consistently  
2188 attained.

2189 (B). The results of such inspections shall be submitted to the Office of  
2190 Plumbing and Sewer Inspection, within thirty (30) days after making such test, on a form  
2191 which is acceptable to the Code Official, and shall be completed and signed by the tester.  
2192 A copy shall also be provided at time of inspection, or an appropriate sticker shall be  
2193 applied to maintenance records posted in the location of the device.

2194 (C). The Office of Plumbing and Sewer Inspection shall maintain all records  
2195 of inspections performed in accordance with the Code requirements and notify all owners  
2196 when retesting is required. Violation notices shall be issued and notification shall be sent  
2197 to the Health Department and MSD, for failure to perform or register the required test.

2198 (D). The fee for such notification, record maintenance and registration shall  
2199 be ten dollars (\$10) per each inspection report submitted. Fees shall be paid by the  
2200 employing Master in a manner approved by the Code Official, at the time the test report  
2201 is submitted by the device tester to the Office of Plumbing and Sewer Inspection.

2202

2203 (E). Installations of grease and oil interceptors/clarifiers by persons who are  
2204 properly licensed pursuant to this Code as a Plumber and certified by the Board of  
2205 Plumbing Examiners for this inspection.

2206  
2207 (F). Inspections of grease and oil interceptors/clarifiers by persons who are  
2208 properly licensed pursuant to this Code as a Plumber and certified by the Board of  
2209 Plumbing Examiners for this inspection.

2210 (G) This provision shall take effect no later than one year and no sooner than  
2211 ninety (90) days after the final adoption of this ordinance and the adoption of  
2212 regulations requiring such inspections by MSD.

2213

2214 **111.12 Certification for homeowner's permit.** A homeowner that is found qualified by  
2215 the Board of Examiners shall be allowed to do plumbing work on an owner-occupied  
2216 single family dwelling under the following conditions:

2217

- 2218 1. The homeowner shall reside in the one-family dwelling and present proof  
2219 of ownership to the Board of Examiners;
- 2220 2. Such plumbing work shall be done by the homeowner and used  
2221 exclusively by the homeowner and the homeowner's family;
- 2222 3. Homeowners making plumbing repairs on a one-family dwelling for rental  
2223 or sale purposes are in violation of this section.
- 2224 4. The applicant shall complete application provided by the Section of  
2225 Plumbing Regulations and Inspections and pay the application fee shown  
2226 in Table 111.
- 2227 5. The Board of Examiners shall allow the homeowner to take the  
2228 homeowner examination only once. If the homeowner fails to qualify by  
2229 obtaining a passing score, the homeowner shall not be permitted to take  
2230 the examination again for one year and the plumbing work must be done  
2231 by certified individuals.
- 2232 6. If the homeowner qualifies, the Board of Examiners shall certify the  
2233 homeowner to work on the specified owner-occupied one family dwelling.  
2234 This certification shall be valid for two (2) years only at the address listed  
2235 on the application.
- 2236 7. The homeowner with this certification shall be allowed to obtain one  
2237 permit at a time for up to four (4) plumbing fixtures. Only one permit for  
2238 a homeowner shall be open at any time. Plumbing permits for  
2239 homeowners may not be extended beyond six (6) months. Any open  
2240 permit shall be revoked when the homeowner's certification expires. The  
2241 homeowner shall not be permitted to do work outside of the building.
- 2242 8. After the homeowner's certification has expired, the homeowner may re-  
2243 apply and re-test for a new certification.

2244

2245 **111.13 Powers of the Board to suspend or revoke licenses.**

2246

2247 Upon receipt of a written complaint to the Board filed by the Code Official, or the  
2248 Building Commissioner or any aggrieved person, or upon the Board's own motion, the  
2249 Board shall make an investigation into the complaint which it may deem necessary and  
2250 thereafter shall conduct a hearing upon such complaint.

2251

2252 Add 111.13.1 to read as follows:

2253

2254 **111.13.1 Reasons for suspension or revocation of licenses.**

2255 The Board of Examiners shall have the power to suspend or revoke any license,  
2256 registration, or certificate issued pursuant to this Code for cause. Although such actions  
2257 may be based upon causes other than those enumerated, the following are declared to be  
2258 adequate causes for suspension or revocation.

2259

2260 The following offenses shall be cause for a hearing on a master plumber's, master  
2261 drainlayer's or journeyman plumber's license:

2262 1. If the license holder has obtained same by fraud or  
2263 misrepresentation, that license shall be immediately revoked;

2264 2. The license holder has intentionally violated any of the provisions  
2265 of this section or any other portion of this code;

2266 3. The license holder is found to be negligent, unskilled, and  
2267 unfaithful in their work or found to be unfit, incompetent, or  
2268 untrustworthy in the work of plumbing or drainlaying.

2269 4. The license holder has been convicted of a crime or of violating an  
2270 Ordinance involving moral turpitude;

2271 5. The licensed master plumber has intentionally employed an  
2272 unlicensed person to perform plumbing work covered by this code;

2273 6. The licensed master plumber has directed apprentices to work  
2274 without the supervision of a licensed journeyman or licensed  
2275 master plumber;

2276 7. The licensed master plumber or licensed master drainlayer has  
2277 obtained permits for individuals who are not in their employ or  
2278 under their supervision;

2279 8. The licensed master plumber or licensed master drainlayer has  
2280 allowed anyone to enter an excavation that has not been properly  
2281 shored.

2282 9. Disciplinary action against the holder of a license or certificate of  
2283 authority, or other right to practice any profession regulated by this  
2284 chapter granted by another state, territory, federal agency, or  
2285 country upon grounds for which revocation or suspension is  
2286 authorized in this Code;

2287 10. The suspension or revocation of a Master or Journeyman license  
2288 by any jurisdiction;

2289 11. A revoked license, registration, or certification may be reinstated  
2290 by order of the Board only upon application and examination, if  
2291 required, and in the same manner as provided for new applicants.

2292 12. Upon suspension and or revocation the license holder is to  
2293 surrender his/her license(s) at the close of the Board of Plumbing  
2294 Examiners hearing.

2295

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2301

2302 **111.13.2 Notice of hearing.** Within seventy-five (75) days after the filing of a  
2303 written complaint at a Board meeting, a notice of hearing shall be sent to the  
2304 license holder. The notice shall be served to the last known address by certified  
2305 mail, return receipt requested, at least ten (10) calendar days prior to any  
2306 scheduled hearing and shall include:

- 2307 1. A statement of the time, place, and nature of the hearing;
- 2308 2. A reference to the particular section(s) of the code and rules  
2309 involved;
- 2310 3. A short, plain statement of the complaint and a statement of the  
2311 issues before the Board;
- 2312 4. A statement that the nature of the proceeding before the Board will  
2313 be an informal inquiry into the complaint, at which time an  
2314 opportunity will be afforded the individual or contractor to respond  
2315 to the allegations in the complaint by his/her testimony, the  
2316 testimony of witnesses, or by documentary evidence;
- 2317 5. A statement that the individual or contractor has a right to be  
2318 represented by legal counsel; and
- 2319 6. A statement that based upon the evidence presented at the hearing,  
2320 the Board may suspend or revoke the homeowner's, apprentices,  
2321 journeymen, or master's license.

2322  
2323 **111.13.3 Determining vote.** A decision to suspend or revoke a journeyman's or  
2324 master's license shall require the concurring vote of at least three (3) of the five  
2325 (5) members of the Board.

2326  
2327 **111.13.4 Decisions of the Board are final unless appealed.** All rulings or  
2328 decisions of the Board of Examiners shall become final and binding upon all  
2329 parties thereto unless appealed to the Board of Building Appeals as provided for  
2330 in the Building Code.

2331  
2332 **111.13.5 Enforcement stayed.** If the decision of the Board of Examiners is  
2333 appealed to the Board of Building Appeals, enforcement of any ruling or decision  
2334 by the Board shall be stayed until the Board of Building Appeals has rendered its  
2335 decision.

2336  
2337 *Add 111.13.6 to read as follows:*

2338  
2339 **111.13.6 Authority of Board of Plumbing Examiners to levy fines.**

2340  
2341 Any person or entity that violates any provision of the Code shall be guilty of a  
2342 Class A Misdemeanor.

2343  
2344 The Board of Plumbing Examiners (Board) shall have the authority to take  
2345 disciplinary action as set out in the Code and impose civil penalties, not to exceed  
2346 one thousand dollars (\$1,000.00), per offense, if the Board finds, after notice to  
2347 the individual and a hearing on the matter, that the individual or entity has  
2348 violated any provision of the Code.

2349  
2350 In determining the amount of penalty to be imposed, the Board may consider both  
2351 any mitigating circumstances and the severity of the violation in relation to the  
2352 deterrent value of the fine.

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Any final order imposing a civil penalty is subject to appeal or review as specified in section 110.1.

Payment of a civil penalty shall be made within thirty (30) days after the decision of the Board, pending an appeal. Failure to pay a civil penalty by any person licensed under this Code shall be grounds for non-renewal or denial of reinstatement of a license. In addition, action will be taken against any bonds which may exist to obtain payment of civil penalty.

**111.14 Hardship Clause.** In the event of a loss of a Master Licensee to a company employing tradesmen licensed in the City of Saint Louis, through no fault of that company, a licensed Journeyman of the trade of the absent Master Licensee; or in the event of the loss of a Master Drainlayer to a company through no fault of that company, a person who would otherwise be eligible to qualify as a Master Drainlayer in the trade of the absent Master Drainlayer; and who shall be a full time employee of that company, shall be designated as an Interim Master after meeting all bonding and insurance requirements. That company may operate under an Interim Master, who will have the same rights, responsibilities and standing of a Master in that trade, for a period of not more than one (1) year from the date of the hardship. The Code Official shall determine judgment of fault.

Disagreement of judgment may be appealed to the Board of Examiners who shall hold an emergency hearing no later than fourteen (14) calendar days following the date the appeal is received by the Board Secretary. The decision of the Board involving a hardship clause is appealable in the same manner as other decisions of the Board. Additional appeals may be made pursuant to the procedures in Section 110 of this Code

## SECTION 112 BOARD OF EXAMINERS FOR SPRINKLER SYSTEM CONTRACTORS

*Change 112.1 to read as follows:*

**112.1 How constituted.** The Mayor, with the approval of the Board of Aldermen, shall appoint one (1) licensed employing sprinkler contractor, one (1) registered professional engineer with experience in fire suppression sprinkler system design and one (1) licensed journeyman sprinkler fitter. Each of whom shall be a resident of the City of St. Louis or a resident of St. Louis County, each of whom shall be a United States citizen, and each of whom shall have been actively engaged at the trade or business of sprinkler systems for five (5) years in the Saint Louis metropolitan area. These three members, together with the Fire Marshal or the Fire Marshal's appointed representative, and the Building Commissioner or the Building Commissioner's appointed representative, shall constitute the Board of Examiners.

2403 **112.2 Term of office, compensation.** The members of the Board of Examiners, except  
2404 the Fire Marshal or the Fire Marshal’s appointed representative, and the Building  
2405 Commissioner or the Building Commissioner’s duly appointed representative, shall hold  
2406 office for a term of four (4) years or until their successors are duly qualified, unless  
2407 removed by the Mayor. They shall, except for the Fire Marshal or the Fire Marshal’s  
2408 appointed representative, and the Building Commissioner or the Building  
2409 Commissioner’s duly appointed representative, receive compensation for their services,  
2410 as provided by separate ordinance on a per-meeting basis.

2411  
2412 **112.3 Meetings.** Three (3) members of the Board in attendance shall constitute a  
2413 quorum. An affirmative vote of three (3) board members is necessary for the approval of  
2414 any motion. The Board shall elect one of its members to be the chairman. Suitable  
2415 quarters for the use of the Board of Examiners shall be provided by the Building  
2416 Division.

2417  
2418 *Add 112.4.7 to read as follows:*

2419  
2420 **112.4 Powers and duties of the Board of Examiners.** It shall be the duty of the Board  
2421 of Examiners to meet as often as necessary to: hear and determine any charges or  
2422 complaints which may be lawfully made against any licensed sprinkler contractor or  
2423 licensed journeyman sprinkler fitter; approve apprentice applications; and transact any  
2424 other lawful business of the Board. Meetings may be held at the request of the chairman  
2425 of the board. Suitable quarters for the use of the Board of Examiners shall be provided.

- 2426 1. Administration – The Board of Examiners shall receive applications and  
2427 after review they shall approve or deny them based on Sections 112.8,  
2428 112.9 and 112.10.
- 2429 2. Test – The Board of Examiners shall prescribe the administration, form  
2430 and content of tests for journeyman sprinkler fitters and sprinkler fitter  
2431 contractors and the form and content of licenses as described herein. The  
2432 Board of Examiners shall also determine the passing grade for each test.
- 2433 3. Complaints – All complaints by citizens concerning sprinkler fitting  
2434 procedures or rules and regulations shall be made to the Board of  
2435 Examiners in writing. After a thorough investigation, the Board shall  
2436 respond in writing to each complaint.
- 2437 4. Adoption of Rules – The Board of Examiners shall adopt rules and  
2438 regulations, when and as required at the discretion of the Board, consistent  
2439 with the provisions of this ordinance and the laws of the City of Saint  
2440 Louis, related to the Board’s powers and duties as herein stated. Such  
2441 rules and regulations adopted by the Board shall be posted in the Section  
2442 of Plumbing Regulations and Inspections for two weeks prior to becoming  
2443 effective.
- 2444 5. Inspection – Order the inspection of any sprinkler system whenever  
2445 deemed necessary for the public safety.
- 2446 6. Revocation/Suspension of Licenses – After investigation and hearings in  
2447 accordance with Section 112.11, the Board may revoke or suspend any  
2448 license that it has issued.

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2453 7. The Board shall, pursuant to the regulations and standards herein set forth,  
2454 determine the qualifications of and provide for the examining, licensing,  
2455 registration and/or certification of applicants who meet the qualifications  
2456 and successfully pass the appropriate examinations, if required, under this  
2457 code. Evidence of license "The License" shall be provided to those who  
2458 meet the qualifications and successfully pass the appropriate examination,  
2459 or successfully meet all requirements of renewal of the license. This  
2460 evidence of license "The License" shall remain the property of St. Louis  
2461 City and shall be surrendered immediately when demanded under  
2462 conditions listed elsewhere in this document.

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*Add 112.4.1 to read as follows:*

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**112.4.1 Inactive license.** Any licensed person who is not working at his/her licensed trade and who desires to retain his/her license may do so by notifying the Board of Sprinkler Fitter Examiners that he/she wishes to be placed in inactive status. Such notice shall be in writing and shall state that the license holder is not working at his/her licensed trade, wishes to be placed in inactive status, understands that he/she is prohibited from working while inactive and agrees to notify the Board to activate his/her license prior to resuming work. It shall be a Violation of this Code for a license holder to perform work in his/her license category while in inactive status remain the property of St. Louis City and shall be surrendered immediately when demanded under conditions listed elsewhere in this document.

The Board shall respond in writing to the license holder in each inactivation or reactivation action and each such action shall be noted in the Board minutes. An inactive license shall be issued stating the license number and type, which is inactive. This inactive license shall be valid for a period of ten (10) years. Three (3) months prior to the expiration date, the department shall notify the holder at his last known address, the date that his inactive license will expire so that it can be renewed at the holder's request and payment of fees and other requirements of the Board.

It is the responsibility of the Inactive License holder to notify the Board of any license change or change in address. Maintenance of any other license will be equivalent to notifying the Board of address change.

License holders in inactive status, who renew their licenses, are not required to accrue continuing education course hours, as a condition of renewal. However, they are required to accrue the minimum continuing education hours for any prior year or any part thereof in which their license was active.

**112.5 Secretary of the board, duties.** The Code Official or his duly appointed representative shall act as Secretary to the Board of Examiners. The Secretary of the Board shall be nonvoting. It shall be the duty of the Secretary to:

1. Keep full and complete records of the proceedings of said Board;
2. Keep a file of the name, residence and place of business of every licensed person engaged in or working at the business of sprinkler fitting in the City of Saint Louis (these records shall be updated within ninety days of the renewal period stated in Section 112.6);

- 2504 3. Give all applicants for examination a written notice of the date and place  
2505 of examination. The Secretary shall give the applicant an informational  
2506 letter on examination procedures with an outline of suggested study for the  
2507 examination applied for;  
2508 4. Return all incomplete applications to the applicants;  
2509 5. All records shall be open to supervised public inspection during normal  
2510 working hours, subject to staff availability. Test questions and answers  
2511 shall not be open to the public.  
2512

2513 *Change 112.6 and 112.6.1 to read as follows:*  
2514

2515 **112.6 Renewal date for licenses.** The renewal of all licenses for sprinkler contractors  
2516 and journeyman sprinkler fitters shall be due on one date, December 31, 2009, and every  
2517 three (3) years thereafter. Licenses shall be renewed up to one hundred twenty (120)  
2518 days prior to but not more than thirty (30) days after the license, registration or  
2519 certification expires. Following the grace period, any sprinkler contractor or journeyman  
2520 sprinkler fitter that has not renewed shall be required to re-apply and re-test in order to  
2521 obtain a new license at the discretion of the Board of Examiners.  
2522

2523 **112.6.1 Licenses obtained between renewal dates.** Any new license issued  
2524 more than thirty days prior to the renewal date shall expire on the renewal date.  
2525 There shall be prorating of license fees.  
2526

2527 **112.6.2 Failure of sprinkler contractor to renew.** The failure of any sprinkler  
2528 contractor to renew their license during the grace period shall terminate their  
2529 license, and no permit for doing work under this or any other ordinance of the  
2530 City of Saint Louis shall be issued them until after they have obtained a new  
2531 license following re-application and re-testing (if necessary), and they shall be  
2532 disqualified from carrying on any work authorized to be done under any permit  
2533 theretofore issued to them or any job unfinished at the date of termination of their  
2534 license.  
2535

2536 *Add 112.7 to read as follows:*  
2537

2538 **112.7 Inactive license.** Any licensed person who is not working at his/her licensed trade  
2539 and who desires to retain his/her license may do so by notifying the Board of Plumbing  
2540 Examiners that he/she wishes to be placed in inactive status. Such notice shall be in  
2541 writing and shall state that the license holder is not working at his/her licensed trade,  
2542 wishes to be placed in inactive status, understands that he/she is prohibited from working  
2543 while inactive and agrees to notify the Board to activate his/her license prior to resuming  
2544 work. It shall be a Violation of this Code for a license holder to perform work in his/her  
2545 license category while in inactive status. The license holder must maintain an active  
2546 journeyman sprinkler fitter license.  
2547

2548 *Change 112.8 number 8 to read as follows:*  
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2550 **112.8 License as a sprinkler contractor.** An applicant shall successfully complete all of  
2551 the following requirements in order to receive a license as a sprinkler contractor:

- 2552 1. Applicant shall be twenty-one (21) years of age.

- 2553 2. Applicant shall complete application provided by the Section of Plumbing  
2554 Regulations and Inspections and pay the application fee shown in Table  
2555 111.
- 2556 3. Applicant shall have served a five (5) year apprenticeship and have five  
2557 (5) years' experience as a certified sprinkler fitter or the applicant shall  
2558 have ten (10) years' experience as a certified sprinkler fitter. (Five years  
2559 of experience consists of a minimum of 8,500 working hours with a  
2560 maximum of 1,700 working hours considered for any one year.)  
2561 Equivalent training and experience shall also be considered. Equivalent  
2562 training and experience shall mean a degree in engineering from an  
2563 accredited university in which the applicant shall have received training in  
2564 the design of sprinkler system design, planning and installation of same,  
2565 and has had three (3) years of experience in the design, planning and  
2566 installation of sprinkler systems, and must be a registered professional  
2567 engineer licensed to practice in the State of Missouri.
- 2568 4. Applicant's credentials shall be reviewed by the Board of Examiners as to  
2569 qualifications and experience. The applicant shall provide proof of  
2570 knowledge, training and experience through transcripts from educational  
2571 institutions, apprenticeship agreements, reference letters from employers  
2572 and other documents as requested by the Board of Examiners.
- 2573 5. The Secretary of the Board shall arrange a testing date with the approved  
2574 applicant. The Secretary shall also give the applicant an informational  
2575 letter on the examination procedures with an outline of suggested study for  
2576 the examination. The applicant shall schedule the test within ninety (90)  
2577 days of approval. The applicant is responsible for all testing fees.
- 2578 6. Applicant shall successfully complete the written examination and receive  
2579 a passing grade on all parts of the examination.
- 2580 7. Applicant shall be notified in writing by the Secretary of the Board of the  
2581 examination results. Applicants that pass shall be notified to come to the  
2582 Section of Plumbing Regulations and Inspection and obtain their license.  
2583 Applicants that have failed the examination for the first time shall be  
2584 notified that they may schedule a re-take of the examination after ninety  
2585 (90) days. Applicants that have failed the examination for a second time  
2586 shall be notified that they may schedule a re-take of the examination after  
2587 an additional one hundred eighty (180) days. Applicants that have failed  
2588 the examination for a third time shall wait a minimum of twelve (12)  
2589 months before re-application and re-testing. The applicant is responsible  
2590 for all application and testing fees.
- 2591 8. Successful applicant shall bring a 3/4" by 3/4" color photograph and/or  
2592 bring a digital picture, a certificate of liability insurance for bodily injury  
2593 and property damage in the amount of at least one million dollars  
2594 (\$1,000,000) naming the applicant as an additionally insured, and the  
2595 license fee required by Table 111 to the Section of Plumbing Regulations  
2596 and Inspections in order to be issued a license as a sprinkler contractor.  
2597 No journeyman sprinkler fitter shall be allowed to hold a sprinkler  
2598 contractor license. When a journeyman sprinkler fitter qualifies as a  
2599 sprinkler contractor, the journeyman must relinquish the journeyman  
2600 sprinkler fitter's license to the Board of Plumbing Examiners before a  
2601 sprinkler contractor's license can be issued.  
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2603 *Change 112.9 number 3 and 9 to read as follows:*

February 24, 2012

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Board Bill No. 293 Introduced by: Alderman Gregory Carter

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**112.9 License as a journeyman sprinkler fitter.** An applicant shall successfully complete all of the following requirements in order to receive a license as a journeyman sprinkler fitter:

1. Applicant shall be twenty-one (21) years of age.
2. Applicant shall complete application provided by the Section of Plumbing Regulations and Inspections and pay the application fee shown in Table 111.
3. Applicant shall have a minimum of five (5) years experience as an apprentice in the installation of sprinkler systems under the direct personal and immediate supervision of a licensed journeyman sprinkler fitter or licensed sprinkler contractor in the City of St. Louis, or have a license issued by another licensing authority in another jurisdiction, or equivalent training and experience prior to the date of the examination. (Five years of experience consists of a minimum of 8,500 hours with a maximum of 2,000 working hours considered for any one year.) The applicant shall receive a one (1) year credit toward their five (5) year apprenticeship training when presenting a certificate of completion from a trade or technical school recognized by the Board of Examiners. Any applicant living within one hundred (100) miles of the limits of the City of Saint Louis must have held a valid apprentice sprinkler fitter registration for five (5) years.
4. The applicant shall provide proof of knowledge, training and experience through transcripts from educational institutions, apprenticeship agreements, letters of reference from employers and any other documents requested by the Board of Examiners.
5. Applicant's qualifications shall be reviewed by the Board of Examiners for approval to take the written examination.
6. The Secretary of the Board shall arrange a testing date with the applicant. The Secretary shall also give the applicant an informational letter on the examination procedures with an outline of suggested study for the examination. The applicant shall schedule the test within ninety (90) days of approval. The applicant is responsible for all testing fees.
7. Applicant shall successfully complete the written examination and receive a passing grade on all parts of the examination.
8. Applicant shall be notified in writing by the Secretary of the Board of the examination results. Applicants that pass shall be notified to come to the Section of Plumbing Regulations and Inspection and obtain their license. Applicants that have failed the examination for the first time shall be notified that they may schedule a re-take of the examination after ninety (90) days. Applicants that have failed the examination for a second time shall be notified that they may schedule a re-take of the examination after an additional one hundred eighty (180) days. Applicants that have failed the examination for a third time shall wait a minimum of twelve (12) months before re-application and re-testing. The applicant is responsible for all application and testing fees.
9. Successful applicant shall bring a 3/4" by 3/4" color photograph and/or a digital picture and the license fee required in Table 111 to the Section of Plumbing Regulations and Inspections in order to be issued a license as a journeyman sprinkler fitter.

2655 *Change 112.10 to read as follows:*

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2657 **112.10 Registration as an apprentice sprinkler fitter.** Every applicant learning the  
2658 business or trade of sprinkler fitting within the City of Saint Louis, shall be registered by  
2659 the Board of Examiners and shall receive a registration from the Board of Examiners with  
2660 “Apprentice” plainly marked on it, their name and the date issued and a color or digital  
2661 picture. The registration fee for an Apprentice shall be as prescribed in Table 111 and the  
2662 registration will be issued for a five (5) year period.

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2664 The apprentice’s employer shall furnish a notarized letter to the Board of  
2665 Examiners naming all journeyman sprinkler fitters and all apprentice sprinkler fitters in  
2666 his/her employment. The sprinkler system contractor shall employ at least one licensed  
2667 journeyman sprinkler fitter for each apprentice sprinkler fitter.

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2669 An apprentice who is undergoing an apprenticeship or course of training for the  
2670 purpose of learning the trade of sprinkler fitting shall perform no work regulated by this  
2671 code or its amendments thereto, except as an assistant, under the direct personal and  
2672 immediate supervision of a journeyman sprinkler fitter or sprinkler contractor licensed  
2673 under the terms and provisions of this code.

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2675 The apprentice registration shall not be renewed. Upon written application, the  
2676 apprentice shall be allowed to be extended his registration for a maximum of six (6)  
2677 months if the apprentice has been approved to take the journeyman sprinkler fitter  
2678 examination as prescribed in Section 112.8. It shall be mandatory for an Apprentice  
2679 sprinkler fitter, on the completion of their five (5) year training period, to make  
2680 application for the journeyman sprinkler fitter’s examination.

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2682 **112.11 Powers of the Board to suspend or revoke licenses.** Upon receipt of a written  
2683 complaint to the Board filed by the Building Commissioner or any aggrieved person, or  
2684 upon the Board’s own motion, the Board shall make an investigation into the complaint  
2685 which it may deem necessary and thereafter shall conduct a hearing upon such complaint.

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2687 *Add 112.11.1 numbers 8 through 11 to read as follows:*

2688

2689 **112.11.1 Reasons for suspension or revocation of licenses.** The following  
2690 offenses shall be cause for a hearing on a sprinkler contractor’s or journeyman  
2691 sprinkler fitter’s license:

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- 2693 1. If the license holder has obtained same by fraud or  
2694 misrepresentation, that license shall be immediately revoked;
- 2695 2. The license holder has intentionally violated any of the provisions  
2696 of this section or any other portion of this code or the fire code;
- 2697 3. The license holder is found to be negligent, unskilled and  
2698 unfaithful in their work or found to be unfit, incompetent or  
2699 untrustworthy in the work of sprinkler fitting;
- 2700 4. The license holder has been convicted of a crime or of violating an  
2701 Ordinance involving moral turpitude;
- 2702 5. The licensed sprinkler contractor has intentionally employed an  
2703 unlicensed person to perform sprinkler fitting work covered by this  
2704 code;
- 2705 6. The licensed sprinkler contractor has directed apprentices to work  
without the supervision of a licensed journeyman sprinkler fitter.

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7. The licensed sprinkler contractor has obtained permits for individuals who are not in their employ and under their supervision.
  8. Disciplinary action against the holder of a license or certificate of authority, or other right to practice any profession regulated by this chapter granted by another state, territory, federal agency, or country upon grounds for which revocation or suspension is authorized in this Code;
  9. The suspension or revocation of a Contractor, Master or Journeyman license by any jurisdiction;
  10. A revoked license, registration, or certification may be reinstated by order of the Board only upon application and examination, if required, and in the same manner as provided for new applicants.
  11. Upon suspension and or revocation the license holder is to surrender his/her license(s) at the close of the Board of Sprinkler Fitter Examiners hearing.

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**112.11.2 Notice of hearing.** Within seventy-five (75) calendar days after the filing of a written complaint at the Board meeting, a notice of hearing shall be sent to the license holder. The notice shall be served to the last known address by certified mail, return receipt requested, at least ten (10) days prior to any scheduled hearing and shall include:

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1. A statement of the time, place and nature of the hearing;
  2. A reference to the particular section(s) of the code and rules involved;
  3. A short, plain statement of the complaint and a statement of the issues before the Board;
  4. A statement that the nature of the proceeding before the Board will be an informal inquiry into the complaint, at which time an opportunity will be afforded the individual or contractor to respond to the allegations in the complaint by his/her testimony, the testimony of witnesses, or by documentary evidence;
  5. A statement that the journeyman sprinkler fitter or sprinkler contractor has a right to be represented by legal counsel; and
  6. A statement that, based upon the evidence presented at the hearing, the Board may suspend or revoke the apprentice's, journeyman sprinkler fitter's or sprinkler contractor's license.

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**112.11.3 Determining vote.** A decision to suspend or revoke an apprentice's, a journeyman sprinkler fitter's or a sprinkler contractor's license shall require the concurring vote of at least three (3) members of the Board.

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**112.11.4 Decisions of the Board are final unless appealed.** All rulings or decisions of the Board of Examiners shall become final and binding upon all parties thereto unless appealed to the Board of Building Appeals as provided for in the Building Code.

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**112.11.5 Enforcement stayed.** If the decision of the Board of Examiners is appealed to the Board of Building Appeals, enforcement of any ruling or decision by the Board shall be stayed until the Board of Building Appeals has rendered its decision.

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*Add 112.11.6 to read as follows:*

**112.11.6 Authority of Board of Plumbing Examiners to levy fines.**

Any person or entity that violates any provision of the Code shall be guilty of a Class A Misdemeanor.

The Board of Sprinkler Fitter Examiners (Board) shall have the authority to take disciplinary action as set out in the Code and impose civil penalties, not to exceed one thousand dollars (\$1,000.00), per offense, if the Board finds, after notice to the individual and a hearing on the matter, that the individual or entity has violated any provision of the Code.

In determining the amount of penalty to be imposed, the Board may consider both any mitigating circumstances and the severity of the violation in relation to the deterrent value of the fine.

Any final order imposing a civil penalty is subject to appeal or review as specified in section 112.11.4.

Payment of a civil penalty shall be made within thirty (30) days after the decision of the Board, pending an appeal. Failure to pay a civil penalty by any person licensed under this Code shall be grounds for non-renewal or denial of reinstatement of a license. In addition, action will be taken against any bonds which may exist to obtain payment of civil penalty.

**112.12 Hardship Clause.** In the event of a loss of a Master Licensee to a company employing tradesmen licensed in the City of Saint Louis, through no fault of that company, a licensed Journeyman of the trade of the absent Master Licensee and who shall be a full time employee of that company, shall be designated as an Interim Master after meeting all bonding and insurance requirements. That company may operate under an Interim Master, who will have the same rights, responsibilities and standing of a Master in that trade, for a period of not more than one (1) year from the date of the hardship. The Code Official shall determine judgment of fault.

Disagreement of judgment may be appealed to the Board of Examiners who shall hold an emergency hearing no later than fourteen (14) calendar days following the date the appeal is received by the Board Secretary. The decision of the Board involving a hardship clause is appealable in the same manner as other decisions of the Board. Additional appeals may be made pursuant to the procedures in Section 110 of this Code.

**SECTION 113  
COMMITTEE OF PLUMBING REVIEW**

*Change 113.1, 113.3, 113.4 to read as follows:*

**113.1 How constituted.** The Mayor, with the approval of the Board of Aldermen, shall appoint one (1) registered professional engineer or a practicing plumbing designer holding a Certified in Plumbing Design Certificate, CPD, issued by the American Society of Plumbing Engineers who has actually engaged in the design of plumbing or sanitary or sewer systems may be appointed as a substitute for the position held by the Registered

2808 Engineer engaged in the design of plumbing and sanitary systems, one (1) licensed City  
2809 of St. Louis master plumber, one (1) licensed City of St. Louis master drainlayer, one (1)  
2810 licensed City of St. Louis journeyman plumber, and one (1) member at large. Each of  
2811 whom shall be a resident of the City of St. Louis or a resident of St. Louis County, each  
2812 of whom shall be a United States Citizen, and each of whom shall have been actively  
2813 engaged at the trade or business of plumbing systems for five (5) years in the Saint Louis  
2814 metropolitan area, except for the member at large. These five members, together with the  
2815 Plumbing Supervisor or the Plumbing Supervisor's duly appointed representative, shall  
2816 constitute the Committee of Plumbing Review.

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2818 **113.2 Term of office, compensation.** The members of the Committee of Plumbing  
2819 Review, except the Plumbing Supervisor or the Plumbing Supervisor's duly appointed  
2820 representative, shall hold office for a term of four (4) years or until their successors are  
2821 duly qualified, unless removed by the Mayor. They shall, except for the Plumbing  
2822 Supervisor or the Plumbing Supervisor's duly appointed representative, receive  
2823 compensation for their services, as provided by separate ordinance on a per-meeting  
2824 basis.

2825

2826 **113.3 Meetings.** Three (3) members of the Committee in attendance shall constitute a  
2827 quorum. A majority vote of the board members is necessary for the approval of any  
2828 motion. The Committee shall elect one of its members to be the chairman on an annual  
2829 basis. The Plumbing Supervisor or the Plumbing Supervisor's duly appointed  
2830 representative shall be the Committee's secretary. Suitable quarters for the use of the  
2831 Committee of Plumbing Review shall be provided by the Building Division. The  
2832 Committee shall meet a minimum of three (3) times per year. Additional meetings may  
2833 be called at the request of any Committee member.

