EXHIBIT NO. 1

35
6-21-05

20
6-14-05

City of Alexandria, Virginia

MEMORANDUM

DATE: JUNE 7, 2005

TO: THE HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL

FROM: JAMES K. HARTMANN, CITY MANAGER

SUBJECT: CONSIDERATION OF AN ORDINANCE TO AMEND TITLE 4, CHAPTER 2 OF THE CITY CODE TO ADOPT CHANGES TO THE VIRGINIA STATEWIDE FIRE PREVENTION CODE

ISSUE: City Council consideration of an ordinance to amend Title, 4, Chapter 2, of the Code of the City of Alexandria to adopt changes to the Virginia Statewide Fire Prevention Code.

RECOMMENDATION: That City Council pass the ordinance on first reading, and schedule it for public hearing, second reading and final passage on Tuesday, June 21.

DISCUSSION: The Virginia Department of Housing and Community Development (DHCD) has adopted new Statewide Building and Fire Code Regulations to be enforced throughout the State. The most significant change in these regulations is the transition to the International Code Conference (ICC) Model Building and Fire Code regulations. The ICC published its first model code in 2000 which is the version adopted by DHCD. Unlike the Uniform Statewide Building Code (USBC), local jurisdictions may modify the Statewide Fire Prevention Code to make certain code provisions more restrictive to better protect life and property at the local level.

For local jurisdictions to enforce the Virginia Statewide Fire Prevention Code (SFPC) they must first pass an ordinance to adopt the ICC/SFPC. If a jurisdiction chooses not to adopt the ICC/SFPC then enforcement reverts to the State Fire Marshal's Office. Historically, the City has adopted the SFPC since its inception in 1983, after making local modifications that are considered appropriate for the urban environment in which the City is located.

With the adoption by the State of the new ICC model Code, numerous changes are required to the City Code to realign Chapters and Section Numbers. The majority of the changes to the SFPC will fall into this category and have little or no effect on the overall purpose of the code.

Little has changed in the basics of the code. For the most part, as stated above, sections have been relocated to new areas within the City Code to reflect the changes necessitated by the move

from the 1996 Building Officials and Code Administrator (BOCA) Model Fire Prevention Code to the new ICC 2000 Model Code.

Several new operational permit requirement fees have been added to the list found in previous code editions. These new operational permit fees are highlighted by underlining the fee for each. These permits are valid for a period of 12 months from the date of issuance.

The deletion of four appendices from the previous model code and the addition of five appendices regarding new local code requirements are also significant changes to the fire code. The five appendices are as follows: Water and Fire Requirements (Appendix A), Maintaining a Fire Watch (Appendix B), Requirements for Fireworks Displays (Appendix C), Requirements for Stairway Identification (Appendix D), and Requirements for Exterior Spray Painting Operations (Appendix F) detail local standards or requirements and correspond to regulations within the City Code as promulgated by other City agencies. Each of the new appendices details requirements that were not previously published in such a way as to be easily accessible. A brief summary of the new regulations is as follows:

Appendix A, Water and Fire Requirements for Site Plans and New Construction provides specific information concerning various fire protection, fire hydrant and fire main requirements as well as fire flow calculations and fire lanes requirements. Previously, the items found in this appendix were located in multiple documents issued by Code Enforcement.

Appendix B, Requirements for a Fire Watch provide detailed information to owners and landlords of commercial, multifamily and institutional occupancies on how to maintain a fire watch when a problem effects portions or the complex fire alarm system. This particular appendix clarifies a requirement that was placed in the previous code and is now carried forward to the new code.

Appendix C, Requirements for Fireworks Display consolidates requirements of the National Fire Protection Association (NFPA) Standard 1123 and the SFPC into one document.

Appendix D, Requirements for Stairway Identification, highlights the requirements of a code requirement for identifying each stairwell in buildings over three stories. This identification of landing and stairwell can assist the public in locating themselves within a building during an emergency.

Appendix F, Requirements for Exterior Spray Painting Operations details the requirements for a new environmentally friendly business that does minor touch up to damaged automobiles. The process is restrictive and is limited in the amount of spray painting that can be done per day thereby minimizing any impact on air pollution regulations.

FISCAL IMPACT: None. Staff does not recommend an increase in the City's existing permit fees, which are consistent with the surrounding jurisdictions.

ATTACHMENTS: Ordinance

STAFF:
Ignacio Pessoa, City Attorney
Gary Mesaris, Fire Chief
Art Dahlberg, Director, Code Enforcement

EXHIBIT NO. 2

Introduction and first reading:	6/14/05
Public hearing:	6/21/05
Second reading and enactment:	6/21/05

INFORMATION ON PROPOSED ORDINANCE

Title

AN ORDINANCE to amend and reordain Article B (FIRE PREVENTION) of Chapter 2 (FIRE PROTECTION AND PREVENTION), Title 4 (PUBLIC SAFETY), of The Code of the City of Alexandria, Virginia, 1981, as amended.

Summary

The proposed ordinance amends the city's fire prevention code to comply with changes in state law and regulations, and to codify requirements that were not previously published in a way to be easily accessible to the public.

Sponsor

Fire Department
Bureau of Code Enforcement

Staff

Gary Mesaris, Fire Chief
Arthur Dahlberg, Director of Code Enforcement
Mary Elliott O'Donnell, Assistant City Attorney

Authority

§ 27-97, Code of Virginia, 1950, as amended

Estimated Costs of Implementation

None

Attachments in Addition to Proposed Ordinance and its Attachments (if any)

None

ORDINANCE NO. _____

AN ORDINANCE to amend and reordain Article B (FIRE PREVENTION) of Chapter 2 (FIRE PROTECTION AND PREVENTION), Title 4 (PUBLIC SAFETY), of The Code of the City of Alexandria, Virginia, 1981, as amended.

