

BEFORE THE BOARD OF COUNTY COMMISSIONERS  
FOR MULTNOMAH COUNTY, OREGON

**ORDINANCE NO. 1049**

Amending MCC Chapter 29: Building Regulations, Building Code to Add Fire-Flow Standards and Fire Apparatus Access Requirements for Private Streets and Driveways

(Language ~~stricken~~ is deleted; double- underlined language is new.)

**The Multnomah County Board of Commissioners Finds:**

- a. Comprehensive Framework Plan Policy 38, Facilities states that it is the County's policy to coordinate and encourage involvement of applicable agencies in the land use process to ensure that there is adequate water pressure and flow for fire fighting purposes.
- b. The "fire flow" standards contained in the optional Division II – Fire Flow in Appendix Chapter 9 of the 1997 Uniform Fire Code are a needed and appropriate means of implementing Plan Policy 38 for water pressure and flow (fire flow) for fire fighting purposes.
- c. Part of ensuring that adequate fire flow is available is requiring that either fire apparatus can reach a new single family home, or that some alternative means of fire fighting is put in place. This ordinance establishes new standards for private streets and driveways which, if the standards are met, provide confidence that fire apparatus can reach the home. However, if the proposed private street or private driveway to a new home does not meet the fire apparatus access standards, then another means of fire protection, such as installation of a water sprinklering system, will be required during construction or placement of the home.
- d. Public safety is better served by requiring that where a fire protection district has adopted more stringent standards than contained in this ordinance, then the more stringent standards of the district shall be utilized.

**Multnomah County Ordains as follows:**

**Section 1. § 29.002 is amended as follows:**

**§ 29.002 Policy.**

The Board has determined that it is necessary to provide for the regulation of building construction and administration of standards, including enforcement, of the state building code adopted by the state and that this subchapter is necessary for the protection of the public health, safety and general welfare of the residents of the county. In addition, the Board has determined that certain optional state building code regulations providing standards for fire-flow, fire apparatus means of approach, and alternatives to those standards are necessary to implement Comprehensive Framework Policy 38: Facilities for fire protection.

**Section 2. § 29.003 is amended as follows:**

**§ 29.003 Adoption Of State Building Code By Reference.**

(A) Those portions of the state building code constituting the structural specialty code, fire and life safety code, mechanical specialty code, and the one- and two-family dwelling specialty code, are

adopted and by this reference incorporated as part of this subchapter. The provisions of this subchapter shall take precedence over the similar provisions of the state specialty codes.

(B) Except as modified in (C) below, the optional portion of the 1997 Uniform Building Code constituting the Division II-Fire Flow standards in Appendix Chapter 9 are adopted and by reference incorporated as part of this subchapter as the requirements for determining fire flow for buildings constructed under a building permit issued after (effective date of this ordinance) or for those portions of buildings constructed under a building permit issued after (effective date of this ordinance) that are "substantial improvements" to existing buildings. "Substantial improvements" mean the addition of more than 50 percent of the floor area to buildings that existed on (effective date of this ordinance). For one- and two-family dwellings the floor area in "substantial improvements" does not include garages or attic spaces.

(1) As provided in Section 910 of Division II – Fire Flow, fire-flow requirements may be modified downward or upward only upon approval by both the building official and the fire chief. The building official shall be the official currently under contract for providing building permit issuance services. The fire chief shall be the current chief, or delegate, of the fire district or city that provides fire services to the property.

(2) As referenced in Section 913 of Division II – Fire Flow, standards for fire department access and required fire hydrants shall be the applicable fire codes in the unincorporated area of the county, except as modified by the fire apparatus means of approach standards in § 29.012 and the alternate methods of fire protection in § 29.013.

(3) For properties within fire protection service districts that have adopted more stringent fire-flow standards than contained in Division II—Fire Flow, Appendix Chapter 9, of the Uniform Building Code, the more stringent standards shall be utilized. In that circumstance, the fire chief's authority for administering the fire-flow standard shall be as given in the district's ordinances.

