

FRONT RANGE FIRE RESCUE

Development Requirements

Emergency Vehicle Access – Road Design Standards

Front Range Fire Rescue (FRFR) has adopted Appendix D of the International Fire Code, which requires at least two (2) points of sustained access be provided into each development and to every commercial and/or industrial building. This is a safety consideration that helps ensure emergency vehicles are able to access a location while also providing the public with effective emergency egress from an area should an evacuation be required.

Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the lot or area to be served, measured in a straight line between accesses.

Streets that are 32-feet wide and greater may allow parking on both sides of the street.

Street that are less than 32-feet wide and greater than 26-feet wide may allow parking on one only side of the street. Appropriate “No Parking” signs shall be posted.

All streets between 20 and 26-feet in width shall have appropriate “No Parking” signs posted to prohibit parking on both sides of the street.

No streets shall be constructed to be less than 20-feet in width.

Minimum turning radius is 25 feet inside, 50 feet outside **OR** must meet the B40 turning template.

Access roadways within the FRFR response area shall be finished by the application of an all-weather driving surface of asphalt, concrete or other approved driving surface capable of supporting the imposed load of fire apparatus weighing at least 18,000 pounds (GVW 80,000 pounds minimum). This applies to all types of access roadways.

Where the vertical distance between the grade plane and the highest roof surface exceeds 30 feet, approved aerial fire apparatus access roads shall be provided. Aerial apparatus access roads shall have a minimum unobstructed width of 26 feet in the immediate vicinity of the building. At least one of the required access routes shall be located a minimum of 15 feet and a maximum of 30 feet from the building, and shall be positioned parallel to one side of the building, as approved by the fire code official.

Dead-end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved area for turning around fire apparatus (minimum 100-foot diameter cul-de-sac).

Minimum overhead clearance for emergency apparatus is 13 feet, 6 inches.

These access roadways are to be properly maintained and kept clear for emergency use at all times throughout the year.

Building Addresses and Signs

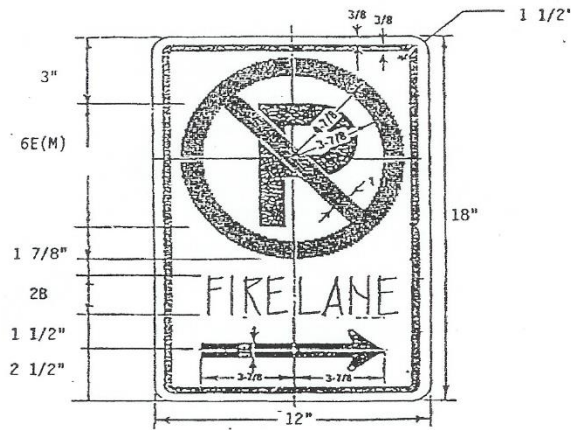
Approved address numbers are required on all new and existing buildings. Address numbers shall be posted in a position that allows them to be plainly visible and legible from the street or road fronting the property and shall contrast with their background. Numerals shall be a minimum four (4) inches in height and two (2) inches in width with a 1/2-inch stroke width on all commercial, single and multifamily residential buildings, as well as for suites in office and/or hotel-type occupancies. Larger buildings or buildings with increased setback distance may be required to have larger address numerals.

Approved temporary address signs shall be installed prior to issuance of FRFR Building Permits for any new building construction.

Permanent signs shall be installed prior to issuance of Certificate of Occupancy.

"No Parking Fire Lane" Signs

The "No Parking Fire Lane" sign shall be in red lettering on white background. There shall be a minimum clearance of one foot from the edge of the sign to the street facing the curb. The fire lane sign shall be placed at the beginning of the restriction, and at least every 100 feet within the restricted area. Appropriate arrows will indicate the direction of the restriction. Please contact Front Range Fire Rescue – Life Safety Division for any alternate sign design/usage approval.



Legend, Circle, Diagonal, Border
Background
"p"
- Red
- White
- Black

Fire Protection Water Supplies

Requirements for fire protection water supplies are located in Appendices B and C of the adopted 2006 and 2012 International Fire Code. These requirements shall be used by Front Range Fire Rescue to establish necessary fire flow and fire hydrant spacing requirements within the FRFR response area.

Front Range Fire Rescue is not responsible for the testing of flows on public or private fire hydrants or for sprinkler system calculations. The general contractor is responsible for contacting the Governing Water Department to request a courtesy test of available flow prior to approval of any new building or fire sprinkler system permit.

Additional information regarding FRFR fire protection water supply requirements:

1. All hydrants shall be in place and operational prior to any combustible material being brought on site. Hydrants must be bacteria tested and approved by the governing water provider.
2. Water mains supplying hydrants must be looped whenever possible and be a minimum of eight (8) inches in diameter.

Exception: One fire hydrant located on private property may be installed without being on a looped system if there is not more than 150 feet of pipe between the hydrant and the public water main.

