



Knightdale Fire Department

Fire Marshal's Office

950 Steeple Square Court Knightdale, North Carolina 27545



Requirements for Access and Fire Protection at Construction Sites

Informational Bulletin

The effectiveness of the Fire Department is largely dependent on response time, so an unobstructed driving surface, as well as access to fire protection appliances, is critical when response time can impact the outcome of a fire or medical emergency. The purpose of these guidelines are to establish some minimum requirements, most of which are outlined in Chapter 33 of the North Carolina Fire Code, for fire access and fire protection at new construction sites, particularly those that involve new “shell building” projects that incorporate standpipe systems and/or private fire hydrants.

Fire Department Access Roads:

Once vertical construction begins, there shall be a fire access road that enables the fire department to access the site, and this road shall be capable of reaching with-in 100 feet of temporary or permanent sprinkler or standpipe connections. In addition, this road shall:

1. Be of an all-weather driving surface capable of handling the imposed load of fire apparatus (up to 75,000 pounds).
2. Be no less than 20-feet wide and have a vertical clearance of no less than 14 feet.
3. Have a minimum turning radius of 50 feet outside and 30 feet inside.
4. Have a slope no greater than 10%.
5. Roads with a dead-end that exceeds 150 feet shall be provided with an approved turn- around such as a hammerhead or other approved method.
6. Any gate or other security device shall either have a Knox padlock/Knox switch, or be arranged such that we can gain entry quickly with forcible entry tools
7. Be maintained throughout the project until permanent fire access roads are available.

Signage:

The access road point of entry shall be posted with a sign that meets the following criteria:

1. The sign shall be of a durable material that can withstand inclement weather conditions.
2. The building will need a temporary address number posted.
3. Any new streets and intersections when construction allows passage by vehicles.



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4. Sign shall have a minimum dimension of 3' x 3' and shall have a red background with white lettering. Lettering and numbering shall be of a reflective material.
5. Lettering and numbering for sign shall be a minimum of 6 inches in height, except in cases where space is an issue, the address numbers and lettering may be reduced to 4 inches in height.
6. Sign shall be posted so that bottom of sign is no less than 6 feet above grade.

Fire Protection:

1. An approved water supply for fire protection per Chapter 33 of the North Carolina Fire Code shall be installed once combustible materials are brought onto the site.
2. Water supply for fire protection shall be installed and approved by the Knightdale Fire Department Fire Marshal's Office and maintained operable throughout the construction process. If this water supply is a temporary water tank or other cistern instead of required hydrants, **this arrangement MUST receive prior approval of the Fire Marshal**. If approved, it shall be located at the construction site main entrance and be of a quantity sufficient to meet the needed fire flow for a 30-minute period shall be provided.
3. If the water supply is the required private or public hydrant(s), they shall remain fully accessible at all times and shall never be blocked by construction vehicles or debris.
4. Any temporary access road shall be such that no hydrant or temporary water supply is more than 100 feet from the access road.
5. In buildings required to have standpipes, at least one standpipe shall be installed prior to construction exceeding 40 feet in height above the lowest level of fire department access.
 - Standpipe shall be provided with fire department hose connections at accessible locations adjacent to usable stairways.
 - Standpipes shall be extended as construction progresses to within one floor of the highest point of construction having secured decking or flooring.
6. The owner must designate a person to be the Fire Prevention Program Superintendent who shall be responsible for the fire prevention program and ensure that it is carried out throughout the project.
 - The Fire Prevention Program Superintendent must carry out the duties specified in Section 3308 of the North Carolina Fire Code.



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Fire extinguishers shall be:

1. Installed and maintained on all floor levels at each stairway.
2. Shall be checked daily by the superintendent or their designee.
3. Additional extinguishers shall be required and located nearby those areas during special operations such as welding and cutting, handling of flammable liquids, etc.

General:

1. Combustible waste and construction debris shall be kept to a minimum and shall not be located as to obstruct any access road or fire appliance.
2. Parking decks may NOT be used unless all guidelines established here-in are followed, AND the required fire separation between the deck and attached structure is in place with all openings protected with fire doors or other opening protectives.
3. No storage shall be permitted in parking garages unless approved by the fire code official and all life safety systems are installed and operational.