M-NCPPC

MONTGOMERY COUNTY DEPARTMENT OF PARK AND PLANNING

THE MARYLAND-NATIONAL CAPITAL
PARK AND PLANNING COMMISSION

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Silver Spring, Maryland 20910-3760
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MCPB
ITEM NO. 16
9-14-2006

September 5, 2006

MEMORANDUM

TO: Montgomery County Planning Board

VIA: Faroll Hamer, Acting Director FH

VIA: Gwen Wright, Acting Chief, Countywide Planning GW

VIA: Richard C. Hawthorne, Chief, Transportation Planning RCH

FROM: Larry Cole for the Planning Department, 301-495-4528 LC

SUBJECT: Proposed County Regulations on Fire and Rescue MCER 6-06

RECOMMENDATIONS: Direct staff to prepare a letter from the Chairman to the Council President for inclusion in the public record concerning the proposed Montgomery County Executive Regulations 6-06 and 7-06 concerning Fire & Rescue Service (FRS). ***Staff recommends the Board note to the Council the possible problems and concerns that adopting the MCER would raise, and asking them to have the Executive staff address these during the Council worksessions.*** There are many ways of addressing the needed clear width required by the regs, but staff discussions with FRS have not yet produced consensus on the best approach.

As part of the proposed Code changes, staff believes that FRS should:

- Work with Department of Public Works and Transportation (DPWT), Department of Permitting Services (DPS), and Maryland-National Capital Park and Planning Commission (M-NCPPC) staff to clearly define what is considered to be a 20-foot unobstructed width, define where it will be required, and avoid or minimize revisions to the County's Roadway Design Standards that would require additional pavement width.

- Agree to identify all fire department access roads prior to approval of all future developments, including which access roads would need to meet the 20-foot unobstructed width requirement. (This could be accomplished by the applicants, with review by the FRS.)

- Make a recommendation on how existing roads should be handled – which need to have parking prohibitions, which should be upgraded in the near future to meet the proposed requirements, which should be modified when they are next scheduled for maintenance, and which can remain as-is.

- Clearly define what types of driveways would need to meet the 20-foot unobstructed width requirement, as well as the requirement for having a turnaround for fire and rescue vehicles.

- Discuss with M-NCPPC and DPS staff whether additional requirements are needed in the zoning code and building permit application in regard to a 35-foot windowsill height to ensure adequate fire access.

- Work with M-NCPPC and DPWT staff on alternatives to larger curb radii at intersections in order to accommodate fire and rescue vehicles and alternatives to using cul-de-sacs at road termini.

Background:

The Executive on behalf of the Montgomery County FRS has initiated changes to the County Code, proposing the adoption of, among other items, the 2003 edition of the National Fire Protection Association Uniform Fire Code (NFPA 1).

The Council Public Safety Committee was briefed in July on this item as part of new FRS activities related to code changes and inspections, but the presentations focused on fees and building design issues so little attention to the roadway implications has come up thus far. A public hearing on this MCER was held on Friday, August 29, 2006. Acting Director Hamer presented testimony from the staff, shown as Attachment 1. Other testimony was also submitted by representatives of the development community raising the issues of conflicting County objectives involved with the NFPA code. **This Board item today is to obtain Board comments, which can be entered into the record that closes September 15, 2006. The Council Public Safety Committee is scheduled to take up this item on September 18, 2006.**

STAFF ANALYSIS

A strict application of NFPA 1 would require changes in the County's road standards, which could in turn adversely affect other efforts by the county to promote Traditional Neighborhood Design and reduce impervious surfaces.

The following memo is divided into two parts: Definition of the Problems and Concerns, which discusses the impacts that would be caused by the proposed change; and Potential Solutions and Actions, which discusses alternatives to that proposal.

Definition of the Problems and Concerns

Twenty-Foot Wide Unobstructed Fire Access Roads

Section 18.2.2.5.1.1 of NFPA-1 states, "Fire department access roads shall have an obstructed width of not less than 20 feet (6.1 m) and an unobstructed vertical clearance of not less than 13 feet 6 inches (4.1 m)." The proposed changes to the County Code would **require a 20-foot unobstructed width on all fire department access roads,** i.e., those that are required to provide access to habitable buildings. The code would require that this change be implemented for all new roads, so existing roads would not be immediately affected. This would exempt the most obvious examples of roads with widths of less than 20 feet – rustic roads. It would also exempt the many miles of existing roads on which parking is normally permitted but which have been built at a width of less than 28 feet. Almost all of the county's existing secondary and tertiary subdivision roads fall into this category. Open-section roads and alleys would be unaffected since the minimum unobstructed width of these facilities is 20 feet per the County's road design standards.

When modifications are made to existing roads, new code requirements generally are incorporated however, so FRS needs to make recommendations on what existing roads need to be modified either in the near future or when they are upgraded. Staff believes that it would be helpful to require each new subdivision plan to identify the required fire department access roads. These could be then reviewed and confirmed by the FRS. All other roads and alleys would then have to meet only the requirements of the County Code that are required at present.

FRS staff has stated that the 20-foot unobstructed width is needed to accommodate the outriggers that are needed for a building in which the windowsills are taller than 35 feet, and thus cannot be accessed by a ladder. If the building can be reached by a ladder, no special accommodation is needed in the street width. Access is required from only one street (in front of or behind the house). Since the zoning for the majority of the County's single-family homes limits heights to 35 feet, the potential problem may be smaller than it at first appears. It is possible however, that a restriction in addition to building height may be required in the zoning code and in building permit applications to ensure that a 35-foot windowsill height is not exceeded for homes on roads that do not meet the fire department access road requirements.

The details on the needed changes to the Roadway Design Standards are shown as Attachment 2. The following paragraphs summarize key modifications and issues.

When on-street parking is allowed, the default parking bay width is eight feet. Using this width, many of our current road design standards for closed-section roads do not have sufficient pavement to provide the needed 20 feet unobstructed width. We have 26-foot-wide two-way roads and 20-foot-wide one-way and dualized roads on which parking is allowed.

