GOLDEN FIRE DEPARTMENT FIRE & LIFE SAFETY DIVISION

911 10th Street
Golden, Colorado 80401

303-215-8887

Contractor's Permit & Inspection Guide

*Note: this is not an all-inclusive list of requirements; this shall serve as a general guideline. All projects must be in accordance with the City of Golden's adopted fire code; the International Fire Code, 2021 Edition and all adopted amendments.

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Adopted Fire Code & Amendments

The 2021 IFC, as amended, is the current adopted fire code for the City of Golden. In addition, the NFPA references as well as other codes/standards listed in Chapter 80 are adopted as part of the CoG fire code. The use of more current codes/standards, such as NFPA, may be accepted; provided it is requested in writing as an alternate material and methods per section 104.10 of the 2021 IFC.

The link library.municode.com/co/golden/codes/municipal_code?nodeId=TIT16FI directs you to all deleted and amended sections for the 2021 IFC. For any questions, please contact the Fire & Life Safety Division.

Submittal Requirements

The following outlines the submittal requirements for all construction and operational permits, as well as re-inspection or after-hours requests.

1. Sign up for an account at permits.cityofgolden.net to track plans and communicate with the Fire & Life Safety Division.
2. Click on **New Users: Register for an Account** on the right top of the form just under the blue login button. Once you register your account go back to login and proceed.
3. If you have problems, questions, or issues please contact the Fire Marshal, Scott Case at 303-215-8887.

All permit submittals must include code references used for design (shall reflect current adopted cycle), professional stamps, data sheets for materials used, and a construction safety plan per IFC 3303. Submittals missing these items will be returned immediately for resubmission.

For limited tenant improvement projects, a completed construction safety form may be submitted in lieu of a full plan. Verify with the Fire & Life Safety Division if applicable before submission.

Plan Review Turnaround Time

GFD's goal is to provide a dependable, reasonable, and consistent plan review time frame for all submittals. **Anticipate the plan review to require 3 – 4 weeks;** depending on size and scope of project, times may vary. This targeted review time **only applies to the initial review**; subsequent reviews of resubmittals or of responses to the initial review comments generally require additional time.

This is only a goal and not a guarantee; larger, more complicated projects' time frames may take longer.

If you are unaware of the jurisdiction for your plans you can verify at addresslookup.jeffco.us/addressLookup/address. Generally, with Accela, we have Geofencing built in. If your address is not in our jurisdiction, it will not let you move past the address validation and you can stop attempting to submit for a permit in Golden. You can use the address wizard link above to try and find your jurisdiction under the Tax and Property information link.

Inspection Requests

Inspections shall be requested via the online permitting portal at least **2 business days** in advance. Requests must be confirmed and scheduled by a member of the Fire & Life Safety Division prior to inspection. See fee schedule for more information. As-built drawings are required at final inspection.

Fire Sprinkler Requirements

Fire sprinkler systems shall be designed by a NICET III or higher designer and installed per the City of Golden adopted fire codes and applicable NFPA codes (2019). All work shall be done by a state registered fire suppression system contractor. Flow tests must be conducted within the last year from the date of the hydraulic calculations (Exception: Confirmation from The City of Golden Water Division that no changes have occurred). Scope of work letters are accepted under limited circumstances. Applicants are encouraged to reach out to the Fire & Life Safety Division to verify prior to submission.

FDC

The location of the FDC shall be proposed during the plan review process. GFD will determine whether the location indicated on submitted plans is adequate. Under certain circumstances we will locate the FDC in the field.

All FDCs are required to have Knox locking caps, which can be found at www.knoxbox.com. These caps will be installed by GFD during an inspection.

Underground Requirements

Fire underground applications shall be submitted by a state certified underground contractor. Certificates and material cut sheets shall be provided at initial submission. Plan set drawings are required to reflect piping from main to flange to riser assembly. Designs and installation shall follow requirements listed in NFPA 24. Required inspections include bedding and/or thrust blocks, hydro, and debris/super flush to be witnessed by GFD. “Materials & Test Certificate” for underground piping shall be provided.

