

Residential Building Permit Requirements

Boiler Replacement

Important notes about building permit request submissions

- All permit applications must be submitted online using the [Customer Access](#) portal.
- There is no need to email us when you submit documents. Staff is notified automatically within one business day of your submission.
- Submit documents as PDF file type only.
- Please include the following:
 1. List the site address on all documents and plans.
 2. Include the owner's name on all documents.
- Permit review will be delayed if the required documents are not submitted online, if they are not submitted as PDFs, or if the documentation is missing information.
- All submitted documents will become a public permanent record of the property. It is in your best interest that the submitted PDFs are of the highest quality and detail, in case you or somebody else needs to refer to them in the future.

General guidelines

- The boiler may require a [State of Colorado Boiler inspection](#).
- Requirements not covered by code: requirements necessary for the strength, stability, or proper operation of an existing or proposed system, or for the public safety, health, and general welfare, not specifically covered by code, shall be determined by the code official (e.g., an inspector).
- The manufacturer's installation instructions must be on site for inspections. The manufacturer's installation instructions must be met when more restrictive than the code requirements.
- Piping must be installed according to the manufacturer's installation instructions including connection methods, alignment, and bedding, and installed in a manner that the labeling is visible at the time of the inspection.

- Arapahoe County will allow gas piping to be tested for 15 minutes at 20 psi using a 30 psi gauge. For other pressures or test methods, please contact an Inspector.
- New branches may not connect to existing gas pipes until after they have been tested and approved. A convenience valve at the tie-in may be installed and plugged for the rough inspection, and the tie-in can be tested using a leak detection fluid or an instrument. A valve may not be included in the test unless it is listed and labeled American Standards of Mechanical Engineers (ASME) B 16.33. Gas valves shall not be used as a bulkhead between live and tested piping.
- All equipment and appliances must be listed for the intended use and labeled when required by Plumbing, Mechanical, Fuel Gas, and Electrical Codes.
- All gas appliances must be listed and labeled as required by the International Residential Code (IRC) 2404.3 and International Fuel Gas Code (IFGC) 301.3.
- All fixtures, equipment, and appliances must be listed for the intended use, labeled when required by Code, and must be as specified or as approved by submittal to the Architect or Engineer.
- All gas equipment and appliances will be approved only for the manufacturer's intended use.
- All gas appliances and associated components must be installed according to the manufacturer's installation instructions. Therefore, the installation instructions, normally included on the product wrapper, must be provided at the time of inspection.
- A final heating inspection will be required.
- Existing boiler feed water must have backflow prevention and may remain, if compliant and not modified. Any revision must be installed by a licensed plumber.
- If a boiler is used to supply potable hot water, the temperature must be controlled as required by the Plumbing Code. All work on the potable water system must be done by a licensed plumber.
- State of Colorado Plumbing Contractor's company information and name and license number must be written on the back of the inspection card if applicable.
- All electrical work must be done by a State of Colorado licensed Electrician.

- Equipment location, access, combustion air, gas supply, and venting must be per Code or the manufacturer’s installation instructions must be met if more restrictive than code requirements.
- All electrical wiring must be installed as per the 2020 National Electrical Code (NEC).
- The Electrical Inspector may require additional electrical drawings from the Electrical Contractor, or an Electrical Engineer based on the conditions encountered on site for the existing and house panel.

Required documents

Attach the following to the online application:

1. Provide a boilerplate or template referencing the original BTU¹ usage.
2. Provide a [gas pipe isometric for the new gas line](#) if applicable referencing the 2021 IRC or the 2021 IFGC.
3. Construction documents
 - a. Approved construction documents: when the code official issues the permit where construction documents are required, the construction documents shall be endorsed in writing and stamped “APPROVED.”
 - i. Such approved construction documents shall not be changed, modified, or altered without authorization from the code official.
 - ii. All work shall be done in accordance with the approved construction documents.
 - b. Amended construction documents: changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.
4. Future gas outlets and tees must be documented if location or use is either not obvious, or the appliance demand is not listed in table IRC G2413.2. Attach a [Future Gas Appliance Affidavit](#) to your permit application in these cases.

¹ British Thermal Unit

Important additional requirements for a successful inspection

- Download, print and have the following documents ready for the inspector from the [Customer Access](#) portal:
 - A color copy of all final stamped permit documents (i.e., all the ones reviewed and approved – these documents are found in the Customer Access portal and will have the file name marked as “FINAL”).
 - A copy of the review comments.
- Trade personnel must be on site for partial inspections.
- The manufacturer’s installation instructions must be on site for inspections.
- Piping labeling must be visible at the time of the inspection.
- All equipment and appliances must have visible labeling at the time of inspection, when such labeling is required by Plumbing, Mechanical, Fuel Gas and Electrical Codes.
- All gas appliances and associated components’ installation instructions must be provided at the time of inspection.
- State of Colorado Plumbing Contractor’s company information and name and license number must be provided in advance to Arapahoe County by submitting online a [Contractor Information form](#).

Residential dwelling code compliance and mandatory requirements when replacing a boiler

In addition to the above-required documents, please ensure the residential dwelling abides by the following code requirements:

- This document is for a boiler replacement under the 2021 Plumbing, Mechanical, and Fuel Gas codes and 2020 NEC.
- The codes and standards referenced by the International Plumbing Code (IPC), International Mechanical Code (IMC), IFGC and International Energy Conservation Code (IECC) shall be considered as part of the requirements of those codes to the prescribed extent of each such reference. Residential Gas piping must comply with Chapter 24 of the 2021 IRC.
- Please review the [County adopted codes and amendments](#).