If the standard parking bay width is changed to six feet for residential streets, there would be no conflict on paper for 26-foot-wide roadways; although it is difficult to park in a space that is six feet wide, but it can be done. One example of a six-foot-wide parking lane is on East-West Highway (MD410), a Major Highway, immediately east of Wisconsin Avenue (MD355), on the south side of the road. Parking in these metered spaces requires hugging the curb, but it is accomplished by some drivers while others slightly overhang into the travel lane. Because parking is only allowed in the off-peak, this apparently is not considered a problem. For a standard 36-foot-wide residential primary, six feet parking lanes are built into the standard since the normal assumption is that travel lanes are 12 feet wide.

These roadway standards could also be brought into compliance with NFPA-1 by prohibiting parking, however this change would require that the needed parking be provided elsewhere. Parking provided off-road would likely require that the overall amount of impervious surface would substantially be increased. One good example of this is the recent SHA project on Strathmore Avenue (MD547) where the roadway was narrowed to slow traffic and provide space for amenities. On-street parking was prohibited and parking lots were created in the front yards of homes in the historic district. While the solution is functional, it is not very attractive and the overall impervious surface appears to be greater than required by the original plan.

If parking is not prohibited and the standard parking bay width is assumed to be eight feet, the desired 20 feet unobstructed width could be achieved by providing a reinforced two-foot panel on the side of the road that does not have parking. Such a reinforced panel that could support a fire vehicle's outrigger could be achieved by installing grasscrete, grassblock, or some other strengthened, but partially permeable material.

An issue outside the public right-of-way that needs clarification is what is required for private driveways and private roads. For some recent proposed developments, FRS has required a 20-foot minimum paved width for all private driveways shared by two or more homes regardless of length. In addition, homes greater than 150 feet from the public roadway would have to have a turnaround for fire and rescue vehicles on site. Staff believes that some fine-tuning of this provision is needed to minimize the amount of additional impervious surface, and to reduce the direct effects of the impervious area on environmental areas, water quality, and forest resources.

Turning Radius

NFPA 1 requires a larger turning radius to accommodate fire vehicles. The current County standard cul-de-sac has a diameter of 84 feet; the adoption of NFPA-1 would increase the diameter to 90 feet, requiring about a 15% increase in impervious surface. Attachment 3 from Portland, Oregon shows two alternatives (the "Y" turnaround and the hammerhead) to the 90-foot cul-de-sac.

The more serious complication would be at intersections, since accommodating a larger turning radius would require pulling the curbs farther back from the center of the intersection, making higher operating speeds more likely and making intersections less pedestrian-friendly. FRS could

consider alternatives to larger radii, such as rolled curbs in combination with an unobstructed surface behind the curb that allows water to permeate and groundcover to grow while providing structural support for fire and rescue vehicles.

Potential Solutions and Actions

All the alternative actions below would require concerted actions by several agencies. In almost all cases the Board would be involved, as well as the FRS, DPWT and DPS, as well as in some cases the Council. As noted earlier, discussions on these topics have been held at the staff level with FRS, DPWT, DPS, and representatives of the development and engineering community, with no agreement on the best combination of approaches.

Approach 1. Montgomery County has already adopted many exceptions to the State Uniform Fire Code, but in ways that were more conservative. Preserving the existing road design sections would require exceptions that were less stringent than State law. Since staff's reading of the Maryland law is that jurisdictions may not now do less than required under NPFA 1, to make such changes legal, the Montgomery County Delegation could submit a bill allowing the County to make these exceptions. This is the approach taken in Portland, Oregon with the wording shown on Attachment 4.

Approach 2. Since many staff concerns relate to the degree to which parallel parking obstructs roadway clear widths, a series of options exist to rationalize the parking problem without changing design standards.

Approach 2a: A section could be added to the County Code stating that parked cars are not considered obstructions.

Approach 2b: A section could be added to the County Code stating that the minimum parking lane width on residential roads is six feet. This is the simplest solution that has few drawbacks. The 20-foot clear width is needed only in the most dire circumstances when a full truck is parked with outriggers and another emergency vehicle must go by and cannot mount the nearby curb or obstacle. A parked car that protruded one foot into the 20-foot would not generally endanger the public safety.

Approach 3. Changes to the design standards. Roughly a dozen design standards, including business, commercial, industrial, secondary residential and tertiary residential would need to be revised under Approach 3 in which a 28-foot minimum width is required to support parallel parking along one side. During the past year, this approach has been favored by FRS as providing the greatest degree of safety. Staff is concerned that this approach would unnecessarily increase street width and impervious surface.

Approach 3a: An additional two-foot of pavement width could be accommodated in the roadway section by increasing required rights-of-way by two feet and retaining the standard width of all other typical section elements.

Approach 3b: If the right-of-way widths were retained, the additional two-foot of pavement width would need to be acquired by reducing the width of another typical section element such as the landscape panel and/or the two-foot space provided for grading between the sidewalk and right-of-way line.

Approach 3c: In some instances the additional two feet could be obtained by reinforcing the planting strip adjacent to the road allowing an outrigger to be placed there in an emergency. This would require the use of permeable pavers in which grass could be grown, but probably would make tree growth more difficult, and would require a higher level of maintenance.

LC:gw

ATTACHMENTS:

1. Testimony From Acting Director August 29, 2006
2. Selected pages from NFPA 1
3. Cross Section of 26 feet standard primary residential street
4. Affected Montgomery County Roadway Design Standards

mmo to MCPB re Fire Code MCER 6-06

Public Hearing on proposed Executive Regulation 7-06
Friday, September 1, 2006, 2 PM
DPS Seneca Conference Room
255 Rockville Pike

Testimony of Faroll Hamer,
Acting Director
Montgomery County Planning Department

I appreciate the opportunity to comment on proposed Executive Regulation 7-06 on behalf of the Montgomery County Planning Department. The Planning Department staff is continuing to work with the County Executive and County Council to ensure that objectives for smart growth communities and objectives for adequate fire protection are well integrated. However, we are concerned that the wholesale adoption of the National Fire Protection Association's Uniform Fire Code (called NFPA 1) conflicts with the County's existing "road code" and roadway design standards and will unnecessarily hinder our ability to develop walkable and context-sensitive local street designs.

