



City Attorney's Office

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December 10, 2010

The Honorable Ann Campbell, Mayor,
And Members of the City Council
Of the City of Ames, Iowa

Re: Housing Code Issues Concerning Plumbing Regulation

Dear Mayor Campbell and Council Members:

At the November 9 meeting of the City Council several proposed revisions to the rental housing code were discussed. Many issues under discussion concerned the current plumbing code and its relationship to plumbing regulations previously in effect in the City of Ames. The issues were significant because current code allows non-compliant plumbing systems on existing buildings to remain in place:

when such work was installed and is maintained in accordance with law in effect prior to the effective date of this code, except when such plumbing or drainage system or other work regulated by this code is determined by the Authority Having Jurisdiction to be in fact dangerous, unsafe, insanitary, or a nuisance and a menace to life, health, or property.

Uniform Plumbing Code. §10.4.1.3 (2009); Ames Municipal Code §5.100(3).

The 2009 Uniform Plumbing Code (UPC) has also been adopted as the State Plumbing Code, the minimum standard applicable to plumbing in buildings or on premises in Iowa. 641 Iowa Administrative Code §25.2(105).

In the weeks following the Council discussion, I was asked by members of the Council to provide copies of the 1907 plumbing ordinance. I was also asked to contact other cities to inquire how the "existing buildings" provisions of the UPC were being interpreted and applied in their cities. Additionally, staff requested guidance on the interpretation and implementation of the "existing buildings" from the developer of the UPC, the International Association of Plumbing and Mechanical (IAPMO). Copies of the prior ordinance and the responses I received are attached, along with background documents on IAPMO and regional services manager Bill Schweitzer. Also, this afternoon the City received a new request from the Ames Rental Association. I will provide Council with a response to that request prior to the upcoming Council meeting.

Sincerely,

Douglas R. Marek
City Attorney

DRM:gmw

Attachments

1907 Plumbing Ordinance and Other Prior Plumbing Codes

Ordinance number 179, an "Ordinance Providing Rules for Regulating Plumbing in the City of Ames, Iowa, and for the Protection of the Public Health," was enacted and became effective on May 16, 1907. A copy is attached.

Section 12 of the ordinance requires that every fixture be "separately and effectually trapped. All traps must have at least two and one half inches of water seal. Traps must be prevented from syphonage by being ventilated by special air pipe taken out of the crown of the trap, except where anti-syphon fixtures or devices which render the trap vent unnecessary are used, which fixtures or devices shall first be approved by the city engineer or sewer committee."

Ordinance number 179 was incorporated verbatim into the Revised Ordinances of the City of Ames in 1909.

In 1914, Ordinance number 269 replaced the prior plumbing regulations. Traps with ventilation pipes, water seal, and anti-syphon protection were required for all fixtures by section 32 of the ordinance.

In 1919, Ordinance number 313 replaced the prior plumbing regulations, with the same requirements for traps retained at section 30.

In 1928, the plumbing regulations were again revised with the adoption of Ordinance number 386. Traps with water seals for all fixtures were required by sections 62 and 63. Vents were required for all traps by section 97, and crown vents were specifically prohibited.

In 1941, Ordinance number 542 again updated the plumbing regulations. Traps for each fixture were required by section 71. Ventilation pipes for traps were required by section 118, but no crown vents were allowed.

The 1956 Ames Municipal Code included an entire updated plumbing code as Chapter 52. Traps for fixtures were specifically prescribed at section 52.18, with special requirements for water seals and ventilation pipes.

In 1971, the Ames Municipal Code included a separate plumbing code at Chapter 28, with requirements for water sealed, anti-siphon, ventilated traps at section 28-1018.

The plumbing provisions of the Municipal Code have been regularly updated since that time.

ORDINANCE NO. 178.

AN ORDINANCE providing rules for regulating plumbing in the city of Ames, Iowa, and for protection of the public health, as it is ordained by the City Council of the city of Ames, Iowa.

ALL PLUMBING. Sec. 1. All plumbing shall be done by a duly licensed and bonded plumber, and the same shall in every case be under the general supervision and direction of sewer committee and the city engineer, and shall throughout correspond with the requirements of these ordinances in respect to plumbing and sewer connection. The same shall at all times be subject to the examination of the sewer committee or city engineer, and to alterations ordered by the city council, or the local board of health, with a view of protecting the health and preserving the comfort of the citizens of Ames, Iowa.

