MILL VALLEY FIRE DEPARTMENT

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Fire Protection Standard 210

ROADWAY, DRIVEWAY AND BRIDGE DESIGN STANDARD

Date: 1-1-11

Revision: 2

This Standard has been developed pursuant to Chapter 5 of the California Fire Code and Chapter 4 of the International Urban Wildland Interface Code, both as adopted by Ordinance by the City of Mill Valley. It is intended that this standard be used as the minimum dimensions, engineering, and all weather surface criterion for all roads and driveways installed within the service area of the Mill Valley Fire Department.

1. GENERAL

For commercial and residential turn around minimum dimensions and engineering criteria, see additional Fire Prevention Standard #211 through #215.

Roadways and driveways shall be installed prior to framing. At minimum, the first lift of A/C paving or concrete shall be installed as the minimum sub-base material and capable of supporting the designated gross vehicle weights specified below, prior to framing.

2. ROADWAYS

Width:

The minimum net horizontal unobstructed clearance shall be not less than 20 feet exclusive of gutters curbs and shoulders for roadways serving residential areas and shall be not less than 40 feet exclusive of gutters curbs and shoulders for roadways serving commercial areas.

Exception: Minimum roadway widths shall conform to City of Mill Valley street classifications and in no case be less than 20 feet.

Vertical Clearance:

The minimum net vertical unobstructed clearance shall be not less than 13’ 6”.

Maximum Grade:

The maximum allowable grade for roadways shall be 18%.

Exception: Grades between 18% and 25% may be allowed with the expressed written approval of the Fire Marshal provided the length of that portion of the roadway does not exceed 100 feet, and that the sections immediately preceding and proceeding that portion of roadway for a distance of 200 feet on both sides, has grades not greater than 15%. This exception shall not be applied at fire hydrant locations and required fire apparatus turn-outs.

The maximum allowable cross slope shall not exceed 8%.

All Weather Surface (AWS) Defined:
All weather surface (AWS) shall mean A/C paving, or concrete capable of supporting 60,000 gross vehicle weight. Grades up to and including 18% may be of A/C paving. Grades greater than 18% shall be of concrete curf-cut so as to allow for water run-off and traction. Turf block and similar products are not permitted.

Turns and Curvatures:
No roadway shall have a horizontal inside radius of curvature of less than fifty (50) feet.

Dead ends and Turnaround:
Dead end roads shall not exceed 800 feet. All roadways exceeding 150 feet in length shall have an approved turnaround located at the end of the roadway designed to Mill Valley Fire Department standards for residential and commercial areas.

No Parking Fire Lane Signs and Posting:
All roadways, turn arounds, and turn outs are designated Fire Lanes. Parking is not permitted within the required clearance widths and shall be posted in accordance with Mill Valley Fire Department Standard #204. Signs on public streets within the City of Mill Valley shall conform to the traffic engineering requirements of the City of Mill Valley.

Gates:
If gates are installed across roadways, the owner, applicant or developer shall first obtain approval from the City of Mill Valley. Gates shall not encroach into the required width of the road or driveway and shall have a minimum net clearance of two feet on both sides of street in addition to the required access width. Gates shall be equipped with key access in accordance with Mill Valley Fire Department Standard #202.

Gates shall be set back from roadways a minimum of 30 feet or more so as not to cause cross traffic to stop or create a hazardous traffic condition on the roadway approach to the driveway.

3. DRIVEWAYS

Width:
The minimum net horizontal unobstructed clearance shall not be less than 16 feet.

Vertical Clearance:
The minimum net vertical unobstructed clearance shall be not less than 13’6”.

Maximum Grade:

The maximum allowable grade for driveways shall be 18%, measured along both sides of a driveway.

Exception: Grades between 18% and 22% may be allowed with the expressed written approval of the Fire Marshal provided the length of that portion of the driveway does not exceed 100 feet, and that the section immediately preceding and proceeding that portion of driveway for a distance of 200 feet on both sides, has grades not greater than 17%. This exception shall not be applied at fire hydrant locations and required fire apparatus turn-outs.

The maximum allowable cross slope shall not exceed 8%.

All Weather Surface Defined:
All weather surface (AWS) shall mean A/C paving, or concrete capable of supporting 40,000 gross vehicle weight. Grades up to and including 18% may be of A/C paving. Grades greater than 18% shall be of concrete curf-cut so as to allow for water run-off and traction. Turf block and similar products are not permitted.

Turns and Curvatures:
The inside edge radius shall not be less than 27 feet.

Turn-outs:
When required, approved turn-outs in driveways shall be provided for and designed so as to accommodate Mill Valley Fire Department apparatus. Turnouts shall be a minimum of 30 feet in length, exclusive of entrance and exit tapers and shall be a minimum of 20 feet wide, including driving surface of required driveway. Grades at the turnout shall be no greater than 15%.

Dead ends and Turnaround:
Dead end driveways shall not exceed 800 feet. All driveways exceeding 150 feet in length shall have an approved turnaround designed to Mill Valley Fire Department Standards and so located to within 100 feet from the end of the driveway.

No Parking Fire Lane Signs and Posting:
All driveways, turn arounds, and turn outs are designated Fire Lanes. Parking is not permitted within the required clearance widths and shall be posted in accordance with Mill Valley Fire Department Standard #204.

Gates:
If gates are installed across driveways, the owner, applicant or developer shall first obtain approval from the City of Mill Valley. Gates shall not encroach into the required fire access width and shall have a minimum net clearance of two feet on both sides of the driveway in

addition to the required minimum width. Gates shall be equipped with key access in accordance with Mill Valley Fire Department Standard #202.

Gates shall be set back from roadways a minimum of 30 feet or more so as not to cause cross traffic to stop or create a hazardous traffic condition on the roadway approach to the driveway.

4. BRIDGES SERVING RESIDENTIAL DRIVEWAYS

Width:
The minimum net horizontal unobstructed clearance shall be not less than 12 feet exclusive of curbs and shoulders.

Vertical Clearance:
The minimum net vertical unobstructed clearance shall be not less than 13’6” feet.

Load Design, Testing, and Marking:
Bridges serving residential driveways shall be engineered for a minimum 60,000 lbs of gross vehicle weight. All bridges shall have affixed to each approach side of the bridge a reflective permanent metal sign that indicates the engineered maximum vehicle weight. Signs shall have black letters and numerals at least 3 inches in height with a one-inch stroke and on a yellow reflective metal panel.

Bridges shall be load tested and certified once every ten (10) years, where structural integrity is in question and when required by the Fire Marshal, by an approved and California licensed structural engineer.