Section 18 of NFPA 1 requires that all fire access roadways have an unobstructed width of twenty (20) feet. We understand that the position of Fire and Rescue Services is that a parked car is an obstruction, so all roadway widths must include 20 feet of pavement between parked cars. We believe this requirement is too stringent for many secondary and tertiary residential streets. This belief is grounded both in our current Montgomery County design standards (which allow parking on certain roadways with 20 to 26 feet of paving) as well as our experience with the hundreds of miles of existing local streets that do not meet this standard. Any additional pavement width that is laid in the effort to improve emergency vehicle access in local residential communities will also have the adverse effects of encouraging higher everyday travel speeds and increased impervious surface. Similar concerns exist with regard to the sizes of cul-de-sacs and private driveways.

These disconnects can be repaired. The Executive Regulation before you contains many amendments to NFPA requirements unrelated to roadway widths. Other municipalities have found ways to balance fire safety and smart growth objectives by similarly exempting certain roadways from the NFPA 1 roadway width requirements. We therefore request that you adopt an exemption to Section 18 of NFPA 1 that reflects the requirements in Sections 49 and 50 of the County Code and our roadway design standards. We look forward to continued coordination with you on this topic.

ATTACHMENT 2: Road Code Designs potentially affected by the NFPA-1 code adoption

If Approach 3 were taken, changes would need to be made to the following roadway design standards. In each case, the increased pavement width would need to be accommodated by either a commensurate width in the minimum right-of-way (ROW) or the reduction of another desired typical section element (such as sidewalk width or landscape panel width):

MC-210.02, Tertiary Residential Street, 50 feet ROW: The 26-foot pavement width would have to be changed to 28 feet and parking would be restricted to one side of the road.

MC-210.03, Modified Tertiary Residential Street, 50 feet ROW: For the two-way road, the 26-foot pavement width would have to be changed to 28 feet and parking would be restricted to one side of the road, the same as the above. Parking would have to be eliminated on the one-way roadway option and this would most likely terminate the use of this option. The use of a 20-foot-wide Modified Tertiary Residential Street as a two-way road with no parking could be considered however.

MC-210.04, Modified Tertiary Residential Street with Parking Bays, 27'-4" ROW for two-way road and 21'-4" ROW for one-way road: For the two-way road, the 26-foot pavement width would have to be changed to 28 feet and parking would be restricted to one side of the road. Parking would have to be eliminated on the one-way roadway option and this would most likely terminate the use of this option.

MC-211.01, Secondary Residential Street, 60 feet ROW: The 26-foot pavement width would have to be changed to 28 feet and parking would be restricted to one side of the road.

MC-212.02, Alternative Primary Residential Street, 70 feet ROW: The 26-foot pavement width would have to be changed to 28 feet and parking would be restricted to one side of the road.

MC-214.02, Commercial/Industrial Road, 60 feet ROW: Parking would have to be restricted to one side of the road or the 32-foot pavement width would have to be changed to 36 feet to maintain parking on both sides of the road.

MC-215.01, Secondary Residential Dual Road, 76 feet ROW and MC-219.01, Commercial/Industrial Dual Road, 80-foot ROW: Parking would have to be eliminated on both 20 feet roadways, eliminating the use of these sections.*

MC-215.02, Secondary Residential Dual Road, 100 feet ROW, and MC-216.02, Primary Residential Dual Road, 100-foot ROW: The minimum roadway width would be changed to 28 feet, taking the additional eight feet on each side out of the 28 feet median, reducing it to 12 feet, or the additional space needed in the median could be made of grasscrete.*

MC-216.01, Primary Residential Dual Road, 84 feet ROW: Parking would have to be eliminated on both 20-foot roadways, eliminating the use of this section.*

* Note: These standards are very rarely used but could be retained as options if the medians were reinforced.

MC-217.01, Arterial Road, 100 feet ROW, MC-217.02, Arterial Road, 110 feet ROW, MC-217.03, Arterial Road, 120 feet ROW, and MC-219.02, Commercial/Industrial Road, 100 feet ROW: If parking were allowed on these sections, the minimum roadway width would be changed to 28 feet, reducing the landscape panels by two feet.

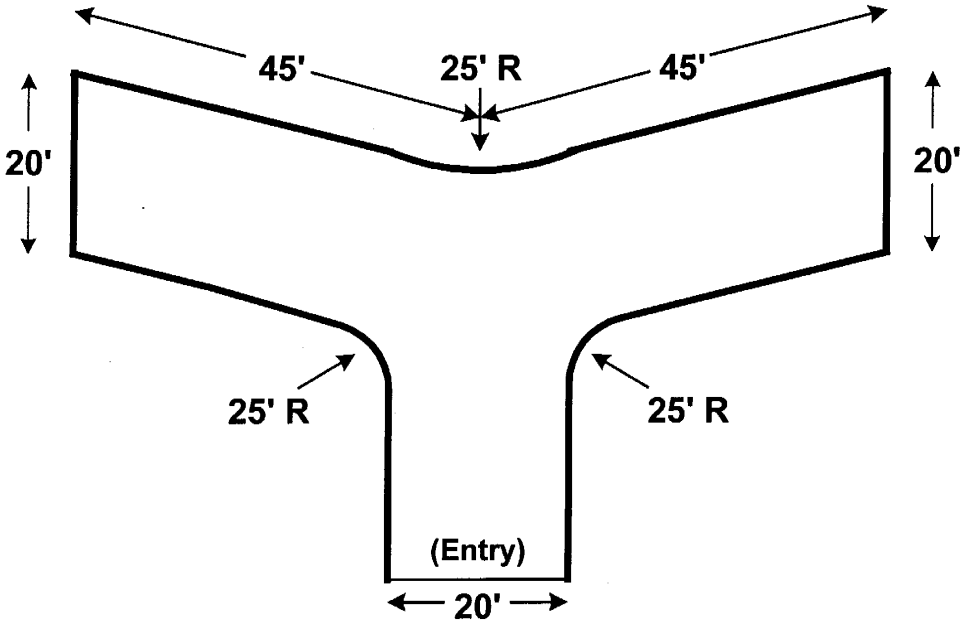
MC-222.01, Cul-de-Sac, Curb and Gutter Road: NPFA-1 requires a cul-de-sac diameter of 90 feet, an increase of four feet from the current 86 feet. For tertiary, secondary, reduced with primary roads (standards MC-210.02, MC-210.03, MC-210.04, MC-211.01, MC-211.02, MC-212.02), the effects would be the same, except that the difference would be two feet on each side and cul-de-sacs cannot be used on one-way roads. Staff is not aware of any cases where cul-de-sacs would be used on dual roads.

