



## COMMERCIAL SITE PLAN FIRE SAFETY

The Bemidji Fire Department in cooperation with the Building Department, Engineering Department, and Planning and Zoning reviews all commercial site plans submittals for compliance with the 2020 Minnesota State Fire Code and reference standards. Please note that this guide may not be all-inclusive and additional items may warrant comments from the Fire Department. If further information is needed regarding this portion of the plan review process, please contact the Bemidji Fire Department at [firecode@ci.bemidji.mn.us](mailto:firecode@ci.bemidji.mn.us)

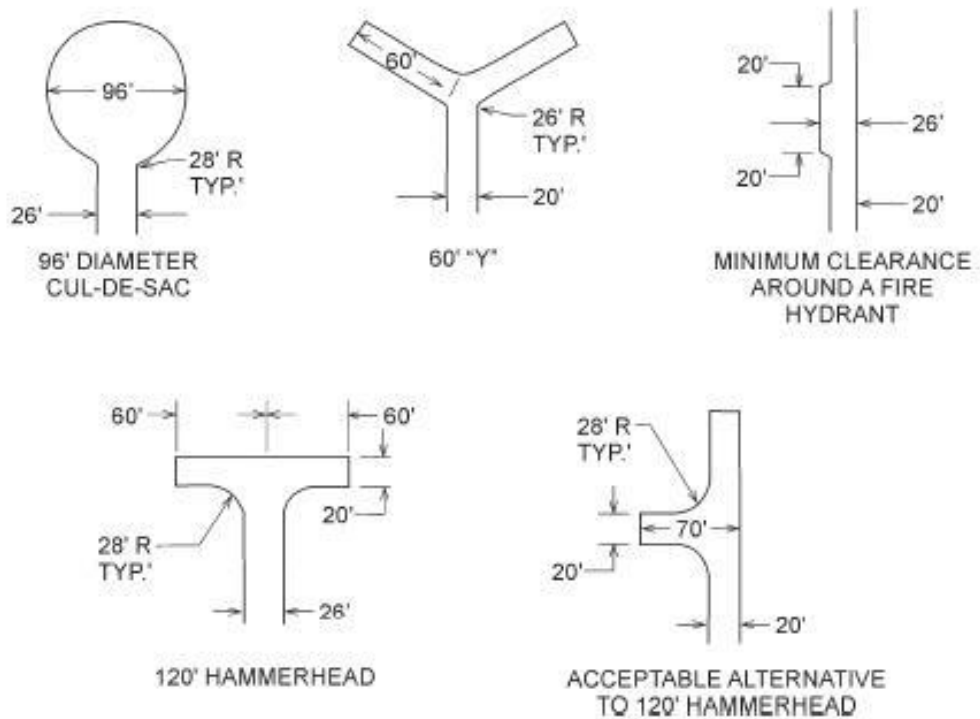
### Fire Apparatus Access Roads:

- The fire department shall have roadway access to within 150' of all portions of the first story of the building. Exceptions may apply (503.1.1)
- Access roads shall be a minimum of 20' wide (26' when fire hydrants are present) with a minimum of 13" 6" vertical clearance. (503.2.1)
- Access roads shall not exceed 10 percent grade (D103.2)
- Access roads must be bituminous, concrete or other approved driving surface able to support a 75,000 pound emergency vehicle and shall provide all weather driving capabilities. (503.2.3 and D102.1)
- Access roads shall have a minimum outside turning radius of 49' with a 52' overhang radius. (503.2.4)
- Dead-end access roads in excess of 150' in length shall have an approved turn around area as defined in Minnesota State Fire Code - Appendix D. (503.2.5 and 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 below |
| 501-750       | 26           | 120-foot Hammerhead, 60-foot "Y" or 96-foot-diameter cul-de-sac in accordance with figure below |
| Over 750      |              | Special approval required   |

**Commercial Site Plan Review - Fire Safety (continued)**

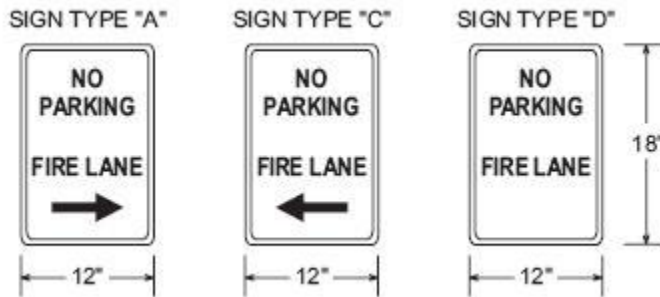


- Access road bridges shall be constructed and maintained in accordance with AASHTO HB-17. (503.2.6)
- Access roads shall be marked with approved signs and other notices as defined in Minnesota State Fire Code - Appendix D. (503.3, D103.6, D103.6.1, D103. 6.2)

- **D103.6 Signs.**

Where required by the fire code 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**



- Access roads shall not be obstructed in any manner. (503.4)
- Security gates on access roads shall be approved by Fire Chief. (503.6)

## **Commercial Site Plan Review - Fire Safety (continued)**

### **Aerial Fire Apparatus Access Roads for building exceeding 30 feet in height:**

- At least three means of fire apparatus access for each structure. (D105.1)
- Access roads in the immediate vicinity of any building shall have a minimum unobstructed width of 26'. (D105.2)
- At least one access road shall be positioned parallel to one entire side of the building and shall be located within a minimum of 15' and a maximum of 30'. (D105.3)
- Overhead utility and power lines shall not be located over the aerial fire apparatus access road or between the aerial fire apparatus road and the building. (D105.4)

### **Premises Identification:**

- Approved building address numbers shall be plainly legible and visible from the street. (505.1)
  - Multi-tenant buildings shall post suite numbers for the individual tenants. Suite numbers shall be posted on front and rear access doors.
  - Complexes with multiple buildings shall have an approved sign (map) at the main entrance identifying the location of the structures in the complex.
- Private streets and roads shall be identified with approved signs. (505.2)

### **Fire Protection Water Supply:**

- An approved water supply capable of supplying the required fire protection needs shall be provided. (507.1)
- Approved on-site fire hydrant(s) and main(s) shall be provided when travel distance (by roadway) to nearest hydrant is greater than 300' (400' in sprinklered buildings). (507.5.1)
  - Minimum water main size is 8" when it serves both the buildings fire protection system(s) and on-site fire hydrant(s).
  - City of Bemidji Engineer must review/approve private water distribution system plans that access the city's water system.
- Fire hydrants shall not be obstructed and have a minimum of 3' clear space around hydrant. (507.5.4 and 507.5.5)