MATERIALS. Sec. 2. All materials for house drains and sewers must be of good quality and free from defects and imperfections, and the work must be executed in a thorough and workmanlike manner.

SAFETY. OUTSIDE DRAIN PIPES. Sec. 3. The drain pipe from the public sewer to within three feet of the foundation wall of the building shall be of glazed earthenware sewer pipe or cast iron pipe of four inches internal diameter. All pipes between street lines to be of the same diameter as connection provided in the public sewer. No drain to contain a reducer in its whole length. The sewer pipe shall be laid with joints caulked with an oakum or hemp gasket and fresh hydraulic cement packed well into the hubs and the inside of the joints and pipe left perfectly smooth and clean.

SAME. INSIDE DRAIN PIPES. Sec. 4. The drain pipe within the building from a point three feet outside the foundation wall to point of heavy cast iron pipe of a diameter of four inches. It must be laid as nearly straight as possible, making changes of direction with curves and all connections with Y branches and one-eighth or one-sixteenth bends. It is to be used in vertical soil pipes only.

SOIL PIPES. MATERIAL AND SIZE. Sec. 5. The main waste or soil pipes must be of cast iron or lead not less than four inches in diameter and shall not decrease in size, but be carried up through the building and pass through the roof full size. Must extend at least one foot above the roof and three feet above the highest window or vent shaft, nearer than twenty-five feet to such pipes. In no case shall a vent or soil pipe open near to a window or air shaft used for ventilation of living rooms.

CLEANOUTS. Sec. 6. All cleanouts should be of the same diameter as the pipe, and should be provided with gas tight screw covers and proper ferrules caulked into the iron pipe with oakum and lead. All vertical lines of soil pipe should have a cleanout at foot of pipe. Cleanouts should be placed at all changes of direction of sewer or soil pipe; also at the ends of each horizontal line and at each junction.

SOIL PIPE COATING. Sec. 7. All cast iron pipes must be thoroughly coated on inside and outside with tar or asphaltum applied while hot. All joints of cast-iron pipe must be made of good oakum or hemp and soft molten lead. The oakum or hemp to be well packed in the hubs, then the lead run in with one continuous pour and well caulked. There must be at least twelve ounces of lead to each one inch of diameter of pipe.

SPECIAL CONNECTIONS. Sec. 8. No connections shall be made to any part of the house drainage system, with roof gutter or with any other channels for the conveyance of rainwater, except by special permission from the city engineer or sewer committee, and shall be subject to all the rules and regulations covering soil and vent pipes.

PRIVATE SEWERS. Sec. 9. Where there is no properly constructed or available sewer to the street and it is necessary to construct a private sewer to connect with a sewer in an adjacent street, application must be made and permit obtained from the city council. In no case will it be allowed to run this private sewer through any house unless it is made of iron, laid to grade and properly caulked, conforming to rules and regulations for house drains.

BACK VENT PIPES. Sec. 10. Back vent pipes from traps should be run separately to roof or be connected into the soil pipe at least one foot above the highest fixture.

TRAPS. WHEN PLACED. Sec. 11. All traps must be placed as close to the fixtures to which they belong as is possible, and must in no case be more than two feet away and shall be of such size that all parts of the traps may be thoroughly flushed with each discharge.

SAFETY. INSPECTION. Sec. 12. Every fixture must be separately and effectually trapped. All traps must have at least two and one-half inches of water seal. Traps must be prevented from siphonage by being ventilated by a special air pipe taken out of the crown of the trap, except where anti-siphon fixtures or devices, which render the trap vent unnecessary are used, which fixtures or devices shall first be approved by the city engineer or sewer committee.

SAME. IN SINKS. Sec. 13. All waste pipes and traps for kitchen sinks and laundry tubs or trays must not be less than one and one-half inches internal diameter and those from lavatories and bath tubs must not be less than one and one-fourth inches internal diameter.

WATER CLOSURES. Sec. 14. Water closets must never be placed in an unventilated room or compartment and in every case the compartment must be open to the outer air or be ventilated by means of a shaft or air duct with at least four square feet of area to every room opening into such shaft.

SAME. Sec. 15. No pan, valve, plunger, or set without closets and other water closets having an unventilated space, or whose walls are not thoroughly flushed at each discharge will not be permitted.

REFRIGERATOR PIPES. Sec. 16. The waste pipes from a refrigerator shall not be directly connected with soil or waste pipe, but shall discharge into an open sink, provided with a trap having at least a three-inch water seal and so arranged as to admit of frequent flushing or it may be discharged on the cellar floor or outside the building.