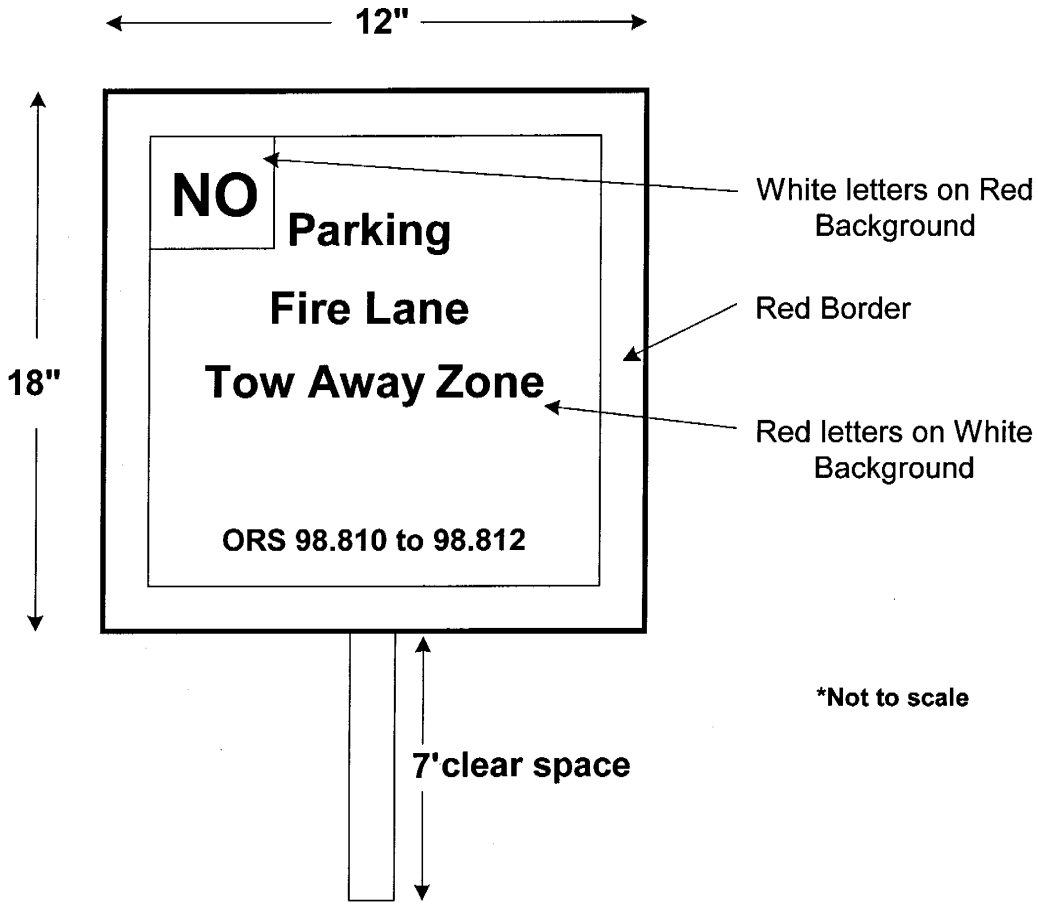
MC-223.01, Temporary Turnaround, Curb and Gutter Roadway: The effect is unclear.

MC-224.01, Monumental Entrance and MC-224.02, Monumental Entrance with Accel/Decel Lanes: The single lane on either side of the median is 18 feet for tertiary, secondary, and primary roads. A two-foot-wide grasscrete panel could be added to the median to achieve the needed 20 feet unobstructed width.