2834

2835 **113.4 Powers and duties of the Committee of Plumbing Review.** It shall be the duty  
2836 of the Committee of Plumbing Review to consider all proposed changes in this code  
2837 relative to the use, adoption, or incorporation of any plumbing materials, or the method of  
2838 construction or installation of plumbing when referred to the Committee by the code  
2839 official. The Committee shall consider any petition for the adoption or incorporation of  
2840 any plumbing materials or methods of construction or installation of plumbing referred to  
2841 the Committee by the Board of Building Code Review. The Committee shall accept  
2842 research, approval, investigations, and report reviews when referred by the code official  
2843 for assistance.

2844

2845 The Committee of Plumbing Review shall review new and/or unique plumbing systems,  
2846 methods of piping, appurtenances, and appliances and make recommendations to the  
2847 Authority Having Jurisdiction for the purpose of finding acceptable such new and/or  
2848 unique plumbing systems, piping, appurtenances and/or appliances acceptable for use  
2849 under this Code.

2850

2851 **113.5 Secretary of the board, duties.** It shall be the duty of the Secretary to:

- 2852 1. Prepare and distribute the agenda to all Committee members for all  
2853 upcoming meetings.
- 2854 2. Keep full and complete records of the proceedings of said Committee.
- 2855 3. All records shall be open to supervised public inspection during normal  
2856 working hours, subject to staff availability.

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**SECTION 114**  
**BACKFLOW CERTIFICATION**

**114.1 General.** The installation and annual testing of backflow prevention devices shall be performed only by individuals that have been licensed for this specific work by the Section of Plumbing Regulations and Inspections.

*Change 114.2 and 114.2.2 to read as follows:*

**114.2 Master plumbers and journeyman plumbers.**

A licensed plumbing contractor shall have a licensed master plumber or licensed journeyman plumber in possession of a valid Missouri Department of Natural Resources Public Drinking Water Certification for Backflow Prevention Assembly Tester Rule 10CSR60-11.010 to install and/or test backflow prevention devices on any installation other than dedicated fire sprinkler and suppression systems that requires a licensed Sprinkler Contractor to install and test.

An applicant for a Backflow Prevention Device Tester Certification shall have the following qualifications:

1. Be certified by the Missouri Department of Natural Resources as a Backflow Prevention Device Tester.
2. Must be licensed, certified and/or registered as a Master Plumber, Journeyman Plumber, Master Pipefitter, Journeyman Pipefitter, Master Sprinkler Fitter, or Journeyman Sprinkler Fitter under the foregoing provisions of this Code.

**NOTE:** EVERY BACKFLOW PREVENTION CERTIFICATE LICENSE NUMBER SHALL INDICATE THE TYPE (S) OF WATER SYSTEMS FOR WHICH THE HOLDER IS QUALIFIED.

**114.2.1 Validation of master plumber or journeyman plumber licenses.** Upon application for or renewal of a master plumber or journeyman plumber license, the master plumber or journeyman plumber shall present proof of a valid Missouri Department of Natural Resources Public Drinking Water Certification for Backflow Prevention Assembly Tester Rule 10CSR60-11.010 certification to the plumbing section and the master plumber or journeyman plumber license will be notated as complying with Section 114.2.

**114.2.2** The installation and initial test of backflow prevention devices shall be performed in accordance with this code and the standards and procedures established by the Missouri Department of Natural Resources, Public Drinking Water Program by persons who are properly licensed pursuant to this Code who also possess a current Backflow Prevention Device Tester Certificate issued by the Missouri Department of Natural Resources.

**Clarification:**

The Plumbing Code Ordinance requires the installer to hold the appropriate license (Plumber, Pipefitter, or Sprinkler Fitter) to install a Backflow Device.

2909 The testing, repair, replacement or retrofit installation of existing Backflow  
2910 Prevention Devices for Plumbing Systems, and Process Piping systems may be  
2911 performed by Journeymen Plumbers, Journeymen Pipefitters, Master Plumbers,  
2912 Master Pipefitters licensed under this Code who also possesses a current  
2913 Backflow Prevention Device Tester Certificate issued by the Missouri  
2914 Department of Natural Resources.

2915

2916 **Clarification;**

2917 The Plumbing Code Ordinance requires two (2) licenses to test and repair  
2918 Backflow Devices. To test Backflow devices the Plumbing Code Ordinance  
2919 requires the tester to hold the appropriate license (Plumber, Pipefitter, Sprinkler  
2920 Fitter) as well as be certified by the MODNR as a Backflow tester and the  
2921 certification be registered under the plumbing Code Ordinance. All testing must  
2922 be performed under the supervision of an appropriately licensed master.

2923

2924 *Change 114.3 to read as follows:*

2925

2926 **114.3 Sprinkler fitter contractors and journeyman sprinkler fitters.** A licensed  
2927 Master Sprinkler fitter employing a licensed journeyman sprinkler fitter in possession of  
2928 a valid Missouri Department of Natural Resources Public Drinking Water Certification  
2929 for Backflow Prevention Assembly Tester Rule 10CSR60-11.010 may install and/or test  
2930 backflow prevention devices on any sprinkler system installation. The licensed sprinkler  
2931 contractor is authorized to perform work on any sprinkler system up to and including the  
2932 backflow device and the branch pipe in which the backflow device is installed. If the  
2933 sprinkler system originates from a separate water main tap, the licensed sprinkler  
2934 contractor may work on the line up to but not including the tap.

2935

2936 **114.3.1 Validation of journeyman sprinkler fitter licenses.** Upon application  
2937 for or renewal of a journeyman sprinkler fitter license, the journeyman sprinkler  
2938 fitter shall present proof of a valid Missouri Department of Natural Resources  
2939 Public Drinking Water Certification for Backflow Prevention Assembly Tester  
2940 Rule 10CSR60-11.010 certification to the plumbing section and the journeyman  
2941 sprinkler fitter license will be notated as complying with Section 114.3.

2942

2943 **114.4 Mechanical contractors and journeyman pipefitters.** A mechanical contractor  
2944 employing a licensed journeyman pipefitter in possession of a valid Missouri Department  
2945 of Natural Resources Public Drinking Water Certification for Backflow Prevention  
2946 Assembly Tester Rule 10CSR60-11.010 may use that employee to install and/or test  
2947 backflow prevention devices on any mechanical system installation. The licensed  
2948 journeyman pipefitter employed by the mechanical contractor is authorized to perform  
2949 work on the backflow prevention device serving any mechanical system. A mechanical  
2950 contractor licensed by the Plumbing Section of the Division of Buildings and Inspections  
2951 is authorized to work on process piping up to the backflow prevention device and the  
2952 branch pipe in which the backflow device is installed.

2953

2954 *Change 114.4.1 to read as follows:*

2955

2956 **114.4.1 Journeyman pipefitter license.** An individual in possession of a valid  
2957 journeyman mechanical pipefitter license issued by the Mechanical Section of the  
2958 Division of Buildings and Inspections may obtain a journeyman pipefitter license  
2959 from the Plumbing Section upon completion of a written application, proof of

2960 possessing the journeyman mechanical pipefitter license, a 3/4 inch by 3/4 inch  
2961 color photograph and/or a digital picture and payment of the application and  
2962 license fee stated in Table 111.

2963

2964 **114.4.2 Validation of journeyman pipefitter licenses.** Upon application for or  
2965 renewal of a journeyman pipefitter license, the journeyman pipefitter shall present  
2966 proof of a valid Missouri Department of Natural Resources Public Drinking  
2967 Water Certification for Backflow Prevention Assembly Tester Rule 10CSR60-  
2968 11.010 certification to the plumbing section and the journeyman pipefitter license  
2969 will be notated as complying with Section 114.4.

Amendments To The Uniform Plumbing Code  
2010 Saint Louis City Ordinance Chapter 2 Definitions

25.04.040 Chapter 2 Amended.

-A-

**Addition** - is defined as an increase in building area, aggregate floor area, height or number of stories of a structure.

**Additional Inspection** - An inspection which is not a required inspection as defined in this Code but which in the judgment of the Code Official is reasonably necessary to enforce this Code or as an inspection which is required as a result of unusual or complicated construction and/or is defined as an inspection which is made as a result of non-compliance, not ready, lockout etc. See Extra Inspection. Fees for additional inspections shall be as specified in Table 107.11.3.

**Authority Having Jurisdiction** - Whenever the term “Authority Having Jurisdiction” is used it shall be deemed to mean “Code Official” as hereinafter defined in Section 104.1 of this Code.

**Alteration** – Any construction or renovation to an existing structure other than repair or addition

-B-

**Backflow Device** – A device or means to prevent backflow into the potable water system.

**Backflow Device Installed** – When potable water is connected to the inlet side and a potential backflow hazard is present at the outlet side of a backflow device.

**Bathroom Group** – Unless specifically cited in the body of the Code, a bathroom group shall consist of a water closet, a lavatory and a bathtub and/or shower stall.

**Bedroom** – A room furnished with a bed and intended primarily for sleeping.

**Board** – The Board of Examiners for Master Plumbers, Master Drainlayers and Journeyman Plumbers.

**Board of Appeals** – The Board of Building Appeals as defined in the Building Code.

*Add the following definition:*

**Boiler** – See Water Heater Boiler

**Building Classification** - The arrangement adopted by within the Building Code for the designation of buildings in classes according to occupancy.

**Building Code** - The Building Code adopted by the City of St. Louis.

3021

3022 **Building Drain** - That part of the lowest piping of a drainage system which receives the  
3023 discharge from soil, waste, and other drainage pipes inside the walls of the building and  
3024 conveys it to the building sewer beginning five (5) feet (1525 mm) outside the building  
3025 wall, or five (5) feet (1525 mm) beyond the plumbing appliances, appurtenances or  
3026 equipment installed outside the walls of building such as but not limited to grease, oil and  
3027 sand interceptors.

3028

3029 *Add the following definition:*

3030

3031 **Building Supply/Water Service Pipe** - The pipe from the water main or other source of  
3032 potable water supply to the water distributing system of the building served, the meter  
3033 and street service. (See “Water Service Pipe / Building Supply”).

3034

3035 **Building Trap** - A device, fitting, or assembly of fittings installed in the building drain to  
3036 prevent circulation of air between the drainage system of the building and the building  
3037 sewer.

3038

3039 -C-

3040 **Central Use Facility(s)** - A restroom facility or facilities designed and sized to  
3041 accommodate the total occupant load of the building, located within the distance required  
3042 by the Code for maximum access and meeting the requirements of the Code within its use  
3043 category.

3044

3045 **Certified Backflow Assembly Tester** - A person who is certified by the Missouri  
3046 Department of Natural Resources as a Backflow Prevention Device Tester and possesses  
3047 a Backflow Prevention Device Tester Certificate issued pursuant to this Code for the  
3048 particular application involved.

3049

3050 *Add the following definition:*

3051

3052 **Certified in Plumbing Design (CPD)** – A person who has successfully completed the  
3053 CPD examination as a part of the international certification program for engineers and  
3054 designers of plumbing systems and so designated by the American Society Of Plumbing  
3055 Engineers.

3056

3057 **Code** - The Uniform Plumbing Code, 2009 Edition, “IAPMO/ANSI UPC 2009” with the  
3058 additions, deletions and changes prescribed in this Ordinance.

3059

3060 **Committee** - The Committee of Plumbing Code Review as created herein.

3061

3062 **Containment** - (Cross-connection) Protection of the public water system is obtained by  
3063 installation of an approved backflow prevention assembly or air-gap separation at the  
3064 user connection from the main service line(s).

3065

3066 **Cross-Connection** - Any actual or potential connection or structural arrangement,  
3067 between a public or private potable water supply system and any other source or system  
3068 through which it is possible to introduce into any part of the private or public water  
3069 system any used water, industrial fluid, gas or substance other than the intended potable  
3070 water with which the system is supplied. By-pass arrangements, jumper connections,  
3071 removable sections, swivel or change-over devices through which or because of which,

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3072 backflow can or may occur are considered to be cross-connections.

3073

3074 **Cross-Connection, Direct** - A continuous, enclosed interconnection or cross-connection  
3075 to allow the flow of fluid from one system to the other.

3076

3077 **Cross-Connection, Indirect** - A potential cross-connection such that the interconnection  
3078 is not continuously enclosed and the completion of the cross-connection depends on the  
3079 occurrence of one or more abnormal conditions.

3080

3081 **Cross-Connection - Isolation.** Protection of the user water system by installation of an  
3082 approved backflow prevention device or assembly at the point of connection between the  
3083 users water system and any device, equipment, appliance, appurtenance assembly or area  
3084 which might constitute a real or potential cross-connection.

3085

3086 *Add the following definitions:*

3087

3088 **Customer** - Any person who receives water from a public water system, except those  
3089 persons receiving water for resale.

3090

3091 **Customer Service Line** - The pipeline from the public water system to the first tap,  
3092 fixture, receptacle or other point of customer water use or to the first auxiliary water  
3093 system or pipeline branch in a building.

3094

3095 **Customer Water System** - All piping, fixtures and appurtenances, including auxiliary  
3096 water systems, used by a customer to convey water on his/her premises.

3097

3098 -D-

3099 **Dead End** – That part or branch of a drainage piping system, which is without a free  
3100 circulation of air.

3101

3102 *Add the following definition:*

3103

3104 **Direct Cross-Connection** – A continuous, enclosed interconnection or cross-connection  
3105 to allow the flow of fluid from one system to the other.

3106

3107 *Add the following definition:*

3108

3109 **Downspout** - The rain leader from the roof to the building storm drain, combined  
3110 building sewer, or other means of disposal located outside of the building, or, the storm  
3111 leader from the bridge drain to the storm drain, combined building sewer below ground,  
3112 or the storm leader from the bridge drain to the storm drain, combined building sewer  
3113 below ground.

3114

3115 **DWV** - An acronym for “drain-waste-vent” referring to the combined sanitary drainage  
3116 and venting systems and the storm water drainage system. This term is technically  
3117 equivalent to “soil-waste-vent” (SWV).

3118

3119 -E-

3120 **Engineer** - An engineer registered or licensed to practice professional engineering in  
3121 Missouri in accordance with the professional registration laws of the state of Missouri.

3122

3123

3124

3125

3126 *Add the following definition:*

3127

3128 **Extra Inspection** – (re-inspection) is defined as an inspection, which is required as a  
3129 result of unusual or complicated construction and/or is defined as an inspection, which is  
3130 made as a result of non-compliance, not ready, lockout etc. An inspection, which is not a  
3131 required inspection as defined in this Code but which in the judgment of the Code  
3132 Official, is reasonably necessary due to non-compliance with Code requirements, or work  
3133 not ready or accessible for inspection when requested. Fees for extra inspections shall be  
3134 as specified in 107.11.3 / 107.11.4.

3135

3136 -F-

3137 *Add the following definition:*

3138

3139 **Facility** - A single tract or contiguous tracts of land and any improvements on them, upon  
3140 which one (1) or more service connections are located, and which, except for easements  
3141 and public right-of-way, are wholly owned, leased or otherwise subject to the control of  
3142 the customer.

3143

3144 **Fixture Group** – A set of fixtures within a room or rooms serving an individual or group  
3145 of individuals at a unique single time.

3146

3147 -H-

3148 **Health Department** - The St. Louis City Department of Health.

3149

3150 *Add the following definitions:*

3151

3152 **HDPE** – High Density Polyethylene

3153

3154 **Hydromechanical Grease Interceptor** - A plumbing appurtenance or appliance  
3155 that is installed in a sanitary drainage system to intercept nonpetroleum fats, oil, and  
3156 grease (FOG) from a wastewater discharge and is identified by flow rate, and  
3157 separation and retention efficiency. The design incorporates air entrainment ,  
3158 hydromechanical separation, interior baffling, and /or barriers in combination or  
3159 separately, and an:

3160 A - External flow control, with air intake (vent): directly connected

3161 These interceptors comply with the requirements of Table 10-2.

3162 Hydromechanical grease interceptors are generally installed outside.

3163

3164 -I-

3165 *Add the following definitions:*

3166

3167 **Irrigation Backflow Assembly** – An assembly consisting of a Reduced Pressure Zone  
3168 Backflow Device and a properly sized Shock Arrestor located downstream and within 12  
3169 inches of the backflow device.

3170

3171 **Isolation** - (Cross-Connection). Protection of the user water system by installation of an  
3172 approved backflow prevention device or assembly at the point of connection between the  
3173 users water system and any device, equipment, appliance, appurtenance assembly or area  
3174 which might constitute a real or potential cross-connection.

3175

3176

3177

-M-

3178

**Mechanical Code** - The Mechanical Code adopted by the City of St. Louis.

3179

3180

**Minor Repairs** - The term "minor repairs" shall be construed to mean repairs within the interior of any building to leaks in drains, pipes, traps and valves, opening waste or supply pipes, and traps or drains. It shall not be construed to include any work involving connections to or replacement or rearrangement of soil pipes, supply pipes, waste pipes, vent pipes or inside rain leader pipes, or the replacing or setting of any fixture, or replacement or repairs to Backflow Prevention Devices, pressure reducing or regulating valves, or any other installation, repair or alteration which in the judgment of the Chief Plumbing Inspector is of such a nature which if improperly installed, repaired or altered would endanger the public health.

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Exemption from the permit requirements of this Code shall not be deemed to grant authorization for any work to be done in violation of the provisions of this Code or any other laws or ordinances of this jurisdiction.

3189

3190

3191

3192

3193

*Add the following definitions:*

3194

3195

**MSD** – The Metropolitan St. Louis Sewer District.

3196

3197

**Multiple single-family dwelling:** Wherever the term multiple single-family dwelling is used in this Code, it shall be construed to include two-family dwellings.

3198

3199

3200

-O-

3201

**Office** - The Office of the Section of Plumbing Regulations and Inspections.

3202

3203

**Other Establishment** - Any public or private structure other than a dwelling, which generates sewage.

3204

3205

3206

- P-

3207

**Plumbing System** – Includes all potable water building supply and distribution pipes, all plumbing fixtures and traps, all drainage and vent pipe (s), and all building drains and building sewers, including their respective joints and connection, devices, receptors, and appurtenances within the property lines of the premises, and shall include storm water drainage from all private and St. Louis City constructed bridges and structures including bridge drains and drainage piping to a connection with the storm or combined sewer, and shall include potable water piping, potable water treating or using equipment, water heaters and water heating boilers for potable water and vents for same.

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3215

*Add the following definition:*

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3217

**Exclusion #1:** The receiving, unloading, moving, storing, hoisting, setting, aligning and leveling of casework housing plumbing components, such as laboratory fume hoods and hospital headwall units, shall not be considered to be components of plumbing systems and shall not be subject to the licensing provisions of this code.

3218

3219

3220

3221

3222

**Public water system** - A system for the provision to the public of piped water for human consumption, if such system has at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) individuals daily at least sixty (60) days per

3223

3226 calendar year. Such system includes any collection, treatment, and storage or distribution  
3227 facilities used in connection with such system.

3228

3229

3230

3231 -Q-

3232 *Add the following definition:*

3233

3234 **Quick Closing Valve** – A fast-action solenoid valve, spring loaded self closing  
3235 faucet, push- pull type valves and faucets, or any other device capable of  
3236 instantaneously closing.

3237

3238 -R-

3239 *Add the following definitions:*

3240

3241 **Rainwater Harvesting** – a technology used to collect, convey, and store rain from  
3242 relatively clean surfaces such as roof, land surface, or rock catchment for later use.

3243

3244 **Registered Design Professional** – An architect or engineer, registered or licensed to  
3245 practice architecture or engineering, as defined by the statutory requirements of the  
3246 professional registration laws of the state of Missouri.

3247

3248 **Re-inspection** – A re-inspection is defined as an inspection which is required as a result  
3249 of unusual or complicated construction and/or defined as an inspection which made as a  
3250 result of non-compliance, not ready, lock-out, etc. An inspection which is not a required  
3251 inspection as defined in this Code but which in the judgment of the Code Official is  
3252 reasonably necessary due to non-compliance with Code requirements, or work not ready  
3253 or accessible for inspection when requested. Fees for re-inspection shall be as specified in  
3254 Section 107 of this Code. (See Extra Inspection.)

3255

3256 **Required Inspection** - An inspection which falls within the minimum number of  
3257 inspections required by this Code.

3258

3259 **Roof Drain** - A drain installed to receive water collecting on the surface of a roof and to  
3260 discharge it into a leader, down spout, or conductor. Roof drain includes sump receivers,  
3261 clamps, grates, sumps, extensions, hangers, supports and all other appurtenances  
3262 necessary for its function, security and stability.

3263

3264 **Roughing - In** - The installation of all parts of the plumbing system, which can be  
3265 completed prior to the installation of fixtures. This includes drainage, water supply, gas  
3266 piping, and vent piping and the necessary fixture supports.

3267 D. **Ground Rough In** - All underground piping, which  
3268 shall include waste, vent, and distribution piping.

3269 2. **Stack Rough In** - All waste, vent and distribution water supply lines above  
3270 ground.

3271

3272 -S-

3273 **Sanitary Sewer** - A sewer, which carries sewage and excludes storm, surface, and  
3274 ground water.

3275

3276 **Service Connection** - Any water line or pipe connected to a water distribution main or  
3277 pipe for the purpose of conveying water to a point of use.

3278

3279 **Sewer District** - The Metropolitan St. Louis Sewer District (MSD) or private sewer  
3280 company having jurisdiction in the location where work is to be performed.

3281

3282 **Single Family Dwelling** - A one family dwelling, which is the only dwelling located on a  
3283 parcel of ground, with the usual accessory buildings.

3284

3285 **Standpipe** – A vertical pipe generally used for the storage and distribution of water for  
3286 fire extinguishing.

3287

3288 *Add the following definition:*

3289

3290 **Strapped Plumbing** – A plumbing scheme where drain piping from upper floors is  
3291 supported just below first floor joists of lowest floor providing gravity flow to public or  
3292 private sewer, and exits the building through a wall penetration.

3293

3294 **Street Department** – The City of St. Louis Street Department.

3295

3296 -W-

3297 **Water customer** - Any person who receives water from a public water system.

3298

3299 *Add the following definitions:*

3300

3301 **Water Distribution system** - All piping, conduits, valves, hydrant, storage facilities,  
3302 pumps and other appurtenances, excluding service connections, which serve to deliver  
3303 water from a water treatment plant or water supply source to the public.

3304

3305 **Water Heater Boiler** - A water heater boiler, a plumbing appurtenance designed to  
3306 produce domestic hot water, which has one or more of the following parameters:

3307 1. Has an input capacity of 200,000 Btu/hr (57.1 kW) or more.

3308 2. Has 120 gallons storage capacity or more.

3309 3. Has an operating pressure of 160 psi or more.

3310 4. Has an operating temperature of 210 degrees Fahrenheit or more

3311 Equipment must be constructed to standards established by the American Society of  
3312 Mechanical Engineers (ASME).

3313

3314 **Water Service Pipe/Building Supply** - The pipe from the water main or other  
3315 source of potable water supply, including the corporation, and meter (if installed),  
3316 to the water distributing system of the building served.

3317

3318 *Add the following definitions:*

3319

3320 **Water system** - All sources from which water is derived for drinking or domestic  
3321 use by the public, also all structures, conduits and appurtenances by means  
3322 of which water for use is treated, stored or delivered to consumers, except  
3323 service connections from water distribution systems to buildings and  
3324 plumbing within or in connection with buildings served.

3325

3326 **Water supply source** - All sources of water supply including wells, infiltration

3327 galleries, springs, reservoirs, lakes, streams or rivers from which water is  
3328 derived for public water systems, including the structures, conduits, pumps  
3329 and appurtenances used to withdraw water from the source or to store or  
3330 transport water to the water treatment facility or water distribution system.  
3331

3332 *Add the following definitions:*

3333

3334 **Welded Joint or Seam** – Any joint or seam obtained by the joining of metal or  
3335 plastic parts in the plastic molten state.  
3336

3337 **Welder, Pipe** – A person who specializes in the welding of pipes and holds a  
3338 valid certificate of competency from a recognized testing laboratory, based on the  
3339 requirements of the ASME Boiler and Pressure vessels code, Section IX for metal  
3340 pipe and/or based on the requirements of the AWS B2.4 Specification and / or  
3341 Plastics-Pipe-Institute (PPI), Generic Butt Fusion Joining Procedure for Field  
3342 Joining of Polyethylene Pipe for Welding Procedure and Performance  
3343 Qualification for Thermoplastics.  
3344

3345 **Workmanlike** - Executed in a skilled manner; i.e., generally plumb, level, square, in line,  
3346 undamaged and without marring adjacent work.  
3347

Amendments To The Uniform Plumbing Code 2010  
Saint Louis City Ordinance Chapter 3 General Regulations

Chapter 3 Amended.

*Change Section 305.1 to read as follows::*

**301.1.4 Existing Buildings.** The plumbing systems in all existing buildings or premises shall be maintained in accordance with this Code and the City of St. Louis Property Maintenance Code. In existing buildings or premises in which plumbing installations are to be altered, repaired, or renovated, this Code and the City of St. Louis Existing Building Code shall govern all work. Where conflicts occur, the more stringent provisions shall apply. The licensing provision of this Code shall apply in all cases.

**(1.) Alterations:** An alteration to any structure shall conform to the Code requirements for a new structure and shall not result in an increase in hazard to the occupants. Portions of the structure not altered and not affected by the alteration are not required to comply with the Code requirements for a new structure except as specified in the Building Code as amended. Where alterations are made in an existing building or structure requiring the addition of any two or more plumbing fixtures, or one or more water closets, or where a new bathroom is installed, or a building is remodeled for an extension in size or change in occupancy in which plumbing work is involved, the new work shall be made to conform to this Code.

**(2.) Additions:** An addition to a structure shall conform to the requirements for a new structure without requiring the existing structure to comply with the requirements of this Code for new construction and shall not result in any increase in hazard to the occupants.

**(3.) Reuse of Building Sewers and Building Drains:** Existing building sewers and building drains may be used in connection with new buildings or new plumbing and drainage work only when they are found on examination and test to conform in all respects to the requirements governing new work and the proper Authority Having Jurisdiction shall notify the owner to make any changes necessary to conform to this Code. No building or part thereof shall be erected or placed over any part of a drainage system, which is constructed of materials other than those approved elsewhere in this Code for use under or within a building.

**(4.) Reuse of Water Service:**

**a.** Existing water service may be used in connection with new buildings or new plumbing and drainage work only when they are found on examination and test to conform in all respects to the requirements governing new work and the proper Authority Having Jurisdiction shall notify the owner to make any changes necessary to conform to this Code. No building or part thereof shall be erected or placed over any part of a water service, which is constructed of materials other than those approved elsewhere in this Code for use under or within a building.

**b.** For alterations and additions to a building with an existing 3/4" size water service:

1. For the installation of an additional 9 WSFU's which then results in an existing residential or commercial building to total no more than 2½ baths and a maximum total of 31 WSFU's the 3/4" size water service shall be allowed to remain with no change.

2. For the installation adding more than 9 WSFU's or totaling more than 31 WSFU's, the 3/4" size water service shall be replaced and sized in accordance with the provisions of

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3399 Chapter 6 of this Code.

3400

3401 **301.4.4 Design Documents.** The registered professional engineer shall provide four (4)  
3402 complete sets of signed and sealed documents for the alternative engineered design for  
3403 submittal to the Authority Having Jurisdiction. The design documents shall include at a  
3404 minimum, a floor plan and a riser diagram of the work. Where appropriate, the design  
3405 documents shall indicate the direction of flow, all pipe sizes, grade of horizontal piping,  
3406 loading and location of fixtures and appliances.

3407

3408 305.0 Sewers Required

3409

3410 *Change Section 305.1 to read as follows:*

3411

3412 **305.1** Every building in which plumbing fixtures are installed shall have a connection to  
3413 a public sewer.

3414

3415 *Change Section 310.1 to read as follows:*

3416

3417 **310.1 Workmanship**

3418 The intent of this Code is to require that all piping be installed in a consistent and  
3419 uniform manner, straight and true, with change of direction obtained by use of fittings  
3420 designed for that purpose and not be deflecting pipe. All work shall be performed in a  
3421 workmanlike manner. All design, construction, and workmanship shall be in conformity  
3422 with accepted engineering practices and shall be of such character as to secure the results  
3423 sought to be obtained by this Code.

3424

3425 311.0 Prohibited Fittings and Practices.

3426

3427 *Change Section 311.2 to read as follows:*

3428

3429 **311.2** No drainage or vent piping shall be drilled and tapped, nor may a saddle be used  
3430 for the purpose of making connections thereto, and no cast iron soil pipe shall be  
3431 threaded.

3432

3433 *Change Section 311.5 to read as follows:*

3434

3435 **311.5** No fitting, fixture and piping connection, appliance, device, or method of  
3436 installation that obstructs or retards the flow of water, wastes, sewage or air in the  
3437 drainage or venting systems, in amount exceeding the normal frictional resistance to  
3438 flow, shall be used unless it is indicated as acceptable in this code or is approved per  
3439 Section 301.1 of this code. The use of an automatic air vent type fitting is prohibited. The  
3440 enlargement of a three (3) inch (80mm) closet bend or stub to four (4) inches (100 mm)  
3441 shall not be considered an obstruction.

3442

3443 *Add Section 311.9 to read as follows:*

3444

3445 **311.9 Lead Water Services.** All damaged lead water services, residential and / or  
3446 commercial, shall be entirely replaced with copper or other acceptable material.

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*Change 312.0 to read as follows:*

**312.0 Independent Systems.**

The drainage of each new building and of new work installed in any existing building shall be separate and independent from that of any other building, and, when available, every building shall have an independent connection with a public or private sewer.

**Exception:** Where one (1) building stands in the rear of another building on an interior lot, and no private sewer is available or can be constructed to the rear building through an adjoining court, yard, or driveway, the building drain from the front building shall be permitted to be extended to the rear building.

*Change Section 312.1 to read as follows:*

**312.1 General requirements for building and building sewers serving single service Fats, Oil, or Grease (FOG) generating facilities.** (See drawing # 45 in Appendix M).

**1. Multi-Family Units – (Other than one, two and four family dwellings)**

a. A separate waste stack shall be installed for waste from kitchen sinks, disposals and dishwashers and shall exit the building separately from other building drains. Solids interceptor not required except prior to a common grease interceptor.

**2. Commercial units**

a. Separation of sanitary, and FOG building drains exiting the building  
1. All sanitary, and FOG building drains shall exit the building separately and shall be combined in a sampling manhole prior to leaving the property. Storm drains shall exit the property separately where conditions allow.

**Exception:** Where the footprint of the building on the property does not provide adequate clearance for this installed inside the building. Access from the outside shall be provided for this installation.

**3. One, Two & Four Family Residential**

a. Separate FOG building drain not required.

*Change Section 312.2 to read as follows:*

**312.2 General requirements for building drains and building sewers serving multi-tenant one and two story buildings (also called strip stores.)** (See drawing # 46 Appendix M)

1. There shall not be installed within the building structure a common drain to all tenant units. Each tenant will have installed an independent connection with a private sewer through a sampling tee. The private sewer will be located a minimum of five feet (5') from the building and a minimum of five feet (5') from the property line.

2. If the tenant is a FOG generating facilities there shall be a separate FOG building drain.

3501                    **a.** All grease generating appliances and all fixtures collecting FOG laden  
3502 wastes shall pass through a hydromechanical grease interceptor (HGI)  
3503 before connection to the separate FOG building drain.  
3504

3505                    *Exception: Strip stores and or commercial plumbing installations as shown in*  
3506 *Figure 46, containing a maximum of 75 gpm (maximum 4 inch diameter outlet)*  
3507 *discharge from the hydromechanical interceptor may be routed to the common*  
3508 *sanitary drain within three (3) feet prior to exiting the building.*  
3509

3510                    **3.** Waste drain lines from garbage disposals, dishwashers and pre-rinse sinks  
3511 shall, before entering a grease interceptor, first flow through a solids interceptor.  
3512

3513 **313.0 Protection of Piping, Materials and Structures.**  
3514

3515                    *Change Section 313.2 to read as follows:*  
3516

3517 **313.2** All piping in connection with a plumbing system shall be so installed that the  
3518 piping connections will not be subject to undue strains or stresses, and provisions shall be  
3519 made for expansion, contraction, and structural settlement. No plumbing piping shall be  
3520 directly embedded in concrete or masonry, unless permission be otherwise granted by the  
3521 Authority Having Jurisdiction. No structural member shall be seriously weakened or  
3522 impaired by cutting, notching or otherwise as defined in the Building Code.  
3523

3524                    *Change Section 313.3 to read as follows:*  
3525

3526 **313. 3** No building drain or drainage piping or part thereof, constructed of materials other  
3527 than those approved for use under or within a building shall be installed, or less than one  
3528 (1) foot (305 mm) below the surface of the ground.  
3529 No building sewer or drainage piping or part thereof, shall be installed under or within  
3530 five (5) feet (1524 mm) of any building or structure nor less than thirty (30) inches (760  
3531 mm) below the surface of the ground.  
3532

3533 *Exception:* Transition from all drainage thirty (30) inches (760 mm) below the surface of  
3534 the ground to the building sewer at a maximum of forty-five (45°) degrees.  
3535

3536                    *Change Section 313.9 to read as follows:*  
3537

3538 **313.9** Plastic and copper piping penetrating a framing members to within one (1) inch  
3539 (25.4mm) of the exposed framing shall be protected by steel nail plates not less than  
3540 0.0478 inches (18 gauge) (1.3mm) in thickness. The steel nail plate shall extend along the  
3541 framing member a minimum of 1-1/2 inches beyond the outside diameter of the pipe or  
3542 tubing.  
3543

3544 *Exception:* See the St. Louis City Mechanical Code and Section 1211.3.4 and the City of  
3545 St. Louis Fuel Gas Code for protection of Fuel Gas Piping and other systems governed by  
3546 the Mechanical Code.  
3547  
3548  
3549  
3550  
3551

3552 **313.10 Sleeves**

3553

3554 *Change 313.10.1 to read as follows:*

3555 .