(4) In recognition that Section 910 allows for fire-flow modifications, particularly in rural areas or small communities, section § 29.003(C) below is a less restrictive modification of those fire-flow standards that is appropriate for and shall apply to the unincorporated areas of Multnomah County that are outside of any city limits where a greater fire-flow standard has not been adopted by the local fire protection provider.

(C) Notwithstanding any other fire-flow requirement in Division II—Fire Flow, Appendix Chapter 9, the fire-flow requirement and exception in subsection 912.1 "One- and Two-family Dwellings" shall be modified to require a minimum 500 gallons per minute for dwellings that are less than 3,600 square feet in floor area (excluding garages and attic spaces) and accessory buildings and garages that are less than 3,000 square feet in floor area (either detached or attached to the dwelling).

The continuous fire-flow standard of 500 gallons per minute at the dwelling may be met by water flow and volume available from public water lines or by other water supply sources in conformance with standards in the 1999, or most current edition, "NFPA 1142, Standard on Water Supplies for Suburban and Rural Fire Fighting" manual. If the 500 gallons per minute fire flow standard cannot be met from public water lines or other water supply sources, then the alternative provisions in (C)(1) through (C)(7) below shall be used in combination to meet a credit total that equals or exceeds 100% of the 500 gallons per minute standard.

<b><u>Summary of methods to meet 100% of the Fire-Flow Requirement of 500 gal. per min.</u></b>	
I.	<u>500 gallons per minute fire-flow is available from public water lines or other sources in compliance with NFPA 1142 standards [100%]; or</u>
II.	<u>Utilize the tanker truck credit in (C)(1) [50%] and any two of the following alternative credits:</u> <ul style="list-style-type: none"> <li>• <u>Monitored alarm in (C)(2) [25%];</u></li> <li>• <u>Roof materials in (C)(3) [25%];</u></li> <li>• <u>Defensive space in (C)(4) [25%];</u></li> <li>• <u>Special approval by the Fire Chief in(C)(5) [25%]; or</u></li> </ul>
III.	<u>Use all the following alternative credits:</u> <ul style="list-style-type: none"> <li>• <u>Monitored alarm in (C)(2) [25%];</u></li> <li>• <u>Roof materials in (C)(3) [25%];</u></li> <li>• <u>Defensive space in (C)(4) [25%];</u></li> <li>• <u>Special approval by the Fire Chief in (C)(5) [25%]; or</u></li> </ul>
IV.	<u>Utilize the sprinkler system in (C)(6) [75%] and any one of the following alternative credits:</u> <ul style="list-style-type: none"> <li>• <u>Tanker truck credit in (C)(1) [50%];</u></li> <li>• <u>Monitored alarm in (C)(2) [25%];</u></li> <li>• <u>Roof materials in (C)(3) [25%];</u></li> <li>• <u>Defensive space in (C)(4) [25%];</u></li> <li>• <u>Special approval by the Fire Chief in(C)(5) [25%].</u></li> </ul>

(1) An alternative credit of 50% shall be given upon verification by the local fire protection service provider that a water tanker truck of at least 3,000 gallon capacity is available to serve the property;

(2) Where fire protection services are available, an alternative credit of 25% shall be given for the use of a central station monitored smoke alarm system and the posting of a clearly visible rural address marker where the private driveway or private road intersects with the public road;

(3) An alternative credit of 25% shall be given for the installation of Class A or non-combustible roofing shingles and the boxing in of all eaves, facias, and soffits with fire resistant materials;

(4) An alternative credit of 25% shall be given for the creation of "defensible space" against wildfire around the dwelling. On ground slopes of less than 20 percent, "defensible space" is an area 30 feet from the outside walls of a dwelling that is owned by or controlled by the homeowner. On ground slopes of 20 percent or greater, "defensible space" is an area 100 feet from the outside walls of a dwelling that is owned by or controlled by the homeowner. Prior to issuance of the building permit, verification shall be required that within the "defensible space":

(a) Low-hanging branches of existing trees have been pruned and removed within 8 feet of the proposed dwelling; and

(b) Low-hanging branches of existing trees have been pruned and removed within 8 feet of the ground as the maturity of the tree and accepted silviculture practices may allow; and

(c) Existing trees are spaced with greater than 15 feet between crowns; and

(d) All other vegetation is less than 2 feet in height;

(5) In conjunction with meeting the requirements of (C)(2) above, the Fire Chief of the local fire protection provider may approve an additional credit of 25% when particular circumstances warrant the credit. Such circumstances include, but are not limited to, specific fire prevention, fire containment, or fire suppression attributes of the proposed building site, building materials, or additional fire detection and/or suppression features.