(ADDENDUM POLICY B-1) **B-1**

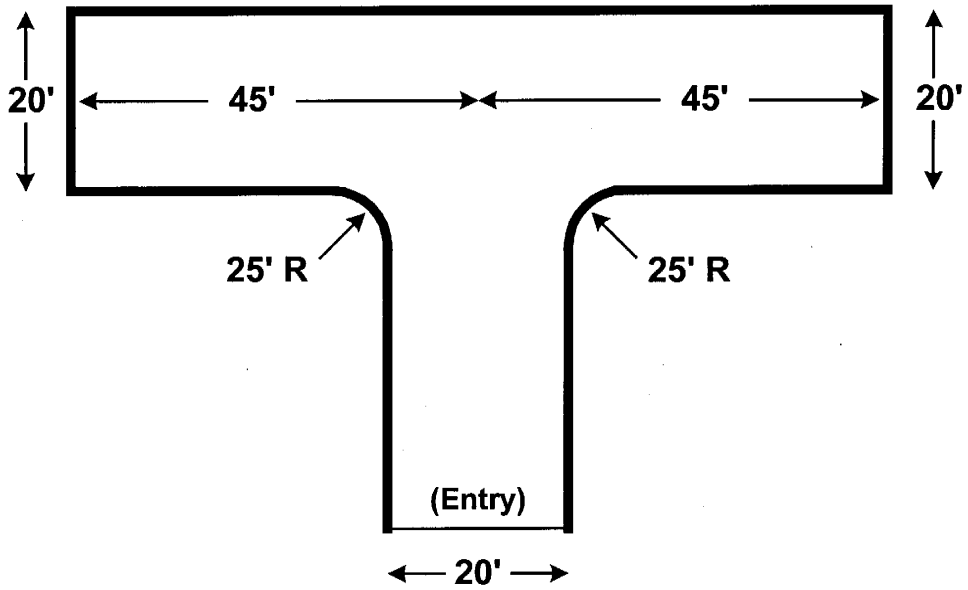
"Y" Turnaround



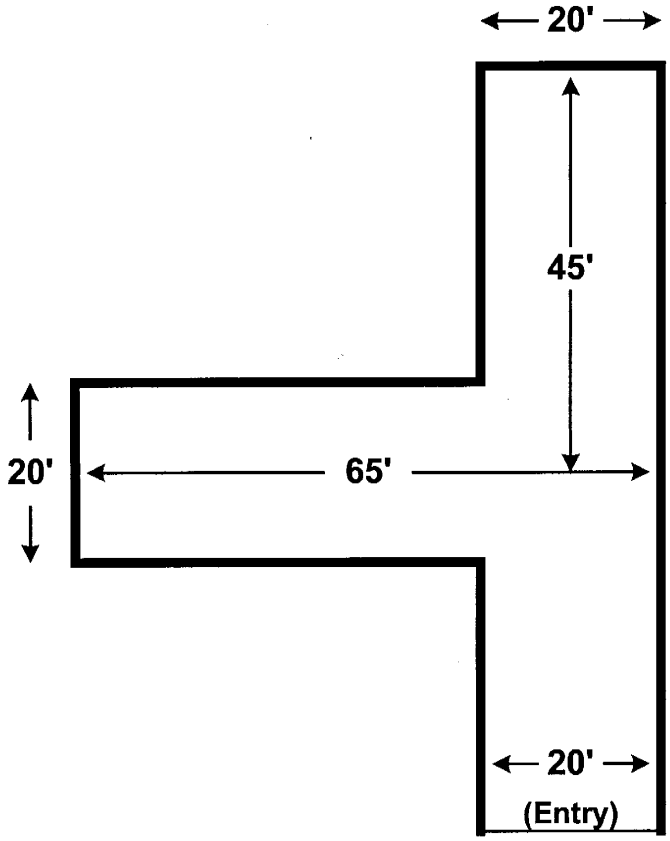


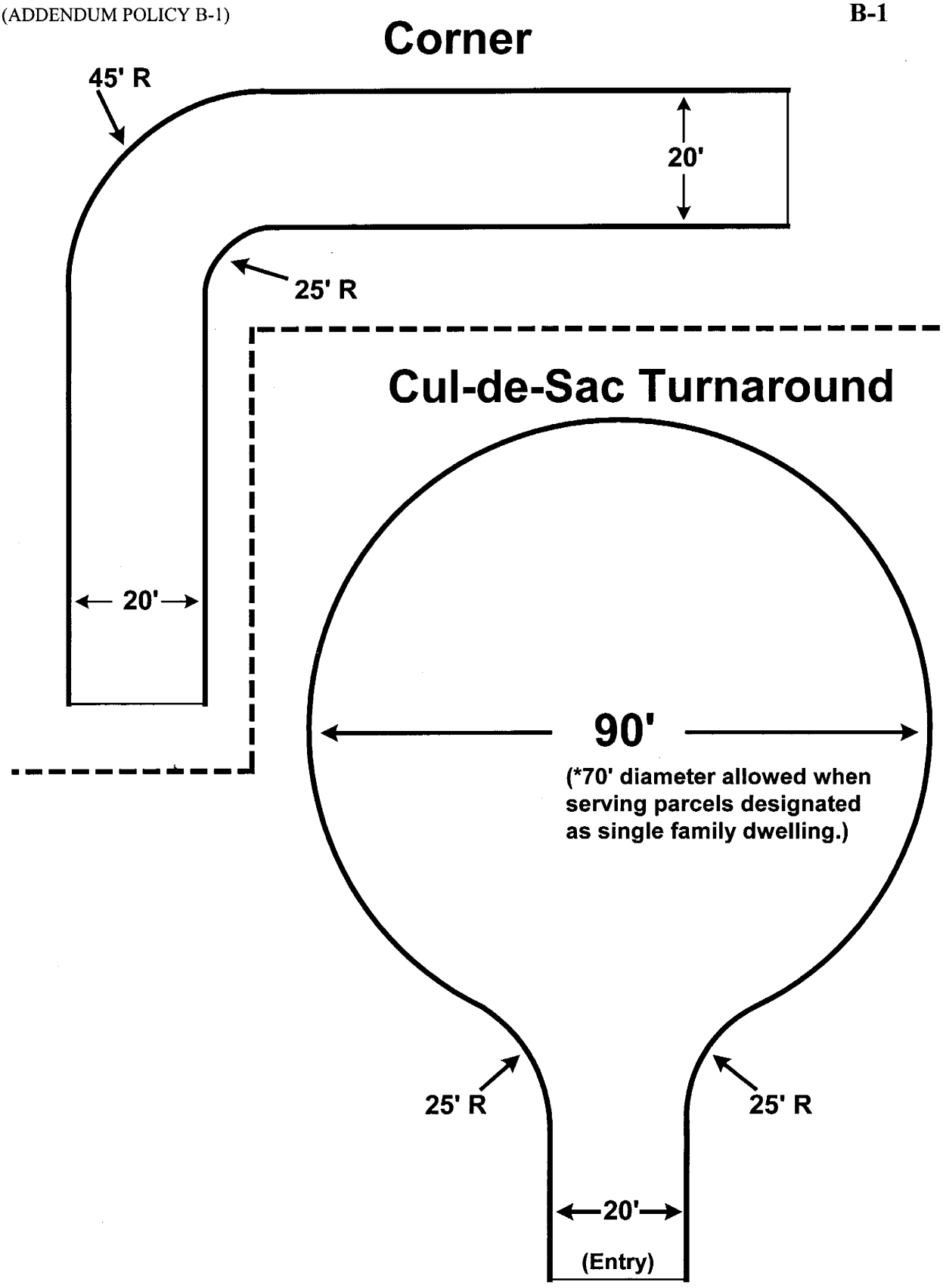
*Not to scale

Hammer Head Turnaround



Hammer Head Alternate Turnaround




Corner
45' R
20'
25' R
Cul-de-Sac Turnaround
20'
90'
(*70' diameter allowed when serving parcels designated as single family dwelling.)
25' R
25' R
20'
(Entry)

