

FRD Notes on Connected Streets/Fire Apparatus Access Roads
22 August 2023

The version of the Fire Code currently adopted in Carrboro is the 2018 North Carolina State Building Code: Fire Code (2015 IFC with North Carolina Amendments.)

Chapter 5, Section 503 contains the specific requirements for Fire Apparatus Access Roads. A few of the key sections are included below.

503.1.1 Buildings and facilities. Approved fire apparatus access roads shall be provided for every facility, building, or portion of a building hereafter constructed or moved into or within the jurisdiction.

503.1.2 Additional access. The fire code official is authorized to require more than one fire apparatus access road based on the potential for impairment of a single road by vehicle congestion, condition of terrain, climatic conditions, or other factors.

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), exclusive of shoulders, excepted for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm).

Section 503.6 Security Gates. The installation of security gates across a fire apparatus access road shall be approved by the fire chief. Where security gates are installed, they shall have an approved means of emergency operation. The security gates and the emergency operation shall be maintained operational at all times. Electric gate operators, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed constructed and installed to comply with the requirements of ASTM F2200.

503.2.2 Authority. The fire code official shall have the authority to require or permit modifications to the required access widths where they are inadequate for fire or rescue operations or where necessary to meet the public safety objectives of the jurisdiction.

503.4 Obstruction of fire apparatus access roads. Fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles. The minimum widths and clearances established in Sections 503.2.1 and 503.2.2 shall be maintained at all times.

503.4.1 Traffic calming devices. Traffic calming devices shall be prohibited unless approved by the fire code official.

Appendix D includes additional information on fire apparatus access roads.

D101.1 Scope. Fire apparatus access roads shall be in accordance with this appendix and all other applicable requirements of the International Fire Code.

D107.1 One- or two-family dwelling residential developments. Developments of one- or two-family dwellings where the number of dwelling units exceeds 30 shall be provided with two separate and approved fire apparatus access roads.

Exceptions:

1. Where there are more 30 dwelling units on a single public or private fire apparatus access road and all dwelling units are equipped with an approved automatic sprinkler system in accordance with Section 903.3.1.1, 903.3.1.2, or 903.3.1.3 of the International Fire Code, access from two directions shall not be required.

Note: Developments may still be required to have additional fire apparatus access roads based on other requirements, such as the requirements in Section 503.1.2.

2. The number of dwelling units on a single fire apparatus access road shall not be increased unless fire apparatus access roads will connect with future development, as determined by the fire code official.

D107.2 Remoteness. 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 property or area to be served, measured in a straight line between accesses.

Connected Streets General Information

In order to maintain the safety of the community it is necessary to have multiple readily available means of ingress and egress to all buildings, but especially to areas where there is densely populated housing. Fire, law enforcement, and emergency medical apparatus all require access to areas while responding to incidents in the area. Fire apparatus must have adequate and unobstructed access to allow us to ensure the safety of our community. In order to maintain the safety of the community it is necessary to have multiple readily available means of ingress and egress to all buildings, but especially to areas where there is densely populated housing. Two means of ingress and egress is also important for residents. Two recent situations required closing the main access of an area, such that residents could not enter or leave a development. The first, a gas leak on Jones Ferry Road caused the closure of the singular point of ingress and egress from 105 Jones Ferry Road. Until the gas leak was secured residents were unable to enter or leave the development. The second incident was a gas leak on Roberson Street. We had to close the intersection of Roberson Street and Sweet Bay Place. Residents were unable to return home, and some residents were unable to leave to pickup their children. Eventually, after the incident was stabilized FD units were able to unlock the bollards at Purple Leaf Place and Two Hills Drive. Until we were able to free up units to unlock and remove the bollards, residents were unable to enter or leave the development.

Bollards

Bollards are considered an obstruction of fire apparatus access roads and are prohibited by Section 503.4 of the Fire Code. Previous fire code officials, fire marshals, and fire chiefs have not had the ability to ensure that access is maintained, and bollards were allowed to be installed and remain in place. It is the position of the fire department that bollards should not be allowed on public roadways. At best, bollards significantly increase response times. Stopping to remove a bollard before continuing to an incident could add minutes to our response time. Furthermore, we often work with neighboring fire departments for large scale incidents. Neighboring fire departments would not be able to remove the bollards due to the locks installed on them. Their only option would be to cut the metal and concrete bollard to attempt to gain access. Law enforcement, including CPD units, and emergency medical

apparatus are unable to unlock bollards and would not be able to remove them to access the roadway. Apparatus would be forced to try and turnaround before proceeding to an alternate access point if available. The flip down bollards (like are used for crosswalks) have caused air line damage to two Carrboro Fire apparatus, one of which caused a fire engine to be towed back to the station for repair.