(6) An alternative credit of 75% shall be given with the installation of a fire sprinkler system in conformance with the standards in the 1999 Edition, or the most current version, of the NFPA 13-D, Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes (NFPA is the National Fire Protection Association, Inc.).

**Section 3. § 29.012 is added as follows:**

**§ 29.012 Fire Apparatus Means of Approach – Standards For Private Streets and Private Driveways Serving New and Replacement One- And Two-Family Dwellings,**

(A) Private streets and private driveways shall meet the standards in this section for fire apparatus access to new and replacement one- and two-family dwellings. The purpose of these standards is to establish minimum criteria for evaluating the adequacy of fire apparatus access during the review of building permit applications for proposed one- and two-family dwellings.

(1) Review and determination of compliance with the standards in § 29.012, or more stringent standards adopted by the fire protection service provider, shall be made by the Fire Marshal or designated fire official of that service district. If the Fire Marshal, or designee, fails to review and make a determination of compliance, then the building official shall, after consultation with the appropriate fire official, make a determination of compliance.

(2) The standards in this section implement the requirements in OAR 918-480-0100 through 918-480-0120 (2002), appropriate use of alternate methods of construction in the One and Two-Family Specialty Code.

(3) An alternative to the minimum requirements of (D) below may be allowed by the building official, after consultation with the fire official, subject to the requirements of § 29.013.

(B) As used in § 29.012, “private street” and “private driveway” shall have the meanings given in the land division definition parts of the applicable Zoning Code Chapter of the Multnomah County Code.

(C) A building permit application for a new or replacement one- or two-family dwelling shall include sufficient information to determine compliance with the standards of § 29.012. A review form evaluating the proposal and signed by the applicable fire official shall also be submitted with the permit application.

(1) For those fire protection service districts that have adopted more stringent standards than given in (D) below, the more stringent standards shall prevail. The signed review by a fire

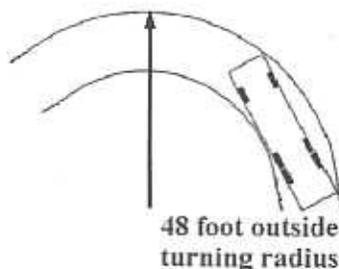
district official shall state if the proposal is in compliance with the most stringent standards, either the district or those in (D) below.

(2) Where there may be a conflict between the standards of this section and development standards in the county Zoning Code, the more stringent standard shall be utilized. The Planning Director shall provide this information to the building official with copies of any land use decision.

(D) Fire apparatus access requirements. The following standards shall apply to private streets and private driveways:

(1) Vehicle weight: Be built and maintained with an all weather driving surface that supports a gross vehicle weight of 50,000 pounds or the weight of the heaviest commonly used apparatus used by the fire protection service provider serving the subject property, whichever is greater. Bridges, culverts and other structures shall also be required to meet this requirement. Written verification of compliance with the Gross Vehicle Weight standard may be required from an Oregon Professional Engineer.

(2) Curve radius: Have an outside radius that is no less than 48 feet on all curves along the driveway or private street.



(3) Vertical clearance: Have a vertical clearance of no less than 13 feet 6 inches.

(4) Width: Be built and maintained from the public road to the end turnaround near the dwelling to a minimum unobstructed width, (including gate opening widths), of:

(a) 12 feet for a private driveway to a single dwelling;

(b) 12 feet for a private street to two dwellings;

(c) 20 feet for a private street to three or more dwellings; and

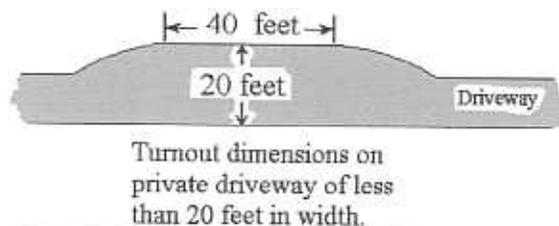
(d) 20 feet for all "accessways," regardless of the number of dwellings served. An "accessway" is a private street that is a separate tract of land that is owned in common by the abutting property owners for access and was approved under the provisions of the land division code after October 19, 1978.