FIR-2.01 - Provisions for Fire Department Access and Water Supply - Printable Version

PROVISIONS FOR FIRE DEPARTEMENT ACCESS AND WATER SUPPLY
Administrative Rule Adopted by Bureau of Fire & Rescue Pursuant to Rule-Making Authority
ARB-FIR-2.01

PURPOSE:
This policy provides minimum Fire Bureau requirements concerning Planned Unit Developments, subdivisions, land partitions and any structures that are constructed, altered or added to.

SCOPE:
This policy shall apply to **new** developments such as Planned Unit Developments, residential infills, subdivisions, land partitions and any structures that are constructed, altered or added to and which are located where the Portland Bureau of Fire, Rescue and Emergency Services (PBFRES) has authority. These requirements shall not be construed as altering any existing code, law or regulation which may require fire protection features not covered or alluded to in these requirements, nor shall they waive any requirements of any code, law or regulation.

****NOTE:** For Five story wood frame apartment buildings, see the Portland City Code Title 24, Chapter 24.95 "Special Design Standards for Five Story Apartment Buildings" and Title 31, Chapter 31.10.145 "Maintenance of Fire Protection Systems in Five Story Apartment Buildings." City Ordinance No. 169730

*****NOTE:** For Floating Structures see Portland City Code Title 28.

******NOTE:** Fire Department access to structures used for high-piled combustible storage shall comply with the applicable provisions of Article 81 of the Portland Uniform Fire Code 2000 Edition, Section 8102.6.

BACKGROUND:
This policy pulls together information from different reference sources in order to more clearly address the need for fire department access and water supply.

REFERENCES:
Oregon Revised Statutes (ORS); Oregon Administrative Rules (OAR);

Search
General Fire Protection
Go

Table of Contents

FIR-2.01 - Provisions for Fire Department Access and Water Supply

FIR-2.02 - Requirement for Emergency Lighting

FIR-2.03 - Fire Escape Removal

FIR-2.04 - Polyurethane Foam - Covering or Removal

FIR-2.05 - Furnishings: Flame Spread

FIR-2.07 - Firtex Interior Finish in Existing Buildings

FIR-2.09 - Counterbalance Removal - Guidlines and Procedures

FIR-2.10 - Emergency Entrance for Fire Department

FIR-2.11 - Fire Door Testing and Disabled Fire Doors

FIR-2.12 - Fire Escape Prevention, Testing & Repair

FIR-2.13 - Storage and Laundry Rooms - Separation from Living Spaces

the Oregon Structural Specialty Code (OSSC); the Portland Uniform Fire Code 2000 Edition as amended by the City of Portland (PUFC); the Portland City Code Titles 16, 24, 28, and 31; and the City of Portland Fire Prevention Division Policy Manual.

DEFINITIONS:

Alternative: A system, condition, arrangement, material or equipment submitted for approval to the authority having jurisdiction and the Fire Marshal as a substitute for a code requirement.

Fire Flow: The flow rate of a water supply, measured at 20 psi residual pressure flowing from a 2 ½" port, that is available for fire fighting.

Fire Lane: A means of access or other passageway designated and identified to provide access for emergency apparatus where parking is not allowed.

Fire Department Access: The method by which entry or approach is made by emergency apparatus. Includes design elements such as access width, dead-ends, turning radius, grades, and clearances.

Residential Infill: The creation of additional single family residential lots, through the partition process, in an area already served with infrastructure such as residential flag lots and substandard residential lots.

Roadway: The portion of a street that is improved for vehicular travel. Roadway includes vehicle travel lanes and on-street parking areas. Roadway does not include areas devoted to curbs, parking strips, or sidewalks.

Street: A public or private way that is created to provide access to two or more lots, parcels, areas or tracts of land and includes the terms "road", "highway", "lane", "avenue" or similar designations.

Structure: That which is built or constructed, an edifice or building of any kind or any piece of work artificially built up or composed of parts joined together in some definite manner.

PROCEDURES:

INDEX:

E. Access Specifications

F. Access Adjacent to Structures

G. Surface and Load Capacities

H. Turning Radius

I. Dead Ends

J. Grades

K. No Parking Signs

L. Obstruction and Control of Fire Department Access

II. Water Supply Requirements

A. Required Fire Flow

B. Commercial Structures

C. Single Family Dwellings

D. Fire Department Connection

E. Fire Hydrants

F. Distance to Fire Hydrants

G. Commercial Structures – Fire Hydrants

H. Single Family Dwellings – Fire Hydrants

I. Fire Hydrant Spacing

J. Fire Hydrant Mains

K. Hydrant Protection

L. Fire Hydrant Distance from a FD Access Roadway

M. Clearance Around Hydrants

N. Parking Near Hydrants

III. Addendum's

- Minimum Required Fire Flow Table
- Right-of-Way and Roadway Widths
- Turnaround Diagrams Page

I. FIRE DEPARTMENT ACCESS REQUIREMENTS

Fire department access shall consist of roadways, streets, fire lanes, parking lot lanes or a combination thereof.

In addition to the requirements of this policy, construction of public roadways and private roadways shall be in accordance with the standards promulgated by the Portland City Code in Titles 17, 24 and 34 as well as standards promulgated by the State of Oregon.

