

Portions of 2010 Fire Code of New York State

FIRE SERVICE FEATURES

501.1 Scope. Fire service features for buildings, structures and premises shall comply with this chapter.

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. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet (45 720 mm) of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.

Exceptions:

1. The distance is permitted to be 300 feet (91 440 mm) where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with 903.3.1.1 or 903.3.1.2, when approved by the code enforcement official.
2. Fire apparatus access roads cannot be installed because of location on property, topography, waterways, nonnegotiable grades or other similar conditions, is equipped with an automatic sprinkler system in accordance with 903.3.1.1, and an approved alternative means of fire protection is provided.
3. Fire apparatus access roads are not required for detached one- and two-family dwellings regulated by the *Residential Code of New York State*, and for not more than two Group R-3 occupancies, when provided with emergency vehicle access in accordance with [Section 511](#).
4. Fire apparatus access roads are not required for Group U occupancies.
5. Area additions to buildings not exceeding 33 percent of the original floor area or increasing the building area beyond those permitted by Section 506 of the *Building Code of New York State*. This exception does not apply to the addition of stories to a building.

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), except 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). Fire apparatus access roads shall also meet the width requirements of Sections D103.1 and D105 of Appendix D.

503.2.2 Authority. The code enforcement official shall have the authority to require an increase in the minimum access widths where they are inadequate for fire or rescue operations.

503.2.3 Surface. Fire apparatus access roads shall be designed per Section D102.1 of Appendix D, maintained to support the imposed loads of fire apparatus and shall be surfaced so as to provide all-weather driving capabilities.

503.2.4 Turning radius. The required turning radius of a fire apparatus access road shall be determined by the code enforcement official.

503.2.5 Dead ends. Dead-end fire apparatus access roads in excess of 150 feet (45 720 mm) in length shall be provided with an approved area for turning around fire apparatus as required in Section D103.4 of Appendix D.

503.2.6 Bridges and elevated surfaces. Where a bridge or an elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with AASHTO HB-17. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges when required by the code enforcement official. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces which are not designed for such use, approved barriers, approved signs or both shall be installed and maintained when required by the code enforcement official.

503.2.7 Grade. The grade of the fire apparatus access road shall be within the limits established by the code enforcement official or by D103.2, based on the fire department's apparatus.

503.5 Required gates or barricades. The code enforcement official is authorized to require the installation and maintenance of gates or other approved barricades across fire apparatus access roads, trails or other accessways, not including public streets, alleys or highways.

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.

506.1 Where required. Where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life-saving or fire-fighting purposes, the code enforcement official is authorized to require a key box to be installed in an approved location. The key box shall be of an approved type and shall contain keys to gain necessary access as required by the code enforcement official.

508.5.1 Where required. Where a location on a newly constructed fire apparatus access road is more than 400 feet (122 m) from a hydrant on a fire apparatus access road or public street, as measured by an approved route, on-site fire hydrants and mains shall be provided.

Exceptions:

1. For Group R-3 and Group U occupancies, the distance requirement shall be 600 feet (183 m).
2. For buildings equipped throughout with an approved automatic sprinkler system installed in accordance with [Section 903.3.1.1](#) or [903.3.1.2](#), the distance requirement shall be 600 feet (183 m).
3. For detached one- and two-family dwellings, the distance shall be 1000 feet unless an approved alternative means of fire protection is provided. This measurement is from the hydrant to a door meeting the requirements of R313.4 of the *Residential Code of New York State* and shall be along a public street, fire apparatus access roads in accordance with [Section 503](#), or emergency vehicle access in accordance with [Section 511](#).

4. For facilities or buildings utilizing a rural water supply for providing the fire flow requirements, the fire hydrant measurements shall not apply and the distance to the rural water supply shall be approved.

508.5.4 Obstruction. Posts, fences, vehicles, growth, trash, storage and other materials or objects shall not be placed or kept near fire hydrants, fire department inlet connections or fire protection system control valves in a manner that would prevent such equipment or fire hydrants from being immediately discernible. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants.

508.5.5 Clear space around hydrants. A 3-foot (914 mm) clear space shall be maintained around the circumference of fire hydrants except as otherwise required or approved.

