

ITEM #:	29
DATE:	08-25-26
DEPT:	FIRE

COUNCIL ACTION FORM

SUBJECT: ADOPTION OF UPDATED BUILDING AND FIRE CODES

BACKGROUND:

The City of Ames adopts nationally recognized codes that regulate building construction and trade work. They are used throughout the United States and are updated at three-year intervals to reflect the latest improvements in construction technology. The table below shows the current adopted codes and the new versions that are being proposed:

Current	Proposed
2015 International Building Code (IBC)	2024 International Building Code (IBC)
2015 International Residential Code (IRC)	2024 International Residential Code (IRC)
2015 International Existing Building Code (IEBC)	2024 International Existing Building Code (IEBC)
2015 International Fire Code (IFC)	2024 International Fire Code (IFC)
2021 Uniform Plumbing Code (UPC)	2024 Uniform Plumbing Code (UPC)
2021 International Mechanical Code (IMC)	2024 International Mechanical Code (IMC)
2020 National Electrical Code (NEC)	As currently adopted by State of Iowa
2012 International Energy Conservation Code	Not being updated at this time

In September 2025, the State of Iowa adopted the proposed codes listed above, with the exception of the 2012 International Energy Conservation Code. **Historically, the City follows suit with the State adopted codes so contractors from elsewhere in Iowa can operate under the same regulations in Ames as those in effect in most of the state.**

The State of Iowa prohibits local jurisdictions from enforcing plumbing, mechanical, and electrical standards that are **less** restrictive than the State-adopted Code. New legislation also prohibits jurisdictions from being **more** restrictive than the State Electrical Code. **Therefore, at minimum, the City must take action to adopt the same Electrical Code as the State. Additionally, the City must adopt the same plumbing and mechanical codes as the State, but may incorporate local amendments that are more restrictive than the State-adopted Code. The other codes can be amended at the local level.**

The first step in the code adoption process is an in-depth review by staff of each new code and the local amendments. Staff has been reviewing the codes since September 2025 when the State's adoption was codified. In January 2026, staff presented the most significant changes (Attachment A) to the Ames Home Builder's Association (AHBA). **A public input session was held on February 2, where the contractors were provided an opportunity to ask questions and seek clarification from staff.** Additionally, the AHBA convened a small

code update committee to work through any concerns they had and presented their findings to staff.

Staff has compiled input from the outreach efforts and incorporated them into the code where possible, including several clarification requests submitted by the AHBA. **Most of the proposed changes are considered "clean-up" where references or editions have changed or the language has been made clearer but has not resulted in a different meaning.** Included with this packet is a copy of the current ordinance with track changes enabled showing all of the proposed revisions for Chapters 5 (Attachment B - Building) and Chapter 9 (Attachment C - Fire).

On March 2, 2026, the Building Board of Appeals (BBOA) convened to review the code revisions and offered their recommendations regarding several items. **The BBOA reviewed four concepts that were still up for debate after staff incorporated recommendations from the public and, specifically, the AHBA. These four items are described in detail below and include the recommendation from the BBOA and alternatives for the Council.**

FIRE PROTECTION OF FLOORS

The 2012 IRC was published with a requirement that unfinished basements in new construction provide fire protection for the ceiling/floor above (e.g., drywall on the ceiling). This additional protection helps slow the spread of fire and keeps the floor from collapsing during fire events. The protection is not required to meet the criteria for a full fire rated assembly, but is required to cover the ceiling so that floor components above are not exposed.

This new requirement was amended out of the City's local adoption in 2013 to give customers time to adjust to the new standard. At this time, staff does not have a reason to continue to amend out the requirement as published in the IRC.

Feedback from the building community is that the added cost of the requirement is unnecessary and will create additional cost/work when the basement is finished in the future, as it would typically be necessary to remove the covering to install lighting, wiring, ductwork, plumbing, etc.

The BBOA debated this item at length during its March 2026 meeting. The Board was unable to come to a conclusion at that time and voted to table the discussion until April so more research could be conducted. The Board also asked staff to try to obtain information regarding the data that showed that the rate of failure of floors was higher when not protected and the approximate cost to drywall the ceiling.

On April 6, the BBOA reconvened and discussed the floor protection requirement. At that time, staff was unable to report any data related to the failure of floors when not protected. There were too many variables to determine exact cost to meet this requirement, but it is estimated that the cost is between \$2,000 to \$3,000. **After much discussion, the Board voted to recommend that the City continue to amend out the fire protection of floors requirement.**

While the Board voted to recommend amending out the fire protection of floors, staff remains supportive of keeping the requirement as the provided protection is essential

in limiting fire spread and protecting occupants' ability and time to escape. Staff was able to locate a study following the BBOA meeting showing that standard 1/2-inch drywall protects against fire for up to 30 minutes (twice as long as fully exposed wood joists) and doubles the occupant escape time. Additionally, 5/8-inch drywall protects for 60 minutes and quadruples escape time (NFPA ASTM E119 Standards 1, 2, 3, 4, 5).