Sprinkler Inspection Requirements

The stamped reviewed plans and permit must remain on-site at all times; inspections will not be conducted if these documents are not on-site. Inspections must be requested via the portal at least 2 business days in advance.

All projects shall have rough/hydro (unless otherwise approved), and all sprinkler piping shall be visible for inspection. At the time of final inspection completed backflow certifications, underground and aboveground test certificates shall be given to the inspector. All flow and tamper switches must be wired to the fire alarm control panel and operational at the time of final inspection. The contractor must provide all necessary testing equipment and perform all testing required by NFPA 13.

Residential Sprinklers

Prior to submitting plans to GFD, confirm with the Building Division on whether sprinklers are required. All standalone 13D systems are a deferred submittal through GFD, and **multipurpose** systems will be reviewed through the Building Division.

Fire Alarm Requirements

Fire alarm systems shall be designed and installed per the City of Golden adopted fire code and all applicable NFPA codes (currently 2019 edition). Plans shall be designed and stamped by a fire alarm contractor who is minimum NICET III certified, a fire protection engineer, and/or factory authorized by the fire alarm panel manufacturer for the system present in the building.

Horn / Strobe Requirements

1. Clear lens horn/strobe: activate on water flow, at the location of FDC.
2. Red lens strobe only: activate on general alarm, at location of Knox box.
3. Amber lens strobe only: evacuation still in progress do not re-enter building, visible on all sides of the building with a re-entry point.

Remote Annunciator

Remote annunciators shall be installed in fire alarm systems where the fire alarm control panel (FACP) is not in a readily accessible location for responding personnel. The annunciators shall be located during the plan review phase; typically, this will be located at the main point of entry for the building. Depending on the size of the building, more than one (1) annunciator may be required.

Graphic Map

A permanently mounted graphic map must be located adjacent to either the FACP and/or the remote annunciator. All fire alarm initiating devices shall be shown on the map with name, address, and unit numbers of the building. This map shall be mounted in such a way that it will be sturdy and not be damaged during normal business operations. Graphic maps shall be updated to reflect changes in new projects and be replaced if deemed illegible.

Fire Alarm Inspection Requirements

The stamped plans and permit must remain on-site at all times; inspections will not be conducted if these documents are not on-site. Inspections must be requested via the portal at least 2 business days in advance.

All projects shall complete a 100% pretest of the system with a dBA report and fully completed NFPA 72 Record of Completion to provide to GFD during final inspection. During the final inspection for new systems, panels and dialers shall not be called offline until it has been verified that the supervisory station reports an alarm to GFD dispatch.

Kitchen Hood Requirements

Fire suppression systems are required on all Type I kitchen hoods. Kitchen hood suppression systems shall be designed and installed per the City of Golden adopted fire code and all applicable NFPA codes (edition dependent on design). These submittals shall include but are not limited to, nozzle location, nozzle distance from appliance, size of suppressant required, indication of appliances being protected, Class K fire extinguisher location and manual pull station location.

Kitchen Hood Inspection Requirements

The stamped plans and permit must remain on-site at all times; inspections will not be conducted if these documents are not on-site. Inspections must be requested via the portal at least 2 business days in advance. During inspection the following will be tested for proper operation: manual pull station, fusible link, deactivation of fuel sources under the hood, deactivation of “make-up air”, activation of fire alarm, and proper location of the Class K extinguisher. Hood must be fully functional to receive final sign-off. Applicants are required to mark appliance locations with permanent marker/chalk to assure appliances have been placed in exact location after they are moved for cleaning.

NOTE: IF A HOOD SYSTEM IS “RED TAGGED” AS OUT OF SERVICE, NOTIFICATION SHALL BE MADE TO GFD IMMEDIATELY

Paint Booth Requirements

Flammable finish spray operations per IFC 2404.4 shall have suppression systems installed prior to use. Permits shall include information regarding hazardous material used, stamped or pre-engineered system plans, and material data sheets for all components. Design requirements shall meet the respective NFPA standard and IFC stipulations. Spray rooms or booth structures shall be permitted and approved by the Building Division separately.