THE CITY COUNCIL OF ALEXANDRIA HEREBY ORDAINS:

Section 1. That Article B of Chapter 2, Title 4 of The Code of the City of Alexandria, Virginia, 1981, as amended, be, and the same hereby is, amended and reordained to read as follows:

ARTICLE B

Fire Prevention

Sec. 4-2-11 Title.

This article shall be know as the Fire Prevention Code of the City of Alexandria, Virginia (

Sec. 4-2-12 Adoption of Virginia Statewide Fire Prevention Code.

There is hereby adopted and incorporated, as if fully set out in this article, the Virginia Statewide Fire Prevention Code, as promulgated in 2000 ~~1997~~ and as thereafter amended by the Virginia Board of Housing and Community Development, except such portions of the Virginia Statewide Fire Prevention Code as are deleted, modified or amended by section 4-2-21 of this article.

Sec. 4-2-13 Same – official copy.

One copy of the Virginia Statewide Fire Prevention Code and the ordinances adopted deletions, modifications and/or amendments thereto shall be manually signed on its cover by the mayor and the fire official and shall be filed and kept at all times in the office of the city clerk.

Sec. 4-2-14 Definition of fire official, fire marshal and code official.

Whenever the terms "fire official," "fire marshal" and code official" are used in this article or the Virginia Statewide Fire Prevention Code; they shall mean the city's director of code enforcement.

Sec. 4-2-15 Duties of the fire marshal and deputy fire marshals.

(a) The director of code enforcement, chief fire marshal, chief deputy fire marshal, all deputy fire marshals, all fire inspectors and other authorized employees of the city shall enforce the applicable provisions of this article.

(b) The city manager shall appoint the chief fire marshal, chief deputy fire marshal and deputy fire marshals.

(c) The chief of the fire department of the city may designate any members of the fire department as deemed necessary as temporary fire inspectors to make fire safety inspections pursuant to this article.

(d)(1) The chief fire marshal, chief deputy fire marshal and deputy fire marshals shall have the same police powers as a sheriff, police officer or law-enforcement officer, and, in addition to such other duties as may be prescribed by law, shall have the primary responsibility of investigation and prosecution of all offenses involving fires, fire bombings, bombings and attempts to commit such offenses; possession and manufacture of explosive devices, substances and fire bombs; storage, use and transportation of hazardous materials and hazard wastes and the investigation of all releases of hazardous materials and wastes and all other environmental offenses; false alarms relating to such offenses, and may investigate and prosecute all other criminal or civil offenses under local, state or federal law arising out of or during the investigation of the enumerated offenses, and out of or during such other investigations, and prosecutions as may be approved by the city manager.

(2) The police powers granted in this section shall not be exercised by the chief fire marshal, chief deputy fire marshal or any deputy fire marshal until such person has satisfactorily completed a course for fire marshals with police powers, designed by the Department of fire Programs in cooperation with the Department of Criminal Justice Services, and approved by the Virginia Fire Services Board.

(3) The chief fire marshal, chief deputy fire marshal, and deputy fire marshals with police powers shall continue to exercise such powers only upon satisfactory participation in in-service and advanced courses and programs designed by the Department of Fire Programs in cooperation with the Department of Criminal Justice Services, and approved by the Virginia Fire Services Board.

Sec. 4-2-16 Unlawful boarding or tampering with fire department vehicles.

It shall be unlawful for any person, without proper authorization, to cling, attach to, climb upon or board or swing upon any fire department vehicle, whether the vehicle is in motion or at rest, to sound any warning device thereon or to manipulate, tamper with or destroy any lever, valve, switch, starting device, brake, pump or any equipment, protective clothing or tool on or a part of the fire department vehicle.

Sec. 4-2-17 Tampering with fire protection devices; failure to report, or delaying alarm of fire.

(a) It shall be unlawful for any person to tamper with, damage, destroy, use without just cause or authorization, or hinder the use of any fire alarm system, fire protection system or fire extinguisher installed in any building or structure within the city.

(b) It shall be unlawful for any person knowingly to delay or to cause to be delayed an alarm of fire, or to fail to report an alarm of fire to the fire department.

(c) When a fire or evidence of the occurrence of a fire is discovered, even though it has apparently been extinguished, the person making such discovery shall immediately report the same to the fire department.

Sec. 4-2-17.1 Stairway identification.

An identification system, as approved by the fire official, shall be provided at each landing in all interior exit stairways connecting more than three stories, identifying the floor level, the level of discharge to the exterior of the structure, the mane of designation of the stairway within the structure, and whether there is access to the roof of the structure from the stairway. The identification shall be located five feet (1,525 mm) above the finished floor landing, at a location, which is readily visible within the stairway and will not be obstructed by the operation of any door into the stairway. Stairway identification shall conform to the requirements established in Sec. 4-2-21 Changes in Virginia Statewide Fire Prevention Code, Chapter 1, section 103.3, Appendix D, "Requirements for Stairway Identification".

Sec. 4-2-18 Fire hydrants and water mains.

(a) It shall be unlawful for any person to reset any fire protection system without prior authorization from the director of code enforcement or his designees.

Exceptions: (1) Fire suppression personnel
(2) Fire protection personnel conducting inspection, testing, service, or maintenance on fire protection system during emergencies
(3) Law enforcement personnel

(a) It shall be unlawful for any person to use, tamper with, damage or destroy any fire hydrant, valve or water main within the city, except that the fire department may use fire hydrants for fire fighting or training purposes, and persons who have obtained a permit as provided for in this section from the fire marshal may use the fire hydrants in accordance with the terms of the permit.

(b) Application for a permit for use of fire hydrants shall be made to the fire marshal on forms provided for this purpose. Any permit shall be subject to the conditions and specifications imposed by the fire marshal for the purpose of protection equipment and preventing water leakage. No permit shall be issued unless approval to use water shall first have been obtained from the Virginia-American Water Company. A separate permit shall be required for each hydrant used and each time the hydrant is used. A fee of $88.50 ($10 for charitable or nonprofit groups) will be charged for each permit issued in accordance with Table 107.2. A permit holder shall be responsible for the costs of labor and materials for any repair or replacement needed after hydrant use. A permit must be in the possession of the actual user at the time of use.