A. Bridges and Elevated Surfaces.
Bridges and elevated surfaces that are part of the fire department access, shall be constructed and maintained in accordance with AASHTO Standard Specification for Highway Bridges and designed for a live load sufficient to carry the imposed loads of fire apparatus. PUFC 902.2.2.5

B. Addressing of Structures.
All addresses shall be permanently displayed as directed by the Fire Marshal's Office (mounted on a building, fence, post, etc.). Numbers/letters shall be contrasting in color to the background and of sufficient size to be plainly visible from the street or road fronting the property. Numbers/letters shall be a minimum 3" high by 2 ¼" wide with at least a 5/16" wide stroke. Larger numbers/letters may be specified by this office.

Flag lots shall have their address(es) permanently displayed within 5 feet of the flag pole connection to the public way. The address(es) shall be clearly visible from all vehicle approach points.

C. Required Access.
An approved means of fire department access shall be provided within 150 feet of all exterior doors accessible by grade as measured by an approved route around the exterior of the structure. PUFC 902.2.1

> **Exception:** *An approved means of fire department access within 250 feet of all exterior doors accessible by grade shall be allowed provided the structure is less than 30 feet in height and protected by an approved automatic fire sprinkler system.*

D. Additional Means of Fire Department Access.
More than one approved means of fire department access shall be provided when it is determined by the Fire Marshal that access by a single means might be impaired by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access. PUFC 902.2.1

> 1. Single family residential developments where the number of dwelling units exceeds eighteen (18) or more shall be provided with at least two separate and approved means of fire department access. PUFC 902.2.1, Portland City Code, Title 34, Chapter 34.60
>
> **EXCEPTION:** *When there are more than eighteen (18) dwelling units on a single public or private street and all dwelling units are protected by an approved residential fire sprinkler system, the access from two directions shall not be required.*
>
> 2. When required by the Fire Marshal multi-tenant residential buildings such as apartments, hotels and dormitories, that are from four (4) to eight (8) stories in height, shall have additional access roadways designed for use with aerial apparatus. In these cases, a minimum of two of the exterior facades of the building

shall be accessible by a ladder truck, according to the following standards:

a) The design shall minimize the number of apparatus set up points and shall maximize the number of apartments within the ladder reach;
b) For each accessible facade of the building, one apparatus set up point shall be provided for each 200 feet of building facade, or fraction thereof;

c) At least 50 percent of all living units which have windows on the exterior facades of the building must be within ladder reach of apparatus located at approved set up points. Living units which only have windows on exterior courtyards are not included in this determination;

d) Set up points shall be on an access roadway which may be either a public street or an area of the property set aside for fire department access road purposes. The fire department access shall be paved and support the weight of the apparatus. The access roadway shall comply with Fire Bureau standards found within this Policy, being of sufficient width to provide access to, and around apparatus set up points for conducting effective aerial operations;

e) Each accessible building facade shall be within 21 feet of the closest edge or curb of the access roadway;
f) Any trees planted between the edge of an access roadway and an accessible building facade shall be subject to the approval of the Fire Bureau and the Office of Planing and Development Review; and
g) The location of overhead wires along accessible building facades shall be subject to the approval of the Fire Bureau. PUFC 902.2.1

h) At time of submittal provide an 8 ½ " x 11" diagram showing proposed apparatus set-up locations.

EXCEPTION: *When completely protected throughout with an automatic fire sprinkler system (i.e. closets, bathrooms, balconies) the Fire Marshal may waive the requirements of this section.*

E. Access Specifications.
The approved means of fire department access shall have an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of not less than 13 feet 6 inches over the full width of fire department access. PUFC 902.2.2.1

EXCEPTION: 1. *Width may be reduced to 12 feet when an approved means of fire department access serves not more than two Group R Division 3 or Group U occupancies i.e. private garages, carports and sheds.*

2. *Fire department access that is less than the required unobstructed width of 20 feet, will be approved only if the access complies with the Local Street Standards adopted by City Council in 1991. See addendum "Right-of-Way and Roadway Widths" on page 10 of this policy. For more information contact City of Portland Transportation: Local Street Improvements.htm.*

F. Fire Department Access Adjacent to Structures.
The minimum separation between fire department access elements and any adjacent structure that it serves, shall not be less than 10 feet. PUFC 902.2.1

> **EXCEPTION:** *Separation between a structure and a fire department access road may be reduced to zero clearance when the access road is not intended to serve the adjacent structure.* *PUFC 902.2.1*

G. Surface and Load Capacities.
Fire department access roadways shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced so as to provide all-weather driving capabilities. The use of "Paving Blocks" and similar materials which allow a grass appearance are acceptable as long as they provide a surface capable of supporting the weight of the fire apparatus and the area is clearly delineated as required by the Fire Marshal. PUFC 902.2.2.2

H. Turning Radius.
Any turns in a fire department access roadway shall not have less than a 25 foot inside turning radius and 45 foot outside turning radius. Streets that are designed to comply with the Local Street Standards, as adopted by City Council, shall have not less than a 30 foot inside turning radius and a 50 foot outside turning radius. PUFC 902.2.2.3

I. Dead Ends.
Any fire department access roadway more than 300 feet in length shall be provided at the closed end with an approved turnaround. For diagrams of approved turnarounds see addendum's on pages 11-13 of this policy. PUFC 902.2.2.4

J. Grades.
The following are the maximum grades allowed in a roadway used for fire department access. PUFC 902.2.2.6

- Local Service Streets (Direct access to residential lots) 15%
- Neighborhood Collector Streets (Used for through traffic) 12%
- Means of access serving multifamily or commercial properties 12%
  EXCEPTION: *A maximum grade of up to 18% may be allowed where topographical conditions will not allow a lesser grade to be developed provided the structure(s) under consideration is provided with an approved automatic fire sprinkler system.*

  1. The use of a continuous maximum grade is limited to 500 feet in length.

  2. The longitudinal grade on stop controlled approaches to intersections shall be less than 8% for an approach distance of not less than 50 feet.

K. No Parking Signs.
Where the fire department access roadway is not of sufficient width to accommodate parked vehicles within the required unobstructed width, "No Parking" signs shall be installed on one or both sides of the roadway and in turnarounds as needed. Signs shall read "NO Parking – Fire Lane – Tow Away Zone, ORS 98.810 – 98.812" and shall be installed with a

clear space, above ground level, of 7 feet. Signs shall be 12 inches wide by 18 inches high and shall have reflective red letters and border on a reflective white background. The word "NO" shall be presented in a reverse color arrangement in the upper left-hand corner. See PUFC 901.4.5 and addendum pages 11-13 of this policy.