Address Requirements

Per IFC 2021, all buildings shall have address identification. Markings shall be legible and placed in a position that is visible from the street or road fronting property. Characters shall contrast with the background, using Arabic numbers and alphabetical letters. Characters shall be not less than 4 inches high with minimum stroke width of ½ inch. Where fire access is by means of a private road or not visible from the public way, a monument pole or other sign shall identify the structure. Suites/tenant units shall have additional unit markings at entry points. This includes Additional Dwelling Units (#A and #B).

Knox Box Requirements

Knox Boxes are required to be installed per IFC (2021) Section 506. Boxes are required where immediate access to/within a structure/area is restricted because of secured openings. All buildings with a monitored life safety system must have a Knox box. Knox Box locations shall be provided on plans and cannot be installed until approved by GFD. Depending on the size and layout of the building, multiple boxes may be required. GFD requires that each Knox Box contain two (2) identical sets of keys, labeled (shown below) and put on a D-ring or carabiner. The keys that need to be provided are shown below in the Key Labeling section. Knox Boxes are required to be installed prior to final inspection.

Knox Box Model

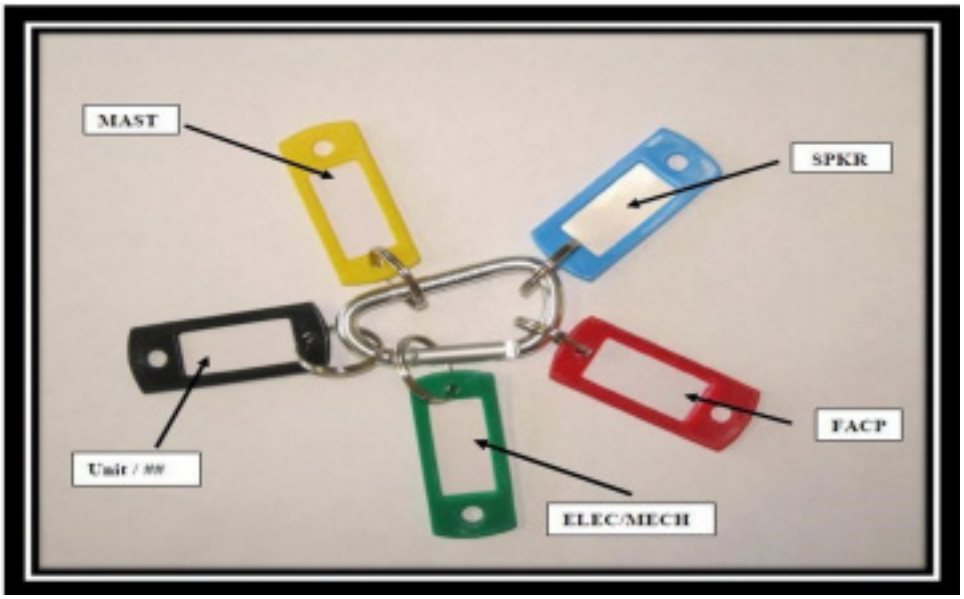
GFD approved Knox Box models can be found on the Knox Box website. To order go to: www.knoxbox.com/select State then type Golden Fire Department as the department name. Finally select a box from the options available. Be aware that two (2) sets of keys must fit in the box when considering the size.

GFD does not specify color or whether boxes need to be surface mounted or recessed.

Knox Box Location

Knox box locations shall be indicated during the plan review process but are subject to field inspection to confirm. Existing buildings may call for a field consultation.