3556 **313.10.1** Sleeves shall be provided to protect all piping through concrete and masonry  
3557 walls and concrete floors.

3558

3559 **Exceptions:** Sleeves shall not be required where openings are drilled or bored. Initial  
3560 entry of 1-1/4” (inches) and smaller copper water service piping to residential single-  
3561 family dwellings.

3562

3563 **314.7 Gas Piping**

3564

3565 *Add Sections 314.7.1 through 314.7.3 to read as follows:*

3566

3567 **314.7.1** Piping shall be supported with pipe hooks, metal pipe straps, bands, brackets, or  
3568 hangers suitable for the size of the piping, of adequate strength and quality, and located  
3569 so as to prevent or damp out excessive vibration. Piping shall be anchored to prevent  
3570 undue strains on connected equipment and shall not be supported by other piping. Pipe  
3571 hangers and supports shall conform to the requirements of ANSI/MSS SP-58, Pipe  
3572 Hangers and Supports-Material Design and Manufacture.

3573

3574 **314.7.2** Spacing of supports in gas piping installations shall not be greater than shown in  
3575 Table 3.0. Spacing of supports for CSST shall be in accordance with the CSST  
3576 manufacturer’s instructions.

3577

3578 **314.7.3** Supports, hangers, and anchors shall be installed so as not to interfere with the  
3579 free expansion and contracting of the piping between anchors. All parts of the supporting  
3580 equipment shall be designed and installed so they will not be disengaged by movement of  
3581 the supported piping.

3582

3583 *Add Table 3-0 to read as follows:*

3584

3585

**Table 3-0 Support of Gas Piping**

<b>Steel Pipe Nominal Size of Pipe (inches)</b>	<b>Spacing of Support (feet)</b>	<b>Nominal Size of Tubing (Smooth Wall) (inch o.d.)</b>	<b>Spacing of Supports(feet)</b>
1/2	6	1/2	4
3/4 or 1	8	5/8 or 3/4	6
1-1/4 or larger (horizontal)	10	7/8 or 1 (horizontal)	8
1-1/4 or larger (vertical)	Every floor level	1 or larger (vertical)	Every floor level

3586

For SI units: 1 ft = 0.305 m.

3587

3588 *Change Section 315.2 to read as follows:*

3589

3590 **315.2** Driving may be done in yards, courts, or driveways of any building site. When  
3591 pipes are driven, the drive pipe shall be at least one (1) size larger than the pipe to be laid.  
3592 Tunneling is not allowed.

3593

3594 **316.0 Joints and Connections**

3595 **316.1 Types of Joints**

3596

3597 *Add Section 316.1.7.1 to read as follows:*

3598

3599 **316.1.7.1 Welding Thermoplastic Pipe and Fittings.** Plastic pipe and fittings designed  
3600 to be joined by thermoplastic welding processes used for owner and/or operator installed  
3601 gas transmission mains and for other applications such as Gas Service Lines and Gas  
3602 Mains, Domestic Water Mains and Potable Water Service Lines shall comply with AWS  
3603 B2.4 Specification and/or Plastic-Pipe-Institute (PPI), Generic Butt Fusion Joining  
3604 Procedure for Field Joining of Polyethylene Pipe, for Welding Procedure and  
3605 Performance Qualification for Thermoplastics. Welding shall be performed by certified  
3606 or qualified installers meeting the requirements of AWS B2.4 Individual Manufacturer  
3607 Qualifications under the regulations of PPI, qualifications given by material distributor or  
3608 manufacturer, or certification or qualification issued by owner. Qualification by  
3609 Manufacturers will last for the duration of one (1) year from time qualified unless  
3610 installer has used the proceeded within the time allotted (determined by individual  
3611 manufacturer). The one (1) year qualification for a refresher course will commence from  
3612 the date of the refresher course.

3613

3614 *Add Section 316.1.11.1 to read as follows:*

3615

3616 **316.1.11.1** Heat-fusion joints shall be made in accordance with qualified procedures that  
3617 have been established and proven by test to produce gastight joints at least as strong as  
3618 the pipe or tubig joined utilizing the Plastic-Pipe-Institute (PPI), Generic Butt Fusion  
3619 Joining Procedure for Field Joining of Polyethylene Pipe, for Welding Procedure and  
3620 Performance Qualification for Thermoplastics and/or AWS B2.4 Specification fir  
3621 Welding Procedure ands Performance Qualification for Thermoplastics.

3622

3623 *Change Section 316.2.2 to read as follows:*

3624

3625 **316.2.2 Unions** Approved unions may be used in drainage piping when accessibly  
3626 located in the trap seal or between a fixture and its trap in the vent system, except  
3627 underground or in wet vents, at any point in the water supply system. Unions shall not be  
3628 used in gas piping where it is to be concealed.

3629

3630 *Add Section 316.1.6.1 to read as follows:*

3631

3632 **316.1.6.1** Use of Purple Primer. Primer shall not be purple.

3633

3634 *Add Section 320.0 to read as follows:*

3635

3636 **320.0 Medical Gas and Vacuum Systems.** All such piping shall be installed, tested, and  
3637 verified in compliance with the Saint Louis City Mechanical Code.

3638

3639

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3644 **321.0 Parking Garages**

3645

3646 *Add Section 321.0 to read as follows:*

3647

3648 **321.0 Parking Structures Drainage.** Drainage systems for parking structures shall be  
3649 designed and installed in the following manner:

3650 **A.** Drainage systems for roofs and all uncovered areas shall discharge into the storm  
3651 sewer in a manner prescribed by this code (See "F").

3652 **B.** Drainage systems for intermediate floor areas and all other covered areas shall  
3653 discharge into the sanitary sewer in a manner prescribed by this code (See "F")

3654 **C.** Floor drains for parking structures, in parking areas, need not be trapped.

3655 **D.** Sanitary and storm drains and shall discharge through sand and oil interceptors.  
3656 The oil interceptor shall be located on the outside of the building.

3657 **E.** All storm and sanitary piping that connect to sanitary or combination sewers shall be  
3658 trapped prior to connection to the sewer.

3659 **F.** Drainage and vent systems installed in parking structures shall not be interconnected  
3660 with internal sanitary systems.

3661 **G.** All drainage lines, sanitary and storm, shall be routed through inspection manhole  
3662 prior to connection to sewer main or other approved discharge.

3663

3664 *Add Section 322.0 to read as follows:*

3665

3666 **322.0 Hospitals and Ambulatory Care Facilities and Nursing Homes**

3667 All plumbing facilities shall comply with the Missouri Licensing Law Regulations and  
3668 Codes for Hospitals and Ambulatory Care Facilities and Nursing homes.

3669

3670 *Add Section 322.1 to read as follows:*

3671

3672 **322.1 General** – Flushing rim clinic sinks, bedpan washers, or other approved fixtures  
3673 and equipment shall be provided for the disposing of bedpan contents and the cleansing  
3674 and disinfection of bedpans in soiled utility rooms.

3675

3676 **322.2 Water Heating Equipment**

3677

3678 *Add Section 322.2 to read as follows:*

3679

3680 **A.** The water heating equipment shall have sufficient capacity to supply six and one-half  
3681 (6-1/2) gallons of water at one hundred ten (110) degrees Fahrenheit per hour per bed for  
3682 fixtures; four (4) gallons of water at one hundred and twenty (120) degrees Fahrenheit per  
3683 hour per bed for kitchens, and four and one half (4-1/2) gallons of water at one hundred  
3684 and sixty (160) degrees Fahrenheit per hour per bed for laundry. The rinse water  
3685 temperature of automatic ware washing equipment shall be one hundred and eighty (180)  
3686 degrees Fahrenheit.

3687

3688 **B.** Such water heating equipment may be of the instantaneous, semi-instantaneous, flash  
3689 or storage type. Where direct fired water heaters are used, they shall be of an approved  
3690 high pressure type. Submerged steam heating coil shall be of copper. All water heating  
3691 equipment shall be fabricated of non-corrosive metal or lined with non-corrosive  
3692 material.

Amendments to the Uniform Plumbing Code 2010  
Saint Louis City Ordinance Chapter 4 - Plumbing Fixtures

Chapter 4 Amended.

**402.0** Water-Conserving Fixtures and Fittings.

**402.3.1** Non-water Urinals. Delete

*Change 402.4 to read as follows:*

**402.4** Metered Faucets. Manual, self-closing, or self-closing, metering faucets shall be installed on lavatories intended to serve the transient public, such as those in, but not limited to, service stations, train stations, airports, restaurants and convention halls. Metered faucets shall deliver not more than 0.25 gallons (1.0 liter) of water per use.

*Change 405.2 to read as follows:*

**405.2** Prohibited Urinals. Trough urinals and urinals with an invisible seal shall be prohibited.

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

*Add 405.4 to read as follows:*

**405.4** Used or Condemned Fixtures. Previously used fixtures or fixtures which have been condemned shall not be installed in any plumbing system. This does not include the use of fixtures removed and then reinstalled for the same use and in essentially the same location.

**406.0** Special Fixtures and Specialties.

*Change 406.1 through 406.2 to read as follows:*

**406.1** Water and Waste Connections. Baptisteries, ornamental and lily ponds, aquaria, ornamental fountain basins, and similar fixtures and specialties requiring water and/or waste connections shall have adequate backflow and back-siphonage protection and shall be submitted for approval to the Authority Having Jurisdiction prior to installation.

**406.2** Restaurant kitchen and other special use sinks may be made of approved type bonderized and galvanized sheet metal of not less than No. 16 U.S. Grade (0.0625) (1.6mm) and stainless steel of approved quality and grade. All sheet metal plumbing fixtures shall be adequately designed, constructed, and braced in an approved manner to satisfactorily accomplish their intended purpose.

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*Change 406.3 to read as follows:*

**406.3 Materials – Alternates**

Special use fixtures shall be made of one of the following:

1. Soapstone
2. Chemical stoneware
3. Copper-based alloy
4. Nickel-based alloy
5. Corrosion-resistant steel
6. Other materials suited for the intended use of the fixture.

**412.0 Floor Drains, Floor Sinks and Shower Stalls**

**411.2** Location of Floor Drains. Floor drains shall be installed in the following areas and the floor shall slope toward the floor drains and shall be protected from evaporation: (See 1007.0)

411.2.1 All toilet rooms designated as handicapped, and toilet rooms containing two (2) or more water closets or a combination of one (1) water closet and one (1) urinal, except in a dwelling unit.

411.2.2 Commercial and institutional kitchens.

411.2.3 Laundry rooms in commercial and institutional buildings and common laundry facilities in multi-family dwelling buildings.

411.2.4 Toilet rooms designated for Public Use.

411.2.5 Within fifteen (15') feet and in the same room as a hot water heater or water heater boiler.

411.2.6 Within fifteen (15') feet and in the same room as emergency showers.

411.2.7 Within fifteen (15') feet and in the same room as backflow devices which have received approval from the Mo DNR, which have in their design the capability of a discharge.

411.2.8 Within fifteen (15') feet and in the same room as a boiler.

411.2.9 All toilet rooms in daycare or preschool facilities, which are designated for use by children using these facilities. The floor drain shall be protected from evaporation.

3795 *Add 411.2.10 through 411.2.15 to read as follows:*

3796

3797 **411.2.10** All wheel chair accessible roll-in showers shall be supplied, in addition to the  
3798 shower drain, with a threshold drain outside the shower within 5 feet of the shower drain,  
3799 whenever a threshold or obstacle to natural drainage to the shower drain exists. Where  
3800 the drain is required, the waste line of the threshold drain shall be connected to the  
3801 shower drain waste pipe above the trap.

3802

3803 **411.2.11** When floor drains are installed in existing floors, a minimum four (4) foot  
3804 square area (48" x 48") shall be removed, and the replacement floor shall be sloped to the  
3805 drain.

3806

3807 **411.2.12** When required by owner or designer, a floor drain shall be installed within five  
3808 (5) feet of the mop basin drain, and the waste line of that drain shall be connected to the  
3809 mop basin drain waste pipe above the trap.

3810

3811 **411.2.13** All basements with or without fixtures shall require a floor drain.

3812

3813 **411.2.14** Floor drains and floor sinks shall be considered plumbing fixtures and each  
3814 such drain shall be provided with an approved type strainer having a waterway equivalent  
3815 to the area of the tailpiece. Floor drains, floor sinks, floor receptors, and shower drains  
3816 shall be of an approved type, suitably flanged to provide a watertight joint in the floor.

3817

3818 **411.2.15.** Floor drains and floor sinks shall be installed in accordance with the  
3819 provisions set forth in this Code and in the manner set forth hereunder:

3820

3821 A. A connection for a floor drain at the automatic clothes washer  
3822 above ground may be discharged directly into the riser-pipe (stand pipe)  
3823 above the trap of the automatic clothes washer drain and the floor drain  
3824 need not be trapped.

3825 B. Above ground floor drains and hub drains three (3") inches in  
3826 diameter and larger shall be vented at the end of the horizontal line to  
3827 which they are connected.

3828 C. Underground traps three inches (3") in diameter and larger for  
3829 floor drains, hub drains or stand pipe receptors need not be vented if  
3830 sufficient stack vents or vent stack are connected to the underground  
3831 system to ensure adequate ventilation and protection of the trap seals.

3832 D. Traps two inches (2") in diameter installed for floor drains, hub  
3833 drains and standpipe receptors shall be vented.

3834 E. Where floor drains are provided the room floors shall be pitched  
3835 toward the floor drain.

3836 F. The connection of a floor drain, three (3") or four (4") inches in size  
3837 when installed underground shall be connected into the horizontal building  
3838 drain not less than five (5') feet downstream from the soil or waste stack.

3839 G. Floor sinks being used as indirect waste receptors for plumbing  
3840 fixtures or appliances shall be individually wasted and vented in  
3841 accordance with the provisions established in this Code.

3842 H. Floor sinks, three (3") inch trap size and larger, being used as indirect  
3843 waste receptors for drip drainage and other similar discharges shall be  
3844 either individually vented or line vented in accordance with the provisions  
3845 established in this Code.

3846

3847 *Change 411.8 to read as follows:*

3848

3849 **411.8** When the construction of on-site built-up shower receptors is permitted by the  
3850 Authority Having Jurisdiction, receptors built directly on the ground shall be water-tight  
3851 and shall be constructed from approved-type dense, nonabsorbent and non-corrosive  
3852 materials. Each such receptor shall be adequately reinforced, shall be provided with an  
3853 approved floor drain designed to make a water-tight joint in the floor, and shall have  
3854 smooth, impervious and durable surfaces.

3855 Shower receptors shall have the subfloor and rough side of walls to a height of not less  
3856 than three (3) inches (76mm) above the top of the finished dam or threshold shall be first  
3857 lined with sheet plastic\*, lead\*, or copper\*, or shall be lined with other durable and  
3858 water-tight sheet materials. Showers that are provided with a built in place, permanent  
3859 seat or seating area that is located within the shower enclosure, shall be first lined with  
3860 sheet plastic\*, lead\*,\_copper\*, or shall be lined with other durable and water-tight sheet  
3861 materials that extend not less than three (3) inches (76mm) above horizontal surfaces of  
3862 the seat or the seating area. “\*” Starred wording refers to the \*Note located at the end of  
3863 411.8 in the 2009 UPC.

3864 Such sheet lining materials shall be pitched one-quarter (1/4) inch per foot (20.9 mm / m)  
3865 to weep holes in the sub-drain of a smooth and solidly formed sub-base. Such sheet lining  
3866 materials shall extend upward on the rough jams of the shower opening to a point not less  
3867 than three (3) inches (76 mm) above the horizontal surfaces of the seat or seating area,  
3868 the top of the finished dam or threshold and shall extend outward over the top of the  
3869 permanent seat, permanent seating area, or rough threshold and be turned over and  
3870 fastened on the outside face of both the permanent seat, permanent seating area, or rough  
3871 threshold and the jambs.

3872

3873 412.3 Separate Facilities. Separate toilet facilities shall be provided for each sex.

3874

3875 ***Exceptions:***

3876 *(1.) Separate toilet facilities shall not be required for Residential installations.*

3877

3878 *(2.) In occupancies serving ten (10) or fewer people, one (10 toilet facility, designed for*  
3879 *use by no more than one (1) person at a time, shall be permitted for both sexes.*

3880

3881 *(3.) In business and mercantile occupancies with a total floor area of twenty five*  
3882 *hundred ((2500) square feet (232.5 m<sup>2</sup>) or less, except fuel dispensing facilities, one (1)*  
3883 *toilet facility, designed for use by no more than one (1) person at a time, shall satisfy the*  
3884 *requirements for serving customers and employees of both sexes.*

3885

3886 *(4.) In assembly occupancies, except for Food Service Establishments, with a total floor*  
3887 *area of fifteen hundred (1,500) square feet (135.5m<sup>2</sup>) or less, having an occupant load of*  
3888 *thirty (30) or less, one (1) toilet facility, designed for use by no more than one (1) person*  
3889 *at a time, shall satisfy the requirement for serving customers and employees of both*  
3890 *sexes.*

3891

3892 *Add 413.0 to read as follows:*

3893

3894 **413.0 Fixtures and Fixture Fittings for Persons with Disabilities.**

3895 Plumbing fixtures and fixture fittings for persons with disabilities shall conform to the  
3896 requirements of the St. Louis County Building Code and the appropriate standards

3897 referenced in Table 14-1 of this code.

3898 When unisex toilet facilities or facilities designed for families or for  
3899 assisted use are provided, the amount of fixtures provided for this use may  
3900 be used to reduce the number of required fixtures, one for one, either male  
3901 or female but not both. The maximum number is also limited to never  
3902 more than 80% of those required within 200 feet on the same floor.

3903

3904 419.0 Food Service Establishments. Food service establishments with an occupant load  
3905 of one hundred (100) or more shall be provided with separate facilities for employees and  
3906 customers. Customer and employee facilities may be combined for occupant loads less  
3907 than one hundred (100). Customer occupant load shall be determined as one occupant per  
3908 each 15 square foot or part thereof, of dining and waiting area. Where outdoor seating is  
3909 provided for a restaurant, the actual outdoor seating area shall be included in the total  
3910 occupant load area for the restaurant. When separate facilities are required for employees  
3911 and customers and the total number of employees exceeds 40 at any time, a second toilet  
3912 room shall be provided for employees and such toilet rooms shall be uni-sex. Employee  
3913 toilet rooms do not require physically disabled accessibility if other facilities in this  
3914 establishment are available which meet physically disabled accessibility requirements.

3915

3916 *Change Table 4-1 through Footnote #21 to read as follows:*

3917

**TABLE 4-1**

3918

**Minimum Plumbing Facilities <sup>1</sup>**

3919

3920 Each building shall be provided with sanitary facilities, including provisions for the  
3921 physically disabled as prescribed by the Department Having Jurisdiction. Table 4-1  
3922 applies to *new buildings, additions to a building, any changes of occupancy or type in an*  
3923 *existing building resulting in increased occupant load.*

3924

3925 Exception: New cafeterias used only by employees. For requirements for the physically  
3926 disabled, ICC/ANSI A117.1, Accessible and Usable Buildings and Facilities, may be  
3927 used. Access to public toilet facilities shall not be areas used by employees preparing  
3928 food or areas used for the repair or assembly of products obtained or consumed by  
3929 customers, or storage rooms, or mechanical Equipment rooms. The total occupant load  
3930 shall be determined by net floor area. The type of building or occupancy shall be  
3931 determined based on the actual use of the various spaces within the building. The  
3932 minimum number of fixtures shall be calculated at fifty (50) percent male and fifty (50)  
3933 percent female based on the total occupant load, except when specific occupancy  
3934 information is provided acceptable to the Authority Having Jurisdiction.

3935

3936 Once the occupant load and uses are determined, the requirements of Section 412.0,  
3937 419.0 and Table 4-1 shall be applied to determine the minimum number of plumbing  
3938 fixtures required.

3939

3940 State of Missouri regulations that exceed these minimums shall apply.

3941

***Exceptions:***

3942

1. *For Mercantile occupancies, square feet of net free floor area shall be used to*

3943

*calculate the number of occupants.*

3944

2. *For Industrial and Warehouse occupancies, the actual number of occupants*

3945

*shall be used as the total occupant load. For a building with a warehouse*

3946

*area of ten thousand (10,000) square feet or greater, a minimum of one (1)*

3947

*unisex toilet room including one (1) floor drain, one (1) water closet, and one*

*(1) lavatory with hot water shall be located in the warehouse area.*

3. *Where outdoor seating is provided for a restaurant, the actual outdoor seating*

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3951

*area shall be included in the total occupant load for the restaurant.*

4. *Re-occupancy with no change of use may require a change in the number of fixtures due to increase in occupant load or re-configuration of the space.*

Type of Building or Occupancy <sup>2</sup>	Water Closets <sup>14</sup> (Fixtures per Person)		Urinals <sup>5,10</sup> (Fixtures per Person)	Lavatories (Fixtures per Person)		Bathtubs or Showers (Fixtures per Person)	Drinking Fountains <sup>3,13</sup> (Fixtures per Person)
Assembly places – Theatres, Auditoriums, Convention Halls, etc. – for permanent employee use <sup>1815</sup>	Male 1: 1-40 2: 41-60 3: 61-100 4: 101-150	Female 1: 1-15 2: 16-40 3: 41-60 4: 61-75 5: 76-100 6: 101-150	Male 0: 1-15 1: 16-75 2: 75-150	Male 1/2 # of water closets & urinals (round up)	Female 1/2 # of water closets (round up)		
*(A Use Group)	Over 150 add 1 fixture for each additional 80 males and 1 fixture for each additional 40 females		Over 150 Add one fixture for each additional 80 males				
Assembly places – Theatres, Auditoriums, Convention Halls, etc. – for public use	Male 1: 1-100 2: 101-300 3: 301-600	Female 1: 1-25 2: 26-50 3: 51-100 4: 101-200 5: 201-400	Male 0: 1-25 1: 26-50 2: 51-200 3: 201-450 4: 451-800	Male 1/2 # of water closets & urinals (round up)	Female 1/2 # of water closets (round up)		1: 1-150 2: 151-400 3: 401-750
*(A Use Group)	Over 600 add 1 fixture for each additional 500 males and 1 for each additional 150 females over 400		Over 800 add 1 fixture for each additional 400 males				Over 750 add 1 fixture for each additional 500 persons
Assembly Places – Outdoor less than 11,000 capacity, Sports Facilities, Football Fields, Baseball Stadiums, Soccer pitches etc. – for public use	Male 1: 1-135 2: 136-400 3: 401-800	Female 1: 1-35 2: 36-65 3: 66-135 4: 136-265 5: 266-535	Male 0: 1-35 1: 36-65 2: 66-265 3: 266-600 4: 601-1050	Male ½ # of water closets & urinals (round up)	Female ½ # of water closets (round up)		1: 1-150 2: 151-400 3: 401-750
*(A Use Group)	Over 800 add 1 fixture for each additional 600 males and one for each additional 260 females over 535		Over 1050 add 1 fixture for each additional 535 males				Over 750, add 1 fixture for each additional 500 persons
Dormitories <sup>9</sup> School or Labor – (Itinerant Workers)	Male 1: 1-10	Female 1: 1-8	Male 1 per 25	Male 1/2 # of water closets & urinals (round up)	Female 1/2 # of water closets (round up)	1 per 8	1 per 150 <sup>12</sup>
*(R-2 Use Group)							

Type of Building or Occupancy <sup>2</sup>	Water Closets <sup>14</sup> (Fixtures per Person)		Urinals <sup>5,10</sup> (Fixtures per Person)	Lavatories (Fixtures per Person)		Bathtubs or Showers (Fixtures per Person)	Drinking Fountains <sup>3,13</sup> (Fixtures per Person)
	add 1 fixture for each additional 25 males (over 10) and 1 for each additional 20 females (over 8)		Over 150, add 1 fixture for each additional 50 males			For females add 1 bathtub per 30. Over 150, add 1 per 20	
Dormitories- For staff use <sup>18+5</sup> *(R-2 Use Group)	Male 1: 1-40 2: 41-60 3: 61-75	Female 1: 1-15 2: 16-30 3: 31-50 4: 51-75	Male 0: 1-15 1: 16-75	Male 1/2 # of water closets & urinals (round up)	Female 1/2 # of water closets (round up)	1 per 8	
	Over 75 55 add 1 fixture for each additional 80 males and 1 fixture for each additional 40 females		Over 75 add 1 fixture for each additional 80 males				
Dwellings <sup>4</sup> Residential One and Two Family Dwellings	1 per dwelling unit			1 per dwelling unit		1 per dwelling unit	
Dwelling <sup>4</sup> Residential Care/assisted living facilities (5 or fewer occupants) *(R-3 Use Group)	1 per dwelling unit			1 per dwelling unit		1 per dwelling unit	
Dwellings <sup>4</sup> Multiple dwelling or apartment house *(R-2 Use Group)	1 per dwelling or apartment unit			1 per dwelling or apartment unit		1 per dwelling or apartment unit	
Dwelling <sup>4,18+5</sup> Residential Care/assisted living facilities (6-16 occupants) *(R-4 Use Group)	1 per 10			1 per 10		1 per 8	1 per 150
Hospital Waiting rooms	1 per room			1 per room			1 per 150 <sup>12</sup>
Hospitals – for employee use <sup>18+5</sup>	Male 1: 1-40 2: 41-60 3: 61-75	Female 1: 1-15 2: 16-30 3: 31-50 4: 51-75	Male 0: 1-15 1: 16-75 10-50	Male 1/2 # of water closets & urinals (round up)	Female 1/2 # of water closets (round up)		
	Over 55 add 1 fixture for each additional 40 persons		Over 75 Add one fixture for each additional 80 males				
Hospitals- Individual room	1 per room			1 per room		1 per room	
Hospitals- Ward room	1 per 8 patients			1 per 10 patients		1 per 20 patients	1 per 150 <sup>12</sup>
Hotels, Motels <sup>16+9</sup> *(R-1 Use Group)	1 per guestroom			1 per guestroom		1 per guestroom	

Type of Building or Occupancy <sup>2</sup>	Water Closets <sup>14</sup> (Fixtures per Person)		Urinals <sup>5,10</sup> (Fixtures per Person)	Lavatories (Fixtures per Person)		Bathtubs or Showers (Fixtures per Person)	Drinking Fountains <sup>3,13</sup> (Fixtures per Person)
Industrial <sup>6,18+5</sup> warehouses, workshops, foundries, and similar establishments –for employee use *(S-1,S-2,F-1,F-2)	Male 1: 1-10 2: 11-25 3: 26-50 4: 51-75 5: 76-100  Over 100, add 1 fixture for each additional 30 persons	Female 1: 1-10 2: 11-25 3: 26-50 4: 51-75 5: 76-100		Male 1/2 # of water closets & urinals (round up) <sup>7,8</sup>	Female 1/2 # of water closets (round up) <sup>7,8</sup>	1 shower for each 15 persons exposed to excessive heat or to skin contamination with poisonous, infectious, or irritating material	
Institutional <sup>18+5</sup> -other than hospitals or penal institutions (on each occupied floor)	Male 1 per 25	Female 1 per 20	Male 0: 1-9 1: 10-50 Add one fixture for each additional 50 males	Male 1/2 # of water closets & urinals (round up) <sup>7,8</sup>	Female 1/2 # of water closets (round up) <sup>7,8</sup>	1 per 8	1 per 150 <sup>12</sup>
Institutional <sup>18+5</sup> -other than hospitals or penal institutions (on each occupied floor)-for employee use	Male 1: 1-40 2: 41-60 3: 61-75	Female 1: 1-15 2: 16-30 3: 31-50 4: 51-75	Male 0: 1-9 1: 10-50	Male 1/2 # of water closets & urinals (round up) <sup>7,8</sup>	Female 1/2 # of water closets (round up) <sup>7,8</sup>	1 per 8	1 per 150 <sup>12</sup>
	Over 75 add 1 fixture for each additional 80 males and 1 fixture for each 40 females		Add one fixture for each additional 50 males				

Type of Building or Occupancy <sup>2</sup>	Water Closets <sup>14</sup> (Fixtures per Person)		Urinals <sup>5,10</sup> (Fixtures per Person)	Lavatories (Fixtures per Person)		Bathtubs or Showers (Fixtures per Person)	Drinking Fountains <sup>3,13</sup> (Fixtures per Person)
Mercantile or Retail Buildings <sup>17,20</sup>  *(M Use Group)	Male 1: 1-200 2:201-400 3:401-600	Female 1: 1-50 2:51-100 3:101-300	Male 0: 1-100 1: 101-300 2: 301-600	Male 1/2 # of water closets & urinals (round up) <sup>7,8</sup>	Female 1/2 # of water closets (round up) <sup>7,8</sup>		0: 0-100 <sup>12</sup> 1: 101-200 2: 201-600 3: 601-1000 Add 1 fixture for each additional 1000 persons

Type of Building or Occupancy <sup>2</sup>	Water Closets <sup>14</sup> (Fixtures per Person)		Urinals <sup>5,10</sup> (Fixtures per Person)	Lavatories (Fixtures per Person)		Bathtubs or Showers (Fixtures per Person)	Drinking Fountains <sup>3,13</sup> (Fixtures per Person)
Office or Public Buildings  *(B Use Group)	Male 1: 1-100 2:101-200 3:201-400  Add 1 fixture for each additional 500 males over 400 and 1 fixture for each additional 150 females over 400	Female 3: 1-50 4: 51-100 8:101-200 11:201-400  Over 600 add 1 fixture for each additional 400 males	Male 0: 1-100 1: 101-300 2: 301-600	Male 1/2 # of water closets & urinals (round up) <sup>7,8</sup>	Female 1/2 # of water closets (round up) <sup>7,8</sup>		1 per 150 <sup>12</sup>
Office or Public Buildings and tenant spaces in Medical Office Buildings – for employee use  *(B use group)	Male 1: 1-40 2: 41-60 3: 61-100 4:101-150  Over 150 add 1 fixture for each additional 80 males and 1 fixture for each additional 40 females	Female 1: 1-15 2: 16-40 3: 41-60 4: 61-75 5: 76-100 6:101-150	Male 0: 1-15 1: 16-75 2: 76-150  Over 150 Add one fixture for each additional 80 males	Male 1/2 # of water closets & urinals (round up) <sup>7,8</sup>	Female 1/2 # of water closets (round up) <sup>7,8</sup>		1 per floor
Penal Institutions <sup>18+5</sup> – for employee use  *(I-3 Use Group)	Male 1: 1-40 2: 41-60 3: 61-75  Over 75 add 1 fixture for each additional 80 males and 1 fixture for each additional 40 females	Female 1: 1-15 2: 16-30 3: 31-50 4: 51-75	Male 0: 1-15 1: 16-75 Over 75 Add one fixture for each additional 80 males	Male 1/2 # of water closets & urinals (round up) <sup>7,8</sup>	Female 1/2 # of water closets (round up) <sup>7,8</sup>		1 per 150 <sup>12</sup>
Type of Building or Occupancy <sup>2</sup>	Water Closets <sup>14</sup> (Fixtures per Person)		Urinals <sup>5,10</sup> (Fixtures per Person)	Lavatories (Fixtures per Person)		Bathtubs or Showers (Fixtures per Person)	Drinking Fountains <sup>3,13</sup> (Fixtures per Person)
Penal Institutions – for prison use Cell Exercise Room  *(I-3 Use Group)	1 per cell 1 per exercise room	Male 1 per exercise room	1 per cell 1 per exercise room		1 per cell block floor 1 per exercise room		

Type of Building or Occupancy <sup>2</sup>	Water Closets <sup>14</sup> (Fixtures per Person)		Urinals <sup>5,10</sup> (Fixtures per Person)	Lavatories (Fixtures per Person)		Bathtubs or Showers (Fixtures per Person)	Drinking Fountains <sup>3,13</sup> (Fixtures per Person)
Public or Professional offices <sup>15</sup>	Same as Office or Public Buildings – for employee use <sup>15</sup>	Same as Office or Public Buildings – for employee use <sup>15</sup>	Same as Office or Public Buildings – for employee use <sup>15</sup>	Same as Office or Public Buildings – for employee use <sup>15</sup>		Same as Office or Public Buildings – for employee use <sup>15</sup>	
Restaurants, Pubs, and Lounges <sup>11</sup> *(A-2 Use Group)	Male 1: 1-50 2: 51-250 3: 251-300  Add 1 fixture for each additional 100 males over 300 add 1 fixture for each additional 75 females over 250	Female 1: 1-25 2: 26-50 3: 51-100 4: 101-150 5: 151-250  Over 150 add 1 fixture for each additional 150 males	Male 0: 1-25 1: 26-100 2: 101-150	Male 1/2 # of water closets & urinals (round up) <sup>7,8</sup>	Female 1/2 # of water closets (round up) <sup>7,8</sup>		
Schools <sup>18,15</sup> – For staff use All Schools	Male 1: 1-15 2: 16-35 3: 36-55  Over 55 add 1 fixture for each additional 40 persons	Female 1: 1-15 2: 16-25 3: 26-55 4: 36-55]	Male 1: 1-50	Male 1/2 # of water closets & urinals (round up) <sup>7,8</sup>	Female 1/2 # of water closets (round up) <sup>7,8</sup>		
Schools – for student use Child and Adult Day Care (greater than 16 occupancy) (Nursery Schools) *(I-4 Use Group)	1: 1-15 2: 16-30 3: 31-50  Over 50 add 1 fixture for each additional 50 persons		Male 1/2 # of water closets & urinals (round up) <sup>7,8</sup>	Female 1/2 # of water closets (round up) <sup>7,8</sup>		1 per 150 <sup>12</sup>	
Elementary *(E Use Group)	Male 1 per 40	Female 1 per 20	Male 1 per 75	Male 1/2 # of water closets & urinals (round up) <sup>7,8</sup>	Female 1/2 # of water closets (round up) <sup>7,8</sup>		1 per 150 <sup>12</sup>
Secondary *(E Use Group)	Male 1 per 50	Female 1 per 25	Male 1 per 100	Male 1/2 # of water closets & urinals (round up) <sup>7,8</sup>	Female 1/2 # of water closets (round up) <sup>7,8</sup>		1 per 150 <sup>12</sup>
Type of Building or Occupancy <sup>2</sup>	Water Closets <sup>14</sup> (Fixtures per Person)		Urinals <sup>5,10</sup> (Fixtures per Person)	Lavatories (Fixtures per Person)		Bathtubs or Showers (Fixtures per Person)	Drinking Fountains <sup>3,13</sup> (Fixtures per Person)
Others (colleges,	Male	Female	Male	Male	Female		1 per 150 <sup>12</sup>

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Type of Building or Occupancy <sup>2</sup>	Water Closets <sup>14</sup> (Fixtures per Person)		Urinals <sup>5,10</sup> (Fixtures per Person)	Lavatories (Fixtures per Person)		Bathtubs or Showers (Fixtures per Person)	Drinking Fountains <sup>3,13</sup> (Fixtures per Person)
universities, adult education_centers, etc.) *(E Use Group)	1 per 50	1 per 25	1 per 100	1/2 # of water closets & urinals (round up) <sup>7,8</sup>	1/2 # of water closets (round up) <sup>7,8</sup>		
Worship places Educational and Activities Unit *(E Use Group)	Male 1: 1-150 2:151-300	Female 1: 1-75 2: 76-150 3:151-300	Male 0: 1-75 1:76-300	Male 1/2 # of water closets & urinals (round up)	Female 1/2 # of water closets (round up)		1: 1-300 2: 301-600 3: 601-1000 add one fixture for each additional 1000 persons <sup>12</sup>
	Add 1 fixture for each additional 300 males and add 1 fixture for each additional 150 females over 300		Add 1 fixture for each additional 300 males				
Worship places principal assembly place *(A-3 Use Group)	Male 1: 1-150 2:151-300	Female 1: 1-75 2: 76-150 3:151-300	Male 0: 1-75 1:76-300	Male 1/2 # of water closets & urinals (round up)	Female 1/2 # of water closets (round up)		1: 1-300 2: 301-600 3: 601-1000 add one fixture for each additional 1000 persons <sup>12</sup>
	Add 1 fixture for each additional 300 males and add 1 fixture for each additional 150 females over 300		Add 1 fixture for each additional 300 males				

3952

3953 (\*Use group provided is given for guidance only and is not to be interpreted as the only  
3954 requirement.)