(e) The Fire Marshal, or designee, may approve an off-site built and maintained width of less than 20 feet, but not less than 12 feet in width, for a private street as given in (c) above. That approval, however, may not be applied to a required improvement width that is part of a Multnomah County land use decision.

(5) Turnaround: Private streets and private driveways with lengths greater than 150 feet shall be built and maintained with a turn-around at or near the end of not less than 48 foot outside turning radius. Turnarounds may be circular or one of the variations of the hammerhead design (such as "T," one-sided, or "Y").

(6) Turnouts: No turnouts are required on private streets and private driveways that are improved to 20 feet or more in width as required by (D)(1) above. On private streets and private driveways that are improved to less than 20 feet in width, that are also greater than 200 feet in length, turnouts shall be built and maintained to:

(a) Measure 20 feet in width for a length of 40 feet with adequate transitional curve radii at each end;



(b) Have a maximum spacing of one-half the driveway length or 400 feet, whichever is less; and

(c) Where visibility is limited, the maximum spacing between turnouts shall be reduced appropriately.

(7) Grades: Shall not exceed an overall average grade of 12 percent with a maximum grade of 15 percent for lengths of no more than 200 feet.

(8) Distance to House: Shall reach to within 150 feet of all portions of the exterior wall of the first story of the dwelling as measured by an approved route around the exterior.

**Section 4. § 29.013 is added as follows:**

**§ 29.013 Alternate Method of Fire Protection – One- And Two-Family Dwellings.**

Pursuant to OAR 918-480-0100 through 918-480-0120 (2002), the building official may allow an alternate to the minimum requirements of the One- and Two-Family Dwelling Specialty Code as authorized by ORS 455.610, which may include, but is not limited to, installation of an automatic fire sprinkler system. That decision may be made where it is determined the fire apparatus means of approach to a property or the fire fighting water supply serving a property, does not meet the local standards adopted in accordance with the applicable fire code and state building code requirements. Before allowing the use of an alternative method of fire protection, the building official shall ensure the following criteria have been met:

(A) The alternate, such as an automatic fire sprinkler system, shall be at the request of the applicant;

(B) For lots of record created before January 1, 2002, the building official shall, prior to authorizing an alternate allowing the development of a parcel that could not otherwise be developed because it cannot meet adopted fire apparatus access standards or fire fighting water supply standards

pursuant to § 29.012 and § 29.003(B), consult with the fire official having authority to approve an alternate;

(C) For lots of record created on or after January 1, 2002, the building official shall confirm the fire official having authority has:

(1) Approved the alternate to adopted fire apparatus access standards for shared private roads, private driveways or fire fighting water supply standards pursuant to § 29.012 and § 29.003(B), during the land use approval process; and

(2) The approved alternate has been recorded on the property deed or on a recorded deed restriction as a requirement for future construction.

(D) Providing the requirements of this rule are met, the local building official is authorized to enforce the conditions of an approved alternate method of construction when it is part of the building construction; and

(E) When the approved alternate is a fire sprinkler system, the minimum standard for installation within one- and two-family dwellings shall be the 1999 Edition, or the most current version, of NFPA 13-D, Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes (NFPA is the National Fire Protection Association, Inc).

FIRST READING:

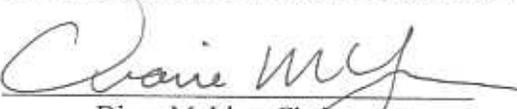
September 9, 2004

SECOND READING AND ADOPTION:

September 16, 2004



BOARD OF COUNTY COMMISSIONERS  
FOR MULTNOMAH COUNTY, OREGON

  
Diane M. Linn, Chair

REVIEWED:

AGNES SOWLE, COUNTY ATTORNEY  
FOR MULTNOMAH COUNTY, OREGON

By   
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