Key Labeling



Key Legend

Red: Fire Alarm, Elevator Fire Service Key
Blue: Fire Sprinkler or System Valve Padlocks
Yellow: Building Master--Interior and Exterior
Green: Miscellaneous, Electrical Rooms, Mechanical Rooms, and Storage Areas
Black: Tenant Units or Numbers

Recommended Terms

FACP: Fire Alarm Control Panel
SPKR: Fire Sprinkler Room
MECH: Mechanical Room
EFS: Elevator Fire Service
ELEC: Electrical Room
STG: Storage Area
#: Unit Letter or Number

(All labels shall be written with a #2 pencil)
*2 sets of Knox Box keys are required

Emergency Responder Radio Coverage Systems (ERRC)

Per the adopted and amended IFC (2021), all buildings **new and existing** will require a test of the facility for emergency responder radio coverage per Section 510 by **July 1, 2024**. If coverage is inadequate a radio enhancement system will be required. Permits are required for ERRC systems and shall include requirements listed in Section 510. This includes but is not limited to professionally stamped plans, a valid FCC operator licensing/approved certification for in-building systems, existing coverage mapping, listed equipment, standby power, and other requirements as listed. ERRC systems are not permitted to impact outside communication systems and shall be inspected annually in accordance with IFC 510.6. New projects will require proof of coverage prior to final inspection.

Building owners are responsible for providing documentation of coverage to GFD prior to the July deadline. GFD will not be performing coverage testing due to limited department resources.

Access Control Systems

All equipment installed for delayed or controlled egress that impacts fire department access requires a separate permit through the Building Division. Designs and materials shall meet the requirements listed in IFC 1010 and shall be inspected to verify free egress and fire system release integration. Updated access cards/fobs shall be provided at final inspection for the Knox Box.

Fire Lane Requirements

Fire department access shall be indicated in the plan review process providing fire lane road widths, turning radii, turnarounds, and required building access distances per Section 503. Fire lane sign location and types shall be provided during the plan review; a field inspection will be required.

Approved Signs

Type 1 **Type 2** **Type 3** **Type 4** **Type 5**

1. 18-inch-high x 12-inch-wide sign (Type 1-3).
2. 18-inch-high x 24-inch-wide sign (Type 4-5) AS APPROVED.
3. Reflective white background material.
4. “Fire Lane” to be a minimum of 1-inch x ¼ inch stroke.
5. Left, right or bi-directional arrows as required by site specifications.
6. Signs to be mounted per Manual for Uniform Traffic Control Devices.
7. Locations to be approved by GFD per specific site plan review and/or on-site inspection.
8. Or other approved signs by GFD.

Sign Location

1. Maximum distance between signs shall be 150 feet.
2. Signs shall be angled 30˚ - 45˚ with the line of traffic flow.
3. 7 feet to the bottom of the sign.

Apparatus Turning Dimensions

The following dimensions are based upon a 105’ aerial platform. All required fire apparatus access road designs within a development shall be able to accommodate the dimensions detailed below.

Apparatus Dimensions

Overall length: 46’-8”
Width: 8’ Outside
Height: 11’-6”
Wheel base: 254”
Number of axles: 3
Front overhang: 149”
Rear overhang: 154”
Axle to axle: 52”
Tire height: 42”

Turning Radii Specifications

Inside turn: 37’
Curb to Curb: 45’
Outside Wall to Wall: 52’

Definitions

Overall length: Overall length of apparatus measured from the rear bumper to the front of the aerial platform.

Width: Width of apparatus measured from side to side.

Height: Height measured from grade to highest point of the apparatus

Wheelbase: Distance between the centerlines front and rear axles of the apparatus. When the apparatus is equipped with a tandem rear axle, the centerline between the rear axles is used.

Chassis overhang: Distance from the centerline of the front axle to the front edge of the cab.