GREASE TRAPS. Sec. 17. Slop sinks, kitchen sinks and pantries in all hotels, restaurants, eating houses and all other public cooking or laundry establishments, must be provided with and connected to a grease trap of approved pattern. The use of grease traps is recommended for all dwelling houses.

SANITARY SEWER—DRAINAGE INTO. Sec. 18. No storm water or rain water from roofs, cisterns, areas, or any other sources will be allowed to discharge into the sanitary sewer, where there is a storm sewer available, and in no case without a special permit from the city engineer or sewer committee. The city reserves the right to revoke any such privilege granted at its pleasure.

SAME. TRAPS. Sec. 19. All subsoil drains, cistern tank overflows, sump areas or other rainwater drainage connected to sewer or house drains must in every case be provided with a trap having an extra deep water seal and an inclined flap air valve of approved pattern. Unless special provision is made to maintain a perfect water seal at all times. It is recommended that all such drainages into and through an outside catch basin containing an open deep water seal.

SAME. UNLAWFUL USE OF. Sec. 20. It shall be unlawful to throw, or deposit or cause to be thrown or deposited in any vessel or receptacle connected with a public sewer, any garbage, vegetable parings, ashes, cinders, rags, or any other matter or things which would obstruct the flow of sewage; or allow any privy, vault or cess pool to be connected to any house drain.

A. B. Maxwell, City Clerk. 3-11
Parley Sheldon, Mayor.

We hereby certify that Ordinance No 178, was duly and properly passed at a an adjourned regular meeting of the City Council of the City of Ames, Iowa, held on the 14th day of May 1907, and its publication duly ordered, and that the same was signed by the Mayor and then published in the Ames Times, and Intelligencer newspapers of general circulation published at Ames, Iowa, in their issues of May 16th, 1907.

A. B. Maxwell
City Clerk.

Parley Sheldon
Mayor.

The International Association of Plumbing and Mechanical Officials (IAPMO)

In accordance with the November 23rd directive, staff has invited Mr. Bill Schweitzer from the IAPMO to participate in a discussion with the City Council members, Ames Rental Association representatives, and Rental Property Appeals Board members regarding the Uniform Plumbing Code issues.

According to literature provided by the organization, "the International Association of Plumbing and Mechanical Officials has been protecting the public's health and safety for more than eighty years by working in concert with government and industry to implement comprehensive minimum plumbing and mechanical health and safety standards around the world. The present organization originated in 1926 with a small group of plumbing inspectors in Los Angeles who were concerned about the welfare of the people they served and the need for more effective written plumbing standards and public education.

IAPMO utilizes an open consensus process in the development of the Uniform Plumbing Code (UPC) and related standards. The codes are established through scientific research, public debate and analysis. The IAPMO is a complete service organization, providing code development assistance and education. It includes four other divisions in addition to technical code writing: research and testing; a research and testing laboratory; product and process evaluation; and backflow prevention institute."

Bill Schweitzer is the IAPMO Midwest Regional Field Service Manager, a position he's held since 2005. He was the Chief Plumbing Inspector for the City of Topeka Kansas from 1984 to 1994. He studied Occupational Safety and Health at Washburn University in Topeka; is a licensed Master Plumber; a practicing professional plumber for more than 20 years, a certified plumbing instructor for 15 years, and an IAPMO certified plumbing inspector for 10 years. "Bill is the IAPMO regional expert in Uniform Plumbing Code interpretation and application, with extensive personal experience in all aspects of this essential public health science – installation, inspection, teaching, and administration."

IAPMO Code Interpretation

Upon inviting Mr. Schweitzer to this workshop he inquired as to the outstanding issues. Staff informed him of the issue regarding date of adoption of the UPC. Recently, he sent staff the following information. I am providing it for your review so that you will not first see it on Tuesday night.

Received from IAPMO – Bill Schweitzer

“Attached is the section from the 2009 UPC training manual. It gives a good explanation of 101.4.1.3 Existing Construction.”