L. Obstruction and Control of Fire Department Access.
When allowed by the Fire Marshal, fire department access can be provided with chains, gates, locks and similar security measures to prevent use by unauthorized vehicles. In these cases, provisions shall be made to provide the Fire Bureau with an approved method of access as follows:

1. Manually opened obstructions, such as chains and gates, shall be secured with a lock keyed to the Fire Bureau Standard 2402 key or a lock box containing the necessary keys for entry that is accessible to the Fire Bureau and complies with Code Enforcement Policy K2.
2. Automatically opened obstructions, regardless of the normal method of operation, shall be provided with an "Emergency Access System" which will automatically open the obstruction with the use of the Fire Bureau Standard 2402 key or the Fire Bureau Master MIWA key.

a) The system shall be a key activated switch or a lock box containing the necessary items which will automatically open the obstructions such as a magnetic card, access codes or toggle switch.
b) The "Emergency Access System" shall be labeled and located adjacent to the fire department access.

c) When the gate is operated using the "Emergency Access System", it shall remain in the open position until manually restored.

d) In the event of a power failure, all gates shall have a method for manual operation.

e) The force to open the gate shall not exceed 100 pounds. PUFC 902.2.4.1

II. WATER SUPPLY REQUIREMENTS

A. Required Fire Flow.
An approved water supply capable of supplying the required fire flow for fire protection shall be provided to all new developments such as planned unit developments, subdivisions, land partitions and any structures that are constructed, altered or added to. PUFC 903.2

B. Commercial Structures – Required Fire Flow.
The Fire Marshal shall set the required fire flow according to Appendix III-A of the PUFC or NFPA 1142. PUFC 903.3

EXCEPTION: *A reduction in required fire flow of up to 75% may by allowed by the Fire Marshal when all of the structures under consideration are provided with an approved automatic fire sprinkler system. The resulting fire flow shall not be less than 1,500 gallons per minute.*

C. Single Family Dwellings – Required Fire Flow.
The minimum available fire flow for single family dwellings and duplexes not exceeding 3,600 square feet in area shall be 1000 gpm at 20 psi residual pressure. Fire flow and flow duration for dwellings in excess of 3,600 square feet in area shall not be less than that specified in Table A-III-A-1 of the PUFC. PUFC 903.3

> **EXCEPTION:** *A reduction in required fire flow of 50% may be allowed by the Fire Marshal when all of the single family structures under consideration are provided with an approved automatic fire sprinkler system.*

1. Infill residences shall have a water supply capable of providing a minimum fire flow of 500 gpm at 20 psi residual pressure. PUFC 903.3

2. Floating structures shall be regulated as per PCC Title 28.

D. Fire Department Connection.
A fire department connection (FDC) shall be located within 150 feet line of travel of a public fire hydrant. Whenever possible fire hydrants and FDC connections shall be located on the same side of the fire department access roadway. PUFC 1001.4

E. Minimum Number of Fire Hydrants.
The location, number and type of fire hydrants connected to a water supply capable of delivering the required fire flow shall be provided on the public street or on the site of the premises to be protected as required and approved by the Fire Marshal. PUFC 903.4.2

F. Distance to Fire Hydrants.
Where any portion of a structure is more than 500 feet from a fire hydrant, as measured by an approved route around the exterior of the structure, on-site fire hydrants and mains shall be provided where required by the Fire Marshal. PUFC 903.2

> **EXCEPTION:** *For Structures equipped throughout with an approved automatic fire sprinkler system and a ground floor less than 20,000 square feet in area, the distance may be increased to 600 feet provided the fire department connection for the sprinkler system is located not more than 150 feet line of travel from a fire hydrant as measured by an approved route.*

G. Commercial Structures – Fire Hydrants.
No exterior door in a structure with a ground floor area exceeding 20,000 square feet shall be located more than 250 feet from a fire hydrant when measured in an approved manner around the outside of the building and along an approved means of fire department access. PUFC 903.2

H. Single Family Dwellings – Fire Hydrants.
Fire hydrants for single family residential developments shall be placed at each intersection. Intermediate fire hydrants are required if any portion of a structure exceeds 500 feet from a fire hydrant as measured by an approved route around the exterior of the structure. PUFC 903.4.2

I. Fire Hydrant Spacing.
The average spacing of fire hydrants shall not exceed 500 feet in a

residential zoned area and the average spacing shall not exceed 300 feet in a commercially zoned area. PUFC 903.4.1.1

J. Fire Hydrant Mains.
Fire hydrants shall be supplied by not less than a 6-inch diameter main installed on a looped system or by not less than an 8-inch diameter main if the system is not looped or if the fire hydrant is installed on a dead-end exceeding 300 feet in length. PUFC 903.4.1.1

K. Hydrant Protection.
Fire hydrants located in parking areas shall be protected by barriers that will prevent physical damage from vehicles without obstructing hydrant operation. PUFC 903.4.3

L. Fire Hydrant Distance from a Fire Department Access Roadway.
Fire hydrants shall be located within 3 feet of the curb line of the fire department access roadway unless the Fire Marshal determines another location is acceptable for Fire Bureau use. PUFC 903.4.2

M. Clearance Around Hydrants.
Fire hydrants shall have a 3 foot clear space maintained around the circumference except as otherwise required or approved by the Fire Marshal. PUFC 1001.7.2

N. Parking Near Hydrants.
Parking is not allowed within 10 feet of any fire hydrant.

ORS 811.550 [16], PCC Title16.20.130, Article C

III. Addendum's

- Minimum Required Fire Flow Table (PDF, 33kb)
- Right-of-Way and Roadway Widths (PDF, 27kb)
- Turnaround Diagrams Page (PDF, 23 kb)

HISTORY

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