3955 1. The figures shown are based upon one (1) fixture being the minimum required for the  
3956 number of persons indicated or any fraction thereof

3957 2. Building categories not shown on this table shall be considered separately by the  
3958 Authority Having Jurisdiction.

3959 3. Drinking fountains shall not be installed in toilet rooms.

3960 4. Laundry trays. One (1) laundry tray or one (1) automatic washer standpipe for each  
3961 dwelling unit or one (1) laundry tray or one (1) automatic washer standpipe, or  
3962 combination thereof, for each twelve (12) apartments. Kitchen sinks, one (1) for each  
3963 dwelling or apartment unit.

3964 5. For each urinal added in excess of the minimum required, one (1) water closet may  
3965 be deducted. The number of water closets shall not be reduced to less than two-thirds  
3966 (2/3) of the minimum requirement.

3967 6. As required by PSAI Z4.1 Sanitation in Places of Employment.

3968 7. Where there is exposure to skin contamination with poisonous, infectious, or  
3969 irritating materials, provide one (1) lavatory for each five (5) persons.

3970 8. Twenty-four (24) lineal inches (610 mm) of wash sink or eighteen (18") inches (457  
3971 mm) of a circular basin, when provided with water outlets for such space, shall be  
3972 considered equivalent to one (1) lavatory.

3973 9. Laundry trays, one (1) for each fifty (50) persons. Service sinks, one (1) for each  
3974 hundred (100) persons.

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- 3978 10. General. In applying this schedule of facilities, consideration shall be given to the  
3979 accessibility of fixtures. Conformity purely on a numerical basis may not result in an  
3980 installation suited to the need of the individual establishment. For example schools  
3981 shall be provided with toilet facilities on each floor having classrooms, for students  
3982 and for teachers.
- 3983 a. Surrounding materials, wall and floor space to a point two (2) feet (610 mm)  
3984 in front of urinal lip and four (4') feet (1,219 mm) above the floor, and at least two (2)  
3985 feet (610 mm) to each side of the urinal shall be lined with non-absorbent materials.
- 3986 b. Trough urinals are prohibited.
- 3987 c. Waterless urinals are prohibited.
- 3988 11. A restaurant is defined as a business which sells food to be consumed on the  
3989 premises.
- 3990 a. The number of occupants for a drive-in restaurant shall be considered as equal to  
3991 the number of parking stalls.
- 3992 b. Employee toilet facilities are not to be included in the above restaurant  
3993 requirements. Hand washing facilities shall be available in the kitchen for  
3994 employees.
- 3995 c. For a drive-thru or take-out restaurant with seating, not to exceed twenty (20)  
3996 customers, toilet facilities shall be provided available to customers and  
3997 employees. A minimum of one (1) toilet room consisting of one (1) water closet,  
3998 one (1) lavatory, and one(1)floor drain shall be available to customers.
- 3999 d. For a drive-thru restaurant or take-out with no seating, toilet facilities are required  
4000 for employees only.
- 4001 e. For a facility dispensing fuel to the public which offers food and drink in a  
4002 structure larger than seven hundred fifty (750) square feet, toilet facilities for male  
4003 and female shall be provided available to customers and to employees.
- 4004 1. Where there are more than twelve (12) but less than twenty-three (23) fuel  
4005 dispensing stations available, there shall be provided for the male toilet  
4006 room two (2) water closets, one (1) urinal, one(1)lavatory, and one (1) floor  
4007 drain and there shall be provided for the female toilet room three (3) water  
4008 closets, one (1) lavatory, and one (1)floor drain..
- 4009 2. For each additional ten (10) fuel dispensing stations there shall be provided  
4010 for the male toilet room an additional one (1) water closet or urinal, and one  
4011 (1) lavatory, and there shall be provided for the female toilet room an  
4012 additional one (1) water closet, and one (1) lavatory.
- 4013 12. Where food is consumed indoors, water stations may be substituted for drinking  
4014 fountains. Offices or public buildings for use by more than six (6) persons shall have  
4015 one (1) drinking fountain for the first one hundred fifty (150) persons and one (1)  
4016 additional fountain for each three hundred (300) persons thereafter. At least one (1)  
4017 drinking fountain of those required shall be located within twenty-five (25) feet of  
4018 the entrance to the primary toilet room on any floor.
- 4019 13. There shall be a minimum of one (1) drinking fountain per occupied floor in schools,  
4020 theaters, auditoriums, dormitories, offices or public building.
- 4021
- 4022
- 4023
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- 4028

- 4029 14. The total number of water closets for females shall be at least equal to the total  
4030 number of water closets and urinals provided for men. This requirement does not  
4031 apply to retail or wholesale stores. For any facility which undergoes major  
4032 renovation as a place of assembly for public amusement including, but not limited to,  
4033 sports stadiums, arenas, auditoriums and assembly halls, there should be provided, at  
4034 a minimum, the number of water closets for women as there are provided the total  
4035 number of water closers and urinals for men. The term “major renovation” means  
4036 any reconstruction, rehabilitation, addition or other improvement which increases the  
4037 occupant load of the building by more than 20%.
- 4038 15. For smaller-type Public and Professional Offices such as banks, dental offices, law  
4039 offices, real estate offices, architectural offices engineering offices and similar uses.  
4040 A public area in these offices shall use the requirements for Retail or Wholesale  
4041 Stores.
- 4042
- 4043 16. Recreation or community room in multiple dwellings or apartment buildings  
4044 regardless of their occupant load, shall be permitted to have single-accommodation  
4045 facilities in common-use areas within tracts or multi-family residential occupancies  
4046 where the use of these areas is limited exclusively to owners, residents and their  
4047 guests. Examples are community recreation or multi-purpose areas in apartments,  
4048 condos, townhouses or tracts.
- 4049 18. Provide one service sink per floor.
- 4050 19. Provide one (1) service sink per structure or per wing.
- 4051 20. Provide one (1) service sink per floor in facilities over Five Thousand Five  
4052 Hundred (5500) square feet.
- 4053 21. Provide a minimum of one (1) exterior hose bibb on all buildings  
4054  
4055

**Amendments to the Uniform Plumbing Code 2010  
Saint Louis City Ordinance Chapter 5 Water Heaters**

**Chapter 5 Amended**

4056

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4059 501.0 General. The regulations of this chapter shall govern the construction, location, and  
4060 installation of fuel-burning and other water heaters heating potable water. The minimum  
4061 capacity for water heaters shall be in accordance with the first hour rating listed in Table  
4062 5-1. All design, construction, and workmanship shall be in conformity with accepted  
4063 engineering practices, manufacturer's installation instructions, and applicable standards  
4064 and shall be of such character as to secure the results sought to be obtained by this Code.  
4065 No water heater shall be hereinafter installed which does not comply in all respects with  
4066 the type and model of each size thereof approved by the Authority Having Jurisdiction.  
4067 A list of gas equipment standards is included in Table 14-1.

4068 The St. Louis City Mechanical Code shall govern the installation of chimneys, vents, and  
4069 their connectors for fuel-burning and other water heaters heating potable water.

4070 *Change 501.1 through 512.0 to read as follows:*

4071 501.1 Water heaters are water heating appliances and shall not exceed any one of the  
4072 following limitations:

- 4073 1. 199,000 Btu (58 kw) maximum input capacity
- 4074 2. 119 gallons of storage capacity
- 4075 3. 150 psi operating pressure
- 4076 4. 210° degrees (F) operating temperature

4077 Water heating equipment that does not exceed any of these parameters shall be  
4078 constructed to either AGA or UL design standards.

4079 In addition to this Code, the St. Louis City Mechanical Code shall also govern water  
4080 heaters that exceed any of the above limitations.

4081 **501.2** Any system with a new or a replacement water heating apparatus requiring a  
4082 pressure reducing valve or a closed system shall be provided with an approved, listed and  
4083 adequately sized thermal expansion device (expansion tank), installed within ten (10) feet  
4084 of, and on the cold water supply to the water heater, between the water heater shut-off  
4085 valve and the water heater, at least 18 inches away from the cold water inlet fitting on the  
4086 water heater. The tank may be installed in a vertical up, vertical down, or horizontal  
4087 position in accordance with the manufacturer's recommendation. If the expansion tank is  
4088 installed horizontally it must be adequately supported. No support shall be provided from  
4089 the water heater. This expansion tank meets the requirements in 608.2 regarding  
4090 protection from thermal expansion and maintenance of pressure setting of the regulator.  
4091 The measured static building pressure, and the pressure at which the expansion tank has  
4092 been set shall be written in ink on a permanent durable type label (equal to an Avery  
4093 #AVE6578 2" x 2-<sup>5</sup>/<sub>8</sub>" Label) attached to the expansion tank in a visible location.

4094 Shut-off valves for water heaters shall be installed in view of, within 10 feet of, within  
4095 easy reach from the ground, and shall be readily accessible No shutoff shall be installed  
4096 on the branch to the expansion tank.

4097 The expansion tank shall be installed in such a manner that the removal or replacement of  
4098 the water heater is not impaired.

4099 *Exceptions:*

4100 1.. *Engineered systems that provide equivalent protection may be approved by the*  
4101 *Authority Having Jurisdiction or his/her representative.*

4102 2. *Listed non-storage instantaneous heaters having an inside diameter of not more*  
4103 *than three (3") inches (76 mm).*

4104 3. *Water heaters, 30 gallon or less, installed under counter or in confined spaces in*  
4105 *multi-family units, where space does not permit the installation of an expansion tank,*  
4106 *adequately sized mechanical water hammer arrestors may be used to provide for thermal*  
4107 *expansion with the approval of the Authority Having Jurisdiction or his/her*  
4108 *representative.*

4109 **502.0 Definitions.** The following sections are deleted:

4110 **502.1 Through 502.14** all installations shall be in accordance with the St. Louis City  
4111 Mechanical Code.

4112 **502. 15 Water Heater** – An appliance for supplying hot water for domestic or  
4113 commercial purposes.

4114 **505.0 Water Heater Requirements.**

4115 505.1 Location. Deleted.

4116 All locations shall be in accordance with the St. Louis City Mechanical Code.

4117 **505.3 Clearance. Deleted.**

4118 All clearances shall be installed in accordance with the St. Louis City Mechanical Code.

4119 **506.1 Oil-Burning and other Water Heaters.** Deleted.

4120 **506.1, 506.3 through 507.9** All installations shall be in accordance with the St. Louis  
4121 City Mechanical Code.

4122 **508.0 Other Water Heater Installation Requirements.**

4123 508.4 When a water heater is located in an attic, attic-ceiling assemble, floor-ceiling  
4124 assemble, or floor-subfloor assembly, or furred space, or above the ground or basement  
4125 level and does not have a floor drain available, where damage may result from a leaking  
4126 water heater, a watertight safe pan of corrosion-resistant materials shall be installed  
4127 beneath the water heater and shall be laid on or be supported by a structurally sound base  
4128 to ensure proper drainage. The drain from the pan shall discharge to a non-concealed  
4129 point of disposal to alert occupants in the event of a leak.

4130 The pan shall have a minimum depth of 2 inches (51 mm) and shall be of such shape and  
4131 capacity as to prevent splashing or flooding, and shall be made water-tight. The pan shall  
4132 not be less than 3 inches (76 mm) larger than the unit in width and length. Metallic pans  
4133 shall have a minimum thickness of not less than 0.0276-inch (0.7 mm) galvanized sheet  
4134 metal. Non-metallic pans shall have a minimum thickness of not less than 0.0625 inch  
4135 (1.6 mm). Non-metallic safe pans shall be permitted to be used only with electric water  
4136 heaters. Pan shall have a 1 inch (25.4 mm) minimum tapping and increase to a 1-1/4 inch  
4137 (31.8 mm) diameter drain made of galvanized steel, copper, brass, solid core PVC or  
4138 CPVC which terminates and discharges through an air gap or air break into a properly  
4139 trapped and vented, receptor, hub drain, floor drain or floor drain with a funnel grate, or  
4140 to an approved location. Such piping shall maintain a minimum horizontal slope in the  
4141 direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-  
4142 percent slope). Every passageway to an attic water heater shall have an unobstructed  
4143 solid continuous flooring not less than twenty-four (24") inches (610 mm) wide from the  
4144 trap door or opening to the water heater. If the trap door or opening is more than eleven  
4145 (11') feet (3352 mm) above the floor, a stairway or ladder permanently fastened to the  
4146 building shall be provided. Such stairway or ladder shall lead directly to the edge of the  
4147 trap door or opening and shall comply with the provisions of this section.

4148 *Exception: A portable ladder may be used for access for water heaters in attics on the*  
4149 *single-story portion of a Group U, Division 1 or R occupancy.*

4150 **508.5 Relief Valve Discharge.** Discharge from a relief valve into a water heater pan is  
4151 permitted.

4152 **508.6 through 512.0** – Deleted

4153 All installations shall be in accordance with the St. Louis City Mechanical Code.

4154 *Add 510.8.4; 510.8.5; 510.9; 510.9.1; 510.9.2 to read as follows:*

4155 **510.8.4** Through-the-wall vents for Category II and Category IV appliances and  
4156 noncategorized condensing appliances shall not terminate over public walkways or over  
4157 an area where condensate or vapor could create a nuisance or hazard or could be  
4158 detrimental to the operation of regulators, relief valves, or other equipment. Where local  
4159 experience indicates that condensate is a problem with Category I and Category III  
4160 appliances, this provision shall also apply. Drains for condensate shall be installed in  
4161 accordance with the manufacturer's installation instructions. [NFPA 54-09:12.9.4]

4162  
4163 **510.8.5** Where vents, including those for direct-vent appliances or combustion air intake  
4164 pipes, penetrate outside walls of buildings, the annular spaces around such penetrations  
4165 shall be permanently sealed using approved materials to prevent entry of combustion  
4166 products into the building. [NFPA 54-09:12.9.5]

4167

4168 **510.9** Condensation Drain.

4169

4170 **510.9.1** Provision shall be made to collect and dispose of condensate from venting  
4171 systems serving Category II and Category IV gas utilization appliances and  
4172 noncategorized condensing appliances in accordance with Section 510.8.4.[NFPA  
4173 54:12.10.1]

4174

4175

4176 **510.9.2** Where local experience indicates that condensation is a problem, provision shall  
4177 be made to drain off and dispose of condensate from venting systems serving Category I  
4178 and Category III gas utilization appliances in accordance with 510.8.4. [NFPA  
4179 54:12.10.2]

4180

4181

4182 **Chapter 5 Part II – Deleted**

4183 All installations and fuel shall be installed in accordance with the St. Louis City  
4184 Mechanical Code.

4185

4186

4187

**Amendments To The Uniform Plumbing Code 2010  
Saint Louis City Ordinance Chapter 6 Water Supply**

**Chapter 6 Amended.**

*Add 601.1.1 through 601.1.2 to read as follows:*

**601.1.1 Hot Water Supply System** – In residences and buildings intended for human occupancy, hot water shall be supplied to all plumbing fixtures and equipment used for bathing, washing, culinary purposes, cleansing, laundry or building maintenance. With the approval of the Authority Having Jurisdiction tempered water supply systems may be installed in lieu of hot and cold water systems in buildings.

**601.1.2 Temperature Maintenance – Where Required**

Heated water distribution systems in buildings where developed length of heated water piping from the source of the heated water to the farthest fixture exceeds hundred (100') feet shall maintain heated water temperature in all supply piping to within twenty-five (25') feet of any heated water outlet.

**602.0 Unlawful Connections**

*Change 601 through 602.5 to read as follows:*

**602.1** No installation of potable water supply piping or part thereof shall be made in such a manner that it will be possible for used, unclean, polluted or contaminated water, mixtures or substances to enter any portion of such piping from any tank, receptacle, equipment, or plumbing fixture by reason of back-siphonage, by suction or any other cause, either during normal use and operation thereof or when any such tank, receptacle, equipment, or plumbing fixture is flooded, or subject to pressure in excess of the operating pressure in the hot or cold water piping. A device or method, which is suitable for isolating potable water from a potential pollutant, may be unacceptable as a means of protection against contamination.

**602.5** Backflow devices shall be installed on the water supply from a community water system to a building, when the use of the building changes to a use that requires containment under this regulation, and/or when any potable or non-potable water is provided within the new or existing building.

*Change 603.1 through 603.24 to read as follows:*

**603.1 Approval of Devices or Assemblies.** All devices or assemblies installed in a potable water supply system for protection against backflow shall be maintained in good working condition by the person or persons having control of such devices or assemblies. The Authority Having Jurisdiction or other department having jurisdiction may inspect such devices or assemblies and, if found to be defective or inoperable, shall require the repair or replacement thereof. No device or assembly shall be removed from use or relocated or other device or assembly substituted, without obtaining an approved permit. All devices or assemblies installed shall be a Missouri Department of Natural Resources approved device or assembly.

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### **603.3 General Requirements**

**603.3.1** All assemblies shall conform to listed standards and be acceptable to the Authority Having Jurisdiction over the selection and installation of backflow prevention assemblies. In addition to the standards for approval established elsewhere in this Code all Reduced Pressure Principle Backflow Prevention Assemblies and Double Check Valve Backflow Prevention Assemblies of any nature shall have the approval of the University of Southern California Foundation for Cross Connection Control and Hydraulic Research, and the Missouri Department of Natural Resources.

**603.3.4** Access and clearance shall be provided for the required testing, maintenance, and repair. Access and clearance shall require a minimum of one (1) foot (305 mm) between the lowest portion of the assembly and grade, floor or platform. Installations elevated more than five (5) feet (1524 mm) above the floor or grade shall be provided with a permanent platform within five (5) feet (1524 mm) below the device capable of supporting a tester or maintenance person.

#### **TABLE 6-2 Backflow Prevention Devices, Assemblies and Methods**

**NOTE:**

STL City accepted Table 6-2 with the following deletions:

~~Spill-Resistant Pressure-Type Backflow Prevention Assembly – entirely~~

~~Pressure Vacuum Breaker Backflow Prevention Assembly – entirely~~

#### **TABLE 6-2**

Changes to table:

Last column, first line: Installation <sup>2, 3, 6, 7</sup>

Add following notes:

6. Maximum location above grade, floor or platform at center of device, shall be five (5') feet.

7. Must be approved as a Backflow device by MoDNR.

**603.3.7** Fixtures, appliances or appurtenances with integral backflow preventers or integral airgaps manufactured as a unit shall be installed in accordance with their listing requirements, the manufacturers' instructions and as acceptable by the Authority Having Jurisdiction.

### **603.4.6 Protection from Lawn Sprinklers and Irrigation Systems**

**603.4.6.1** Potable water supplies to systems having no pumps or connections for pumping equipment, and no chemical injection or provisions for chemical injection, shall be protected from backflow by the following device: Reduced Pressure Backflow Preventer

**603.4.6.3** Where systems have a backflow device installed downstream from a potable water supply pump or a potable water supply pump connection, the device shall be the following: Reduced Pressure Backflow Preventer

4290 **603.4.8 Water Cooled Compressors**, Degreasers or any other water cooled equipment  
4291 shall be protected by a listed Reduced Pressure Zone backflow preventer installed in  
4292 accordance with the requirements of this chapter.  
4293  
4294 **603.4.9 Water Inlets to Water Supplied Aspirators** shall be equipped with a listed  
4295 atmospheric vacuum breaker with no downstream shutoff and mounted at least six (6)  
4296 inches (152 mm) above the aspirator unit or equipped with a listed Reduced Pressure  
4297 Zone Backflow Preventer installed in accordance with its listing requirements and this  
4298 chapter. The discharge shall drain through an air gap. When using the tailpiece of a  
4299 fixture to receive the discharge of an aspirator, the air gap shall be located above the  
4300 flood level rim of the fixture.  
4301  
4302 **603.4.10 Potable Water Make-Up Connections to Steam or Hot Water Boilers** shall be  
4303 provided with a listed Reduced Pressure Zone backflow protection assembly.  
4304  
4305 **603.4.13 Water Treatment Units**. Reverse osmosis drinking water treatment units shall  
4306 be provided with a listed Reduced Pressure Zone backflow protection assembly when  
4307 these units are provide water to downstream applications which pose a hazard as defined  
4308 BY Missouri Department of Natural Resources Regulations and St. Louis City Plumbing  
4309 Ordinance, and shall meet the requirements of the appropriate standard(s) referenced in  
4310 Table 14-1. Waste or discharge from reverse osmosis or other types of water treatment  
4311 units shall enter the drainage system through an air gap.  
4312  
4313 **603.4.16.5 Residential Sprinkler Systems**. When residential fire sprinkler systems are  
4314 installed using the potable water system they shall be installed in accordance with the  
4315 standards listed in Table 14-1. When the residential sprinkler system is a separate fire  
4316 system a Double Check backflow device shall be installed. When a combined system is  
4317 used all parts must be part of a circulating system, and must meet the requirements of this  
4318 chapter for potable water.  
4319  
4320 **603.4.18 Portable cleaning equipment, dental vacuum pumps and chemical dispensers**  
4321 shall be protected from backflow by an air gap, or a reduced pressure principle backflow  
4322 preventer.  
4323  
4324 **603.4.19 Water Heater Connectors**. Flexible metallic water heater connectors or  
4325 reinforced flexible water heater connectors connecting water heaters to the piping system  
4326 shall be in compliance with the appropriate standards listed Table 14-1. That portion of  
4327 the gas line supplying the water heater that includes the gas shutoff valve, the gas union,  
4328 the drip leg, the pressure regulator, if required, and the tee shall be hard piped and shall  
4329 be independently and securely supported. It may not be supported or attached to the water  
4330 heater.  
4331  
4332 **603.4.23 Faucets with Pull-Out Spouts** shall be in compliance with the appropriate  
4333 standards listed in Table 14-1 that include these specific types of faucets and require an  
4334 atmospheric vacuum breaker or vent to atmosphere to protect the water supply. Faucets  
4335 with Hose-Attached Sprays shall vent to atmosphere under back-siphonage conditions.  
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4340

4341 **603.4.24 Installation of Backflow Preventers.**

4342 A No person except those qualified, licensed and/or registered and bonded under  
4343 this Code shall install a Backflow Prevention Device.

4344 B. A permit is required for the installation of all Reduced Pressure Principle  
4345 Backflow Prevention Devices and Double Check Valve Assembly Backflow Prevention  
4346 Devices. Permits shall be issued and inspections performed by the plumbing section of  
4347 the Department of Public Works. Permits shall be issued only to those contractors who  
4348 are licensed and/or registered and bonded under this Code.

4349 C. All backflow prevention devices shall be accessible. Backflow prevention devices  
4350 shall not be installed in pits or similar potentially submerged locations or in fume,  
4351 chemical or fuel hoods, or in any area containing fumes that are toxic, poisonous or  
4352 corrosive.

4353 D. Atmospheric vacuum breakers shall be installed with the critical level at least six  
4354 (6) inches above the flood level rim or highest point of discharge of the fixture being  
4355 served. Such devices shall be installed on the discharge side of the last control valve to  
4356 the fixture and no shut off valve or faucet shall be installed downstream of the vacuum  
4357 breaker. Vacuum breakers on urinals shall be installed with the critical level six (6)  
4358 inches above the flood level rim of the fixture being served. Such devices shall be  
4359 installed on the discharge side of the last control valve to the fixture and no shut off valve  
4360 or faucet shall be installed downstream of the vacuum breaker. Vacuum breakers on  
4361 urinals shall be installed with the critical level six (6) inches above the flood level rim.

4362 E. Pressure type vacuum breakers shall be installed at a height of at least twelve (12)  
4363 inches above the flood level rim of the fixture, tank, or similar device.

4364 F. Double check valves and reduced pressure principle valves such devices shall be  
4365 installed at not less than twelve (12) inches above the grade, floor or platform with the  
4366 maximum of sixty (60)inches above floor. They shall not be installed within access  
4367 panels, over any machinery or equipment, or in any location, which might create a safety,  
4368 hazard to those employed in testing and maintenance of these devices.

4369 G. Installation shall meet current Missouri Department of Natural Resources  
4370 Regulations and St. Louis City Current Plumbing Code Ordinance. Where a conflict  
4371 occurs between this Chapter and Missouri Department of Natural Resources the more  
4372 stringent requirement shall apply.

4373  
4374 **604.0 Materials**

4375  
4376 *Change 604.1 through 604.8 to read as follows:*

4377  
4378 **604.1 Exception:** *When plastic pipe is being installed in construction of the water service*  
4379 *pipe, the plastic pipe shall terminate ten (10') feet outside the building foundation wall.*  
4380 *The metallic pipe allowed by this section shall be installed from ten (10') feet outside the*  
4381 *foundation to and within the building to the outlet of the house valve or the outlet of the*  
4382 *PRV whichever is further from the entrance to the building. Protection from electrolysis*  
4383 *(corrosion) shall be provided.*

4384  
4385 604.2 Copper tube for water piping shall have a weight of not less than Type L.

4386  
4387 **Exception:** *Type M copper tubing may be used for water piping when piping is above*  
4388 *ground in, or on, a building.*

4389  
4390 604.4 Listed flexible copper water connectors approved by the Code Official Authority  
4391 Having Jurisdiction shall be installed in exposed locations, unless otherwise listed.

February 24, 2012

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Board Bill No. 293 Introduced by: Alderman Gregory Carter

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604.8 Approved plastic materials may be used in water service piping, provided that where metal water service piping is used for electrical grounding purposes, replacement piping therefore shall be of like materials.

**Exception:** Where a grounding system, acceptable to the Authority Having Jurisdiction is installed, inspected, and an approved ten (10') feet of metallic pipe may be replaced with non-metallic pipe. Plastic materials for water service piping outside underground shall have a blue insulated copper tracer wire or other approved conductor installed adjacent to the piping. Access shall be provided to the tracer wire or the tracer wire shall terminate above ground at each end of the nonmetallic piping. The tracer wire size shall be not less than 18 AWG and the insulation type shall be suitable for direct burial.

Change Table 6-4-A to read as follows:

**TABLE 6-4-A**

MATERIAL	Under-Ground		Water Distribution Pipe and Fittings (Inside Building)		Building Supply Pipe and Fittings (Water Service - Outside Building)
			HOT	COLD	COLD
Asbestos - Cement					<del>X</del>
Brass	X	X	X	X	X
Copper	X	X	X	X	X
Cast Iron	X	X	X	X	X
CPVC (Schedule 40 and above)	X <sup>1</sup>		X	X	X
Galvanized Malleable Iron	X	X	X	X	X
Galvanized Wrought Iron	X	X	X	X	X
Galvanized Steel	X	X	X	X	X
HDPE	X	X		X	X
PE					
PE-AL-PE			X	X	
PEX	X <sup>1</sup>		X <sup>1</sup>	X <sup>1</sup>	
PEX-AL-PEX			X	X	
PVC ASTM 2241-Class 160-SDR 26)		X			X
PVC ASTM 2241--Class 200 -SDR 21		X			X
PVC ASTM 1785-Schedule 40	X	X		X	X
PVC ASTM 1785-Schedule 80	X	X		X	X
PVC AWWA C900 (C905) DR14 Class 200 Pressure Pipe		X			X

4407 **Note:** <sup>1</sup> Downstream from Pressure Reducing Valve if required.  
 4408  
 4409

4410 *Change 604.4.14 to read as follows:*

4411

4412 **604.4.14 Water Heater Connectors.** Flexible metallic water heater connectors or  
4413 reinforced flexible water heaters connectors connecting water heaters to the piping  
4414 system shall be in compliance with the appropriate standards listed in Table 14-1. That  
4415 portion of the gas line supplying the water heater that includes the gas shutoff valve, the  
4416 gas union, the drip leg, the pressure regulator, if required, and the tee shall be hard piped  
4417 and shall be independently and securely supported. It may not be supported or attached to  
4418 the water heater.

4419

4420 *Add 604.10.1 to read as follows:*

4421

4422 **604.10.1 Lead Water Service(s).** All damaged lead water services, residential and / or  
4423 commercial, shall be entirely replaced with copper or other acceptable approved  
4424 materials.

4425

4426 605.2 A full-way valve and drain on the house side controlling all outlets shall be  
4427 installed on the service entrance. Water piping supplying more than one building on any  
4428 one premises shall be equipped with a separate full-way valve and drain on the house side  
4429 to each building, so arranged that the water supply can be turned on or off to any  
4430 individual or separate building; provided however, that supply piping to a single family  
4431 residence and building accessory thereto, may be controlled on one valve. Such shutoff  
4432 valves shall be accessible at all times. A full-way valve shall be installed on the  
4433 discharge piping from water supply tanks at or near the tank. A full-way valve shall be  
4434 installed on the cold water supply pipe to each water heater at or near the water heater.

4435

4436 605.5 A control valve shall be installed immediately ahead of each water-supplied  
4437 appliance and immediately ahead of each slip joint or non-metallic fixture supply or  
4438 appliance supply. A control valve shall be installed for sill cocks, wall hydrants, yard  
4439 hydrants, street washers, and lawn irrigation systems in addition to required backflow  
4440 assemblies. Parallel water distribution systems shall provide a control valve either  
4441 immediately ahead of each fixture being supplied, or installed at the manifold and shall  
4442 be identified with the fixture being supplied.

4443

4444 *Change 608.2 through 608.3 to read as follows:*

4445

4446 **608.2 Excessive Water Pressure.** An approved type pressure regulator preceded by an  
4447 adequate strainer shall be installed in all water service pipes near its entrance to the  
4448 building and the static pressure reduced to eighty (80) pounds per square inch (552 kPa)  
4449 or less. Such regulator (s) shall control the pressure to all water outlets in the building  
4450 unless otherwise approved by the Authority Having Jurisdiction. Pressure at any fixture  
4451 shall be limited to no more than eighty (80) psi under no-flow conditions. Sill cocks and  
4452 outside hydrants may be left on full main pressure at the option of the owner. For potable  
4453 water services up to and including one and one-half (1-1/2) inch (40 mm) regulators,  
4454 provision shall be made to prevent pressure on the building side of the regulator from  
4455 exceeding main supply pressure. Approved regulators with integral bypasses are  
4456 acceptable.