(c) No person shall plant, erect, or place any obstruction within four feet of any hydrant, nor shall a person stop, stand, or cause a motor vehicle to be placed within 15 feet of a hydrant.

(d) No person shall plant erect, or place any obstruction within 10 feet of any other fire department connection point, whether mounted on the exterior of a structure or freestanding. All such connections, which are mounted on a building, including all such connections in existence on January 26, 2002, shall be identified by a sign as follows. Such sign shall bear the letters FDC, six inches in height, of a white color on a red background, and shall be mounted directly above

the connection, four feet above the top of the connection.

Sec. 4-2-19 Impersonation.

It shall be unlawful for any person falsely to use a fire department badge, uniform or credentials to identify himself as, or otherwise to impersonate, a fire marshal , a fire officer, a fire fighter, a paramedic, an inspector or another authorized representative of the fire department. (

Sec. 4-2-20 reserved.

Sec. 4-2-21 Changes in Virginia Statewide Fire Prevention Code.

The Virginia Statewide Fire Prevention Code, adopted by the city in section 4-2-12, is deleted modified or amended in the following respects:

(1) Chapter 1, section F-101.1 is amended to read:

101.1 ~~F101.1~~ Title. The regulations set forth herein, as modified and amended in Section 4-2-21 of The Code of the City of Alexandria, together with the additional regulations in article B of chapter 2, title 4 of that code, shall be known as the Fire Prevention Code of the City of Alexandria, Virginia, and are herein referred to as such or as "the code."

(2) Chapter 1, section 103 is amended by adding the following subsection:

103.4. International Fire Code Appendices. IFC Appendices A, B, C, D, and F are deleted. The following appendices are hereby incorporated as fully enforceable provisions of this code:

Appendix A – Water and Fire Requirements for Site Plans and New Construction

APPENDIX A

WATER AND FIRE REQUIREMENTS FOR SITE PLANS AND NEW CONSTRUCTION

SECTION A101 – GENERAL

A101.1 Scope. Appendix A, *Water and Fire Requirements for Site Plans and New Construction* provides specific information concerning various fire protection related issues including, fire hydrant and fire main requirements, site plan requirements, emergency vehicle access and easements (emergency vehicle easement requirements), and fire flow calculations. In addition, this document provides information concerning fire department construction site requirements, hydrant permits, and acceptance of emergency vehicle easements from the public.

A101.2 References. *Code of Virginia, Uniform Statewide Building Code, Statewide Fire Prevention Code with City of Alexandria amendments, Design and Construction Standards - Department of Transportation & Environmental Services, and Virginia-American Water Company Specifications for Pipeline Installation and Street Restoration.*

A101.3 Alternatives. Alternative approaches to these requirements will be considered on a case-by-case basis and are subject to the review and approval by the Director of Code Enforcement.

SECTION A102 – FIRE FLOW REQUIREMENTS

A102.1 Fire Flow Requirements. Fire flow requirements shall be based on the methodology described in the Insurance Services Office's (ISO) *Fire Suppression Rating Schedule.* This methodology considers building construction, occupancy, adjacent exposed buildings, and communication paths between buildings. (See Section A102.10 – Fire Flow Analysis for guidance)

A102.2 One and Two Family Dwellings. The fire flow required shall be based on the minimum exposure distance listed in Table A102.1:

Table 102.1 – MINIMUM EXPOSURE DISTANCE

Minimum Exposure Distance	Fire Flow (GPM)
0 ft. - 10 ft.	1,500 - 2,000
11 ft. - 30 ft.	1,000 - 1,500
31 ft. and greater	1,000

A102.3 Townhouses or Multiplex Units. Townhouses or multiplex units (residential or professional) where individual units are not separated by two-hour fire, party, or separation walls require a flow of 2,500 GPM. Townhouses (residential or professional) where individual units are separated by a minimum one-hour fire, party, or separation walls and approved fire sprinkler systems establish fire flow requirements based on calculations for **Other Uses** as described in Section A102.4. Multiplex units (residential or professional) where individual units are separated by two-hour fire, party or separation walls and approved fire sprinkler systems establish fire flow requirements based on calculations for **Other Uses** as described in Section A102.4. Note: The Code Enforcement Bureau reserves the right to increase the required fire flow if building construction issues or access factors present an unusual fire or life safety challenge.

A102.4 Other Uses. Fire flow requirements established by the procedures and formula for needed fire flow delineated below is based on the Insurance Services Office (ISO) methodology.

A102.5 Computation of Needed Fire Flow. The needed fire flow shall be calculated at a minimum 20-psi residual pressure on the water system.

The basic formula is: $NFF_i = (C_i)(O_i)(X + P)_i$

C_i = Construction factor where: $C_i = 18F\sqrt{A_i}$

F = coefficient related to type of construction:

- F = 1.5 for wood frame construction (2000 VUSBC Types VA & VB)
- F = 1.0 for ordinary construction (2000 VUSBC Types IIIA & IIIB)
- F = 0.9 for heavy timber construction (2000 VUSBC Type IV)
- F = 0.8 for noncombustible construction (2000 VUSBC Types IIA and IIB)
- F = 0.6 for fire-resistive construction (2000 VUSBC Types IA & IB)

A (effective building area) = the total area of the largest floor plus:

- Construction Type I & II -25% of the area not exceeding the other two largest floors when all vertical openings have at least 1½-hour fire-rated protection

or,

- 50% of the area not exceeding eight other floors when the vertical openings are unprotected or have less than 1½-hour protection.

- Construction Type III through V - 50% of all other floors.