101.4.1.3 Existing Construction. *No provision of this code shall be deemed to require a change in any portion of a plumbing or drainage system or any other work regulated by this code in or on an existing building or lot when such work was installed and is maintained in accordance with law in effect prior to the effective date of this code, except when any such plumbing or drainage system or other work regulated by this code is determined by the Authority Having Jurisdiction to be in fact dangerous, unsafe, insanitary, or a nuisance and a menace to life, health, or property.*

This code is published and oftentimes adopted in three year cycles. There may be many changes in the code from code cycle to code cycle and it is not the intent of any jurisdiction to require existing buildings to continually meet the requirements of the newly adopted edition of the code. **There are three conditions that will allow an existing plumbing system to survive changes in the code without being brought up to the requirements of the new code. These conditions are:**

- 1. The existing system must have been properly installed according to the code in effect at the time of the installation;**
- 2. The system must have been properly maintained according to the code in effect when periodic maintenance was performed;**
and
- 3. The system must not be "dangerous, unsafe, insanitary, or a nuisance and menace to life, health, or property." An example of this would be a broken and leaking sewer pipe.**

If it can be proved that any or all of the above provisions were not met, the AHJ is justified in requiring that system to be brought up to the requirements of the new edition of the code.

City of Des Moines – Interpretation and Application of Plumbing Code to Housing Code Issues

Our rental and plumbing inspection divisions are separate, so we have two inspection procedures, but they are coordinated and intertwined.

Des Moines began its housing rental program sometime in the 70's according to our old timers here. Initially, violations were classified according to degree of hazard, with Class I being a threat to health and safety, and Class II being everything else. Class I violations required immediate correction, class II needed correction by the next cycle. Plumbing violations were considered Class I, cited by housing inspectors, permits required, and plumbing inspectors would then evaluate and advise the extent of necessary corrections. We eliminated the classification system some time ago, and now all cited violations must be corrected before the rental certificate is issued. Appeals of housing inspections are referred to Housing Appeals Board, but they had no authority to rule on plumbing code issues. This has sometimes caused complications.

Our plumbing codes and inspections have been in place since the 20's. Our plumbing codes contain a provision that reinforces the language of the adopted plumbing code to require inspection and replacement of non-conforming plumbing as work is proposed and violations discovered. It is limited to work that is unsanitary, or represents a health hazard, which is rather ambiguous, since the plumbing code is a health and safety document. Plumbing components that were at one time legal under any of the prior adopted codes were grandfathered, and allowed to remain until altered. Installations that were never legal under our codes were ordered replaced. This process requires a good working knowledge of prior codes, and often caused a bit of variability in application. Appeals of a plumbing code violation originally went to the Plumbing Board, and now go to the Building and Fire Code Board of Appeals.

Because of the age of our plumbing code program, it is somewhat easier to make the case on bootleg work. We have records that go back that far, and if no permit for the work is found, we would initially consider it illegal; however it is impossible to say so with certainty because records are often incomplete. Therefore, we allow a bit of discretion. If the work complied with the code in place at the time, we have considered that work grandfathered unless it represents an obvious hazard. Work installed prior to our codes is more of a challenge, because it was legally installed in an unregulated environment. In those instances we also look to the hazard. Trapping and open vents and similar instances where plumbing gasses may enter the property are a health risk, and are ordered corrected.

State plumbing code has been in play since the 60's I believe, and was applicable to all construction throughout the state. However, there has never been any sort of enforcement provision, so the effect was largely an unregulated environment unless someone brought suit. Nevertheless, the requirement was there.

As you might imagine, we have experienced much of the same objections that Ames is now experiencing, but we have referred the appeals to the appropriate board for evaluation.

Because of the number of inspectors we have, one of our challenges includes high variability between inspectors. We have worked hard to limit that over the years. Regardless of whether a prior inspector enforced the provisions, we have held that the code required the owner to comply, and failure to enforce does not constitute compliance. In fact, the plumbing code contains a reference that specifically states that point. In terms of the specific cases cited below, we had a historical provision that allowed showers, lavatories and laundry tubs to run indirect (open pipe discharging across the fixture) to a floor drain, and if encountered we treat them as a grandfathered installation. There are other similar types of conditions that are grandfathered. Once they significantly alter the system, those are required to be brought to current code. Some discretion is exercised here as well.