4457

4458

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4460

4461 **Exception:** Where the water service pipe supplies water directly to a water pressure  
4462 booster system, an elevated water gravity tank, or to pumps provided in connection with a  
4463 hydro-pneumatic or elevated water supply tank system a pressure-reducing valve is not  
4464 required.  
4465

4466 Each such regulator and strainer shall be accessibly located above ground or in a vault  
4467 equipped with a properly sized and sloped bore-sighted drain to daylight, shall be  
4468 protected from freezing, and shall have the strainer readily accessible for cleaning  
4469 without removing the regulator or strainer body or disconnecting the supply piping. All  
4470 pipe size determinations shall be based on eighty (80%) percent of the reduced pressure  
4471 when using Table 6-6.  
4472

4473 **608.3** Any water system provided with a check valve, backflow preventer, or any other  
4474 normally closed device that dissipation of building water pressure back into the water  
4475 main or a pressure regulating device which does not have a bypass feature at its source  
4476 shall be provided with an approved, listed adequately sized pressure relief valve or a  
4477 means to control expansion. Any water system containing storage water heating  
4478 equipment shall be provided with an approved, listed, adequately sized combination  
4479 pressure and temperature relief valve, except for listed non-storage instantaneous heaters  
4480 having an inside diameter of not more than three (3") inches (80 mm). Each such  
4481 approved combination temperature and pressure relief valve shall be installed on the  
4482 water-heating device in an approved location based on its listing requirements and the  
4483 manufacturer's instructions. Each such combination temperature and pressure relief valve  
4484 shall be provided with a drain as required in Section 608.5.  
4485

4486 **608.5** Relief valves located inside a building shall be provided with a drain, not smaller  
4487 than the relief valve outlet, of galvanized steel, and hard drawn copper piping and  
4488 fittings, with fittings which will not reduce the internal bore of the pipe or tubing (straight  
4489 lengths as opposed to coils) and shall extend from the valve with the end of the pipe not  
4490 more than six (6) inches (152 mm) nor less than 2 diameters above the ground or the  
4491 flood level of the area receiving the discharge and pointing downward. Such drains may  
4492 terminate at other approved locations. No part of such drainpipe shall be trapped and the  
4493 terminal end of the drainpipe shall not be threaded.  
4494

## 4495 **609.0 Installation, Testing, Unions, and Location**

4496  
4497 *Change 609.1 through 610.1 to read as follows:*  
4498

4499 **609.1 Installation.** All water piping shall be adequately supported in accordance with  
4500 Section 314.0. Burred ends shall be reamed to the full bore of the pipe or tube. Changes  
4501 in direction shall be made by the appropriate use of fittings, except that changes in  
4502 direction in copper tubing may be made with bends, provided that such bends are made  
4503 with bending equipment, which does not deform or create a loss in the cross-sectional  
4504 area of the tubing. Provisions shall be made for expansion in hot water piping. Piping,  
4505 equipment, appurtenances, and devices shall be installed in a workman-like manner in  
4506 conformity with the provisions and intent of the Code. All potable water service yard  
4507 piping shall be a depth of at least forty-two (42") inches (107 mm) below finish grade.  
4508  
4509  
4510  
4511

4512 **609.2** Except as permitted below, the underground water service pipe and the building  
4513 sewer shall be not less than ten feet (10') apart horizontally and shall be separated by  
4514 undisturbed or compacted earth. The water service pipe may be placed in the same trench  
4515 with the building sewer, and water piping may be placed in the same trench as the  
4516 building drain within the limits of the building foundation, provided approval is given by  
4517 the Authority Having Jurisdiction and the following conditions are met:

4518  
4519 **609.2.1** The bottom of the water pipe, at all points, shall be at least twelve (12") inches  
4520 (305 mm) above the top of the sewer or drain line.

4521  
4522 **609.2.2** The water pipe shall be placed on a solid shelf excavated at one side of the  
4523 common trench with a minimum clear horizontal distance of at least twelve (12") inches  
4524 (305 mm) from the sewer or drain line. Water pipes crossing sewer or drainage piping  
4525 constructed of clay or materials, which are not approved for use within a building, shall  
4526 be laid a minimum of twelve (12") inches (305 mm) above the sewer or drainpipe.

4527  
4528 **609.4 Testing.** Upon completion of a section of the hot and cold water supply system,  
4529 prior to being covered, it shall be tested and proved tight under water pressure not less  
4530 than the working pressure under which it is to be used or eighty (80) pounds per square  
4531 inch whichever is greater. The water used for tests shall be obtained from a potable  
4532 source of supply. Except for plastic pipe, a one hundred (100) pound per square inch  
4533 (689.5 kPa) air pressure may be substituted for the water test. For plastic pipe, testing by  
4534 compressed gas or air pressure is prohibited. In either method of test, the piping shall  
4535 withstand the test without leaking for a period of not less than fifteen (15) minutes.

4536  
4537 **609.5 Unions.** Unions shall be installed in exposed locations in the water supply piping  
4538 within twelve (12") inches (305 mm) of regulating equipment, water heating,  
4539 conditioning tanks, and similar equipment which may require service by removal or  
4540 replacement in a manner which will facilitate its ready removal.

4541  
4542 **609.10 Water Hammer.** All building supply systems shall be provided with devices to  
4543 absorb water hammer caused by high pressures resulting from quick-closing valves.  
4544 These pressure-absorbing devices shall be or an approved mechanical device size "AA"  
4545 through "F". Mechanical devices to absorb water hammer, shall be installed on the hot  
4546 and cold water lines at each fixture or fixture group. Where applications require the  
4547 installation of a mechanical shock arrester larger than size "F" data to determine ability to  
4548 provide the protection needed, shall be submitted to provide such a device. Water  
4549 pressure-absorbing devices shall be installed as close as possible to quick-acting valves.

4550  
4551 **609.10.1 Mechanical Devices.** When listed mechanical devices are used, the  
4552 manufacturers' specifications as to location and method of installation shall be followed.  
4553 Such mechanical devices shall be accessible. Mechanical devices, which meet ASSE  
4554 1010 or PDI-WH 201 standards (see Chapter 14), do not need to be accessible.

4555  
4556 ***Exception:** For one (1) family, and two (2) families attached residential units, in order to*  
4557 *absorb water hammer a mechanical water hammer arrester shall be installed as follows:*

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**A Bathroom groups:**

1. Single bathrooms, minimum size “A” or single bathrooms back to back on a branch, minimum size “B”, an approved mechanical device on both the hot and cold water branches serving the bathroom group.
2. For more than one (1) bathroom group served by a vertical riser approved, minimum size “B”, mechanical device on both the hot and cold water at the top of the riser.
3. For each appliance with quick-acting valves a properly sized approved mechanical device on both the hot and cold water shall be installed as close as possible to the quick-acting valves. Appliances that include quick-closing valves are washing machines, dishwashers and ice makers. Other appliances that are not listed here may be determined to have a quick-closing valve, and shall be properly protected.

**B. Lawn Irrigation Systems**

1. Where a lawn irrigation system is installed, an Irrigation Backflow Assembly consisting of a Reduced Pressure Zone Backflow Device and within twelve (12”) inches a properly sized mechanical water hammer arrestor shall be installed on the supply line to the irrigation system.
  - a. The size of the water hammer arrestor shall be a minimum of size “C”. It shall be sized based on the following Table 609.10 -1.

<b>Table 609.10 – 1</b>	
Pipe Size	Arrestor Size
¾”	“C”
1”	“D”
1¼” – 1½”	“F”
2”	“C” + “F”

Based on PDI Reference Standards

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4588  
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*Change Table 6-6 to read as follows:*

**Table 6-6** Minimum Required Air Chamber Dimensions– *Deleted*

**610.0 Size of Potable Water Piping**

**610.1** The size of each water meter shall be as determined by the water purveyor. Each potable water supply pipe from the meter or other source of supply to the fixture supply branches, risers, fixtures, connections, outlets, or other uses shall be based on the total demand and shall be determined according to the methods and procedures outlined in this section. Other than systems sized by the use of Table 6-6, the system shall be designed to ensure that the maximum velocities allowed by the Code and the applicable standard are not exceeded.

4604 *Change 610.7 through 610.9 to read as follows:*

4605

4606 **610.7** On any proposed water piping installation sized using Table 6-6 the following  
4607 conditions shall be determined:

4608 (1) Developed length of supply pipe from the property line to most remote outlet.

4609 (2) Difference in elevation between the property line or other source of supply and the  
4610 highest fixture or outlet.

4611

4612 **610.8 Size of Meter and Building Pipe Using Table 6-6.** The size of the  
4613 building supply pipe and the building branch piping shall be determined as  
4614 follows: (Note: The water purveyor will determine the size of the meter installed.)

4615 Table 6-6 – In the title line delete “and Meter Sizes”.

4616 The column in Table 6-6 titled “Meter and Street Service, Inches” is  
4617 deleted.

4618 (1) Determine the available pressure at the source of supply.

4619 (2) Subtract one-half (1/2) pound per square inch pressure (3.4 kPa)  
4620 for each foot (305 mm) of difference in elevation between such source of  
4621 supply and highest water supply outlet in the building or on the premises;

4622 (3) Use the “pressure range” group within which this pressure will fall  
4623 using Table 6-6;

4624 (4) Select the “length” column which is equal to or longer than the  
4625 required length;

4626 (5) Follow down the column to a fixture unit value equal to or greater  
4627 than the total number of fixtures units required by the installation;

4628 (6) Having located the proper fixture unit value for the required  
4629 length, size of building supply pipe and the building branch piping as  
4630 found in the left hand columns titled “Building Supply and Branches,  
4631 Inches” shall be applied.

4632 No building supply pipe shall be less than one (1) inch (25.4 mm) in  
4633 diameter. For light commercial strip centers, when the water service  
4634 serves more than one tenant space, a one and one-half (1-½) inch  
4635 minimum size water service shall be provided to the most remote tenant  
4636 space.

4637

4638 **610.9 Size of Branches.** When Table 6-6 is used, the minimum size of each branch  
4639 shall be determined by the number of fixture units to be served by that branch, the total  
4640 developed length of the system, and the street service size, minimum one (1) inch (26.7  
4641 mm) in diameter as per Section 610.8. No branch piping is required to be larger in size  
4642 than that required by Table 6-6 for the building supply pipe.

4643

4644

Chapter 7 Amended.

Add the Note to Table 7-4 to read as follows:

**NOTE Table 7-4**

**ERRATA UPC**

Discharge Capacity in Gallons Per Minute  
For Intermittent Flow Only

GPM	(L/sec)	
0-7-1/2	0.00 to 0.47	1 Fixture Unit

**703.0 Size of Drainage Piping**

703.1 The minimum sizes of vertical and/or horizontal drainage piping shall be determined from the total of all fixture units connected thereto, and additionally, in the case of vertical drainage pipes, in accordance with their length.

*Change 703.1.1 Exceptions to read as follows:*

**703.1.1 Exceptions.**

1.) *Any portion of the building drain which is underground and which receives the discharge from a water closet shall be a minimum size of four inches (4") and the four inch (4") pipe size shall terminate at the clean-out thirty-six inches (36") above the finish floor. The minimum size of any other portion of the drainage system, which receives the discharge from a water closet, shall be a minimum size of three inches (3").*

*a. Approval may be given by the Authority Having Jurisdiction or his representative to approve the use of a minimum size of three (3") inches for the discharge of a single water closet when there is no four (4") inches or larger underground drain readily available. This approval may be given, if such approval does not exceed the capacity of the drain, and, that it would be an undue hardship, or interrupt ongoing business activity, or require extensive demolition of a finished living area, or damage or destroy existing architectural or decorative furnishings.*

2.) *Minimum size of the building sewer shall be six inches (6") in diameter and shall have the minimum of a two (2%) percent slope.*

3.) *No soil or waste stack shall be smaller than the largest horizontal branch connected thereto. A 3" X 4" inch water closet bend shall not be considered a reduction in pipe size.*

4.) *Any structure in which a building drain is installed shall have at least one stack vent or vent stack sized in accordance with section 12.16.6, not less than three inches (3") in diameter, or the size of the building drain. If the building drain is less than three inches (3") in diameter the vent shall be carried full size through the roof.*

5.) *Any vent pipe extending through the roof shall be not less than two (2") inches in diameter and shall extend from its terminus at least eighteen (18") inches below the interior side of the roof deck.*

4694 **6.)** *No portion of the drainage system installed underground or below a basement or*  
4695 *cellar shall be less than two (2") inches in diameter with the exception of vent piping*  
4696 *which shall be a minimum of one and one-half (1-1/2") inches and condensate waste*  
4697 *discharge lines which shall not be less than one and one-quarter (1 1/4") inches in*  
4698 *diameter.*

4699 **7.)** *The maximum length of two (2") inch underground kitchen sink waste piping*  
4700 *shall not exceed fifteen (15') feet from the point of connection to a horizontal branch*  
4701 *drain or building drain to the point where the kitchen sink waste piping extends above the*  
4702 *floor. The clean out above the floor shall be the same size as the underground kitchen*  
4703 *sink waste piping and shall be thirty-six (36") inches above the finished floor level.*

4704

#### 4705 **705.2 Use of Joints.**

4706

4707 *Change 705.2.5 to read as follows:*

4708

4709 **705.2.5** Joints of dissimilar materials used in the system shall be designed for that  
4710 purpose and used in accordance with their approvals. When such joints are used inside a  
4711 building they shall include a metallic shield.

4712

#### 4713 **706.0 Changes in Direction of Drainage Flow.**

4714

4715 *Change 706.4 to read as follows:*

4716

4717 **706.4** Vertical drainage lines connecting with horizontal drainage lines shall enter  
4718 through forty-five (45°) degree (0.79 rad) wye branches, combination wye and one-eighth  
4719 (1/8) bend branches, short radius or long radius 90° degree (1.58 rad) sweeps or other  
4720 approved fittings of equivalent sweep. Branches or offsets of sixty (60°) degree (1.05 rad)  
4721 may be used only when installed in a true vertical position.

4722

#### 4723 **707.0 Cleanouts.**

4724

4725 *Change 707.4.1 through 707.4.2 to read as follows:*

4726

4727 **707.4.1. a.)** A cleanout shall be provided in the vertical waste or soil stack, at a minimum  
4728 of three feet (3') above the floor.

4729

4730 **Exception:** *In residential buildings of slab floor construction or where a stack cleanout is*  
4731 *not accessible, the cleanout shall be installed in the building drain and shall terminate*  
4732 *not more than five feet (5') outside the building wall.*

4733

4734 **b.)** Rain leaders and conductors connected to a building storm sewer shall have a  
4735 cleanout installed three (3') feet above finished floor for each inside conductor and at the  
4736 base of each outside leader or before it connects to the horizontal drain.

4737

4738 **707.4.2** Each horizontal drainage pipe shall be provided with a cleanout at its upper  
4739 terminal and each run of piping, which is more than one hundred (100') feet (30480 mm)  
4740 in total developed length, shall be provided with a cleanout for each one hundred (100')  
4741 feet (30480 mm), or fraction thereof, in length of such piping. An additional cleanout  
4742 shall be provided in a drainage line for each aggregate horizontal change of direction  
4743 exceeding 135 degrees (2.36 rad) calculated in the direction of flow.

4744

- 4745 **Exceptions:**  
4746 (1) Cleanouts may be omitted on a horizontal drain line less than five (5') feet (1524 mm)  
4747 in length unless such line is serving sinks or urinals.  
4748 (2) Cleanouts may be omitted on any horizontal drainage pipe installed on a slope of  
4749 seventy-two (72 °) degrees (1.26 rad) or less from the vertical angle (angle of one-fifth  
4750 (1/5) bend).  
4751 (3) Excepting the building drain and its horizontal branches, a cleanout shall not be  
4752 required on any pipe or piping, which is above the first floor of the building.  
4753 (4) An approved type of two-way cleanout fitting, installed inside the building wall near  
4754 the connection between the building drain and building sewer or installed outside of a  
4755 building at the lower end of a building drain and extended to grade, may be substituted  
4756 for an upper terminal cleanout in residential buildings only.

4757  
4758 *Add 709.0 to read as follows:*  
4759

4760 **709.0 Gravity Drainage Required:** Wherever practicable, all plumbing fixtures shall be  
4761 drained to the public sewer or to a private sewage disposal system by gravity. Where  
4762 gravity drainage is not practicable, approval of the authority having jurisdiction or of his  
4763 representative is required.  
4764

4765 **710.0 Drainage of Fixtures Located Below the Next Upstream Manhole or**  
4766 **Below the Main Sewer Level.**

4767  
4768 *Change 710.1 through 710.3.3 to read as follows*  
4769

4770 **710.1** Where a fixture is installed on a basement level or floor level that is lower than the  
4771 next upstream manhole cover of the public or private sewer, serving such drainage  
4772 piping, shall be protected from backflow of sewage by at a minimum installing an  
4773 approved type of backwater valve or installing, when required by The Authority Having  
4774 Jurisdiction, a plumbing line supported from floor joists by approved hangers serving that  
4775 basement level or floor level (strapped plumbing) receiving the discharge from an  
4776 approved watertight sump or receiving tank. (See strapped plumbing drawings, Figure 43  
4777 and Figure 44 in Appendix "M"). Fixtures on floor levels above the upstream manhole  
4778 cover such elevation shall not discharge through the backwater valve or into the lower  
4779 level, approved watertight sump or receiving tank, but instead shall drain by gravity to  
4780 the public sewer.

4781  
4782 **710.1.1** Cleanouts for drains that pass through a backwater valve shall be  
4783 clearly identified with a permanent label stating "Backwater Valve Downstream".  
4784

4785 **710.2** Drainage piping serving fixtures that are located below the crown level of the main  
4786 sewer shall discharge into an approved watertight sump or receiving tank, so located as to  
4787 receive the sewage or wastes by gravity. From such sump or receiving tank, the sewage  
4788 or other liquid waste shall be lifted and discharged into the building drain or building  
4789 sewer by approved ejectors, pumps, or other equally efficient approved mechanical  
4790 devices.

4791  
4792  
4793  
4794  
4795

4796 **NOTE:** For clarification:

4797

4798

1) Fixtures above the upstream manhole cover drain by gravity.

4799

4800

2) Fixtures below the upstream manhole cover and above the crown of the sewer, drain by gravity through a backwater valve, or as directed by the Authority Having Jurisdiction shall drain as indicated below in item 3 below.

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3) Fixtures below the upstream manhole and below the crown of the sewer shall be lifted and discharged into the building drain or building sewer by means of an approved pumping system (strapped plumbing).

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4810 **710.3** A sewage ejector or sewage pump receiving the discharge of water closets or  
4811 urinals:

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4813

**710.3.1** Shall have a minimum discharge capacity of twenty (20) gallons (75.7 liters) per minute.

4814

4815

4816

**710.3.2** In single dwelling units, the ejector or pump shall be capable of passing a one and one half (1-1/2) inch (38 mm) diameter solid ball, and the discharge piping of each ejector or pump shall have a backwater valve and gate valve, and be a minimum of two ( 2 ) inches (51mm) in diameter.

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**710.3.3** In other than single-dwelling units, the ejector or pump shall be capable of passing a two (2) inch (51 mm) diameter solid ball, and the discharge piping of each ejector or pump shall have a backwater valve and gate valve, and be a minimum of three (3) inches (80 mm) in diameter.

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4824

4825

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4827

*Change 710.6 to read as follows:*

4828

4829

**710.6** Backwater valves, gate valves, unions, full-way ball valves, motors, compressors, air tanks, and other mechanical devices required by this section shall be located where they will be accessible for inspection and repair at all times and, unless continuously exposed, shall be watertight, enclosed in a masonry pit, or a pit of concrete, metal, or other approved material, construction, and manufacture, fitted with an adequately sized removable cover.

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Backwater valves shall have bodies of cast iron, brass, or other materials, non-corrosive bearings, seats and self-aligning discs, and shall be so constructed as to insure a positive mechanical seal and to remain closed, except when discharging wastes. Such valves shall remain sufficiently open during periods of low flows to avoid screening of solids and shall not restrict capacities or cause excessive turbulence during peak loads. Unless otherwise listed, valve access covers shall be bolted type with gasket and each valve shall bear the manufacturer's name cast into body and cover.

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4844

Alternate design of Backwater Valves that may be adequately serviced without installation in a pit may be used with the approval of the Authority Having Jurisdiction.

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4846

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4848

4849 **710.14** At stream and channel crossings, a minimum depth of two (2') feet shall be  
4850 allowed only where greater depths cannot be achieved. Where this minimum cover  
4851 cannot be achieved, Schedule 50 ductile iron pipe with restrained joints must be used  
4852 unless otherwise directed by the Authority Having Jurisdiction. Stream and channel  
4853 crossings must be protected with rock blanket.

4854

## 4855 **711.1 Suds Venting**

4856

4857 **711.1.1 Suds Pressure Zones and Suds Relief Vents Where required.** Where kitchen  
4858 sinks, laundry trays, laundry washing machines, and similar fixtures in which sudsy  
4859 detergents are normally used, discharge at an upper level into a soil or waste stack which  
4860 also serves fixtures in other occupancy units at a lower floor level, the drainage and vent  
4861 piping for such lower fixtures shall be arranged so as to avoid connection to suds pressure  
4862 zones in the sanitary drainage and vent systems, or a suds relief vent, relieving to a non-  
4863 pressure zone, shall be provided at each suds pressure zone where such connections are  
4864 installed. In multistory buildings, with more than six (6) branch intervals of fixtures  
4865 described above, separate waste and vent stacks for the lower four (4) branch intervals of  
4866 fixtures shall be required. See Table 711.1

4867

4868 **Suds Pressure Zones.** Suds pressure zones shall be considered to exist at the following  
4869 locations in sanitary drainage and vent systems as indicated in Table 711.2 (See figure  
4870 711.1 1103.418M Appendix M Code Illustrations #310).

4871

4872 **Zone 1.** In a soil or waste stack, which serves fixtures on two (2) or more  
4873 floors and receives wastes from fixtures wherein sudsy detergents are  
4874 used, a zone shall be considered to exist in the vertical portion upstream of  
4875 an offset fitting in the riser to the upper section of the system, in the  
4876 horizontal portion downstream of this fitting, and in the horizontal portion  
4877 upstream of the offset immediately preceding the next offset fitting. See  
4878 Table 711.1.

4879

4880 **Zone 2.** In a soil or waste stack, which serves fixtures on two (2) or more  
4881 floors and receives wastes from fixtures wherein sudsy detergents are  
4882 used, a zone shall be considered to exist at the base of the stack and  
4883 extending upstream. See Table 711.2.

4884

4885 **Zone 3.** In a soil or waste system, which serves fixtures on two (2) or  
4886 more floors and receives wastes from fixtures wherein sudsy detergents  
4887 are used, a zone shall be considered to exist downstream in the horizontal  
4888 drain from the base of the stack and both upstream and downstream of the  
4889 next offset fitting downstream.

4890

4891 **Zone 4.** In a soil or waste system, which serves fixtures on two (2) or  
4892 more floors and receives wastes from fixtures wherein sudsy detergents  
4893 are used, a zone shall be considered to exist in the vent stack extending  
4894 upstream from the point of connection to the base of the soil or waste  
4895 stack.

4896

4897

4898

4899

**Table 711.1**  
SUDS PRESSURE  
RELIEF VENTS

Waste Size	Relief Vent Size
1-1/2"	2"
2"	2"
2-1/2"	2"
3"	2"
4"	3"
5"	4"
6"	5"
8"	6"

**Table 711.2\***  
EXTENT OF SUDS PRESSURE ZONES FOR  
VARIOUS SIZE SOIL AND WASTE PIPING  
Extent of Zone  
(Measured from Fittings)

Stack Size	"U"	"D"
	(Upstream)	(Downstream)
1-1/2"	5'-0"	1'-6"
2"	7'-0"	1'-6"
2-1/2"	8'-0"	2'-0"
3"	10'-0"	2'-6"
4"	13'-0"	3'-6"
5"	17'-0"	4'-0"
6"	20'-0"	5'-0"

\* For use with Figure 711.1

4901

4902

4903 **712.3 Air Test.** The air test shall be made by attaching an air compressor testing  
4904 apparatus to any suitable opening, and, after closing all other inlets and outlets to the  
4905 system, forcing air into the system until there is a uniform gage pressure of five (5)  
4906 pounds per square inch (34.5 kPa) or sufficient to balance a column of mercury ten (10")  
4907 inches (254 mm) in height. The pressure shall be held without introduction of additional  
4908 air for a period of at least fifteen (15) minutes. Plastic pipe and fittings, may be tested  
4909 under this paragraph with the approval of the Authority Having Jurisdiction, and must  
4910 conform to requirements of the manufacturer.

4911

**Part II – Building Sewers**

4912

4913

**713.0 Sewer Required**

4914

4915

4916 **713.1** Every building in which plumbing fixtures are installed and every premises having  
4917 drainage piping thereon, shall have a connection to a public or private sewer, except as  
4918 provided in Sections 101.4.1.3, 713.2 and 713.4.

4919

4920 **713.2** House/building traps (vent traps). A house/building (vent) trap shall be installed on  
4921 individual and combined, sanitary and storm house sewer laterals connected to the public  
4922 sewer system. (See Section 1008.0)

4923

4924 ***Exception:** Building/House traps shall be installed on individual and combined, sanitary*  
4925 *and storm house/building laterals connected to combined sewers, and where required by*  
4926 *the Authority Having Jurisdiction. Each building trap when installed shall be provided*  
4927 *with a cleanout and with a relieving vent or fresh air intake on the inlet side of the trap*  
4928 *which need not be larger than one-half (1/2) the diameter of the drain to which it*  
4929 *connects. Such relieving vent or fresh air intake shall be carried to finish grade and*  
4930 *terminate in a screened outlet located outside the building.*

4931

4932 Delete 714.1 through 714.5

4933

4934

4935 **715.1** The building sewer, beginning five (5') feet (1525 mm) from any building or  
4936 structure, shall be of such materials as may be approved by the Authority Having  
4937 Jurisdiction under the approval procedures set forth in Chapter 3 of this Code. Sewer  
4938 laterals exceeding one hundred (100') feet shall include a full size cleanout, maximum  
4939 size shall be eight (8") inches, to surface within ten (10') feet of anticipated location of  
4940 the building foundation wall or the first (1st) story exterior wall of a slab on grade  
4941 building.

4942

#### 4943 **717.0 Size of Building Sewers**

4944 The minimum size of any building sewer shall be determined on the basis of the total  
4945 number of fixture units drained by such sewer, in accordance with Table 7-8. No  
4946 building sewer shall be smaller than the building drain, but in no case less than six (6")  
4947 inches (152 mm) and at a uniform minimum slope of 2 percent (2%).

4948

4949 *Change 718.3 to read as follows:*

4950

4951 **718.3** No building sewer or other drainage piping or part thereof, which is constructed of  
4952 materials other than those approved for use under or within a building, shall be installed  
4953 under or within five (5') feet (1525 mm) of any building or structure, or part thereof, nor  
4954 less than thirty (30") inches below the surface of the ground.

4955

4956 (1) **Exception:** Transition from building drain to building sewer at a  
4957 maximum of 45°.

4958

4959 (2) **Exception:** Where necessary to connect to a drainage line above  
4960 ground.

4961

4962 The provisions of this subsection include structures such as porches and steps, whether  
4963 covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports,  
4964 covered walks, covered driveways, and similar structures or appurtenances.

4965

#### 4966 **719.0 Cleanouts.**

4967

4968 *Change 719.6 to read as follows:*

4969

4970 **719.6** Approved manholes shall be permitted to be installed in lieu of cleanouts  
4971 when first approved by the Authority Having Jurisdiction. The maximum  
4972 distance between manholes shall not exceed four hundred (400') feet (121.9 m).  
4973 Connections to manholes shall be by approved method.

4974

#### 4975 **720.0 Sewers and Water Pipes**

4976 Building sewers or drainage piping of clay or materials, which are not approved for use  
4977 within a building, shall not be run or laid in the same trench as the water pipes.

4978

4979 **Exception:** *The underground water service pipe and the building sewer shall not be less*  
4980 *than ten feet (10') apart horizontally and shall be separated by undisturbed or compacted*  
4981 *earth.*

4982

4983

4984

4985

4986 The water service pipe may be placed in the same trench with the outside building  
4987 sewer and water piping may be placed in the same trench with the inside building  
4988 drain provided approval is given by the Authority Having Jurisdiction and both  
4989 the following requirements are met:

4990

4991 a. The bottom of the water pipe, at all points, shall be at  
4992 least twelve (12") inches (305 mm) above the top of the  
4993 sewer or drain line.

4994

4995 b. The water pipe shall be placed on a solid shelf excavated  
4996 at one side of the common trench with a minimum clear  
4997 horizontal distance of at least twelve (12") inches (305  
4998 mm) from the sewer or drain line.

4999

5000 Water pipes crossing sewer or drainage piping constructed of clay or materials,  
5001 which are not approved for use within a building, shall be laid a minimum of  
5002 twelve (12") inches (305 mm) above the sewer or drainpipe.

5003

5004 Note: For the purpose of this section, "within the building" shall mean within the  
5005 fixed limits of the building foundation.

5006

5007

## 5008 **722.0 Abandoned Sewers and Sewage Disposal Facilities**

5009

5010 **722.1** Every abandoned building (house) sewer, or part thereof, shall be plugged or  
5011 capped in an approved manner at the connection to the sewer main or at a location  
5012 acceptable to the Authority Having Jurisdiction.

5013

5014 **722.2** Every cesspool, septic tank, and seepage pit which has been abandoned or has been  
5015 discontinued otherwise from further use or to which no waste or soil pipe from a  
5016 plumbing fixture is connected, shall have the sewage removed there from and disposed of  
5017 in a manner required by law, the bottom broken out and be completely filled with  
5018 compacted earth, sand, gravel, concrete, or other approved material.

5019

5020 *Change 723.0 and Table 7-7 to read as follows:*

5021

## 5022 **723.0 Building Sewer Test**

5023 Building sewers shall be tested by plugging the end of the building sewer at its points of  
5024 connection with the public sewer or private sewage disposal system and completely  
5025 filling the building sewer with water from the lowest point to the highest point thereof, or  
5026 by approved equivalent low pressure air test, or by a method approved by the Authority  
5027 Having Jurisdiction. Plastic DWV piping systems shall not be tested by the air test  
5028 method. The building sewer shall be watertight at all points.

5029

5030

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5036

**Table 7-7**

Minimum Horizontal Distance Required From Building Sewer

Buildings or Structures <sup>1</sup>	2 feet (610 mm)
Property line adjoining private property	Clear <sup>2</sup>
Water Supply Wells	100 feet <sup>3</sup> (30,480 mm)
Streams	50 feet (15,240 mm)
On-site domestic water line	10 feet <sup>4</sup> (3048 mm)
Public Water Main	10 feet <sup>5,6</sup> (3048 mm)

5037  
5038  
5039  
5040  
5041  
5042  
5043  
5044  
5045  
5046  
5047  
5048  
5049

Note:

1. Including porches and steps, whether covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports, covered walks, covered driveways, and similar structures and appurtenances.
2. See also Section 313.3
3. All drainage piping shall clear domestic water supply wells by at least one hundred (100') feet (30480 mm)(15240).
4. See Section 609.2
5. For parallel construction.
6. For crossings, approval by the Health Department or Authority Having Jurisdiction shall be required.

AMENDMENTS TO THE UNIFORM PLUMBING CODE 2010  
SAINT LOUIS CITY CHAPTER 8 INDIRECT WASTES

Chapter 8 Amended.

*Change 801.2.3 as follows:*

**801.2.3** Food-preparation sinks, steam kettles, potato peelers, ice cream dipper wells, dishwashing machines, silverware washing machines, and similar equipment shall be indirectly connected to the drainage system by means of an air gap or air break. Bins, sinks, and other equipment having drainage connections and used for the storage of unpackaged ice used for human ingestion, or used in direct contact with ready-to-eat food, shall be indirectly connected to the drainage by means of an airgap. Each indirect waste pipe from food handling fixtures or equipment shall be separately piped to the indirect waste receptor and shall not combine with other indirect waste. The piping from the equipment to the receptor shall not be smaller than the drain on the unit, but it shall not be smaller than one (1") inch (25.4 mm).

*Change 803.0 to read as follows:*

**803.0 Indirect Waste Piping**

Except as hereinafter provided, the size and construction of indirect waste piping shall be in accordance with other sections of this Code applicable to drainage and vent piping. No vent from indirect waste piping shall combine with any sewer-connected vent, but shall extend separately to the outside air. Indirect waste pipes exceeding five (5') feet (1524 mm), but less than fifteen (15') feet (4572 mm) in length shall be directly trapped, but such traps need not be vented.

Indirect waste pipes less than fifteen (15') feet (4572 mm) in length shall not be less than the diameter of the drain outlet or tailpiece of the fixture, appliance, or equipment served, and in no case less than one (1") inch (25.4 mm) in size. Angles and changes of direction in indirect waste pipes of more than fifteen (15') feet shall be provided with cleanouts so as to permit flushing and cleaning.

**a.** A direct connection for a floor drain at the automatic clothes washer above ground may be discharged into the riser-pipe (standpipe) above the trap of the automatic clothes washer drain and the floor drain shall not be trapped.

**b.** A laundry sink on ground floor may discharge, untrapped, directly into the washer standpipe above the trap with no vent required.

**807.0 Appliances**

5101 *Change 807.4 to read as follows:*

5102

5103 807.4 The discharge from a sink, dishwasher, and garbage disposal (food-waste-grinder)  
5104 may discharge through a single one and one-half (1½”) trap. The discharge from the  
5105 dishwasher shall be a full-sized opening, which shall be a minimum of five-eighths inch  
5106 (5/8”) inside diameter in size, looped up and firmly secured to the highest point under the  
5107 counter and be connected with a wye fitting between the discharge of the garbage  
5108 disposal (food-waste-grinder) and the trap inlet, or to the head of the garbage disposal  
5109 (food-waste-grinder). An approved dishwasher air gap fitting on the discharge side of the  
5110 dishwashing machine may be used. Listed air gaps shall be installed with the flood level  
5111 (FL) marking at or above the flood level of the sink or drain board, whichever is higher.  
5112 In the installation of a double bowl kitchen sink (residential) with a garbage disposal  
5113 (food-waste-grinder), the fixture trap shall be installed on the same side of the sink in  
5114 which the garbage disposal is installed.