NOTE: In buildings with mixed construction a value Cm shall be calculated for each class of construction using the effective area of the building. These Cm values are multiplied by their individual percentage of the total area. The Ci applicable to the entire building is the sum of these values. However, the value of the Ci shall not be less than the values for any part of the building based upon its own construction and area.

O_i = Occupancy Factor, which reflects the combustibility of the occupancy.

- = 0.75 for non-combustible
- = 0.85 for limited combustible
- = 1.00 for combustible
- = 1.15 for free burning
- = 1.25 for rapid burning

$(X + P)_i$ = Exposure and Communication Factors

$$(X+P)_i = 1.0 + \sum_{i=1}^{n} (X_i + P_i)$$ (Maximum 1.75 where n = number of sides of subject building)

Values for X and P are determined from Tables A102.3 and A102.4 containing factors for type of separation or connections, and separation distance. (See Section A102.10 - Example Fire Flow Calculation for guidance).

Add 500 gpm to total fire flow for buildings with wood construction members, sheeting, shingles, or roof.

A102.6 Minimum Flow. Fire flow shall never be less than 500 gpm for a structure. Fire flow required for single-family detached dwellings shall never be less than 1,000 gpm. Both values are absolute minimums after all reductions are taken.

A102.7 Maximum Flow. The maximum fire flow shall be as listed in Table A102.2, except for structures requiring special consideration as described in Section A102.8.

TABLE 102.2 – MAXIMUM FLOW

Construction Type	Flow in gpm
III, IV or V	8,000
I or II	6,000

A102.8 Reductions Based on Sprinkler Protection. The value obtained from the formula in Section 4, *COMPUTATION OF NEEDED FIRE FLOW*, may be reduced by 50 percent when the structure under consideration is protected throughout with an approved automatic sprinkler system in accordance with the *Virginia Uniform Statewide Building Code* and the currently referenced edition of NFPA 13 *Standard for the Installation of Sprinkler Systems* or other approved fire sprinkler system design and installation codes. Reductions are not permitted for structures with partial protection. Reductions for installations based on NFPA 13D or NFPA 13R designs, shall be approved by the Director of Code Enforcement on a case-by-case basis.

A102.9 Special Consideration. The above calculation procedures do not apply to the following, which require special consideration and direct consultation with the Code Enforcement Bureau:

a. Structures containing a group H fire area
b. Lumber yards
c. Petroleum Storage
d. Refineries
e. Chemical plants
f. Grain storage
g. Power generating facilities
h. Hazardous manufacturing processes
i. Paint, flammable liquid storage
j. High piled combustible storage

TABLE A102.3
FACTOR FOR EXPOSURE (X_i)

Factor for exposure (X_i): The factor for (X_i) depends upon the construction and length-height valve (length of wall in feet, times height in stories) of the exposed building and the distance between facing walls of the subject building and exposed building and shall be selected from table A102.3 below.

			Construction of facing Wall of Exposed Building Classes			
Construction of Facing Wall of Subject Bldg.	Distance Feet to the Exposed Building	Length-Height of Facing Wall of Exposed Building	3,5	1, 2, 4		
			Blank Wall	Unprotected Openings	Semi-Protected Openings (wired glass or outside open sprinklers)	
Frame, Metal or Masonry with Openings	0-10	1-100	0.22	0.21	0.16	0
		101-200	0.23	0.22	0.17	0
		201-300	0.24	0.23	0.18	0
		301-400	0.25	0.24	0.19	0
		Over 400	0.25	0.25	0.20	0
	11-30	1-100	0.17	0.15	0.11	0
		101-200	0.18	0.16	0.12	0
		201-300	0.19	0.18	0.14	0
		301-400	0.20	0.19	0.15	0
		Over 400	0.20	0.19	0.15	0
	31-60	1-100	0.12	0.10	0.07	0
		101-200	0.13	0.11	0.08	0
		201-300	0.14	0.13	0.10	0
		301-400	0.15	0.14	0.11	0
		Over 400	0.15	0.15	0.12	0
	61-100	1-100	0.08	0.06	0.04	0
		101-200	0.08	0.07	0.05	0
		201-300	0.09	0.08	0.06	0
		301-400	0.10	0.09	0.07	0
		Over 400	0.10	0.10	0.08	0

Blank Masonry Wall	Facing Wall of the Exposed Building is Higher Than Subject Building: Use the above table EXCEPT use only the Length-Height of Facing Wall of the Exposed Building ABOVE the Height of the Facing Wall of the Subject Building. Buildings five stories or over in height, consider as five stories When the Height of the Facing Wall of the Exposed Building is the Same or Lower than the Height of the Facing wall of the Subject Building, X_i=0.

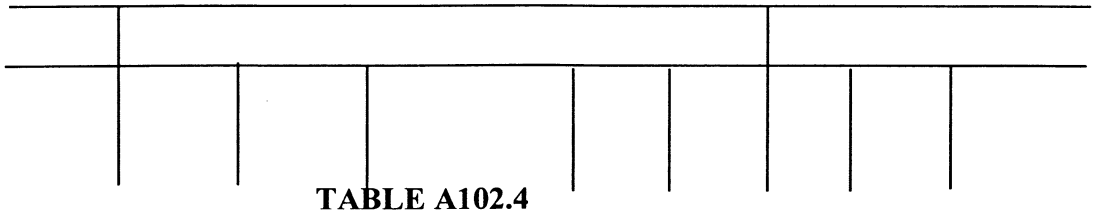


TABLE A102.4
FACTOR FOR COMMUNICATIONS (P_i)

The factor for P_i depend upon the protection for communicating party wall* openings and the length and construction of communications between fire divisions* and shall be selected from Table A102.4. When more than one communication type exists in any one side wall, apply only largest factor P_i for that side. When there is no communication on a side, P_i =0.