508.5.6 Physical protection. Where fire hydrants are subject to impact by a motor vehicle, guard posts or other approved means shall comply with [Section 312](#).

511.1 Emergency vehicle access for one or two Group R-3 buildings and detached one- and two-family dwellings constructed by the *Residential Code of New York State* hereafter constructed or moved into the jurisdiction shall be provided in accordance with this section.

511.2 Driveways. Driveways shall be provided when an exit door required by *Residential Code of New York State* Section R311.4 is located more than 300 feet (91 440 mm) from a fire apparatus access road or public street.

Exception: The measurement is permitted to be increased beyond 300 feet (91 440 mm) if driveways cannot be installed because of location on property, topography, waterways, nonnegotiable grades or other similar conditions and the building is protected by an automatic sprinkler system in accordance with 903.3.1.1, 903.3.1.2, or 903.3.1.3.

511.2.1 Dimensions. Driveways shall provide a minimum unobstructed width of 12 feet (3658 mm) and a minimum unobstructed height of 13 feet, 6 inches (4115 mm).

511.2.2 Turnaround. When driveways are in excess of 500 feet (152 400 mm) in length and does not exit to another fire apparatus access road or public street, a turnaround shall be provided suitable for use by fire apparatus.

511.2.3 Turnouts. Driveways in excess of 500 feet (152 400 mm) in length and less than 20 feet (6096 mm) in width shall be provided with turnouts along the driveway that are a minimum 20 feet in width for a length of 50 feet (15 240 mm) in length. The turnouts shall be placed at intervals not to exceed 500 feet (152 400 mm) along the driveway.

511.2.4 Stability. Driveways, including bridges and other supporting structure of driveways, shall be constructed to support fire apparatus in all weather conditions.

511.2.5 Design. The design of driveways, including turning radius and grade, shall facilitate passage of fire apparatus and be approved.

511.2.6 Driveways, and portions thereof, that serve more than four buildings shall meet the design requirements of fire apparatus access roads in [Section 503](#).

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 *Fire Code of New York State*.

D102.1 Access and loading. Facilities, buildings or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an approved fire apparatus access road with an asphalt, concrete or other approved driving surface capable of supporting the imposed load of fire apparatus weighing at least **75,000 pounds** (34 050 kg).

D103.1 Access road width with a hydrant. **Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet** (7925 mm). See Figure D103.1.

D103.2 Grade. Fire apparatus access roads **shall not exceed 10 percent** in grade.

Exception: Grades steeper than 10 percent as approved by the fire chief.

D103.3 Turning radius. The minimum turning radius shall be determined by the code enforcement official.

D103.4 Dead ends. Dead-end fire apparatus access roads **in excess of 150 feet** (45 720 mm) shall be provided with width and turnaround provisions in accordance with Table D103.4.

**TABLE D103.4
REQUIREMENTS FOR DEAD-END FIRE APPARATUS ACCESS ROADS**

LENGTH (feet)	WIDTH (feet)	TURNAROUNDS REQUIRED
0-150	20	None required
151-500	20	120-foot Hammerhead, 60-foot "Y" or 96-foot-diameter cul-de-sac in accordance with Figure D103.1
501-750	26	120-foot Hammerhead, 60-foot "Y" or 96-foot-diameter cul-de-sac in accordance with Figure D103.1
Over 750	Special approval required	

For SI: 1 foot = 304.8 mm.

- D103.5 Fire apparatus access road gates.** Gates securing the fire apparatus access roads shall comply with all of the following criteria:
1. The minimum gate width shall be 20 feet (6096 mm).
 2. Gates shall be of the swinging or sliding type.
 3. Construction of gates shall be of materials that allow manual operation by one person.
 4. Gate components shall be maintained in an operative condition at all times and replaced or repaired when defective.
 5. Electric gates shall be equipped with a means of opening the gate by fire department personnel for emergency access. Emergency opening devices shall be approved by the code enforcement official.
 6. Manual opening gates shall not be locked with a padlock or chain and padlock unless they are capable of being opened by means of forcible entry tools or when a key box containing the key(s) to the lock is installed at the gate location.
 7. Locking device specifications shall be submitted for approval by the code enforcement official.