5115

5116 **809.0 Drinking Fountains**

5117 Drinking fountains may be installed with indirect wastes into sanitary drainage piping.

5118

5119 *Change 811.2 and Table 8-2 to read as follows*

5120 :

5121 **811.0 Chemical Wastes.**

5122

5123 **811.2** Each waste pipe receiving or intended to receive the discharge of any fixture into  
5124 which acid or corrosive chemical is placed, and each vent pipe connected thereto, shall be  
5125 constructed of Chlorinated Polyvinyl-chloride (CPVC), Polypropylene (PP),  
5126 Polyvinylidene Fluoride (PVDF), chemical-resistant glass, high-silicon iron pipe, or lead  
5127 pipe with a wall thickness of not less than one-eighth (1/8)inch (3.2 mm); an approved type  
5128 of ceramic glazed or unglazed vitrified clay; or other approved corrosion resistant  
5129 materials.

5130

**TABLE 8-2**

Equipment Capacity In Tons of Refrigeration (kW)		Minimum Condensate Pipe Diameter	
		Inches	(mm)
Up to 5	(Up to 70.34)	¾	(20)
More Than 5 to 40	(70.34 to 140.67)	1	(25)
More Than 40 to 90	(140.67 to 316.6)	1-1/4	(32)
More Than 90 to 125	(316.6 to 439.6)	1-1/2	(40)
More Than 125 to 250	(439.6 to 879.2)	2	(50)

5131

Chapter 9 Amended.

**904.0 Size of Vents**

*Change 904.3 to read as follows:*

**904.3 Minimum Size of Stack Vent or Vent Stack.**

Any structure in which a building drain is installed shall have at least one stack vent or vent stack sized in accordance with Table 7-5 not less than four inches (4") in diameter, not less than three inches (3") in diameter for one (1) and two (2) family residential, if the building drain is less than three inches (3") in diameter the vent shall be the size of the building drain carried full size through the roof. In no case shall the aggregate cross-sectional area of all vents, in the system, be less than the cross-sectional area of the largest required common building drain serving that system.

*Change 905.7 to read as follows:*

**905.7** All vent piping subject to back drainage shall use fittings appropriate to the sanitary waste system.

**906.0 Vent Termination**

*Change 906.1 through 906.7 to read as follows:*

**906.1** Each vent pipe or stack shall extend through its flashing and shall terminate vertically not less than twelve (12") inches (305 mm) above the roof nor less than one (1') foot (305 mm) from any vertical surface.

**906.3** Vent pipes shall be extended separately or combined, of full required size, not less than twelve (12") inches (305 mm) above the roof or fire wall. Flag-poling of vents shall be prohibited. All vents within ten (10') feet (3048 mm) of any part of the roof that is used for purposes other than weather protection shall extend not less than seven (7') feet (2134 mm) above such roof and shall be securely stayed.

**906.7 Frost or Snow Closure.**

Vent terminals shall be a minimum of two (2) inches (51 mm) in diameter but in no event smaller than the required vent pipe. The change in diameter shall be made inside the building at least eighteen (18") inches below the roof in an insulated space and terminate not less than twelve (12") inches (305 mm) above the roof, or as required by the Authority Having Jurisdiction.

5184 **907.0 Vent Stacks and Relief Vents**

5185

5186 *Change 907.1 and 907.3 to read as follows:*

5187

5188 907.1 Each drainage stack which extends ten (10) or more waste intervals above the  
5189 building drain or other horizontal drain shall be served by a parallel vent stack which  
5190 shall extend undiminished in size from its upper most terminal and connect to the  
5191 drainage stack at or immediately below the lowest fixture drain. Each such vent stack  
5192 shall also be connected to the drainage stack at each fifth floor, counting down from the  
5193 uppermost-fixture drain line through the horizontal fixture branch connection by means  
5194 of a yoke vent, the size of which shall not be less in diameter than either the drainage or  
5195 the vent stack, whichever is smaller.

5196

5197 **907.3** In a residential structure a relief vent shall be connected to a waste stack a  
5198 minimum of six (6") inches (152 mm) below the bottom of the joist at the lowest level  
5199 except when there is a plumbing vent through the roof installed from plumbing fixtures or  
5200 future rough-ins below the lowest level.

5201

5202 **908.0 Wet Venting**

5203

5204 *Change 908.1 through 908.1.4 to read as follows:*

5205

5206 **908.1 Vertical Wet Venting**

5207

5208 **908.1.1** Except as provided for in other sections of this Code, wet venting is limited to  
5209 vertical drainage piping receiving the discharge from the trap arm of one (1) and two (2)  
5210 fixture unit fixtures that also serves as a vent not to exceed four (4) fixtures. All wet  
5211 vented fixtures shall be within the same story; provided, further, that fixtures with a  
5212 continuous vent discharging into a wet vent shall be within the same story as the wet  
5213 vented fixtures. No wet vent shall exceed six (6') feet (1829 mm) in developed length.

5214

5215 **908.1.4** See Appendix M.

5216

5217 *Change 909.0 to read as follows:*

5218

5219 **909.0 Special Venting for Island Fixtures**

5220

5221 Alternate approved installation is described below and depicted in Drawing 7, Appendix  
5222 M.

5223

5224 Traps for island sinks and similar equipment shall be roughed in above the floor and may  
5225 be vented by extending the vent as high as possible, and no lower than bottom of sink  
5226 /fixture it serves and then returning it downward and connecting it to the horizontal sink  
5227 drain more than five (5') feet (1524mm) downstream from the vertical fixture drain. The  
5228 return vent shall be connected to the horizontal drain through a wye-branch fitting.  
5229 Drainage fittings shall be used on all parts of the vent and a minimum slope of one-  
5230 quarter (1/4") inch per foot (20.9 mm/m) back to the drain shall be maintained. Pipe  
5231 sizing shall be as elsewhere required in this code with minimum size to be two (2") inch  
5232 (51 mm). The island sink drain, upstream of the return vent, shall serve no other fixtures.  
5233 An accessible cleanout shall be installed in the vertical portion of the vent.

5234

5235 **910.0 Combination Waste and Vent Systems.**

5236 *Change 910.5 to read as follows:*

5237

5238 **910.5** Unless specifically required or permitted by the Authority Having Jurisdiction, no  
5239 vertical waste pipe shall be used in any such system, except the tailpiece or connection  
5240 between the outlet of a plumbing fixture and the trap. Such tailpieces or connections shall  
5241 be as short as possible, and in no case shall exceed two (2) feet (610 mm).

Chapter 10 Amended.

**1001.0 Traps Required**

**1001.2** It is provided, however, that one (1) trap may serve a set of not more than three (3) single compartment sinks or laundry tubs of the same depth or three (3) lavatories immediately adjacent to each other and in the same room if the waste outlets are not more than thirty (30) inches (762 mm) apart.

**TABLE 10-1**  
Horizontal Distance of Trap Arms  
(Except for water closets and similar fixtures)\*

TRAP ARM	DISTANCE TRAP TO VENT	TRAP ARM	DISTANCE TRAP TO VENT
Inches	Feet - Inches	m m	m m
1-1/4	3'-6"	32	1067
1-1/2	5'-0"	38	1524
2	8'-0"	51	2438
3	10'-0"	76	3048
4 & Larger	12'-0"	102 & Larger	3658

Slope one-fourth (1/4") inch per foot (20.9 mm/m)

\*The developed length between the trap of a water closet or similar fixture (measured from the top of the closet ring {closet flange} to the inner edge (of the vent) and its vent shall not exceed six (6') feet (1829 m

**1003.0 Traps – Described**

*Change 1003.2 through 1003.3 to read as follows:*

**1003.2** No more than one (1) approved slip joint fitting may be used on the outlet side of a trap, and no tubing trap shall be installed without a listed tubing trap adapter or a soldered or brazed joint connection. Listed plastic trap adapters shall be permitted to be used to connect listed metal tubing traps.

**1003.3** The size (nominal diameter) of a trap for a given fixture shall be sufficient to drain the fixture rapidly but in no case less than nor more than one (1) pipe size larger than given in Table 7-3. The trap shall be the same size as the trap arm to which it is connected.

5277 *Exception: One (1) and Two (2) fixture unit fixtures may have trap*  
5278 *arms one size larger than the trap size.*

5279  
5280 *Change 1008.0 to read as follows:*

5281  
5282 **1008.0 Building/House Traps**  
5283 Building/House traps shall be installed.

5284  
5285 *Exception: Building/House (vent) trap shall be installed on individual and combined,*  
5286 *sanitary and storm house / building sewer laterals connected to combined sewers to the*  
5287 *public sewer system. Each house / building trap shall be provided with a cleanout and*  
5288 *with a relieving vent or fresh air intake on the inlet side of the trap which need not be*  
5289 *larger than one-half the diameter of the drain to which it connects. Such relieving vent or*  
5290 *fresh air intake shall be carried to above grade and terminate in a screened outlet*  
5291 *located outside the building.*

5292  
5293 **1009.0 Industrial Interceptors (Clarifiers) and Separators**

5294  
5295 *Change 1009.1 through 1009.5 to read as follows:*

5296  
5297 **1009.1 When Required.** Interceptors (clarifiers) (including grease, oil, and sand  
5298 interceptors (clarifiers), etc.) shall be provided, in the judgment of the Authority Having  
5299 Jurisdiction, when they are necessary for the proper handling of liquid wastes containing  
5300 grease, flammable wastes, sand, solids, acid or alkaline substances, or other ingredients  
5301 harmful to the building drainage system, the public or private sewer or to public or  
5302 private sewage disposal. Sand interceptors shall be required where a floor drain or  
5303 multiple floor drains discharge (s) through an oil interceptor, or where the discharge of a  
5304 floor drain may contain solids or semi-solids that would be harmful to or tend to obstruct  
5305 the system. A sand interceptor shall have a vent installed in front of the gas/oil  
5306 interceptor. Human waste is prohibited from entering an interceptor (s).

5307  
5308 **1009.5 Location.**

5309 Each interceptor (clarifier) cover shall be readily accessible for servicing and maintaining  
5310 the interceptor (clarifier) in working and operating condition. Interceptors (clarifiers)  
5311 shall include means for visual inspection and access from above for both the influent and  
5312 effluent sides. Manholes (24 inches (24”) in diameter, 24 inches (24”) maximum in  
5313 length including a roadway access cover) shall be provided for access to each  
5314 compartment of an interceptor. Where depth is more than 24 inches (24”), a 36 inch  
5315 (36”) minimum diameter access with steps shall be provided as approved by the authority  
5316 having jurisdiction. The use of ladders or the removal of bulky equipment in order to  
5317 service interceptors (clarifiers) shall constitute a violation of accessibility. Location of all  
5318 interceptors (clarifiers) shall be shown on the approved building plan.

5319  
5320 **1014.0 Grease Interceptors.**

5321  
5322  
5323  
5324  
5325  
5326  
5327

5328 *Change 1014.1 through 1014.1.2 to read as follows:*

5329

5330 **1014.1** Where it is determined by the Authority Having Jurisdiction that waste  
5331 pretreatment is required, an approved type of grease interceptor (s)complying with the  
5332 provisions of this section shall be correctly sized and properly installed in grease waste  
5333 line (s)leading from sinks and drains, such as floor drains, floor sinks and other fixtures  
5334 or equipment in serving establishments such as restaurants, cafes, lunch counters,  
5335 sanitariums, factory or school kitchens, or other establishments where grease is  
5336 introduced into the drainage or sewage system in quantities that can effect line stoppage  
5337 or hinder sewage treatment or private sewage disposal. An interior (hydromechanical) or  
5338 exterior (gravity) grease interceptors or a combination of interior and exterior interceptor  
5339 shall be provided in order to meet grease separation needs of the Authority Having  
5340 Jurisdiction. Where space or existing physical constraints of existing buildings  
5341 necessitate such installations within the building, it shall be provided as approved by the  
5342 Authority Having Jurisdiction. A grease interceptor shall not be required for individual  
5343 dwelling units or for any private living quarters. Water closets, urinals, and other  
5344 plumbing fixtures conveying human waste shall not drain into or through the grease  
5345 interceptor.

5346

5347 **1014.1.1** Each fixture discharging into a grease interceptor shall be individually trapped  
5348 and vented in an approved manner.

5349

5350 **1014.1.2** Grease interceptors shall be maintained in efficient operating condition by  
5351 periodic removal of the accumulated grease and latent material. No such collected grease  
5352 shall be introduced into any drainage piping or public or private sewer. If the Authority  
5353 Having Jurisdiction determines that a grease interceptor is not being properly cleaned or  
5354 maintained, the Authority Having Jurisdiction shall have the authority to mandate the  
5355 installation of additional equipment or devices and to mandate a maintenance program.  
5356 (See 1103.P155 for maintenance program)

5357

5358 *Add 1014.1.3 to read as follows:*

5359

5360 **1014.1.3 Food Waste Disposal Units and Dishwashers.**

5361 Food Waste Disposal Units, rinse sinks and or Dishwashers are required to connect into a  
5362 grease interceptor and they must first flow through a solids trap.

5363

5364 *Change 1014.2 to read as follows:*

5365

5366 **1014.2 Hydromechanical Grease Inceptors.**

5367

5368 *Change 1014.2.4 to read as follows:*

5369

5370 **1014.2.4** Each grease interceptor required by this section shall have an approved rate of  
5371 flow which is not less than that as determined by 1014.2.1 for sinks and Table 10-2 for  
5372 the total number of connected fixtures. The total capacity in gallons (L) of fixtures  
5373 discharging into any such grease interceptor shall not exceed two and one-half (2-1/2)  
5374 times the certified gpm (L/s) flow rate of the grease interceptor as determined by 1014.2.  
5375 Any grease interceptors installed with the inlet more than four (4') feet (1219 mm) lower  
5376 in elevation than the outlet of any fixture discharging into such grease interceptor shall  
5377 have an approved rate of flow which is not less than fifty (50%) percent greater than that  
5378 given in Table 10-2.

5379

5380

Not more than four (4) separate fixtures shall be connected to or discharged into any one (1)-grease interceptor, which is installed inside the building. Floor drains receiving incidental water are not included as a fixture for the purposes of this paragraph.

5381

5382

5383

5384

*Change 1014.3 through 1014.3.5.1 to read as follows:*

5385

5386

**1014.3 Gravity Grease Interceptors.** Required gravity grease interceptors shall comply with the provisions of Sections 1014.3.1 through 1014.3.7.

5387

5388

5389

**1014.3.1 General.**

5390

The provisions of this section shall apply to the design, construction, installation, and testing of commercial kitchen gravity grease interceptors.

5391

5392

5393

**1014.3.5 Construction Requirements.**

5394

5395

**1014.3.5.1 Purpose.** Gravity grease interceptors shall be designed to remove grease from effluent and shall be sized in accordance with this section. Gravity grease interceptors shall also be designed to retain grease until accumulations can be removed by pumping the interceptor. Each gravity grease interceptor shall pass through an inspection manhole, prior to any connection to the public sewer.

5396

5397

5398

5399

5400

5401

5402

**TABLE 10 - 2  
Hydro-mechanical Interceptor Sizing Using Gravity Flow Rates<sup>(1)</sup>**

Diameter of Grease Waste Pipe	Maximum Full Pipe Flow (gpm) <sup>(2)</sup>	Size of Grease Interceptor	
		One-Minute Drainage Period (gpm)	Two-Minute Drainage Period (gpm)
2	20	20	10
3	60	75	35
4	125	150	75
5	230	250	125
6	375	500	250

5403

(1) For interceptor sizing by fixture see the example below.

5404

(2) 1/4" (.240) slope per foot based on Manning's formula with friction factor N = .012

5405

5406

5407

**EXAMPLE FOR SIZING  
HYDROMECHANICAL INTERCEPTOR (S) USING FIXTURE  
CHART**

5408

5409

5410

5411

Step 1: Determine the flow rate from each fixture.

5412

5413

[Length] x [Width] x [Depth] / [231] = Gallons x [.75 fill factor] / [Drain Period (1 min or 2 min)]

5414

5415

5416

Step 2: Calculate the total load from all fixtures that discharge into the interceptor.

Fixtures	Compartments	Load (gallons)	Size of Grease Interceptor	
			One-Minute Drainage Period (gpm)	Two-Minute Drainage Period (gpm)
Compartment Size				
12" x 24" x 12"	2	44.9		
Hydrant		3		
Rated Appliance		2		
		49.9	50	25

5418

5419 **1014.7** Reserved for future use.

5420

5421 **1014.8** Appendix H has been deleted from UPC code.

5422

5423 *Change 1015 to read as follows:*

5424

5425 **1015.** (SEE 1014.1.3)

5426

5427 **1017.0 Oil and Flammable Liquids Interceptors**

5428

5429 **1017.1 Interceptors Required.**

5430 All parking structures, repair garages and gasoline stations with grease racks or grease  
5431 pits, and all factories which have oily, flammable, or both types of wastes as a result of  
5432 manufacturing, storage, maintenance, repair or testing processes, shall be provided  
5433 with an oil or flammable liquid interceptor which shall be connected to all necessary floor  
5434 drains. The separation or vapor compartment shall be independently vented to the outer  
5435 air. If two (2) or more separation or vapor compartments are used, each shall be vented  
5436 to the outer air or may connect to a header which is installed at a minimum of six (6")  
5437 inches (152 mm) above the spill line of the lowest floor drain and vented independently  
5438 to the outer air. The minimum size of a flammable vapor vent shall not be less than two  
5439 (2") inches (51 mm), and when vented through a sidewall, the vent shall not be less than  
5440 ten (10') feet (3048 mm) above the adjacent level at an approved location. The  
5441 interceptor shall be vented on the sewer side and shall not connect to a flammable vapor  
5442 vent. All oil and flammable interceptors shall be provided with gastight cleanout covers,  
5443 which shall be readily accessible. The waste line shall not be less than three (3") inches  
5444 (76 mm) in diameter with a full-size cleanout to grade. An interceptor with an overflow,  
5445 shall be provided with an overflow line (not less than two (2") inches (51 mm) in  
5446 diameter) to an approved exterior waste oil tank having a minimum capacity of five  
5447 hundred fifty (550)gallons (2080 L) and meeting the requirements of the Authority  
5448 Having Jurisdiction. The waste oil from the separator shall flow by gravity or shall be  
5449 pumped to a higher elevation by an automatic pump. Pumps shall be adequately sized  
5450 and accessible. Waste oil tanks shall have a two (2") inch (51 mm) minimum pump-out  
5451 connection at grade and a one and one-half (1-1/2") inch (38 mm) minimum vent to  
5452 atmosphere at an approved location at least ten (10') feet (3048 mm) above grade.

5453

5454 **1017.3 Combination Oil and Sand Interceptor**

5455 A combination oil and sand interceptor may be installed when the Authority Having  
5456 Jurisdiction approves the design.

5457

5458

5459

Chapter 11 Amended

**1101.1 General**

*Change 1101.1 to read as follows:*

**1101.1** Where Required. Storm drainage need not be sewer connected provided that the property owner, licensed Master Plumber or licensed Master Drainlayer provides construction documents detailing the alternate discharge of the storm water. The construction documents shall be prepared by a Professional Engineer licensed by the State of Missouri and shall be sealed and signed. Under no circumstance shall the alternate discharge create a nuisance. The installation of the alternate discharge shall conform to all other provisions of the Plumbing Code.

***Exception:** In the case of a single one or two family dwelling, construction documents prepared, signed and sealed by a Professional Engineer will not be necessary. Storm water may be discharged on flat areas such as streets or lawns so long as the storm water shall flow away from the building, and shall not create a nuisance.*

**1101.7** Areaway Drains. All open subsurface space adjacent to a building, serving as an entrance to the basement or cellar of a building, shall be provided with a drain or drains. Such areaway drains shall be three (3") inches (76 mm) minimum diameter for areaways not exceeding one hundred (100') square feet (9.3 m<sup>2</sup>) in area, and shall be discharged in the manner provided for subsoil drains not serving continuously flowing springs or ground water (see Section 1101.5.2). Areaways in excess of one hundred (100') square feet (9.3 m<sup>2</sup>) shall not drain into subsoil. Areaway drains for areaways exceeding one hundred (100') square feet (9.3 m<sup>2</sup>) shall be sized according to Table 11-2.

**1101.11 Roof Drainage**

**1101.11.1** Primary Roof Drainage. Roof areas of a building shall be drained by roof drains or gutters. The location and sizing of drains and gutters shall be coordinated with the structural design and pitch of the roof. Unless otherwise required by the Authority Having Jurisdiction, roof drains, gutters, vertical conductors or leaders, and horizontal storm drains for primary drainage shall be sized based on a storm rate of six (6") inches per hour of sixty (60) minutes duration and 100-year return period. Refer to Table D-1 (in Appendix D) for 100-year, 60 minute storms at various locations.

**1101.11.2** Secondary Roof Drainage  
Secondary (emergency) roof drainage shall be provided by one of the methods specified in Section 1101.2.1 or 1101.11.2.2.

5511 *Change 1101.11.2.1 to read as follows:*

5512

5513 **1101.11.2.1** Where parapet walls or other construction extend above the roof and create  
5514 areas where storm water would become trapped if the primary roof drainage system  
5515 failed to provide sufficient drainage, an independent secondary roof drainage system  
5516 consisting of scuppers, standpipes, or roof drains shall be provided. Discharge from  
5517 secondary roof drains onto any area which maybe occupied by persons or vehicles shall  
5518 not be allowed to fall more than three (3) feet above the ground. Secondary roof drainage  
5519 systems shall be sized in accordance with Section 1101.11.1 as amended by this Code.  
5520 Overflow drains shall be the same size as the roof drains with the inlet flow line two (2")  
5521 inches (51 mm) above the low point of the roof and shall be installed independent from  
5522 the roof drains.

5523

5524 **1101.11.2.1 Roof Scuppers or Open Side**

5525

5526 *Change 1101.11.2.2.1 to read as follows:*

5527

5528 **1101.11.2.2.1 Separate Piping System**

5529 The secondary roof drainage system shall be a separate system of piping, independent of  
5530 the primary roof drainage system. The discharge shall be above grade, in a location  
5531 observable by the building occupants or maintenance personnel. Discharge from  
5532 secondary roof drains onto any area which may be occupied by persons or vehicles shall  
5533 not be allowed to fall more than three (3) feet above the ground. Secondary roof drain  
5534 systems shall be sized in accordance with Section 1101.11.1 based on the rainfall rate for  
5535 which the primary system is sized.

5536

5537 No part of the primary roof drainage system such as drains, scuppers, piping, gutters, or  
5538 appurtenances, which is a part of the primary roof drainage system, may be used in the  
5539 design or installation of the secondary roof drainage system.

5540

5541 *Change 1101.11.3 to read as follows:*

5542

5543 **1101.11.3** When approved by the Authority Having Jurisdiction, the requirements of  
5544 Sections 1101.11.1 as amended and 1101.11.2 shall not preclude the installation of an  
5545 engineered roof drainage system that has sufficient capacity to prevent water from  
5546 ponding on the roof in excess of that allowed in the roof structural design with a rainfall  
5547 rate of at least twice a rate of six (6") inches per hour, and with a blockage in any single  
5548 point in the storm drainage system.

5549

5550 **1101.12 Cleanouts**

5551

5552 *Change 1101.12.2 to read as follows:*

5553

5554 **1101.12.2** Rain leaders and conductors connected to a building storm sewer shall have a  
5555 cleanout installed at the base of the outside leader or outside conductor and a minimum of  
5556 three (3') feet and a maximum of five (5') feet above the finished floor on all inside  
5557 conductors and interior downspouts, before it connects to the horizontal drain.

5558

5559

5560

5561

5562 1102.4 Building Storm Sewers. Building storm sewers shall be constructed of materials  
5563 as specified in Table 14-1.

5564

5565 A. Depth and Minimum Cover.

5566 1. Storm sewers shall have a minimum depth of thirty  
5567 inches (30”).

5568 2. At stream and channel crossings, a minimum depth of  
5569 two (2’) feet shall be allowed only where greater depths cannot be  
5570 achieved. Where this minimum cover cannot be achieved,  
5571 Schedule 50 ductile iron pipe with restrained joints must be used  
5572 unless otherwise by the Authority Having Jurisdiction. Stream and  
5573 channel crossings must be protected with rock blanket.

5574

## 5575 **1102.0 Materials**

5576

### 5577 **1102.1 Conductors.**

5578

5579 *Change 1102.1.1 and 1102.4 to read as follows:*

5580

5581 **1102.1.1** Conductors installed above ground in buildings shall be in accordance with the  
5582 applicable standards reference in Table 7 -1 for above ground drain, waste and vent pipe.

5583

5584 **1102.4** Building Storm Sewers. Building storm sewers shall be in accordance with the  
5585 applicable standards referenced in Table 7-1 for building sewer pipe.

5586

5587 *Change 1104.3 to read as follows:*

5588

5589 **1104.3 Combining Storm with Sanitary Drainage.** The sanitary and storm drainage  
5590 system of a building shall be entirely separate, except where a combined sewer is used, in  
5591 which case the building storm drain may be connected in the same horizontal plane  
5592 through single wye fittings to the combined building sewer at least ten (10’) feet (3048  
5593 mm) downstream from any soil stack and outside the building and with a connection  
5594 beyond the property line.

5595

5596 *Change 1109.2 and 1109.2.2 to read as follows:*

5597

### 5598 **1109.2 Methods of Testing Storm Drainage Systems.**

5599 Except for outside leaders and perforated or open jointed drain tile, the piping of storm  
5600 drain systems shall be tested upon completion of the rough piping installed by water or  
5601 air; except that plastic pipe shall not be tested with air, and proved tight. The Authority  
5602 Having Jurisdiction shall be permitted to require the removal of any cleanout plugs to  
5603 ascertain whether the pressure has reached parts of the system. One (1) of the following  
5604 test methods shall be used:

5605

#### 5606 **1109.2.2 Air Test.**

5607

5608 **1109.2.2 Exceptions:** *When circumstances exist that make water tests, described in*  
5609 *Sections 1109.2.1 above, impractical, and for minor maintenance, repairs and*  
5610 *installations, the Authority Having Jurisdiction may perform the inspection tested under*  
5611 *conditions approved by the Authority Having Jurisdiction to assure that the work has*  
5612 *been in accordance with provisions of this Code.*

February 24, 2012

Page 125 of 158

Board Bill No. 293 Introduced by: Alderman Gregory Carter

Amendments to the Uniform Plumbing Code 2009  
Saint Louis City Ordinance Chapter 12 Fuel Piping

Chapter 12 Amended

Chapter 12 of the 2009 Uniform Plumbing Code™ is not adopted and is deleted and not included in this Plumbing Code. The St. Louis City Mechanical Code shall govern installation of FUEL PIPING.

1103.413 Amendments to the Uniform Plumbing Code™  
Chapter 13 - Medical Gas Systems

Chapter 13 Amended

Chapter 13 of the 2009 Uniform Plumbing Code™ is not adopted and is deleted and not included in this Plumbing Code. The St. Louis City Mechanical Code shall govern installation of Medical Gas Systems.

1103.414 Amendments to the Uniform Plumbing Code™  
Chapter 14 – Mandatory Referenced Standards

Chapter 14 Amended

The standards referenced in Chapter 14 2009\_of the Uniform Plumbing Code™ are accepted as recognized standards only and shall be used only to define a product for discussion and reference. The appearance of items in Chapter 14 does not imply acceptance or allow for their use.

1103.415 Amendments To The Uniform Plumbing Code™  
Chapter 15 – Fire-stop Protection

Chapter 15 Amended

Chapter 15 2009\_of the Uniform Plumbing Code™ is deleted. All fire-stop protection shall be done in accordance with the Building Code. Reference to these requirements in the Plumbing Code does not establish a code requirement regarding licensing of the person(s) who install fire-stop materials.

5664 **1103.416 Chapter 16 Nonpotable Water Reuse Systems – Part 1 Gray Water**  
5665 **Systems, Part 2 Reclaimed Water Systems, Part 3 Rainwater Catchment Systems.**

5666 Chapter 16 of the 2009 Uniform Plumbing Code <sup>TM</sup> is amended by the following  
5667 provisions. Each section in the UPC that corresponds to one of the following provisions  
5668 is hereby deleted where so noted or amended to read as set forth below. Each section set  
5669 forth below without a corresponding provision in the UPC is added thereto.

5670 If any conflict of interpretations, requirements, or Ordinance sections of this Chapter  
5671 occur between other similar Code provisions and other St. Louis City Ordinances the  
5672 more stringent requirement shall apply.

5673 **Part 1 Gray Water Systems**

5674 1601.0 *Gray Water Systems - General.*

5675 (A) The provisions of this chapter shall apply to the construction, alteration, and  
5676 repair of gray water systems for underground landscape irrigation. The system shall have  
5677 no connection to any potable water system and shall not result in any surfacing of the  
5678 gray water. Except as otherwise provided for in this chapter, the provisions of this code  
5679 shall be applicable to gray water installation.

5680 (B) The type of system shall be determined on the basis of location, soil type, and  
5681 groundwater level, and shall be designed to accept all gray water connected to the system  
5682 from the residential building. The system, except as otherwise approved, shall consist of a  
5683 holding tank or tanks that discharge into subsurface irrigation/disposal fields.

5684 (C) No gray water system or part thereof shall be located on any lot other than the lot  
5685 that is the site of the building or structure that discharges the gray water, nor shall any  
5686 gray water system or part thereof be located at any point having less than the minimum  
5687 distances indicated in Table 16-1.

5688 (D) No permit for any gray water system shall be issued until a plot plan, prepared by  
5689 the appropriate registered design professional consistent with the professional registration  
5690 laws of the State of Missouri bearing an original embossed or wet ink seal, and the date  
5691 and original signature of the registered design professional. with appropriate data  
5692 satisfactory to the Authority Having Jurisdiction, has been submitted and approved.  
5693 When there is insufficient lot area or inappropriate soil conditions for adequate  
5694 absorption of the gray water, as determined by the Authority Having Jurisdiction, no gray  
5695 water system shall be permitted. No permit shall be issued for a gray water system on any  
5696 property in a geologically sensitive area as determined by the Authority Having  
5697 Jurisdiction.

5698 (E) Private sewage disposal systems existing or to be constructed on the premises  
5699 shall comply with Chapter 22 of this code covering Private Sewage Systems. In addition,  
5700 appropriate clearances from the gray water systems shall be maintained as provided in  
5701 Table 16-1. The capacity of the private sewage disposal system, including required future  
5702 areas, shall not be decreased or otherwise affected by the existence or proposed  
5703 installation of a gray water system servicing the premises.

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## Part 2 Reclaimed Water Systems

5707 1613.0 *Reclaimed Water Systems - General.*

5708 (A). The provisions of this chapter shall apply to the installation, construction, alteration,  
5709 and repair of reclaimed water systems intended to supply water closets, urinals, and trap  
5710 primers for floor drains and floor sinks. Use is limited to these fixtures that are located in  
5711 nonresidential buildings. Fixtures within residential buildings are excluded from the list  
5712 of approved uses. If reclaimed water is utilized on the premises, all potable water supplies  
5713 shall be provided with appropriate backflow protection, as required by the Authority  
5714 Having Jurisdiction.

5715 Except as otherwise provided for in this chapter, the provisions of this code shall be  
5716 applicable to reclaimed water system installations.

5717 (B). No permit for any reclaimed water system shall be issued until complete plumbing  
5718 plans, prepared by the appropriate registered design professional consistent with the  
5719 professional registration laws of the State of Missouri bearing an original embossed or  
5720 wet ink seal, and the date and original signature of the registered design professional,  
5721 with appropriate data satisfactory to the Authority Having Jurisdiction, have been  
5722 submitted and approved. No changes or connections shall be made to either the reclaimed  
5723 water system or the potable water system within any site containing a reclaimed water  
5724 system without approval by the Authority Having Jurisdiction.

5725

5726 (C). Before the building may be occupied, the installer shall perform the initial cross-  
5727 connection test in the presence of the Authority Having Jurisdiction and authorities  
5728 having jurisdiction. The test shall be ruled successful by the Authority Having  
5729 Jurisdiction before final approval is granted.

5730

5731 1620.0 *Inspection and Testing.*

5732 1. Reclaimed water piping shall be tested as outlined in this code for testing of  
5733 potable water piping.

5734 2. An initial and subsequent annual cross connection inspection and test shall be  
5735 performed on both the potable and reclaimed water systems as follows:

5736 (A) Visual Dual System Inspection. Prior to commencing the cross-connection  
5737 testing, a dual system inspection shall be conducted by plumbers licensed under  
5738 this code possessing a current backflow tester license.

5739 (1) Meter locations of the reclaimed water and potable water lines  
5740 shall be checked to verify that no modifications were made, and that no  
5741 cross-connections are visible.

5742 (2) All pumps and equipment, equipment room signs, and exposed  
5743 piping in the equipment room shall be checked.

5744 (3) All valves shall be checked to ensure that valve lock seals are still  
5745 in place and intact. All valve control door signs shall be checked to verify  
5746 that no signs have been removed.

5747

5748 B). Cross -Connection Test. The following procedure shall be followed by plumbers  
5749 licensed under this code possessing a current backflow tester license to determine  
5750 whether a cross connection occurred.

5751

5752 (1) The potable water system shall be activated and pressurized. The  
5753 reclaimed water system shall be shut down and completely drained.