Description of Protection of Passageway Openings	**Fire Resistance, Non-Combustible or Slow-Burning Communications**				**Communications with Combustible Construction**					
	Open		Estimated		Open					Enclosed
	Any 21 ft. Length to 50 ft.	10 ft. or Less	11 ft. to 20 ft.		10 ft. 21 ft. or to Less	11 ft. to Less	21 ft. to 50 ft.	10 ft. to Less	11 ft. to 20 ft.	
Unprotected	~~0~~	~~++~~	~~0.30~~	0.20	~~0.30~~	~~0.20~~	~~0.10~~	~~++~~	~~++~~	~~0.30~~

Single Class A Fire Door at One End of passageway	0	0.20	0.10	0	0.20	0.15	0	0.30	0.20	0.10
Single Class B Fire Door at One End of Passageway	0	0.30	0.20	0.10	0.25	0.20	0.10	0.35	0.25	0.15
Single class A fire door at each end or double class A fire doors at one end of passageway	0	0	0	0	0	0	0	0	0	0
Single class B fire door at each end or double class B fire doors at one end of passageway	0	0.10	0.05	0	0	0	0	0	0.15	0

\+ For over 50 feet, $P_i = 0$

++ For unprotected passageways of this length, consider the 2 buildings as a single Fire Division

Note: When a party wall has communicating openings protected by a single automatic or self-closing Class B fire door, it qualifies as a division wall* for reduction of area.

Note: Where communications are protected by a recognized water curtain, the value of P_i is 0.

A102.10 - EXAMPLE FIRE FLOW ANALYSIS.

A new cinema building will be constructed and has a footprint area of 77,680 square feet and a gross area of 134,320 square feet. The building is three–stories, Type 1B construction, and is classified Use Group A-1 for theaters with the ground floor primarily movie theater seating. To the west of the proposed cinema is a hi-rise office building approximately 85 feet away. To the north and south, there is on-grade parking and no structure within 100 feet. To the east there is a future structure planned and it will be within 30 feet of the cinema. All vertical openings are unprotected or have less than one ½ hour fire-rated protection. The facility will have full fire sprinkler protection based on the NFPA 13 standard.

Needed Fire Flow = $NFF_i = (C_i)(O_i)(X + P)_i$

(a) C_i = Construction Factor where $C_i = 18\ F\ \sqrt{A_i}$

F = coefficient related to type of construction:

- F = 0.6 for fire-resistive construction (2000 VUSBC Types IA &IB)

A = effective building area = the total area of the largest floor plus 50% of the area not exceeding eight other floors when all vertical openings are unprotected or have at less than 1½-hour fire-rated protection for Construction Type I and II.

A = 77,680 + (134,320 – 77,680) x .50 = 106,000 square feet

C = 18 x .6 x √ 106,000 = 3516 gpm

(b) O_i = Occupancy Factor, which reflects the combustibility of the occupancy.

- **O = 1.15 for free burning based on a conservative design approach from undetermined plastic and fabric seating fixtures**

(c) $(X + P)_i$ = Exposure and Communication Factors from Tables 102.3 and 102.4. Values for X and P are determined from charts containing factors for type of separation or connections, separation distance.

$$(Xi + Pi) = 1 + \sum_{i=1} (X_i + Pi) = 1.0 + (0.10 + 0.0 + 0.19 + 0.0) + 0 = 1.29$$

west north east south

Needed Fire Flow = $(C) \times (O) \times (1 + X_I + P_I)$ = **3,516 x 1.15 x 1.29 = 5250 gpm**

NOTE: 50% reduction available since a full NFPA 13 sprinkler system will be installed . Therefore:

N. F. F. = 5250 x 0.50 = 2,625 gpm = 2,750 (rounding to the nearest 250 gpm increment)

SECTION A103 - SITE PLAN INFORMATION

A103.1 Site Plan Requirements. The following information shall be provided on site plans:

1. Submitter name, address, telephone number.
2. Building name and address.
3. Edition of the building code (Virginia Uniform Statewide Building Code), occupancy classification, use group, and type of construction.
4. Height of building in feet and stories.
5. Foot print area of building and gross floor area of building.
6. Identification of fire walls, fire barriers, other fire separations with hourly rating.
7. Existing and proposed water and fire main locations and sizes.
8. Existing and proposed fire hydrants locations, size of pipe, and expected flow and pressure.

Note: Fire Hydrant Coverage and Location

a) Minimum 40-foot clearance from hydrant to any structure.
b) Maximum 100 feet from hydrant to fire department connection.
c) Fire hydrant coverage: 300 feet, measured from the hydrant to the most remote point of vehicular access on the site, via the vehicular travel path.
d) Dead-end water main to fire hydrant distance:

6" line	380 feet max. distance
8" line	1,550 feet max. distance
10" line	4,600 feet max. distance
12" line	11,150 feet max. distance

e) No obstructions within 4 feet of hydrant (plants, fences, retaining walls etc.)
f) fire hydrants and water mains in or on parking structures shall be protected from freezing, but no heat tape permitted.
g) Fire hydrant location for single-family dwellings: lot line and/or curve of pavement

9. State if a full or partial fire sprinkler system will be installed.
10. If fire sprinkler system will be installed, show location of fire department siamese connection(s). **Note**: Siamese shall be located on street front, address side of building but provide additional siamese for buildings five stories or 50 feet or greater, on the other side of the building). Siamese connection shall be visible and accessible with no obstructions within 10 feet.
11. Topographical map relating grade and elevation to fire department connections.
12. Available water pressure and flow capability, static pressure, residual pressure, flow in gpm.
13. Calculate required fire flow and indicate available fire flow at 20 psi per Insurance Services Office (ISO) methodology as described in this document.
14. Location of all Emergency Vehicle Easements (EVE) and locations of EVE signs outlining EVE minimum 22 feet.
15. Adequate emergency vehicle access, turning radii.