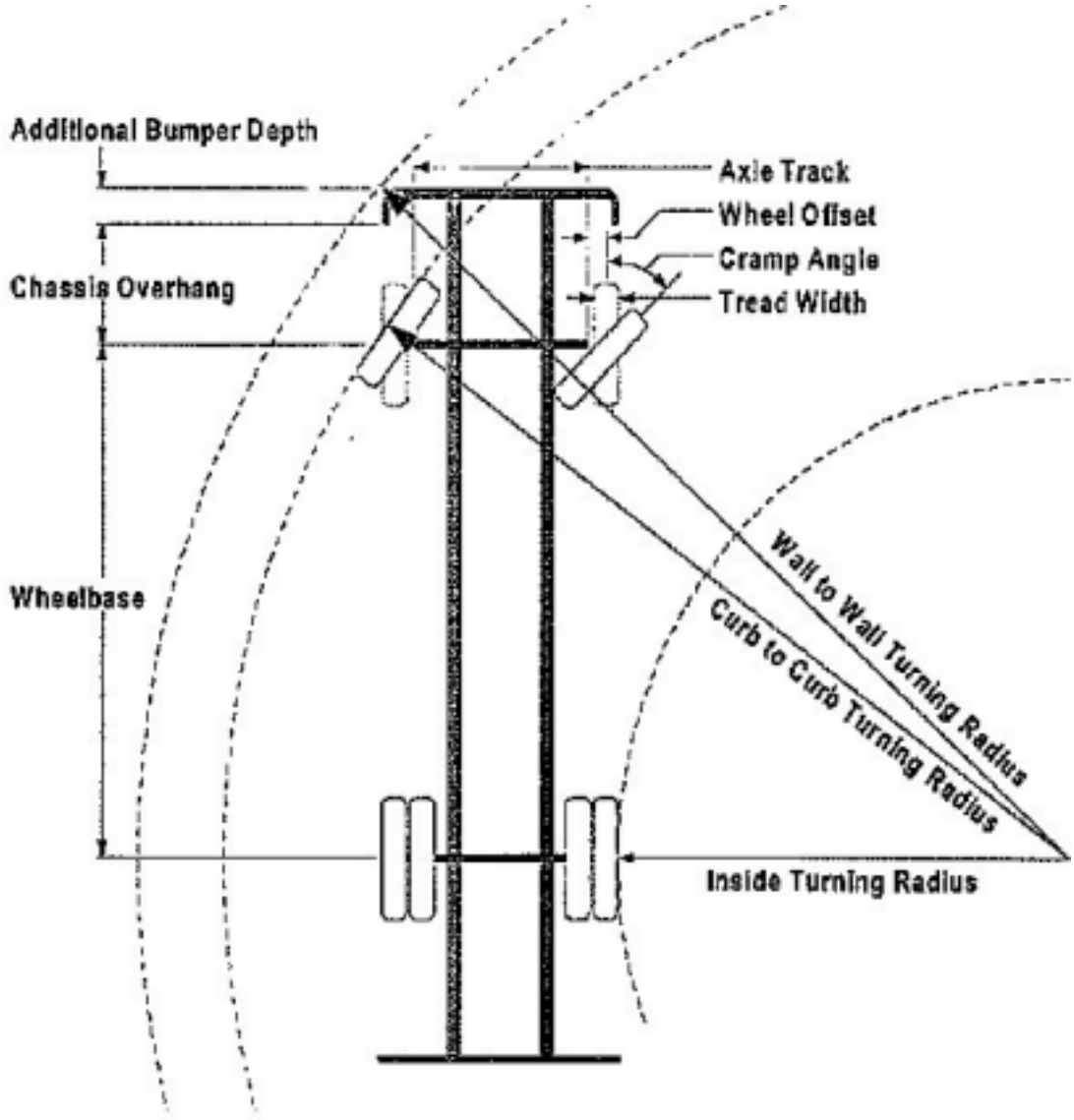
This does not include bumper depth or the platform overhang.

Additional bumper depth: Depth added to the front overhang by the front bumper.

Front overhang: The aggregate overhang from the centerline of the front axle to the front edge of the aerial platform.This dimension is used to determine the wall to wall turning radius.

Rear overhang: Distance from the centerline of the rear axle to the real tailboard. When the apparatus is equipped with a tandem rear axle, the centerline between the rear axles is used.