All hydrants shall be in place and operational prior to any construction.

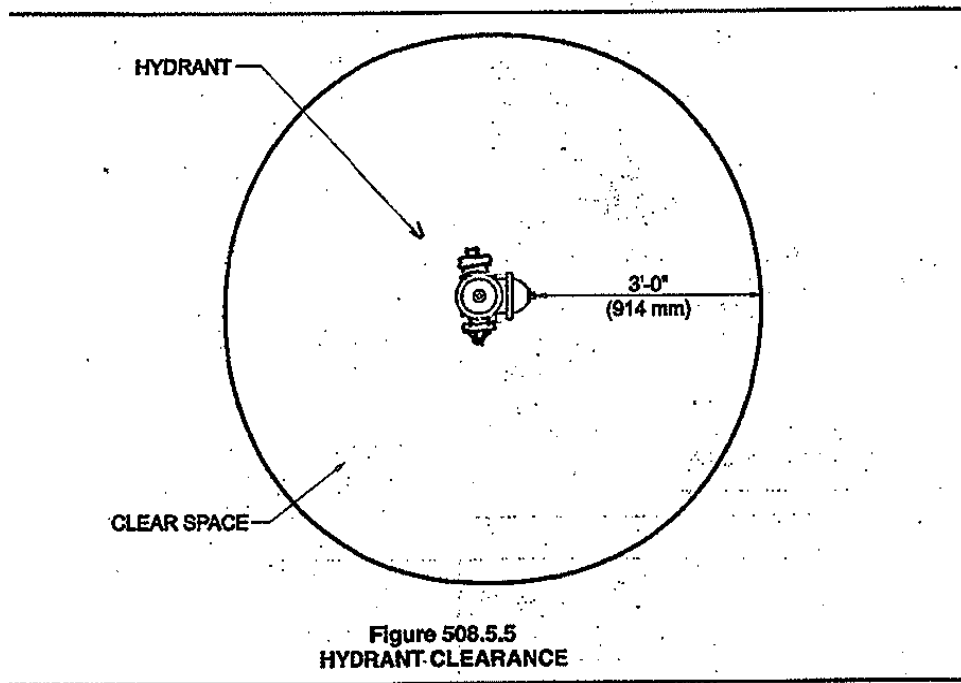
3. The minimum fire flow and flow duration for buildings, other than one and two family dwellings, shall be as specified in Table B105.1 and C105.1 of the adopted International Fire Code. *A reduction in fire flow of up to 50% is allowed when the building is provided with an approved automatic sprinkler system.* However, the resulting fire flow shall not be less than 1,500 GPM.

The minimum fire flow and flow duration requirements for one and two family dwellings having an area, which does not exceed 3,600 square feet, shall be 1,000 GPM. Fire flow and flow duration for dwellings of this type having a fire area in excess of 3,600 square feet shall not be less than that specified in Table B105.1. A reduction in required fire flow of 50% is allowed when the building is provided with an approved automatic sprinkler system.

4. If public hydrants capable of supplying required fire flows are not available within the prescribed distances, the developer, builder or owner may be required to install mains and hydrants on private property. These systems also must meet Water Department and FRFR standards. Private hydrants must be flow tested prior to the FRFR approval for Certificate of Occupancy.
5. A water model or plan must be submitted to FRFR for review and approval. Refer to the Town of Johnstown Water Department, Town of Milliken Water Department or governing Water District specifications for hydrant details. **All hydrants shall have five-sided operating nuts on bonnet and caps, with left rotation-operating nuts to open hydrant. Refer to the governing water district/department for approved fire hydrant models/types.**
6. The main outlet (steamer connection) shall be facing the roadway or access point, with a minimum of 18-inch vertical clearance from the **finished grade** to the center of the "steamer connection". If landscaping is planned to be added to the area, the minimum vertical clearance between finished grade and the center of the steamer connection will be 24 inches. The adjacent curb shall be painted

red that is 15-feet in length and centered on the hydrant. "NO PARKING – FIRE LANE" signs shall be posted to indicate the area.

7. All hydrants shall be visible from any access point, shall be set back a minimum of three (3) feet from the curb face, and shall maintain a three (3) foot clearance above and around all sides of the hydrant. No fence, growth, landscaping, or item shall obstruct the hydrant at the time of install or in the future.
8. Average spacing for hydrants in commercial and residential developments shall no less than one hydrant every 600 feet. Hydrants for rural residential buildings shall be evaluated independently.



The governing water departments for the Front Range Fire Rescue response area are:

1. Town of Johnstown Water Department: 970-587-4664
2. Town of Milliken Water Department: 970-587-4331
3. City of Evans Water Department: 970-475-1110
4. Little Thompson Water District: 970-532-2096

Occupant Load Signs

Any room or space having a designed occupant load of 50 or more persons, and which is used for assembly purposes, shall have the capacity of the room posted in a conspicuous location on a sign approved by the Fire Code Official and the Chief Building Official of the municipality. The sign shall be near the main exit or exit access doorway from the primary room or space. Such sign shall be maintained legible and conspicuous by the building owner or the owner's authorized agent. The sign shall indicate the number of occupants permitted for each room use.