Note: a) Buildings more than 5 stories or 50 feet in height require ladder truck access on the two longest opposing sides with 100% of those respective sides accessible to the fire department.
b) Dead-end emergency vehicle easements greater than 100 feet require turnaround.
c) Emergency vehicle access to within 100 feet of main entrance.
d) Swimming pool access - to be within 50 feet of edge of pool.
e) Show all overhangs and obstructions to emergency vehicle easement. The minimum emergency vehicle clearance for canopies, etc. is 15 feet.
f) Design live load for emergency vehicle on parking structure, deck shall

conform at a minimum to A.A.H.S.T.O. Loading Standard HS-20.

16. Check IBC Table 503 for area and height requirements.

SECTION A104 - FIRE HYDRANTS

A104.1 Fire Hydrant Requirements. Hydrants shall be Mueller "Centurion" (Catalog #A-423) provided with a 6-inch connection to the water main. The hydrant shall have one 1-½ inch pentagon-operating nut, left turn to open, two 2-½ inch NSH nipple outlets capped, and one 4-inch NSH nipple outlet capped. The hydrant shall be connected to a Muller Gate Valve (Catalog #A2380-20 or Virginia American Water Company approved equivalent) by the 6 inch water supply line and have a minimum 5 ¼ inch valve opening with 6 inch mechanical joints as shown in Figure A104.1 – *Fire Hydrant Installation Specifications*. Additional requirements are as follows:

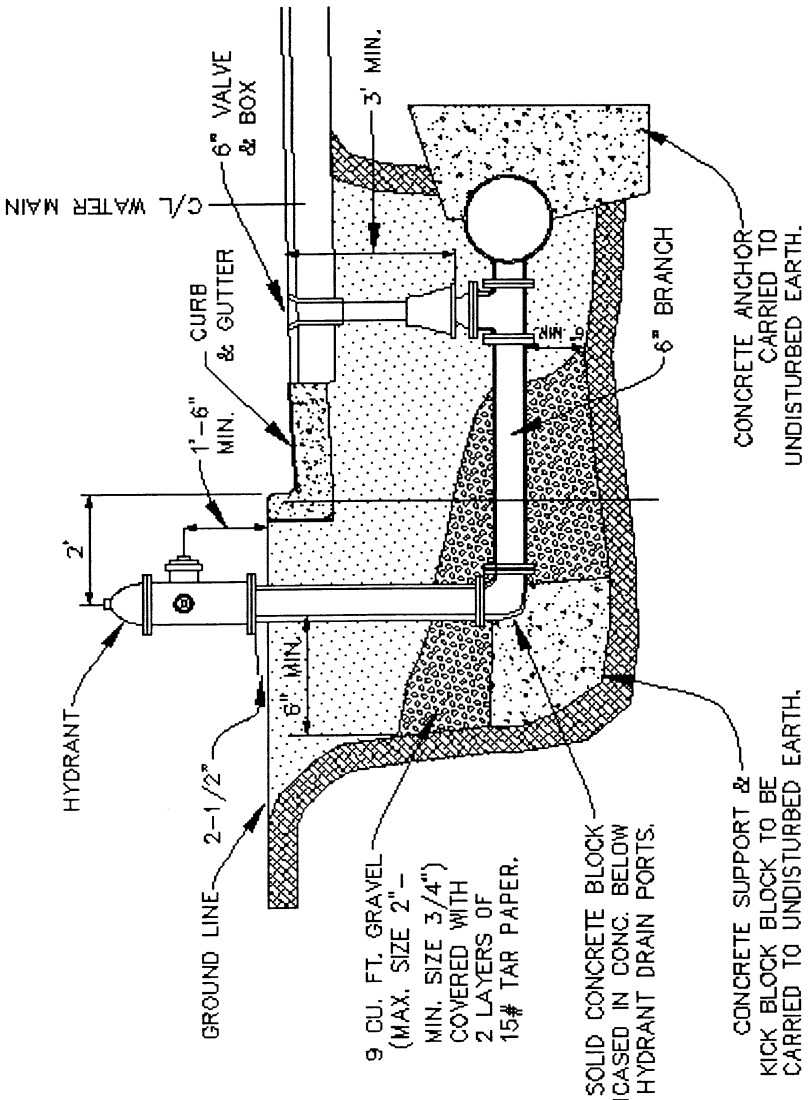
1. The hydrant shall be supported by hard, compacted block with hard gravel bedding.
2. Fire hydrant branch connections placed in fill material shall be installed using restrained joint pipe or tie rods as approved by Virginia-American Water Company.
3. The hydrant shall be located so that the thrust block is placed in undisturbed soil. Where this is not practical, the soil beneath the surrounding thrust block shall be compacted to 95% of maximum density in accordance with VDOT Sections 523.03, 302, 303.10, and 200.02.
4. The hydrant shall be plumb and the center of the hydrant (4-inch nozzle cover) shall be a minimum of 18 inches and maximum of 24 inches from the top face of the curb.
5. Excavation shall contain one ton of coarse washed gravel around base of hydrant for drainage.
6. The bottom of the safety flange shall be 2½ inches above the edge of the shoulder on streets without curb and gutter and 2½ inches above the elevation of curb on streets with curb and gutter.
7. Bends in underground piping shall be rodded and blocked.
8. Laterals shall be equipped with shut-off valves at tees or tapping sleeves. Valves shall be secured by rods or bolts, to tees or mains. Valves shall be equipped with standard two-inch square operating nuts and valve boxes with covers. Valves shall have right hand closure.
9. All hydrant branches shall have a minimum cover of four feet at the ditch line.
10. Public hydrants shall be painted with rust inhibitive primer and exterior enamel in the following color(s): Sherwin Williams "Safety Yellow" #B54Y37 for barrels and Sherwin Williams "Pure White" #B54W101 for hydrant bonnets and caps. **Exception:** Public hydrant barrels may be painted with an approved flat black paint where such locations are specifically approved in writing by the Fire Chief. Private hydrant barrels, bonnets, and caps shall be painted with a rust inhibitive primer and exterior enamel Sherwin Williams "Safety Yellow" #B54Y37. **Exception:** Private hydrant barrels may be painted with an pproved flat black where such locations are specifically approved in writing by the Fire Chief.
11. Code Enforcement Bureau personnel shall witness all flushing, perform visual inspection, hydrostatic and flow testing of all public and private hydrants by a licensed contractor. Code Enforcement personnel shall confirm the hydrant meets the 100% design flow requirement. If the 100% design flow requirement is not met, the hydrant shall be placed out of service until the contractor brings the hydrant into compliance with the 100% design flow requirement.
12. Sidewalks shall be wrapped around hydrants in areas where the grass area is shown as two feet or less.
13. Easements shall be required for hydrants located in ditch section streets where there is less than five feet clearance from hydrant to the property line.
14. Hydrants shall be installed, either five feet from the point of curvature of curb returns or on the property line in subdivisions.
15. Fire hydrants shall be located at least 40 feet from all buildings served by the hydrant. When a hydrant cannot be placed at the required distance, the Director of Code Enforcement will consider