Axle to axle: Distance between the centerline of the rear tandem axles.



Operational Permits

Operational permits shall be submitted and reviewed for approval prior to special events, hazardous material use, or temporary installation/removal work. It is the applicant's responsibility to provide all required documents per the 2021 IFC at initial submission to avoid review time delays. Inspections for compliance are required prior to event start time or hazmat/system usage. Operational permits may be subject to additional random inspections for their duration. All associated permit documentation shall remain on-site at all times.

Events involving 500 people require a crowd manager per Section 3106.4 (amended from 1,000 to 500).

Tent Permit Requirements

All required information per 2021 IFC Chapter 31

- ***Section 3103.6 Construction Documents:***
  - A detailed site and floor plan for tents or membrane structures with an occupant load of 50 or more shall be provided with each application for approval.
  - The tent or membrane structure floor plan shall indicate details of the means of egress facilities, seating capacity, arrangement of seating, and location and type of heating and electrical equipment.
  - The construction documents shall include an analysis of structural stability.
- ***Section 3103 and 3104 Required Documents***
  - Tent schematics from the manufacturer.
  - Installation instructions from the manufacturer; including stake/anchor/ballasting information.
  - Any accessory documents from the manufacturer.
  - Area drawing of location of tent.
  - Dimension drawing of location of tent (with measurements in feet) distances from buildings, lot lines, fire lanes, parking lot & the number of spaces that will be taken up by the tent (per Section 3103.8).
  - Tent details: exit signs (shall adhere to means of egress per Section 3103.12), fire extinguishers, no smoking signs & emergency lighting (depending on time of operation).
  - Provide a diagram of tables, chairs, stages, or anything that will be set up within the tent and show occupancy load.
  - Provide proper information regarding heating or cooking appliances that will be used and indicate distances from tent(s) on site plan.
  - Fire Propagation Certificate.

Formula for determining holding power:

Holding power of 1.5 to 2 times the forces imposed on the tent. For 45 mph winds, the tent withstands about 9 pounds of force per square foot. Example: Tent size 20’ x 30’ = 600 sq ft x 9 lbs of force = 5400 x 1.5 holding power = 8100 lbs (required to hold the tent). When using water barrels, concrete, sandbags or anything other than stakes.

Special event structures shall adhere to the requirements listed in Section 3105.

Beverage Dispensing Applications

Permit applications shall include required information per IFC Section 5307 .

- Total aggregate quantity of liquid carbon dioxide in pounds or cubic feet at normal temperature and pressure.
- Location and total volume of the room where the carbon dioxide operation will be conducted. Identify whether the room is at grade or below grade.
- Location of containers relative to equipment, building openings and means of egress.
- Manufacturer’s specifications and pressure rating, including cut sheets, of all piping and tubing to be used.
- A piping and instrumentation diagram that shows piping support and remote fill connections.
- Details of container venting, including but not limited to vent line size, material and termination location.
- Alarm and detection system and equipment, if applicable.
- Seismic support for containers. Tanks that require structural support shall be assessed by the Building Division for engineering standards.

Fees

Fees shall apply to construction and operational permit plan reviews and include initial inspections/witness testing services performed by GFD. See fee schedule document on the Fire & Life Safety Division webpage for specifics.

Annual Testing and Maintenance

Testing and maintenance inspections on all fire safety and suppression systems are required as outlined in the 2021 IFC and each respective NFPA standard. Please be advised, GFD has adopted the Compliance Engine reporting system as of October 1, 2019. Routine system test reports, including deficiency corrections, must be submitted to the Compliance Engine at www.thecomplianceengine.com. **GFD no longer accepts reports submitted via email.** As a contractor, please register your company at the above website to submit documentation.

All suppression contractors shall be aware and follow set rules by dfpc.colorado.gov Division of Fire Prevention and Control 8 CCR 1507-11 Section 6.4.6 Tagging of Suppression Systems.

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