5754

5755 (2) The potable water system shall remain pressurized for a minimum  
5756 period of time specified by the Authority Having Jurisdiction while the  
5757 reclaimed water system is empty. The minimum period the reclaimed  
5758 water system is to remain depressurized shall be determined on a case-by-  
5759 case basis, taking into account the size and complexity of the potable and  
5760 reclaimed water distribution systems, but in no case shall that period be  
less than one (1) hour.

5761

5762 (3) All fixtures, potable and reclaimed, shall be tested and inspected  
5763 for flow. Flow from any reclaimed water system outlet shall indicate a  
5764 cross-connection. No flow from a potable water outlet would indicate that  
it may be connected to the reclaimed water system.

5765

5766 (4) The drain on the reclaimed water system shall be checked for flow  
5767 during the test and at the end of the period. The potable water system shall  
then be completely drained.

5768

5769 (5) The reclaimed water system shall then be activated and  
pressurized.

5770

5771 (6) The reclaimed water system shall remain pressurized for a  
5772 minimum period of time specified by the Authority Having Jurisdiction  
5773 while the potable water system is empty. The minimum period the potable  
5774 water system is to remain depressurized shall be determined on a case-by-  
case basis, but in no case shall that period be less than one (1) hour.

5775

5776 (7) All fixtures, potable and reclaimed, shall be tested and inspected  
5777 for flow. Flow from any potable water system outlet shall indicate a cross-  
5778 connection. No flow from a reclaimed water outlet would indicate that it  
may be connected to the potable water system.

5779

5780 (8) The drain on the potable water system shall be checked for flow  
during the test and at the end of the period.

5781

5782 (9) If there is no flow detected in any of the fixtures that would have  
5783 indicated a cross -connection, the potable water system shall be re-  
pressurized.

5784

(C) In the event that a cross -connection is discovered, plumbers licensed under this  
5785 code possessing a current backflow tester license, shall initiate the following  
5786 procedure immediately:

5787

5788 (1) Reclaimed water piping to the building shall be shut down at the

- 5789 meter, and the reclaimed water riser shall be drained.
- 5790 (2) Potable water piping to the building shall be shut down at the  
5791 meter.
- 5792 (3) The cross-connection shall be uncovered and disconnected.
- 5793 (4) The building shall be retested following procedures listed in  
5794 subsections (B)(1) and (B)(2) above.
- 5795 (5) The potable water system shall be chlorinated with fifty (50) ppm  
5796 chlorine for twenty-four (24) hours.
- 5797 (6) The potable water system shall be flushed after twenty-four (24)  
5798 hours, and a standard bacteriological test shall be performed. If test results  
5799 are acceptable, the potable water system may be recharged.
- 5800 3. An annual inspection of the reclaimed water system, following the procedure  
5801 listed in subsection 1620.0 (B) (1), shall be required. Annual cross connection testing,  
5802 following the procedures listed in subsection 1620.0 (B) (2), shall be required by the  
5803 Authority Having Jurisdiction, unless site conditions do not require it. In no event shall  
5804 the test occur less often than once in four (4) years.

5805  
5806 Alternate testing requirements may be allowed by the Authority Having Jurisdiction for  
5807 institutional buildings.

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### **Part 3 Rainwater Catchment Systems**

5810 1622.0 *Non-Potable Rainwater Catchment Systems, Interior.*

5811 1622.1 *General.* With the approval of the Authority Having Jurisdiction, the provisions  
5812 of this section shall apply to the installation, construction, alteration, and repair of  
5813 rainwater catchments systems intended to supply uses such as water closets, urinals, trap  
5814 primers for floor drains and floor sinks, and other uses approved by the Authority Having  
5815 Jurisdiction.

5816 *Note:* Additional design criteria can be found in the ARCSA/ASPE Rainwater Catchment  
5817 Design and Installation Standard. Additional requirements can be found in other sections  
5818 of this Code.

5819 1622.2 *Plumbing Plan Submission.* No permit for any rainwater catchment system  
5820 requiring a permit shall be issued until complete plumbing plans, with appropriate data  
5821 satisfactory to the Authority Having Jurisdiction, have been submitted and approved. No  
5822 changes or connections shall be made to either the rainfall catchment or the potable water  
5823 system within any site containing a rainfall catchment water system without approval by  
5824 the Authority Having Jurisdiction.

5825 1622.3 *Reserved.*

5826 1622.4 *Connections to Potable or Reclaimed (Recycled) Water Systems.* Rainwater  
5827 catchment systems shall have no direct connection to any potable water supply or  
5828 alternate water source system. Potable or reclaimed (recycled) water is permitted to be

5829 used as makeup water for a rainwater catchment system provided the potable or  
5830 reclaimed (recycled) water supply connection is protected by a reduced-pressure principle  
5831 backflow preventer complying with the plumbing code.

5832 *1622.5 Initial Cross-Connection Test.* Where any portion of a rainwater catchment  
5833 system is installed by a licensed plumber within a building, a cross-connection test is  
5834 required in accordance with 1622.12.2. Before the building may be occupied, or the  
5835 system is activated the installer shall perform the initial cross-connection test in the  
5836 presence of a licensed plumber with a current backflow tester certification. The test shall  
5837 be certified successful to the Authority Having Jurisdiction before final approval is  
5838 granted.

5839 *1622.6 Sizing.* Rainfall catchment system distribution piping for indoor applications shall  
5840 be sized as outlined in this code for sizing potable water piping. The design and size of  
5841 rainwater drains, gutters, conductors, and leaders shall comply with the plumbing code.

5842 *1622.7 Reserved.*

5843 *1622.8 Rainfall Catchment System Materials.* Rainfall catchment system materials shall  
5844 comply with Section 1622.8.1 and Section 1622.8.4.

5845 *1622.8.1 Water Supply and Distribution Materials.* Rainwater catchment water supply  
5846 and distribution materials shall comply with the requirements of the plumbing code for  
5847 potable water supply and distribution systems, unless otherwise provided for in this  
5848 section.

5849 *1622.8.2* All materials used in rainwater catchment drainage systems, including gutters,  
5850 downspouts, conductors, and leaders shall comply with the requirements of the plumbing  
5851 code for storm drainage.

5852 *1622.8.3 Storage Tanks.* Rainwater storage tanks shall comply with Section 1622.10.6.

5853 *1622.8.4 Collections Surfaces.* The collection surface shall be constructed of a hard,  
5854 impervious material.

5855 *1622.9 Rainwater Catchment Water System Color and Marking Information.* Rainwater  
5856 catchment systems shall have a colored background in accordance with the plumbing  
5857 code. Rainwater catchment systems shall be marked with the words “CAUTION: NON-  
5858 POTABLE RAINWATER WATER, DO NOT DRINK” in lettering in accordance with  
5859 the plumbing code.

5860 *1622.10 Design and Installation.*

5861 *1622.10.1* With the approval of the Authority Having Jurisdiction, outside hose bibbs  
5862 shall be allowed on rainwater piping systems. Hose bibbs supplying rainwater shall be  
5863 marked with the words “CAUTION: NON-POTABLE WATER, DO NOT DRINK”.

5864

5865 *1622.10.2 Deactivation and Drainage for Cross Connection Test.* The rainwater  
5866 catchment system and the potable water system within the building shall be provided

5867 with the required appurtenances (valves, air/vacuum relief valves, etc.) to allow for  
5868 deactivation or drainage as required for cross connection test in Section 1622.13.2.

5869 1622.10.3 *Collection Surfaces*. Rainwater shall only be collected from roof surfaces.  
5870 Rainwater catchment system shall not collect rainwater from:

- 5871 1. Vehicular parking surfaces;
- 5872 2. Surface water runoff; or
- 5873 3. Bodies of standing water.

5874 1622.10.3.1 *Prohibited Discharges*. Overflows and bleed-off pipes from roof-mounted  
5875 equipment and appliances shall not discharge onto roof surfaces that are intended to  
5876 collect rainwater.

5877 1622.10.4 *Minimum Water Quality*. The minimum water quality for harvested rainwater  
5878 shall meet the applicable water quality requirements for the intended applications as  
5879 determined by the public health Authority Having Jurisdiction.

5880 1622.10.5 *Reserved*.

5881 1622.10.6 *Rainwater Storage Tanks*.

5882 Rainwater storage tanks shall be constructed and installed in accordance with Sections  
5883 1622.10.6.1 through 1622.10.6.7.

5884 1622.10.6.1 *Construction*. Rainwater storage shall be constructed of solid, durable  
5885 materials not subject to excessive corrosion or decay and shall be watertight. Storage  
5886 tanks shall be approved by the Authority Having Jurisdiction provided such tanks  
5887 comply with approved applicable standards.

5888 1622.10.6.2 *Location*. Rainwater storage tanks shall be permitted to be installed above or  
5889 below grade.

5890 1622.10.6.3 *Above Grade*. Above grade storage tanks shall be of an opaque material,  
5891 approved for above-ground use in direct sunlight or shall be shielded from direct sunlight.  
5892 Tanks shall be installed in an accessible location to allow for inspection and cleaning.  
5893 The tank shall be installed on a foundation or platform that is constructed to  
5894 accommodate all loads in accordance with the building code.

5895 1622.10.6.4 *Below Grade*. Rainwater storage tanks installed below grade shall be  
5896 structurally designed to withstand all anticipated earth or other loads. All holding tank  
5897 covers shall be capable of supporting an earth load of not less than three hundred (300)  
5898 pounds per square foot (1464.6 kg/m<sup>2</sup>) when the tank is designed for underground  
5899 installation. Below grade rainwater tanks installed underground shall be provided with  
5900 manholes. The manhole opening, large enough to provide access, shall be located a  
5901 minimum of 4 inches above the surrounding grade. The surrounding grade shall be sloped  
5902 away from the manhole. Underground tanks shall be ballasted, anchored, or otherwise  
5903 secured, to prevent the tank from floating out of the ground when empty. The combined  
5904 weight of the tank and hold down system should meet or exceed the buoyancy force of  
5905 the tank.

5906 1622.10.6.5 *Drainage and Overflow*. All rainwater storage tanks shall be provided with a  
5907 means of draining and cleaning. The overflow drain shall not be equipped with a shutoff  
5908 valve. The overflow outlet shall discharge as required by the plumbing code for storm  
5909 drainage systems. Where discharging to the storm drainage system, the overflow drain  
5910 shall be protected from backflow of the storm drainage system by a backwater valve or  
5911 other approved method.

5912 1622.10.6.5.1 *Overflow Outlet Size*. The overflow outlet shall be sized to accommodate  
5913 the flow of the rainwater entering the tank and not less than the aggregate cross-sectional  
5914 area of all inflow pipes.

5915 1622.10.6.6 *Opening and Access Protection*.

5916 1622.10.6.6.1 *Animals and Insects*. All rainwater tank openings shall be protected to  
5917 prevent the entrance of insects, birds or rodents into the tank.

5918 1622.10.6.6.2 *Human Access*. Rainwater tank access openings exceeding 12 inches (305  
5919 mm) in diameter shall be secured to prevent tampering and unintended entry by either a  
5920 lockable device or other approved method.

5921 1622.10.6.7 *Marking*. Rainwater tanks shall be permanently marked with the capacity  
5922 and the language: "NON-POTABLE RAINWATER." Where openings are provided to  
5923 allow a person to enter the tank, the opening shall be marked with the following  
5924 language: "DANGER- CONFINED SPACE".

5925 1622.10.7 *Pumps*. All pumps serving rainwater catchment systems shall be listed. All  
5926 pumps supplying water to water closets, urinals, trap primers shall be capable of  
5927 delivering a minimum (15) pounds per square inch (103.4 kPa) residual pressure at the  
5928 highest and most remote outlet served. Where the water pressure in rainwater supply  
5929 system within the building exceeds (80) pounds per square inch (552 kPa), a pressure  
5930 reducing valve reducing the pressure to (80) pounds per square inch (552 kPa) or less to  
5931 all water outlets in the building shall be installed in accordance with the plumbing code.

5932 1622.10.8 *Roof Drains*. Primary and secondary roof drains, conductors, leaders, and  
5933 gutters shall be designed and installed as required by the plumbing code.

5934 1622.10.9 *Water Quality Devices and Equipment*. Devices and equipment used to treat  
5935 rainwater to maintain the minimum water quality requirements determined by the  
5936 Authority Having Jurisdiction shall be listed or labeled (third-party certified) by a listing  
5937 agency (accredited conformity assessment body) and approved for the intended  
5938 application.

5939 1622.10.10 *Freeze Protection*. All tanks and piping installed in locations subject to  
5940 freezing shall be provided with an adequate means of freeze protection.

5941 1622.10.11 *Debris Removal*. The rainwater catchment conveyance system shall be  
5942 equipped with a debris excluder or other approved means to prevent the accumulation of  
5943 leaves, needles, other debris and sediment from entering the storage tank. All devices or  
5944 methods used to remove debris or sediment shall be accessible.

5945 1622.10.12 *Required Filters*. A filter permitting the passage of particulates no larger than  
5946 one-hundred (100) microns shall be provided for rainwater supplied to water closets,  
5947 urinals, trap primers, and drip irrigation system.

5948 1622.10.13 *Roof Gutters*. Gutters shall maintain a minimum slope and be sized in  
5949 accordance with the plumbing code.

5950 1622.11 *Signs*. Signs in buildings using rainwater water shall comply with Section  
5951 1622.11.1 and 1622.11.2.

5952 1622.11.1 *Commercial, Industrial and Institutional Restroom Signs*. A sign shall be  
5953 installed in all restrooms in commercial, industrial, and institutional occupancies using  
5954 non-potable rainwater for water closets and/or urinals. Each sign shall contain one half  
5955 (1/2) inch (12.7 mm) letters of a highly visible color on a contrasting background. The  
5956 location of the sign(s) shall be such that the sign(s) shall be visible to all users. The  
5957 number and location of the signs shall be approved by the Authority Having Jurisdiction  
5958 and shall contain the following text:

5959 TO CONSERVE WATER, THIS BUILDING USES RAINWATER TO FLUSH  
5960 TOILETS AND URINALS.

5961 1622.11.2 *Equipment Room Signs*. Each equipment room containing non-potable  
5962 rainwater equipment shall have a sign posted with the following wording in one (1) inch  
5963 (25.4 mm) letters on an ORANGE background:

5964 CAUTION NON-POTABLE RAINWATER, DO NOT DRINK. DO NOT CONNECT  
5965 TO DRINKING WATER SYSTEM. NOTICE: OBTAIN A PLUMBING PERMIT  
5966 BEFORE PERFORMING ANY WORK ON THIS WATER SYSTEM.

5967 This sign shall be posted in a location that is visible to anyone working on or near  
5968 rainwater water equipment.

5969 1622.12 *Inspection and Testing*. Rainwater catchment systems shall be inspected and  
5970 tested in accordance with 1622.12.1 through 1622.12.3

5971 1622.12.1 *Supply System Inspection and Test*. Rainwater catchment systems shall be  
5972 inspected and tested in accordance with the applicable provisions of the plumbing code  
5973 for testing of potable water and storm drainage systems.

5974 1622.12.2 *Annual Cross-Connection Inspection and Testing*. An initial and subsequent  
5975 annual inspection and test required by Section 1622.5 shall be performed on both the  
5976 potable and rainfall catchment water systems by licensed plumbers with a current  
5977 backflow tester certification. The potable and rainfall catchment water system shall be  
5978 isolated from each other and independently inspected and tested to ensure there is no  
5979 cross connection in accordance with 1622.12.2.1 through 1622.12.2.4.

5980 1622.12.2.1 *Visual System Inspection*. Prior to commencing the cross-connection testing,  
5981 a dual system inspection shall be conducted by the licensed plumber holding a current  
5982 backflow tester certification.  
5983

5984 1. All pumps and equipment, equipment room signs, and exposed piping in  
5985 equipment room shall be checked.

- 5986 1622.12.2.2 *Cross-Connection Test*. The following procedure shall be followed by  
5987 licensed plumber with a current backflow tester certification to determine whether a cross  
5988 connection occurred.  
5989
- 5990 1. The potable water system shall be activated and pressurized. The Rainfall  
5991 catchment water system shall be shut down and completely drained.
  - 5992 2. The potable water system shall remain pressurized for a minimum period of time  
5993 specified by the Authority Having Jurisdiction while the rainfall catchment water system  
5994 is empty. The minimum period the Rainfall catchment water system is to remain  
5995 depressurized shall be determined on a case-by-case basis, taking into account the size  
5996 and complexity of the potable and Rainfall catchment water distribution systems, but in  
5997 no case shall that period be less than one (1)hour.  
5998
  - 5999 3. All fixtures, potable and rainwater, shall be tested and inspected for flow. Flow from  
6000 any Rainfall catchment water system outlet shall indicate a cross connection. No flow  
6001 from a potable water outlet would indicate that it may be connected to the rainwater  
6002 water system.
  - 6003 4. The drain on the Rainfall catchment water system shall be checked for flow during  
6004 the test and at the end of the period.
  - 6005 5. The potable water system shall then be completely drained.  
6006
  - 6007 6. The Rainfall catchment water system shall then be activated and pressurized.
  - 6008 7. The Rainfall catchment water system shall remain pressurized for a minimum period  
6009 of time determined on a case-by-case basis, but in no case shall that period be less than  
6010 one (1) hour.  
6011
  - 6012 8. All fixtures, potable and Rainfall catchment, shall be tested and inspected for flow.  
6013 Flow from any potable water system outlet shall indicate a cross-connection. No flow  
6014 from a Rainfall catchment water outlet would indicate that it may be connected to the  
6015 potable water system.
  - 6016 9. The drain on the potable water system shall be checked for flow during the test and  
6017 at the end of the period.
  - 6018 10. If there is no flow detected in any of the fixtures which would have indicated a  
6019 cross connection, the potable water system shall be re-pressurized.
- 6020 1622.12.2.3 *Discovery of Cross-Connection*. In the event that a cross-connection is  
6021 discovered, the following procedure shall be activated immediately by the licensed  
6022 plumber with a current backflow tester certification:
- 6023 1. Rainfall catchment water piping to the building shall be shut down and the  
6024 rainwater water riser shall be drained.
  - 6025 2. Potable water piping shall be shut down at the entrance to the building.
  - 6026 3. The cross-connection shall be uncovered and disconnected.

6027 4. Rainfall catchment water piping to the building shall be shut down and the  
6028 rainwater water riser shall be drained.

6029 5. Potable water piping shall be shut down at the entrance to the building.

6030 6. The cross-connection shall be uncovered and disconnected. Rainfall catchment  
6031 water piping to the building shall be shut down and the rainwater water riser shall be  
6032 drained.

6033 7. Potable water piping shall be shut down at the entrance to the building. The  
6034 cross-connection shall be uncovered and disconnected.

6035 1622.12.2.4 *Annual Inspection.* An annual inspection of the Rainfall catchment water  
6036 system, following the procedures listed in section 1622.12.2.1 shall be required. Annual  
6037 cross-connection testing, following the procedures listed in section 1622.12.2.2 shall be  
6038 required by the Authority Having Jurisdiction, unless site conditions do not require it. In  
6039 no event shall the test occur less often than once in four (4) years. Alternate testing  
6040 requirements may be allowed by the Authority Having Jurisdiction.

6041 1623.1 *General.* With the approval of the Authority Having Jurisdiction, the provisions  
6042 of section 1622.0 shall apply to the installation, construction, alteration, and repair of  
6043 rainwater catchments systems intended to supply uses such as irrigation, industrial  
6044 processes, water features and other uses approved by the Authority Having Jurisdiction.

6045 *Note:* Additional design criteria can be found in the ARCSA/ASPE Rainwater Catchment  
6046 Design and Installation Standard. Additional requirements can be found in other sections  
6047 of this Code.

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Amendments to the Uniform Plumbing Code 2010  
Saint Louis City Ordinance Chapter 23 Dwelling Unit Fire Sprinkler Systems  
*Chapter 23 is a new addition to the ordinance referencing the 2009 Uniform Plumbing  
Code<sup>TM</sup>.*  
CHAPTER 23

6067

DWELLING UNIT FIRE SPRINKLER SYSTEMS

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2304.1 *General.* Where installed, residential fire sprinkler systems, or portions thereof, shall be in accordance with NFPA 13D or Section 2304, which shall be considered equivalent to NFPA 13D. Section 2304 shall apply to stand-alone and multipurpose wet-pipe sprinkler systems that do not include the use of antifreeze. A multipurpose fire sprinkler system shall provide domestic water to both fire sprinklers and plumbing fixtures. A stand-alone sprinkler system shall be separate and independent from the water distribution system.

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2304.1.1 *Required sprinkler locations.* Sprinklers shall be installed to protect all areas of a dwelling unit.

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**Exceptions:**

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6. Attics, crawl spaces, and normally unoccupied concealed spaces that do not contain fuel-fired appliances do not require sprinklers. In attics, crawl spaces, and normally unoccupied concealed spaces that contain fuel-fired equipment, a sprinkler shall be provided above the equipment; however, sprinklers shall not be required in the remainder of the space.

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7. Clothes closets, linen closets and pantries not exceeding 24 square feet in area, with the smallest dimension not greater than 3 feet and having wall and ceiling surfaces of gypsum board.

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8. Bathrooms not greater than 55 square feet in area.

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9. Garages; carports; exterior porches; unheated entry areas, such as mud rooms, that are adjacent to an exterior door; and similar areas.

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2304.2 *Sprinklers.* Sprinklers shall be listed residential sprinklers and shall be installed in accordance with the sprinkler manufacturer's installation instructions.

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2304.2.1 *Temperature rating and separation from heat sources.* Except as provided for in Section 2304.2.2, sprinklers shall have a temperature rating of not less than 135°F and not more than 170°F. Sprinklers shall be separated from heat sources as required by the sprinkler manufacturer's installation instructions.

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6097

2304.2.2 *Intermediate temperature sprinklers.* Sprinklers shall have an intermediate temperature rating not less than 175°F and not more than 225°F where installed in the following locations:

6098

1. Directly under skylights, where the sprinkler is exposed to direct sunlight.

6099

2. In attics.

6100

3. In concealed spaces located directly beneath a roof.

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6101 4. Within the distance to a heat source as specified in Table 2304.2.2 .

6102 Table 2304.2.2

6103 Locations Where Intermediate Temperature Sprinklers are required

Heat Source	Range of distance from heat source within which Intermediate Temperature Sprinklers Are Required <sup>a,b</sup>
Fireplace, Side of Open or Recessed	12 to 36
Fireplace, Front of Recessed Fireplace	36 to 60
Coal and Wood Burning Stove	12 to 42
Kitchen Range Top	9 to 18
Oven	9 to 18
Vent Connector or Chimney Connector	9 to 18
Heating Duct, Not Insulated	9 to 18
Hot Water Pipe, Not Insulated	6 to 12
Side of Ceiling or Wall Warm Air Register	12 to 24
Front of Wall Mounted Warm Air Register	18 to 36
Water Heater, Furnace, or Boiler	3 to 6
Luminaire Up to 250 Watts	3 to 6
Luminaire 250 Watts Up to 499 Watts	6 to 12

6104 <sup>a</sup> Sprinklers shall not be located at distances less than the minimum table distance  
6105 unless the sprinkler listing allows a lesser distance.

6106 <sup>b</sup> Distances shall be measured in a straight line from the nearest edge of the heat  
6107 source to the nearest edge of the sprinkler.  
6108

6109 2304.2.3 *Freezing Areas*. Piping shall be protected from freezing as required by Section

6110 2603.6. Where sprinklers are required in areas that are subject to freezing, dry-sidewall or  
6111 dry-pendent sprinklers extending from a non-freezing area into a freezing area shall be  
6112 installed.

6113 2304.2.4 *Sprinkler Coverage*. Sprinkler coverage requirements and sprinkler obstruction  
6114 requirements shall be in accordance with Sections 2304.2.4.1 and 2304.2.4.2.

6115 2304.2.4.1 *Coverage Area Limit*. The area of coverage of a single sprinkler shall not  
6116 exceed 400 square feet and shall be based on the sprinkler listing and the sprinkler  
6117 manufacturer's installation instructions.

6118 2304.2.4.2 *Obstructions to Coverage*. Sprinkler discharge shall not be blocked by  
6119 obstructions unless additional sprinklers are installed to protect the obstructed area.  
6120 Sprinkler separation from obstructions shall comply with the minimum distances  
6121 specified in the sprinkler manufacturer's instructions.

6122 2304.2.4.2.1 *Additional Requirements for Pendent Sprinklers*. Pendent sprinklers within 3  
6123 feet of the center of a ceiling fan, surface-mounted ceiling luminaire or similar object  
6124 shall be considered to be obstructed, and additional sprinklers shall be provided.

6125 2304.2.4.2.2. *Additional Requirements for Sidewall Sprinklers.* Sidewall sprinklers within  
6126 5 feet of the center of a ceiling fan, surface-mounted ceiling luminaire or similar object  
6127 shall be considered to be obstructed, and additional sprinklers shall be provided.

6128 2304.2.5 *Sprinkler Installation on Systems Assembled with Solvent Cement.* The solvent  
6129 cementing of fittings shall be completed and threaded adapters for sprinklers shall be  
6130 verified as being clear of excess cement prior to the installation of sprinklers on systems  
6131 assembled with solvent cement.

6132 2304.2.6 *Sprinkler Modifications Prohibited.* Painting, caulking or modifying of  
6133 sprinklers shall be prohibited. Sprinklers that have been painted, caulked, modified or  
6134 damaged shall be replaced with new sprinklers.

6135 2304.3 *Sprinkler Piping System.* Sprinkler piping shall be supported in accordance with  
6136 the requirements for cold water distribution piping. Sprinkler piping shall comply with  
6137 the material requirements for cold water distribution piping. For multipurpose piping  
6138 systems, the sprinkler piping shall connect to and be a part of the cold water distribution  
6139 piping system.

6140 2304.3.1 *Nonmetallic Pipe and Tubing.* Nonmetallic pipe and tubing, such as CPVC and  
6141 PEX, shall be listed for use in residential fire sprinkler systems.

6142 2304.3.1.1 *Nonmetallic Pipe Protection.* Nonmetallic pipe and tubing systems shall be  
6143 protected from exposure to the living space by a layer of not less than 3/8 inch thick  
6144 gypsum wallboard, 1/2 inch thick plywood, or other material having a 15 minute fire  
6145 rating.

6146 **Exceptions:**

6147 1. Pipe protection shall not be required in areas that are not required to be protected  
6148 with sprinklers as specified in Section 2304.1.1.

6149 2. Pipe protection shall not be required where exposed piping is permitted by the  
6150 pipe listing.

6151 2304.3.2 *Shutoff Valves Prohibited.* With the exception of shutoff valves for the entire  
6152 water distribution system, valves shall not be installed in any location where the valve  
6153 would isolate piping serving one or more sprinklers.

6154

6155 2304.3.3 *Single Dwelling Limit.* Piping beyond the service valve located at the beginning  
6156 of the water distribution system shall not serve more than one dwelling.

6157

6158 2304.3.4 *Drain.* A means to drain the sprinkler system shall be provided on the system  
6159 side of the water distribution shutoff valve.

6160 2304.4 *Determining System Design Flow.* The flow for sizing the sprinkler piping system  
6161 shall be based on the flow rating of each sprinkler in accordance with Section 2304.4.1  
6162 and the calculation in accordance with Section 2304.4.2.

6163 2304.4.1 *Determining Required Flow Rate for Each Sprinkler.* The minimum required  
6164 flow for each sprinkler shall be determined using the sprinkler manufacturer's published  
6165 data for the specific sprinkler model based on all of the following:

- 6166 1. The area of coverage
- 6167 2. The ceiling configuration
- 6168 3. The temperature rating
- 6169 4. Any additional conditions specified by the sprinkler manufacturer.

6170 2304.4.2 *System design flow rate.* The design flow rate for the system shall be based on  
6171 the following:

6172 1. The design flow rate for a room having only one sprinkler shall be the flow rate  
6173 required for that sprinkler, as determined by Section 2304.4.1.

6174 2. The design flow rate for a room having two or more sprinklers a shall be  
6175 determined by identifying the sprinkler in that room with the highest required flow rate,  
6176 based on Section 2304.4.1, and multiplying that flow rate by 2.

6177 3. Where the sprinkler manufacturer specifies different criteria for ceiling  
6178 configurations that are not smooth, flat and horizontal, the required flow rate for that  
6179 room shall comply with the sprinkler manufacturer's instructions.

6180 4. The design flow rate for the sprinkler system shall be the flow required by the  
6181 room with the largest flow rate, based on Items 1, 2 and 3.

6182 5. For the purpose of this section, it shall be permissible to reduce the design flow  
6183 rate for a room by subdividing the space into two or more rooms, where each room is  
6184 evaluated separately with respect to the required design flow rate. Each room shall be  
6185 bounded by walls and a ceiling. Openings in walls shall have a lintel not less than 8  
6186 inches in depth and each lintel shall form a solid barrier between the ceiling and the top  
6187 of the opening.

6188 2304.5 *Water Supply.* The water supply shall provide not less than the required design  
6189 flow rate for sprinklers in accordance with Section 2304.4.2 at a pressure not less than  
6190 that used to comply with Section 2304.6.

6191 2304.5.1 *Water supply from individual sources.* Where a dwelling unit water supply is  
6192 from a tank system, a private well system, or a combination of these, the available water  
6193 supply shall be based on the minimum pressure control setting for the pump.

6194 2304.5.2. *Required Capacity.* The water supply shall have the capacity to provide the  
6195 required design flow rate for sprinklers for a period of time as follows:

6196 1. 7 minutes for dwelling units less than 2,000 square feet in area.

6197 2. 10 minutes for dwelling units equal to or greater than 2,000 square feet in area.

6198 Where a well system, a water supply tank system, or a combination thereof, is used, any  
6199 combination of well capacity and tank storage shall be permitted to meet the capacity  
6200 requirement.

6201 2304.6 *Pipe Sizing*. The piping to sprinklers shall be sized for the flow required by  
6202 Section 2304.4.2. The flow required to supply the plumbing fixtures shall not be required  
6203 to be added to the sprinkler design flow.

6204 2304.6.1 *Method of Sizing Pipe*. Piping supplying sprinklers shall be sized using the  
6205 prescriptive method in Sections 2304.6.2 or by hydraulic calculation in accordance with  
6206 NFPA 13D. The minimum pipe size from the water supply source to any sprinkler shall  
6207 be 3/4 inch nominal. Threaded adapter fittings at the point where sprinklers are attached  
6208 to the piping shall be a minimum of 1/2 inch nominal.

6209 2304.6.2 *Prescriptive Pipe Sizing Method*. Pipe shall be sized by determining the  
6210 available pressure to offset friction loss in piping and identifying a piping material,  
6211 diameter and length using the equation in Section 2304.6.2.1 and the procedure in Section  
6212 2304.6.2.2.

6213 2304.6.2.1 *Available Pressure Equation*. The pressure available to offset friction loss in  
6214 the interior piping system ( $P_t$ ) shall be determined in accordance with the Equation 23-1.

6215 (Equation 23-1)

$$6216 \quad P_t = P_{\text{sup}} - PL_{\text{svc}} - PL_m - PL_d - PL_e - P_{\text{sp}}$$

6217 Where:

6218  $P_t$  = Pressure used in applying Tables 2304.6.2(4) through 2304.6.2(9).

6219  $P_{\text{sup}}$  = Pressure available from the water supply source.

6220  $PL_{\text{svc}}$  = Pressure loss in the water-service pipe.

6221  $PL_m$  = Pressure loss in the water meter.

6222  $PL_d$  = Pressure loss from devices other than the water meter.

6223  $PL_e$  = Pressure loss associated with changes in elevation.

6224  $P_{\text{sp}}$  = Maximum

6225 2304.6.2.2 *Calculation Procedure*. Determination of the required size for water  
6226 distribution piping shall be in accordance with the following procedure:

6227 Step 1 - Determine  $P_{\text{sup}}$

6228 Obtain the supply pressure that will be available from the water main from the  
6229 water purveyor, or for an individual source, the available supply pressure shall be  
6230 in accordance with Section 2304.5.1. The pressure shall be the residual pressure  
6231 available at the flow rate used when applying Table 2304.6.2(1).

6232 Step 2 – Determine  $PL_{\text{svc}}$

6233 Use Table 2304.6.2(1) to determine the pressure loss in the water service pipe based on  
6234 the selected size of the water service.

- 6235 Step 3 – Determine  $PL_m$
- 6236 Pressure required by a sprinkler
- 6237 Use Table 2304.6.2(2) to determine the pressure loss from the water meter. based  
6238 on the selected water meter size.
- 6239
- 6240 Step 4 – Determine  $PL_d$
- 6241 Determine the pressure loss from devices, other than the water meter, installed in  
6242 the piping system supplying sprinklers, such as pressure-reducing valves,  
6243 backflow preventers, water softeners or water filters. Device pressure losses shall  
6244 be based on the device manufacturer’s specifications. The flow rate used to  
6245 determine pressure loss shall be the rate from Section 2304.4.2, except that 5 gpm  
6246 shall be added where the device is installed in a water-service pipe that supplies  
6247 more than one dwelling. As alternative to deducting pressure loss for a device, an  
6248 automatic bypass valve shall be installed to divert flow around the device when a  
6249 sprinkler activates.
- 6250 Step 5 – Determine  $PL_e$
- 6251 Use Table 2304.6.2(3) to determine the pressure loss associated with changes in  
6252 elevation. The elevation used in applying the table shall be the difference  
6253 between the elevation where the water source pressure was measured and the  
6254 elevation of the highest sprinkler.
- 6255 Step 6 – Determine  $P_{sp}$
- 6256 Determine the maximum pressure required by any individual sprinkler based on  
6257 the flow rate from Section 2304.4.1. The required pressure is provided in the  
6258 sprinkler manufacturer’s published data for the specific sprinkler model based on  
6259 the selected flow rate.
- 6260 Step 7 – Calculate  $P_t$
- 6261 Using Equation 23-1, calculate the pressure available to offset friction loss in  
6262 water-distribution piping between the service valve and the sprinklers.
- 6263 Step 8 – Determine the maximum allowable pipe length
- 6264 Use Tables 2304.6.2(4) through 2304.6.2(9) to select a material and size for water  
6265 distribution piping. The piping material and size shall be acceptable if the  
6266 developed length of pipe between the service valve the most remote sprinkler  
6267 does not exceed the maximum allowable length specified by the applicable table.  
6268 Interpolation of  $P_t$  between the tabular values shall be permitted.
- 6269 The maximum allowable length of piping in Tables 2304.6.2(4) through  
6270 2304.6.2(9) incorporates an adjustment for pipe fittings, and no additional  
6271 consideration of friction losses associated with pipe fittings shall be required.