exceptions to the requirement if the conditions are within the parameters listed in the currently adopted edition of NFPA 24, ***Private Fire Service Mains and their Appurtenances***.

16. No plantings or other obstructions shall be located within four feet of any hydrant or ten feet of a fire department siamese connection.

17. Four-inch steel pipe bollards shall be installed in accordance the requirements of Figure A104.2 – Fire Hydrant Protection Pipe Bollard Installation Detail around hydrants as needed for industrial and commercial developments where curbs are not available and in locations where the potential for damage is greater than normal due to vehicular traffic as determined by the Director of Code Enforcement. Bollards shall be located adjacent to the hydrant and in such a manner as not to interfere with the ability to connect hoses or operate the hydrant. Where possible, bollards shall be at least 30 inches from the center of the hydrant-operating nut in all directions. The bottom of the bollards and encasement shall not be located above the hydrant supply piping and valve or within the area of the hydrant supply piping to prevent the possibility of damage to the underground piping should the bollard be displaced by vehicular contact. Exact locations of bollards will be determined by the engineer of record and approved by the Director of Code Enforcement.

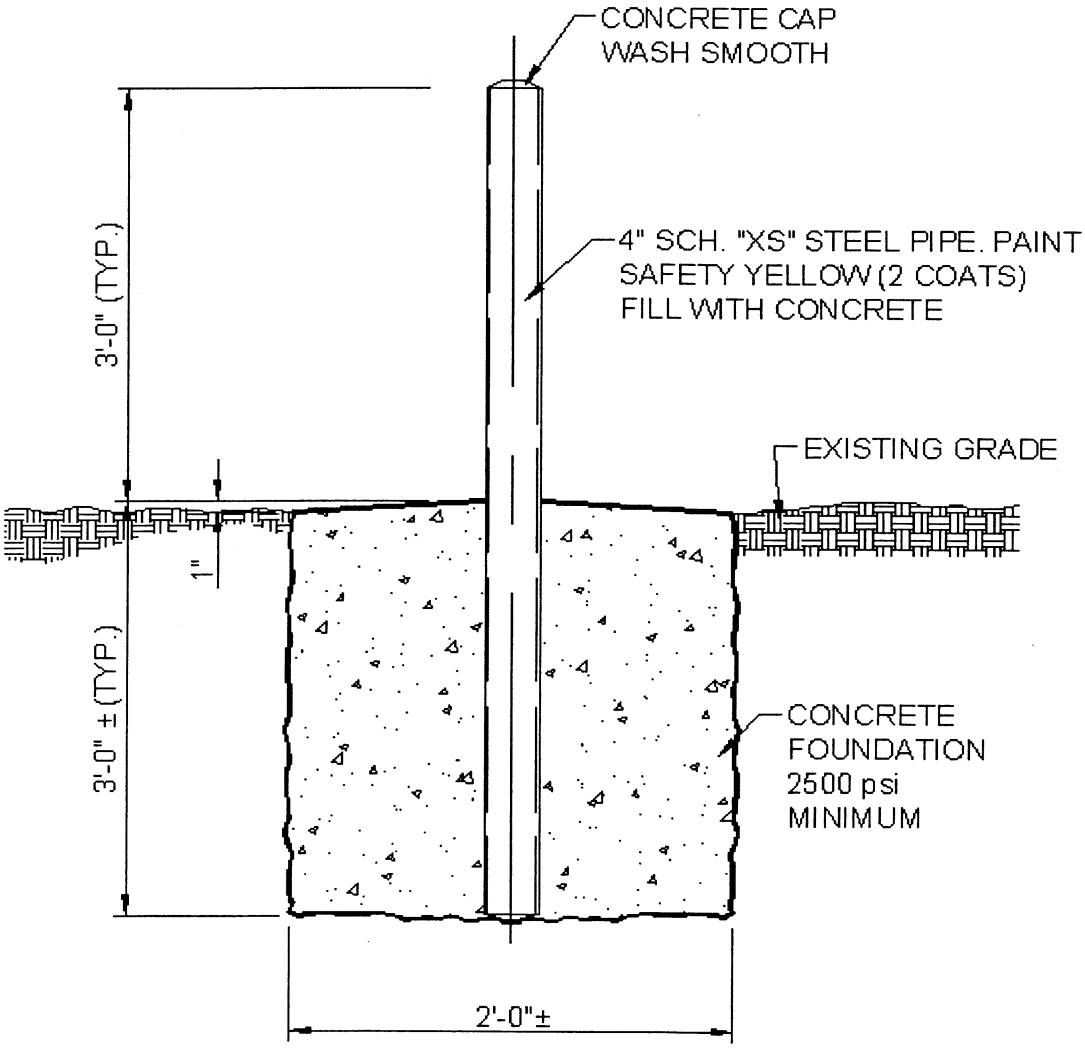
FIGURE A104.1 FIRE HYDRANT INSTALLATION SPECIFICATIONS



NOTES

1. FIRE HYDRANT: MUELLER CENTURION – CATALOG " A423 WITH 1-1/2 INCH PENTAGON OPERATING NUT; LEFT TURN TO OPEN TWO 2-1/2" HOSE NOZZLES AND ONE 4" HOSE NOZZLE.
2. VALVE: MUELLER GATE VALVE – CATALOG # A2380-20, WITH 6 INCH MECHANICAL JOINTS. 2 INCH SQUARE NUT, LEFT TURN TO OPEN.