Vehicle Impact Protection

Guard posts, bollards, or other approved means shall be provided to protect hydrants, gas meters, storage tanks and connected piping, valves and fittings, dispensing areas, and areas that may be subject to damage from vehicles. When guard posts are installed, the posts shall be:

1. Constructed of steel not less than 4-inches in diameter and concrete filled.
2. Spaced not more than 4 feet between posts on center.
3. Set with top not less than 3 feet deep in concrete footing of not less than a 15 inch diameter.
4. Set with the top of the post not less than 3 feet above ground.
5. Located not less than 3 feet from the item being protected

Other barriers. Physical barriers shall be a minimum of 36 inches in height and shall resist a force of 12,000 pounds applied 36 inches above the adjacent ground surface.

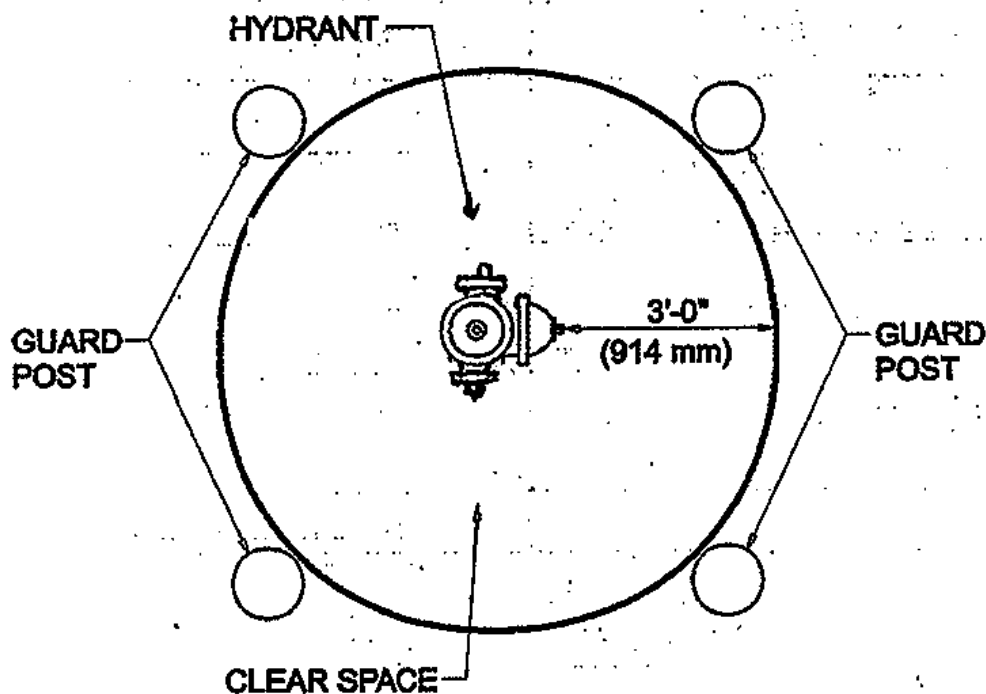


Figure 508.5.6
HYDRANT IMPACT PROTECTION

Hazardous Materials (HazMat)

HazMat, as defined in the International Fire Code, are materials that may pose a health or physical risk if used, stored, or handled on site.

An operational permit is required to store, transport on site, dispense, use or handle hazardous materials in excess of the amounts listed in Table 105.6.20 in the adopted International Fire Code.

Prior to FRFR issuing a hazardous materials permit, the building owner/occupant shall provide a detailed Hazardous Materials Inventory Statement (HMIS) that lists all chemicals according to their hazard classification. The HMIS shall include the intended storage location/arrangement, as well as quantities for use, handling, and/or dispensing, as appropriate.

Once a FRFR hazardous materials permit is issued, FRFR will conduct annual safety inspections to ensure permit conditions are being maintained.

Fire Department Access to Equipment

Fire protection equipment shall be identified in an approved manner. Rooms containing controls for air conditioning systems, fire sprinkler risers and valves, fire alarm or other fire detection, suppression or control elements shall be clearly identified for fire department use.

Approved signs shall be constructed of durable materials and shall be permanently installed and readily visible.

If the door such room is normally kept locked, the building owner/occupant shall provide FRFR with a key for placement in the building's Knox Box.

Public Safety Radio Amplification Systems

All new buildings shall have approved radio coverage systems installed to allow emergency responders within the building to have appropriate coverage levels while operating inside the building. Existing buildings shall be provided with approved radio coverage for emergency responders as required by Chapter 11 of the adopted International Fire Code. Public safety radio amplification systems shall be designed and installed in accordance with criteria specified in the adopted International Fire Code.