6272 2304.7 *Instructions and Signs*. An owner's manual for the fire sprinkler system shall be  
6273 provided to the owner. A sign or valve tag shall be installed at the main shutoff valve to  
6274 the water distribution system stating the following: "Warning, the water system for this  
6275 home supplies fire sprinklers that require certain flows and pressures to fight a fire.  
6276 Devices that restrict the flow or decrease the pressure or automatically shut off the water  
6277 to the fire sprinkler system, such as water softeners, filtration systems, and automatic  
6278 shutoff valves, shall not be added to this system without a review of the fire sprinkler  
6279 system by a fire protection specialist. Do not remove this sign."

6280 2304.8 *Inspections*. The water distribution system shall be inspected in accordance with  
6281 Sections 2304.8.1 and 2304.8.2.

6282 2304.8.1 *Pre-concealment Inspection*. The following items shall be verified prior to the  
6283 concealment of any sprinkler system piping:

- 6284 1. Sprinklers are installed in all areas as required by Section 2304.1.1.
- 6285 2. Where sprinkler water spray patterns are obstructed by construction features,  
6286 luminaires or ceiling fans, additional sprinklers are installed as required by Section  
6287 2304.2.4.2.
- 6288 3. Sprinklers are the correct temperature rating and are installed at or beyond the  
6289 required separation distances from heat sources as required by Sections 2304.2.1 and  
6290 2304.2.2.
- 6291 4. The pipe size equals or exceeds the size used in applying Tables 2304.6.2(4)  
6292 through 2304.6.2(9) or, if the piping system was hydraulically calculated in accordance  
6293 with Section 2304.6.1, the size used in the hydraulic calculation.
- 6294 5. The pipe length does not exceed the length permitted by Tables 2304.6.2(4)  
6295 through 2304.6.2(9) or, if the piping system was hydraulically calculated in accordance  
6296 with Section 2304.6.1, pipe lengths and fittings do not exceed those used in the hydraulic  
6297 calculation.
- 6298 6. Non-metallic piping that conveys water to sprinklers is listed for use with fire  
6299 sprinklers.
- 6300 7. Piping is supported in accordance with the pipe manufacturer's and sprinkler  
6301 manufacturer's installation instructions.
- 6302 8. The piping system is tested in accordance with Section P2503.6

6303 2304.8.2 *Final Inspection*. The following items shall be verified upon completion of the  
6304 system:

- 6305 1. Sprinkler are not painted, damaged or otherwise hindered from operation.
- 6306 2. Where a pump is required to provide water to the system, the pump starts  
6307 automatically upon system water demand.
- 6308 3. Pressure reducing valves, water softeners, water filters or other impairments to  
6309 water flow that were not part of the original design, have not been installed.

6310 4. The sign or valve tag required by Section 2304.7 is installed and the owner's  
 6311 manual for the system is present.

6312 2304.9 *Installer Qualifications.*

6313 1. A multipurpose fire sprinkler system

6314 (A) Licensed as a Plumber and certified by the Board of Plumbing Examiners.  
 6315 Technical and experience qualifications and examination criteria shall be  
 6316 determined by the Board of Plumbing Examiners

6317 2. A stand-alone sprinkler system

6318 (A) Licensed as a sprinkler fitter under the St. Louis City Plumbing Code.

6319 Table 2304.6.2(1)

6320 Water Service Pressure Loss (PL<sub>svc</sub>)<sup>a,b</sup>

Flow Rate <sup>c</sup> (gpm)	3/4" Water Service Pressure Loss (psi)				1" Water Service Pressure Loss (psi)				1-1/4" Water Service Pressure Loss (psi)			
	40' or less	41' to 75'	76' to 100'	101' to 150'	40' or less	41' to 75'	76' to 100'	101' to 150'	40' or less	41' to 75'	76' to 100'	101' to 150'
8	5.1	8.7	11.8	17.4	1.5	2.5	3.4	5.1	0.6	1.0	1.3	1.9
10	7.7	13.1	17.8	26.3	2.3	3.8	5.2	7.7	0.8	1.4	2.0	2.9
12	10.8	18.4	24.9	NP	3.2	5.4	7.3	10.7	1.2	2.0	2.7	4.0
14	14.4	24.5	NP	NP	4.2	7.1	9.6	14.3	1.6	2.7	3.6	5.4
16	18.4	NP	NP	NP	5.4	9.1	12.4	18.3	2.0	3.4	4.7	6.9
18	22.9	NP	NP	NP	6.7	11.4	15.4	22.7	2.5	4.3	5.8	8.6
20	27.8	NP	NP	NP	8.1	13.8	18.7	27.6	3.1	5.2	7.0	10.4
22	NP	NP	NP	NP	9.7	16.5	22.3	NP	3.7	6.2	8.4	12.4
24	NP	NP	NP	NP	11.4	19.3	26.2	NP	4.3	7.3	9.9	14.6
26	NP	NP	NP	NP	13.2	22.4	NP	NP	5.0	8.5	11.4	16.9
28	NP	NP	NP	NP	15.1	25.7	NP	NP	5.7	9.7	13.1	19.4
30	NP	NP	NP	NP	17.2	NP	NP	NP	6.5	11.0	14.9	22.0
32	NP	NP	NP	NP	19.4	NP	NP	NP	7.3	12.4	16.8	24.8
34	NP	NP	NP	NP	21.7	NP	NP	NP	8.2	13.9	18.8	NP
36	NP	NP	NP	NP	24.1	NP	NP	NP	9.1	15.4	20.9	NP

6321 NP - Not permitted. Pressure loss exceeds reasonable limits

6322 a. Values are applicable for underground piping materials listed in Table 2304.4 and are  
 6323 based on an SDR of 11 and a Hazen Williams C Factor of 150.

6324 b. Values include the following length allowances for fittings: 25% length increase for  
 6325 actual lengths up to 100 feet and 15% length increase for actual lengths over 100 feet.

6326 c. Flow rate from Section 2304.4.2. Add 5 gpm to the flow rate required by Section  
 6327 2304.4.2 where the water-service pipe supplies more than one dwelling.

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Table 2304.6.2(2)

Minimum Water Meter Pressure Loss (PL<sub>m</sub>)<sup>a</sup>

Flow Rate (gpm) <sup>b</sup>	5/8" Meter Pressure Loss (psi)	3/4" Meter Pressure Loss (psi)	1" Meter Pressure Loss (psi)
8	2	1	1
10	3	1	1
12	4	1	1
14	5	2	1
16	7	3	1
18	9	4	1
20	11	4	2
22	NP	5	2
24	NP	5	2
26	NP	6	2
28	NP	6	2
30	NP	7	2
32	NP	7	3
34	NP	8	3
36	NP	8	3

6337

NP - Not permitted unless the actual water meter pressure loss is known.

- 6338 a. Table 2304.6.2(2) establishes conservative values for water meter pressure  
 6339 loss for installations where the water meter loss is unknown. Where the  
 6340 actual water meter pressure loss is known,  $P_m$  shall be the actual loss.
- 6341 b. Flow rate from Section 2304.4.2. Add 5 gpm to the flow rate required by  
 6342 Section 2304.4.2 where the water-service pipe supplies more than one  
 6343 dwelling.

6344 Table 2304.6.2(3)

6345 Elevation Loss ( $PL_e$ )

Elevation (feet)	Pressure Loss (psi)
5	2.2
10	4.4
15	6.5
20	8.7
25	10.9
30	13
35	15.2
40	17.4

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## Allowable Pipe Length for 3/4 inch Type M Copper Water Tubing

Sprinkler Flow Rate <sup>a</sup> (gpm)	Water Distribution Size (inch)	Available Pressure - P <sub>t</sub> (psi)									
		15	20	25	30	35	40	45	50	55	60
		Allowable Length of Pipe from Service Valve to Farthest Sprinkler (feet)									
8	3/4	217	289	361	434	506	578	650	723	795	867
9	3/4	174	232	291	349	407	465	523	581	639	697
10	3/4	143	191	239	287	335	383	430	478	526	574
11	3/4	120	160	200	241	281	321	361	401	441	481
12	3/4	102	137	171	205	239	273	307	341	375	410
13	3/4	88	118	147	177	206	235	265	294	324	353
14	3/4	77	103	128	154	180	205	231	257	282	308
15	3/4	68	90	113	136	158	181	203	226	248	271
16	3/4	60	80	100	120	140	160	180	200	220	241
17	3/4	54	72	90	108	125	143	161	179	197	215
18	3/4	48	64	81	97	113	129	145	161	177	193
19	3/4	44	58	73	88	102	117	131	146	160	175
20	3/4	40	53	66	80	93	106	119	133	146	159
21	3/4	36	48	61	73	85	97	109	121	133	145
22	3/4	33	44	56	67	78	89	100	111	122	133
23	3/4	31	41	51	61	72	82	92	102	113	123
24	3/4	28	38	47	57	66	76	85	95	104	114
25	3/4	26	35	44	53	61	70	79	88	97	105
26	3/4	24	33	41	49	57	65	73	82	90	98
27	3/4	23	30	38	46	53	61	69	76	84	91
28	3/4	21	28	36	43	50	57	64	71	78	85
29	3/4	20	27	33	40	47	53	60	67	73	80
30	3/4	19	25	31	38	44	50	56	63	69	75
31	3/4	18	24	29	35	41	47	53	59	65	71
32	3/4	17	22	28	33	39	44	50	56	61	67
33	3/4	16	21	26	32	37	42	47	53	58	63
34	3/4	NP	20	25	30	35	40	45	50	55	60
35	3/4	NP	19	24	28	33	38	42	47	52	57
36	3/4	NP	18	22	27	31	36	40	45	49	54
37	3/4	NP	17	21	26	30	34	38	43	47	51
38	3/4	NP	16	20	24	28	32	36	40	45	49
39	3/4	NP	15	19	23	27	31	35	39	42	46
40	3/4	NP	NP	18	22	26	29	33	37	40	44

6360

NP - Not permitted.

6361

a. Flow rate from Section 2304.4.2.

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6365

## Allowable Pipe Length for 1 inch Type M Copper Water Tubing

Sprinkler Flow Rate <sup>a</sup> (gpm)	Water Distribution Size (inch)	Available Pressure - P <sub>t</sub> (psi)									
		15	20	25	30	35	40	45	50	55	60
		Allowable Length of Pipe from Service Valve to Farthest Sprinkler (feet)									
8	1	806	1075	1343	1612	1881	2149	2418	2687	2955	3224
9	1	648	864	1080	1296	1512	1728	1945	2161	2377	2593
10	1	533	711	889	1067	1245	1422	1600	1778	1956	2134
11	1	447	596	745	894	1043	1192	1341	1491	1640	1789
12	1	381	508	634	761	888	1015	1142	1269	1396	1523
13	1	328	438	547	657	766	875	985	1094	1204	1313
14	1	286	382	477	572	668	763	859	954	1049	1145
15	1	252	336	420	504	588	672	756	840	924	1008
16	1	224	298	373	447	522	596	671	745	820	894
17	1	200	266	333	400	466	533	600	666	733	799
18	1	180	240	300	360	420	479	539	599	659	719
19	1	163	217	271	325	380	434	488	542	597	651
20	1	148	197	247	296	345	395	444	493	543	592
21	1	135	180	225	270	315	360	406	451	496	541
22	1	124	165	207	248	289	331	372	413	455	496
23	1	114	152	190	228	267	305	343	381	419	457
24	1	106	141	176	211	246	282	317	352	387	422
25	1	98	131	163	196	228	261	294	326	359	392
26	1	91	121	152	182	212	243	273	304	334	364
27	1	85	113	142	170	198	226	255	283	311	340
28	1	79	106	132	159	185	212	238	265	291	318
29	1	74	99	124	149	174	198	223	248	273	298
30	1	70	93	116	140	163	186	210	233	256	280
31	1	66	88	110	132	153	175	197	219	241	263
32	1	62	83	103	124	145	165	186	207	227	248
33	1	59	78	98	117	137	156	176	195	215	234
34	1	55	74	92	111	129	148	166	185	203	222
35	1	53	70	88	105	123	140	158	175	193	210
36	1	50	66	83	100	116	133	150	166	183	199
37	1	47	63	79	95	111	126	142	158	174	190
38	1	45	60	75	90	105	120	135	150	165	181
39	1	43	57	72	86	100	115	129	143	158	172
40	1	41	55	68	82	96	109	123	137	150	164

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Table 2304.6.2(6)

6375

Allowable Pipe Length for 3/4 inch CPVC Pipe

Sprinkler Flow Rate <sup>a</sup> (gpm)	Water Distribution Size (inch)	Available Pressure - P <sub>t</sub> (psi)									
		15	20	25	30	35	40	45	50	55	60
		Allowable Length of Pipe from Service Valve to Farthest Sprinkler-(feet)									
8	3/4	348	465	581	697	813	929	1045	1161	1278	1394
9	3/4	280	374	467	560	654	747	841	934	1027	1121
10	3/4	231	307	384	461	538	615	692	769	845	922
11	3/4	193	258	322	387	451	515	580	644	709	773
12	3/4	165	219	274	329	384	439	494	549	603	658
13	3/4	142	189	237	284	331	378	426	473	520	568
14	3/4	124	165	206	247	289	330	371	412	454	495
15	3/4	109	145	182	218	254	290	327	363	399	436
16	3/4	97	129	161	193	226	258	290	322	354	387
17	3/4	86	115	144	173	202	230	259	288	317	346
18	3/4	78	104	130	155	181	207	233	259	285	311
19	3/4	70	94	117	141	164	188	211	234	258	281
20	3/4	64	85	107	128	149	171	192	213	235	256
21	3/4	58	78	97	117	136	156	175	195	214	234
22	3/4	54	71	89	107	125	143	161	179	197	214
23	3/4	49	66	82	99	115	132	148	165	181	198
24	3/4	46	61	76	91	107	122	137	152	167	183
25	3/4	42	56	71	85	99	113	127	141	155	169
26	3/4	39	52	66	79	92	105	118	131	144	157
27	3/4	37	49	61	73	86	98	110	122	135	147
28	3/4	34	46	57	69	80	92	103	114	126	137
29	3/4	32	43	54	64	75	86	96	107	118	129
30	3/4	30	40	50	60	70	81	91	101	111	121
31	3/4	28	38	47	57	66	76	85	95	104	114
32	3/4	27	36	45	54	63	71	80	89	98	107
33	3/4	25	34	42	51	59	68	76	84	93	101
34	3/4	24	32	40	48	56	64	72	80	88	96
35	3/4	23	30	38	45	53	61	68	76	83	91
36	3/4	22	29	36	43	50	57	65	72	79	86
37	3/4	20	27	34	41	48	55	61	68	75	82
38	3/4	20	26	33	39	46	52	59	65	72	78
39	3/4	19	25	31	37	43	50	56	62	68	74
40	3/4	18	24	30	35	41	47	53	59	65	71

6376

a. Flow rate from Section 2304.4.2.

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Table 2304.6.2(7)

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## Allowable Pipe Length for 1 inch CPVC Pipe

Sprinkler Flow Rate <sup>a</sup> (gpm)	Water Distribution Size (inch)	Available Pressure - P <sub>t</sub> (psi)									
		15	20	25	30	35	40	45	50	55	60
		Allowable Length of Pipe from Service Valve to Farthest Sprinkler (feet)									
8	1	1049	1398	1748	2098	2447	2797	3146	3496	3845	4195
9	1	843	1125	1406	1687	1968	2249	2530	2811	3093	3374
10	1	694	925	1157	1388	1619	1851	2082	2314	2545	2776
11	1	582	776	970	1164	1358	1552	1746	1940	2133	2327
12	1	495	660	826	991	1156	1321	1486	1651	1816	1981
13	1	427	570	712	854	997	1139	1281	1424	1566	1709
14	1	372	497	621	745	869	993	1117	1241	1366	1490
15	1	328	437	546	656	765	874	983	1093	1202	1311
16	1	291	388	485	582	679	776	873	970	1067	1164
17	1	260	347	433	520	607	693	780	867	954	1040
18	1	234	312	390	468	546	624	702	780	858	936
19	1	212	282	353	423	494	565	635	706	776	847
20	1	193	257	321	385	449	513	578	642	706	770
21	1	176	235	293	352	410	469	528	586	645	704
22	1	161	215	269	323	377	430	484	538	592	646
23	1	149	198	248	297	347	396	446	496	545	595
24	1	137	183	229	275	321	366	412	458	504	550
25	1	127	170	212	255	297	340	382	425	467	510
26	1	118	158	197	237	276	316	355	395	434	474
27	1	111	147	184	221	258	295	332	368	405	442
28	1	103	138	172	207	241	275	310	344	379	413
29	1	97	129	161	194	226	258	290	323	355	387
30	1	91	121	152	182	212	242	273	303	333	364
31	1	86	114	143	171	200	228	257	285	314	342
32	1	81	108	134	161	188	215	242	269	296	323
33	1	76	102	127	152	178	203	229	254	280	305
34	1	72	96	120	144	168	192	216	240	265	289
35	1	68	91	114	137	160	182	205	228	251	273
36	1	65	87	108	130	151	173	195	216	238	260
37	1	62	82	103	123	144	165	185	206	226	247
38	1	59	78	98	117	137	157	176	196	215	235
39	1	56	75	93	112	131	149	168	187	205	224
40	1	53	71	89	107	125	142	160	178	196	214

6385

a. Flow rate from Section 2304.4.2.

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Table 2304.6.2(8)

6392

Allowable Pipe Length for 3/4 inch PEX Tubing

Sprinkler Flow Rate <sup>a</sup> (gpm)	Water Distribution Size (inch)	Available Pressure - P <sub>t</sub> (psi)									
		15	20	25	30	35	40	45	50	55	60
		Allowable Length of Pipe from Service Valve to Farthest Sprinkler-(feet)									
8	3/4	93	123	154	185	216	247	278	309	339	370
9	3/4	74	99	124	149	174	199	223	248	273	298
10	3/4	61	82	102	123	143	163	184	204	225	245
11	3/4	51	68	86	103	120	137	154	171	188	205
12	3/4	44	58	73	87	102	117	131	146	160	175
13	3/4	38	50	63	75	88	101	113	126	138	151
14	3/4	33	44	55	66	77	88	99	110	121	132
15	3/4	29	39	48	58	68	77	87	96	106	116
16	3/4	26	34	43	51	60	68	77	86	94	103
17	3/4	23	31	38	46	54	61	69	77	84	92
18	3/4	21	28	34	41	48	55	62	69	76	83
19	3/4	19	25	31	37	44	50	56	62	69	75
20	3/4	17	23	28	34	40	45	51	57	62	68
21	3/4	16	21	26	31	36	41	47	52	57	62
22	3/4	NP	19	24	28	33	38	43	47	52	57
23	3/4	NP	17	22	26	31	35	39	44	48	52
24	3/4	NP	16	20	24	28	32	36	40	44	49
25	3/4	NP	NP	19	22	26	30	34	37	41	45
26	3/4	NP	NP	17	21	24	28	31	35	38	42
27	3/4	NP	NP	16	20	23	26	29	33	36	39
28	3/4	NP	NP	15	18	21	24	27	30	33	36
29	3/4	NP	NP	NP	17	20	23	26	28	31	34
30	3/4	NP	NP	NP	16	19	21	24	27	29	32
31	3/4	NP	NP	NP	15	18	20	23	25	28	30
32	3/4	NP	NP	NP	NP	17	19	21	24	26	28
33	3/4	NP	NP	NP	NP	16	18	20	22	25	27
34	3/4	NP	NP	NP	NP	NP	17	19	21	23	25
35	3/4	NP	NP	NP	NP	NP	16	18	20	22	24
36	3/4	NP	NP	NP	NP	NP	15	17	19	21	23
37	3/4	NP	NP	NP	NP	NP	NP	16	18	20	22
38	3/4	NP	NP	NP	NP	NP	NP	16	17	19	21
39	3/4	NP	NP	NP	NP	NP	NP	NP	16	18	20
40	3/4	NP	NP	NP	NP	NP	NP	NP	16	17	19

6393 NP - Not permitted.

6394 a. Flow rate from Section 2304.4.2.

6395

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6400

Table 2304.6.2(9)

6401

Allowable Pipe Length for 1 inch PEX Tubing

Sprinkler Flow Rate <sup>a</sup> (gpm)	Water Distribution Size (inch)	Available Pressure - P <sub>t</sub> (psi)									
		15	20	25	30	35	40	45	50	55	60
		Allowable Length of Pipe from Service Valve to Farthest Sprinkler-(feet)									
8	1	314	418	523	628	732	837	941	1046	1151	1255
9	1	252	336	421	505	589	673	757	841	925	1009
10	1	208	277	346	415	485	554	623	692	761	831
11	1	174	232	290	348	406	464	522	580	638	696
12	1	148	198	247	296	346	395	445	494	543	593
13	1	128	170	213	256	298	341	383	426	469	511
14	1	111	149	186	223	260	297	334	371	409	446
15	1	98	131	163	196	229	262	294	327	360	392
16	1	87	116	145	174	203	232	261	290	319	348
17	1	78	104	130	156	182	208	233	259	285	311
18	1	70	93	117	140	163	187	210	233	257	280
19	1	63	84	106	127	148	169	190	211	232	253
20	1	58	77	96	115	134	154	173	192	211	230
21	1	53	70	88	105	123	140	158	175	193	211
22	1	48	64	80	97	113	129	145	161	177	193
23	1	44	59	74	89	104	119	133	148	163	178
24	1	41	55	69	82	96	110	123	137	151	164
25	1	38	51	64	76	89	102	114	127	140	152
26	1	35	47	59	71	83	95	106	118	130	142
27	1	33	44	55	66	77	88	99	110	121	132
28	1	31	41	52	62	72	82	93	103	113	124
29	1	29	39	48	58	68	77	87	97	106	116
30	1	27	36	45	54	63	73	82	91	100	109
31	1	26	34	43	51	60	68	77	85	94	102
32	1	24	32	40	48	56	64	72	80	89	97
33	1	23	30	38	46	53	61	68	76	84	91
34	1	22	29	36	43	50	58	65	72	79	86
35	1	20	27	34	41	48	55	61	68	75	82
36	1	19	26	32	39	45	52	58	65	71	78
37	1	18	25	31	37	43	49	55	62	68	74
38	1	18	23	29	35	41	47	53	59	64	70
39	1	17	22	28	33	39	45	50	56	61	67
40	1	16	21	27	32	37	43	48	53	59	64

6402

a. Flow rate from Section 2304.4.2

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6408  
6409

Amendments to the Appendices of the Uniform Plumbing Code  
2010 Saint Louis City Ordinance Appendices

APPENDIX A

Amendments to the Uniform Plumbing Code – Appendix A Recommended Rules for  
Sizing the Water Supply System

Appendix A of the 2009 Uniform Plumbing Code <sup>TM</sup> is amended by the following provisions. Each section in the UPC that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each section set forth below without a corresponding provision in the UPC is added thereto.

Appendix A is included in the Plumbing Code with no changes.

If any conflict of interpretations, requirements, or Ordinance sections of this Chapter occur between other similar Code provisions and other St. Louis City Ordinances the more stringent requirement shall apply.

APPENDIX B

Amendments to the Uniform Plumbing Code – Appendix B –Explanatory Notes on  
Combination Waste and Vent

Appendix B of the 2009 Uniform Plumbing Code <sup>TM</sup> is amended by the following provisions. Each section in the UPC that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each section set forth below without a corresponding provision in the UPC is added thereto.

Appendix B is included in the Plumbing Code with no changes.

If any conflict of interpretations, requirements, or Ordinance sections of this Chapter occur between other similar Code provisions and other St. Louis City Ordinances the more stringent requirement shall apply.

APPENDIX C – DELETED

*Change Appendix D to read as follows:*

Appendix D

Sizing Storm Water Drainage Systems - Appendix D of the 2009 Uniform Plumbing Code <sup>TM</sup> is amended by the following provisions.

Each section in the UPC that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each section set forth below without a corresponding provision in the UPC is added thereto.

Appendix D – Sizing Storm Water Drainage Systems

Appendix D of the 2009 Uniform Plumbing Code <sup>TM</sup> is amended and included in the Plumbing Code with the following change:

- a. In Table D-1 the Maximum Rates of Rainfall for St. Louis Missouri shall be 6.0 inches per hour and 0.063 GPM/Square Foot in lieu of the values listed.

6461 If any conflict of interpretations, requirements, or Ordinance sections of this Chapter  
6462 occur between other similar Code provisions and other St. Louis City Ordinances the  
6463 more stringent requirement shall apply.

6464

6465 *Change Appendix E to read as follows:*

6466

6467 Appendix E of the 2009 Uniform Plumbing Code <sup>TM</sup> is amended by the following  
6468 provisions. Each section in the UPC that corresponds to one of the following provisions  
6469 is hereby deleted where so noted or amended to read as set forth below. Each section set  
6470 forth below without a corresponding provision in the UPC is added thereto.

6471

6472 Appendix E is included in the Plumbing Code with the following changes:

6473 The St. Louis City Mechanical Code shall govern installation of Part D FUEL SUPPLY.

6474

6475 *Change Appendix G to read as follows:*

6476

6477 Appendix G - Gray Water Systems for Single Family Dwellings.

6478

6479 Appendix G of the 2009 Uniform Plumbing Code <sup>TM</sup> is amended by the following  
6480 provisions.

6481

6482 **DELETED – MOVED TO CHAPTER 16**

6483

6484 *Change Appendix H to read as follows:*

6485

6486 Appendix H - Recommended Procedures for Design, Construction and Installation of  
6487 Commercial Kitchen Grease Interceptors

6488

6489 Appendix H of the 2009 Uniform Plumbing Code <sup>TM</sup> is amended by the following  
6490 provisions.

6491

6492 **DELETED**

6493

6494 *Change Appendix I to read as follows:*

6495

6496 Appendix I - Installation Standards

6497

6498 Appendix I of the 2009 Uniform Plumbing Code <sup>TM</sup> is amended by the following  
6499 provisions.

6500

6501 Each section in the UPC that corresponds to one of the following provisions is hereby  
6502 deleted where so noted or amended to read as set forth below. Each section set forth  
6503 below without a corresponding provision in the UPC is added thereto. The standards  
6504 referenced in this Code shall be considered part of the requirements of this Code to the  
6505 prescribed extent of each such reference.

6506

6507 The appearance of Installation Standards in this Appendix does not, by itself, authorize  
6508 the use of those items unless specified elsewhere in this Code for use.

6509

6510

6511

6512 IS 8-95 PVC Cold Water Building Supply and Yard Piping  
6513  
6514 301.1.2.4.2 Primer shall not be purple.  
6515  
6516 313.4 Exposed Piping  
6517 Vertical piping may extend a maximum of twenty-four (24”) inches (610mm) above  
6518 grade when located on the exterior of the building or structure and protected from  
6519 mechanical damage to the satisfaction of the Authority Having Jurisdiction.  
6520  
6521 IS 9-95 PVC Building Drain, Waste and Vent Pipe and Fittings  
6522  
6523 301.1.4.1 Color Primer shall be purple underground only.  
6524 Primer shall be clear above ground only  
6525  
6526 313.4 Exposed Piping  
6527 Piping shall not be exposed to direct sunlight. Exception: Vent piping through roof.  
6528 Adequate support shall be provided where PVC piping is exposed to wind, snow and ice  
6529 loading.  
6530  
6531 316.1 Solvent Cement Joints  
6532  
6533 316.1.4 A listed primer in compliance with ASTM F 656 shall be used on all PVC DWV  
6534 joints. Primer shall not be purple.  
6535  
6536 APPENDIX J  
6537  
6538 *Change Appendix J to read as follows:*  
6539  
6540 2009 Reclaimed Water Systems for Non-Residential Buildings has been moved to  
6541 chapter 16 – part II  
6542  
6543 APPENDIX K - 2009 PRIVATE SEWAGE DISPOSAL SYSTEM  
6544  
6545 *Change Appendix K to read as follows:*  
6546  
6547 Appendix K is not adopted and is not included in the Plumbing Code. .  
6548  
6549 Amendments to the Uniform Plumbing Code™- APPENDIX L – Alternate  
6550 Plumbing Systems  
6551  
6552 *Change Appendix L to read as follows:*  
6553  
6554 Appendix L of the 2009 Uniform Plumbing Code™ is amended by the following  
6555 provisions. Each section in the UPC that corresponds to one of the following provisions  
6556 is hereby deleted where so noted or amended to read as set forth below. Each section set  
6557 forth below without a corresponding provision in the UPC is added thereto.  
6558  
6559  
6560  
6561

6562 Appendix L is accepted by the Plumbing Code as a reference only and may be used as an  
6563 engineered system if approved by the Authority Having Jurisdiction.

6564

6565 If any conflict of interpretations, requirements, or Ordinance sections of this Chapter  
6566 occur between other similar Code provisions and other St. Louis City Ordinances the  
6567 more stringent shall apply.

6568

6569 L 4.0 Fixture Unit Values for Bathroom Groups - Deleted

6570

6571 L 4.1 Table L-1 Deleted

6572 L 4.1 Table L-2 Deleted

6573 L 4.1 Table L-3 Deleted

6574 L 4.1 Table L-4 Deleted

6575

6576 L 6.0 Vent System Sizing.

6577 L6.1 Size of Vents. The size of vent piping shall be determined from the developed  
6578 length and the total number of drainage fixture units connected thereto as set forth in  
6579 Table 7-5. Vents shall not be less than one-half (1/2) the required size of the drainage  
6580 pipe size served as determined by Table 7-5 for Horizontal Fixtures and Stacks nor less  
6581 than One and one-quarter (1-1/4) inches (32 mm) in diameter. The drainage system shall  
6582 be vented by not less than one (1) vent pipe which shall be not less than one-half (1/2) the  
6583 size of the required building drain and which shall extend from the building drain or  
6584 extension of building drain to the outdoors. Vents shall be installed in accordance with  
6585 Chapter 9.

6586

6587 L 9.0 Single Stack Vent System.

6588

6589 L 9.2 Stack Size. Drainage stacks shall be sized according to Table 7-5. A maximum of  
6590 two (2) water closets shall be permitted to discharge to a three (3) inch (80 mm) stack.  
6591 Stacks shall be uniformly sized based on the total connected drainage fixture unit load,  
6592 with no reductions in size.

6593

6594 Table L - 5 Deleted

6595 Table L - 6 Deleted

6596

6597 **Section Four.**

6598 Any person who shall violate a provision of this code or fail to comply with any of the  
6599 requirements thereof, or who shall erect, construct, alter, expand, repair, remove,  
6600 demolish, use or occupy any building, structure or premises or equipment regulated by  
6601 this code in violation of an approved construction document or directive of the code  
6602 official or the Board of Building Appeals, or a permit or certificate issued under the  
6603 provisions of this code and shall, upon conviction thereof, be punished by a fine of not  
6604 more than five hundred dollars (\$500), or by imprisonment not exceeding ninety days (90  
6605 ), or both such fine and imprisonment. Each day that a violation continues shall  
6606 constitute a separate and distinct offense.

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6613 **Section Five.**  
6614 That nothing in this Ordinance or in the Plumbing Code hereby adopted shall be  
6615 constructed to affect any suit or proceeding impending in any court, or any rights  
6616 acquired, or liability incurred, or any cause or causes of action required or existing, under  
6617 Any act or ordinance hereby repealed as cited in Section Two of this Ordinance; nor shall  
6618 any just or legal right or remedy of any character be lost, impaired or affected by this  
6619 Ordinance.

6620  
6621 **Section Six.**  
6622 This being an Ordinance necessary for the immediate preservation of the public safety, it  
6623 is hereby declared to be an emergency measure and shall become effective immediately  
6624 upon its approval by the Mayor.

6625  
6626 **Section Seven.**  
6627 It is the intent of the Board of Alderman that Sections Two, Three and Four of this  
6628 Ordinance be codified in the Revised Code of the City of Saint Louis.

6629  
6630 Amendments to the Uniform Plumbing Code <sup>TM</sup> -APPENDIX M - CODE  
6631 ILLUSTRATIONS

6632  
6633 Appendix M is hereby enacted and added as an additional appendix to the 2009 Uniform  
6634 Plumbing Code <sup>TM</sup>

6635  
6636 The drawings contained in Appendix M are intended to aid in the clarification of various  
6637 methods, installation practices and piping configurations, which conform to the  
6638 requirements of this Code. Drawings # 43, 44, 45, and 46, are new in this ordinance.  
6639 Where these drawings contain differences with this Code, these drawings shall prevail if  
6640 piping is installed exactly as shown on the drawings.

6641  
6642 If any conflict of interpretations, requirements, or Ordinance sections of this Chapter  
6643 occur between other similar Code provisions and other St. Louis City Ordinances the  
6644 more stringent shall apply.

6645