Ames Rental Association

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December 10, 2010

The Honorable Mayor Ann Campbell
Ames City Council Members
Ames, IA 50010

Dear Madam Mayor and Gentlemen of the Council,

Revised Proposed Variance Language
Re: Plumbing Issues

We request 5 things be done with regard to plumbing issues arising out of current inspections, as follows:

1. The first is to change the 5 year provision to bring unvented S traps into compliance with the code and to have it considered a technical violation to the plumbing code and allowed to continue as long as they are noted and the technology is maintained in a not unsafe manner.
2. The second is to change the language of 13.600(3) to remove the words "repaired or replaced" and add the word "new".
3. The third is similar to the second and has only recently come to our attention. Section 13.400(4) should have the word "plumbing" removed in two places to make it consistent with the change requested to 13.600(3).
4. The fourth is to grant the PMAB the power to grant code modifications in Section 13.108(9) when strict compliance with the code is impractical.
5. The fifth is similar to the fourth to grant the Building Board of Appeals authority to grant code modifications in Section 5.609 when strict compliance with the code is impractical.

Sincerely yours,



Lad Grove
ARA, Board Member

Addendum A- Proposed Ordinance Language

Revise 13.600(3) to read:

- (3) **New Work Must Comply.** New plumbing items shall comply with current city of Ames Plumbing Code and all other relevant standards. (The words 'repaired or replaced' were deleted.) Maintenance includes replacement of failed parts in the original lawfully installed plumbing system.

Revise 13.103(1) to read:

- (1) **Modifications:** Whenever there are practical difficulties involved in carrying out the provisions of the Code, the Building Official shall have the authority to grant code modifications for individual cases, provided the Building Official shall first find that special individual reason makes the strict letter of the Code impractical and the code modification is in compliance with the intent and purpose of the Code and that such modification does not substantially lessen health, life and fire safety requirements. The details of action granting code modifications shall be recorded and entered in the Inspection Division records and be permanently maintained in the office of the city clerk.

Revise 13.108(9) to read:

- (9) **Board Decisions:** The board has authority to affirm, modify or reverse the decision of the Building Official and to grant code modifications when strict compliance with the code is impractical and the modifications is in compliance with the intent and purpose of the Code and that such modification does not substantially lessen health, life and fire safety requirements. The details of action granting code modifications shall be recorded and entered in the Inspection Division records and be permanently maintained in the office of the city clerk.

Revise 13.400(4) (The word "plumbing" was deleted twice.) to Read:

New Work to Comply. All building, electrical, and mechanical items that are repaired or replaced shall meet the building, electrical, and mechanical codes in effect at the time the work is performed, unless otherwise specified in this Code. (The word "plumbing" was deleted twice to be consistent with 13.600(3).)

In reading the Building Code I found that the provisions of proposed section 13.108(9) should be added to section 5.609 of the Building Code to make it consistent with 13.108(9).

Existing Section 5.609 of the Building Code provides:

Sec. 5.609 Board Authority. The Board has authority to affirm modify or reverse the decision of the Building Official.

Proposed Revision of Sec. 5.609 Board Authority. The board has authority to affirm, modify or reverse the decision of the Building Official and to grant code modifications when strict compliance with the code is impractical and the code modification is in compliance with the intent and purpose of the Code and that such modification does not substantially lessen health, life and fire safety requirements. The details of action granting code modifications shall be recorded and entered in the Inspection Division records and be permanently maintained in the office of the city clerk.

Addendum B

Abstract of Minutes of Council Resolutions RE: Plumbing Code Changes on 11-9-10

Motion to allow Technical Violations "Not Unsafe" to Continue in Use

Moved by Orazem, seconded by Mahayni, to direct staff to allow one with technical violations to the Plumbing Code to continue as long as they are noted and the technology is maintained in a not unsafe manner.

Amendment to Only 4 Items

Moved by Goodman, seconded by Wacha, to amend the motion that the wording only be applied to four items on the list, excluding existing unvented S-traps.

Vote on Amendment: 4-2.

Voting aye: Goodman, Mahayni, Orazem, Wacha. Voting nay: Davis, Larson. Motion declared carried.

Vote on Motion

as Amended: 4-2. Voting aye: Goodman, Mahayni, Orazem, Wacha. Voting nay: Davis, Larson. Motion declared carried.

S Traps 5 years.

Moved by Goodman, seconded by Mahayni, to move that with regards to unvented S-traps, five years be allowed to be brought into compliance.

Vote on Motion: 3-3. Voting aye: Goodman, Mahayni, Orazem. Voting nay: Davis, Larson, Wacha. Mayor voted aye to break the tie. Motion declared carried.

City Attorney to Draft Ordinance

Moved by Davis, seconded by Mahayni, to direct the City Attorney to draft an ordinance with the above-named changes and bring it back to Council for its consideration.

Vote on Motion: 6-0. Motion declared carried unanimously.