Staff reviewed ordinances from other jurisdictions and was not able to find any that amended out fire protection of floors. Additionally, of the new homes with basements built in 2025, only 25% had unfinished basements. Therefore, the number of homes impacted is relatively low. **Since there is scientific reasoning for the requirement that makes it safer for occupants and responding firefighters, and there is not a precedent from other jurisdictions to remove the requirement, staff is recommending to retain the requirement as written.**

The Building Code that is being presented to Council does not amend out the requirement for floor protection. **Therefore, if the Council chooses to amend out the requirement as published in the IRC, a motion to remove it for the second reading would be required.**

STAIR RISE AND RUN

Since the early 2000s, the City's building codes have required stairs to have a maximum riser height of 7-3/4 inches and a minimum tread depth of 10 inches. Prior to this requirement, the maximum riser height was 8 inches and the tread depth was 9 inches. **The AHBA has requested to amend the code and return to the original dimensions of 8 inches rise and 9 inches run, which allows more flexibility in construction (a staircase would take up less space with an 8" riser and 9" tread).**

Staff was unable to identify any other jurisdictions that have made this change and has not seen momentum at the national level for the change. The BBOA's recommendation is to keep the local requirement the same as the International Codes.

The proposed ordinance does not amend the maximum riser height or tread depth. **A motion to amend the proposed ordinance for second reading would be required if the Council wants to amend the maximum riser height to 8 inches and tread depth to 9 inches.**

GUARDRAILS (Outdoors)

The 2024 IRC (as well as previous versions) requires guardrails to be installed when the grade adjacent to a walking surface is more than 30 inches below the walking surface within a horizontal distance of 36 inches from the walking surface. This requirement has not been amended in previous years.

The AHBA has proposed to remove the 36-inch horizontal requirement for the guards. In this case, there would be no guardrail protection for decks that have a sloped surface adjacent to them with the immediate grade being less than 30 inches regardless of the slope.

The BBOA debated this amendment request and decided to recommend retaining the current language requiring a guard when the walking surface was within 36 inches is 30 inches deep or more, which also is the staff recommendation.

The proposed ordinance does not amend this section. **If Council wanted to amend the**

ordinance to not require guardrails when the grade changes within 36 inches, it would need to make a motion to amend the ordinance for the second reading.

SMOKE AND CARBON MONOXIDE ALARMS

The 2015 IRC required smoke alarms to be installed in the same location as required in new construction when alterations requiring a permit occur or where one or more sleeping rooms are added. Exempted from this are projects for exterior work or alterations to plumbing or mechanical systems.

However, when the City adopted the 2015 IRC, the City Council amended this section to only require smoke alarms to be installed when a new bedroom was created (instead of any work requiring a permit). The smoke alarms were required to be located within the new bedroom, outside the new bedroom, and on each level of the structure. In addition, these alarms needed to be hard-wired, interconnected with battery back-up.

The 2024 IRC is nearly the same as the 2015 except that it added a requirement for carbon monoxide alarms to be installed when fuel-fired appliances are installed or replaced. Additionally, the State of Iowa requires smoke alarms and carbon monoxide alarms in all single-family homes, regardless of whether the home is existing or newly constructed. Aside from alterations or additions, there is no mechanism to enforce the State Code.

There was much debate about this code section, specifically about the need to bring the entire structure into compliance when a small project was being completed. **The AHBA argued that the installation of the alarms may be outside of the scope of the contractor applying for the permit and the cost to hard-wire the alarms could be excessive.**

Staff proposed an amendment that would require smoke and carbon monoxide alarms when alterations/installations requiring a building permit occur, a fuel-fired appliance is installed, and when a new sleeping area was added. Staff removed the requirement for the alarms to be hard-wired. The alarms would be required throughout the structure consistent with the 2024 IRC.

The AHBA proposed to retain the current language of the code which requires the installation of smoke and carbon monoxide alarms when a new bedroom is added. The requirement for a hard-wired, interconnected system with battery back-up would remain.

The BBOA decided to recommend retaining the existing local amendment requiring the structure to be brought into compliance with smoke alarms and carbon monoxide alarms only when a permit for a new bedroom is applied for. This would be less restrictive than the IRC, because it is removing the requirement to retrofit when any type of permit is applied for and only requires it for a new bedroom. **Additionally, the BBOA is recommending that the ordinance be amended further to allow the newly installed alarms to be battery operated instead of requiring them to be hard-wired.**

Staff contacted other jurisdictions and were unable to find any that had amended this provision. Those that responded stated that they enforce the code requirement as written and have received no pushback from contractors. This means that most jurisdictions follow the IRC and the State of Iowa requiring alarm retrofitting when any electrical or building permit is pulled, when a new bedroom is created, and when a fuel-fired appliance is installed or

replaced. Alarms installed in these instances can be hard-wired or battery powered but must be interconnected.