D103.6 Signs. Where required by the code enforcement official, fire apparatus access roads shall be marked with permanent NO PARKING—FIRE LANE signs complying with Figure D103.6. Signs shall have a minimum dimension of 12 inches (305 mm) wide by 18 inches (457 mm) high and have red letters on a white reflective background. Signs shall be posted on one or both sides of the fire apparatus road as required by Section D103.6.1 or D103.6.2.



FIGURE D103.6 FIRE LANE SIGNS

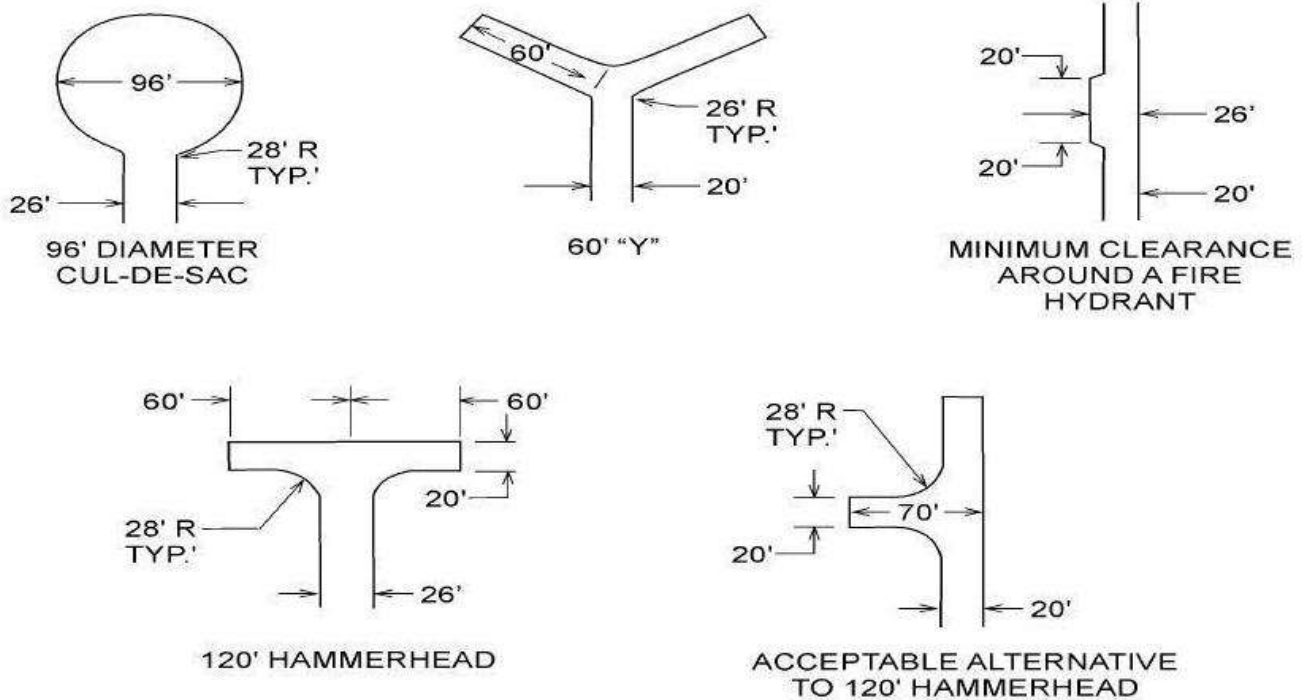


FIGURE D103.1 DEAD-END FIRE APPARATUS ACCESS ROAD TURNAROUND

AERIAL FIRE APPARATUS ACCESS ROADS

D105.1 Where required. Buildings or portions of buildings or facilities exceeding 30 feet (9144 mm) in height above the lowest level of fire department vehicle access shall be provided with approved fire apparatus access roads capable of accommodating fire department aerial apparatus. Overhead utility and power lines shall not be located within the aerial fire apparatus access roadway.

D105.2 Width. Fire apparatus access roads shall have a minimum unobstructed width of 26 feet (7925 mm) in the immediate vicinity of any building or portion of building more than 30 feet (9144 mm) in height.

D105.3 Proximity to building. At least one of the required access routes meeting this condition shall be located within a minimum of 15 feet (4572 mm) and a maximum of 30 feet (9144 mm) from the building, and shall be positioned parallel to one entire side of the building.