While the concerns from contractors are valid, staff recommends installing alarms as required in the 2024 IRC (and enforced throughout the State). This would require alarms be installed when any building permit is required or a fuel-fired appliance is installed/replaced. Alarms would not be triggered by the installation/alteration of plumbing, mechanical, or electrical systems (not included fuel-fired appliances). **Additionally, the staff is recommending that battery operated alarms be allowed in addition to hard-wired.**

The proposed ordinance is written in support of staff's preference requiring smoke and carbon monoxide alarms any time work requiring a permit is conducted. **The recommendation does still allow for the alarms to be battery operated rather than the requirement in the IRC to be hard-wired.**

NEW LAWS

During the most recent legislative session, the State of Iowa adopted two laws that impact the adoption of local codes.

The first law, HF 2800, amends the adopted electrical code. This law prohibits cities from being less restrictive and MORE restrictive than the State Code. For many years, the City has prohibited the use of non-metallic sheathed cable (e.g., Romex) in commercial applications. This amendment is required to be removed as a result of the new law.

In addition to the change prohibiting cities from being more restrictive, the law reduces the requirements by removing provisions for arc-fault circuit interrupters (AFCI) in single-family and two-family dwellings. It also removes ground-fault circuit interrupter (GFCI) requirements for sump pumps and refrigerators. A provision written in the law adds the AFCI and GFCI requirements back in upon adoption of the 2026 NEC which is tentatively scheduled for January 2027. This essentially makes the reduced regulations in effect for a short period of time. The ability to be more or less restrictive than the State will not change with the adoption of the 2026 NEC.

The second law adopted that affects Ames' local code is HF 2297, which requires the State Building Code Commissioner to adopt a law requiring passive radon mitigation systems in all new single-family and two-family homes. The details of the law have not yet been drafted. Staff will update the Council once more information is available from the State.

These changes occurred after staff conducted outreach sessions. Staff reached back out to the AHBA to understand their views of the changes and they had no major concerns. According to them, they already install passive radon systems and intend to continue to install electrical components that the code has recently amended out.

SUMMARY

The majority of the proposed changes are minor code clean-up changes. **Staff was able to work with local contractors to incorporate some of their proposals into the proposed codes (Attachments E and F). Only a few sections remained at issue. The proposed ordinance is a compilation of recommendations from the AHBA, the BBOA and staff.**

These recommendations are summarized in the table below:

Topic	Current Ames Code	2024 IRC	AHBA Proposal	BBOA Proposal	Staff/Proposed Ordinance
Rated Floor Assemblies	Floor assemblies are not required to be rated	Floor assemblies in unfinished basements must be rated	Amend out so no rating is required on floor assemblies	Amend out so no rating is required on floor assemblies	Do not amend. Keep the same as the IRC and other jurisdictions
Stair Rise and Run	7 3/4" x 10"	7 3/4" x 10"	8" x 9"	7 3/4" x 10"	7 3/4" x 10"
Guardrails	Guard required when elevation change within 36"	Guard required when elevation change within 36"	Guard required when elevation change at guard (remove 36")	Guard required when elevation change within 36"	Guard required when elevation change within 36"
Smoke/CO Alarms	Hard-wired alarms required when bedroom is added	Alarms required when a permit is required. Exceptions for non fuel-fired appliances and exterior work	Alarms required when a new bedroom is added	Alarms required when a new bedroom is added	Alarms required when a permit is required. Exceptions for non fuel-fired appliances and exterior work

ALTERNATIVES:

1. Approve first reading of the ordinance amending Chapters 5 and 8 of Municipal Code, including the adoption of the proposed 2024 International and Uniform codes, with State and local amendments, as presented by staff.
2. Approve first reading of the attached ordinance and direct staff to present the ordinance for second reading with language containing one or more amendments to Chapters 5 and 8 as suggested by the AHBA.
3. Approve first reading of the attached ordinance and direct staff to present the ordinance for second reading with language containing one or more amendments to Chapters 5 and 8 as recommended by the BBOA.
4. Approve first reading of the attached ordinance and direct staff to present the ordinance for second reading with language containing a combination of one or more amendments from both the AHBA and BBOA.

CITY MANAGER'S RECOMMENDED ACTION:

Staff engaged extensively with the community and the AHBA throughout the process, producing an ordinance that reflects some, but not all, local input, maintains safety standards, and aligns with other cities across Iowa. Therefore, it is the recommendation of the City Manager that the City Council adopted Alternative No. 1, as described above.

ATTACHMENT(S):

[Attachment A - 2024 Significant Changes Summary.pdf](#)

[Attachment B - Chapter 5 Track Changes](#)

[Attachment C - Chapter 8 Track Changes](#)

[Attachment D - Chapter 5 Draft Ordinance](#)

[Attachment E - Chapter 8 - Draft Ordinance](#)