FIGURE A104.2 FIRE HYDRANT PROTECTION
PIPE BOLLARD DETAIL



SECTION A105 - INSTALLATION AND TESTING OF UNDERGROUND FIRE MAINS AND FIRE LINES

A105.1 Fire Main and Fire Lines Requirements. All installation and testing shall be in accordance with the currently referenced edition of **NFPA 24, *Private Fire Service Mains and Their Appurtenances***, as referenced by the ***Virginia Uniform Statewide Building Code***. A Contractors Material and Test Certificate for Underground Piping, (See NFPA 24 appendix) shall be completed and signed by the installing contractor. A Code Enforcement Bureau inspector shall witness all required inspections and tests.

A105.2 General Requirements. The following general requirements shall be followed when installing fire main and fire lines:

1. Fire lines shall have at least four (4) feet of ground cover from the top of the pipe.
2. All bends and tees shall be provided with thrust blocks in accordance with NFPA 24 .
3. All rods shall be a minimum of 5/8 inch in diameter. The number of rods shall be determined by the pipe size.
4. All rods, nuts, bolts, washers, clamps, and other restraining devices shall be cleaned and thoroughly coated with a bituminous or other acceptable corrosion-retarding material.
5. Thrust blocks shall be placed against undisturbed soil. Pipe clamps and tie-rods, thrust blocks, locked mechanical or push-on joints, mechanical joints utilizing set screw retainer glands, or other approved methods or devices shall be used. The type of pipe, soil conditions, and available space shall determine the method.
6. When using clamps, rods shall be used in pairs, two to each clamp.
7. Fire lines shall not run under buildings.
8. All pipe shall be flushed, hydrostatically tested, and visually inspected before being covered. The trench shall be backfilled between joints before testing to prevent movement of pipe.
9. The hydrostatic test of 200 psi or 50 psi over static pressure, whichever is higher shall be conducted for two (2) hours.
10. The contractor shall remain responsible for locating and correcting any leakage. If pipe is covered, no drop in pressure during the hydrostatic test is permitted.
11. Gauges used in performing acceptance tests shall meet the following:
    a. Gauges shall be appropriate for the type of test (i.e. air gauge for air pressure test, water gauge for hydrostatic test.
    b. Air gauges shall have increments of two (2) pounds or less. Water gauges shall have increments of ten (10) pounds or less.
    c. The gauge shall be capable of registering pressures above the minimum pressure required during the test. The pressure registered during the actual test shall be at least the minimum required for the test and less than the maximum of the gauge register. Gauges shall be marked as accepted by UL or FM testing laboratories. No valves shall be installed in a fire line between the street valve at the water main and the OS & Y valve inside the building.
12. All fire lines shall be thoroughly flushed with an opening the same size as the pipe when possible The minimum rate of flow shall be not less than the water demand rate of the system, which is determined by the system design, or not less than that necessary to provide a velocity of 10 feet per second, whichever is greater. The flushing operation shall continue for sufficient time to ensure thorough cleaning.

TABLE A105.1 – FLOW RATES

Pipe Size	Flow Rate (gpm)
4	390
6	880
8	1560
10	2440
12	3520

13. When the above flow rate cannot be verified or met, supply piping shall be flushed at the maximum flow rate available to the system under fire conditions.
14. Approved site plans showing the size and location of pipe shall be on the job site before the inspection or test is performed.
15. Galvanized spool piece (potable water). The procedure for installing a galvanized pipe between the ductile iron fire line and the OS&Y valve is as follows:
    a. If a spool piece is used between the fire line stub and the OS&Y valve to raise the valve off the fire line stub, then it shall be galvanized pipe. This spool may be hydrostatically tested as part of the underground, or part of the sprinkler riser.

- or -

    b. If the OS&Y valve is rated by the AWWA as suitable for connection to a potable water system, this valve is a suitable transition piece between the fire line stub and the check valve. This OS&Y valve may be attached directly to the fire line stub if there is adequate clearance for proper operation of the valve, and then no galvanized pipe is required.

16. All items shall be inspected before any backfill.
17. Electrical ground wires shall not be connected to underground fire lines.
18. Backfill shall be well tamped, free of rocks and construction debris, and free of corrosives.

SECTION A106 - EMERGENCY VEHICLE ACCESS

A106.1 Requirements. The following requirements shall followed when designing emergency vehicle access:

1. Access for emergency vehicles shall be provided to within 100 feet of the main or principal entrance to every building. The access shall be provided by a public or private street or parking lot.
2. When new buildings are more than five stories or 50 feet in height, ladder truck access shall be provided on the two longest opposing sides with 100% of those respective sides accessible to the fire department.
3. The access to the rear may be provided by either a street, parking lot, or emergency vehicle easement designed to all appropriate standards.
4. The inner surface of the ladder truck access way shall be no less than 15 feet and no more than 30 feet from the exterior building wall.
5. Where required, emergency vehicle easements shall have a minimum width of 22 feet.
6. Required fire department access ways over 100 feet in length shall have provisions for turning apparatus around according to the requirements referenced in Figure A106.1 for emergency vehicle easements in this document.

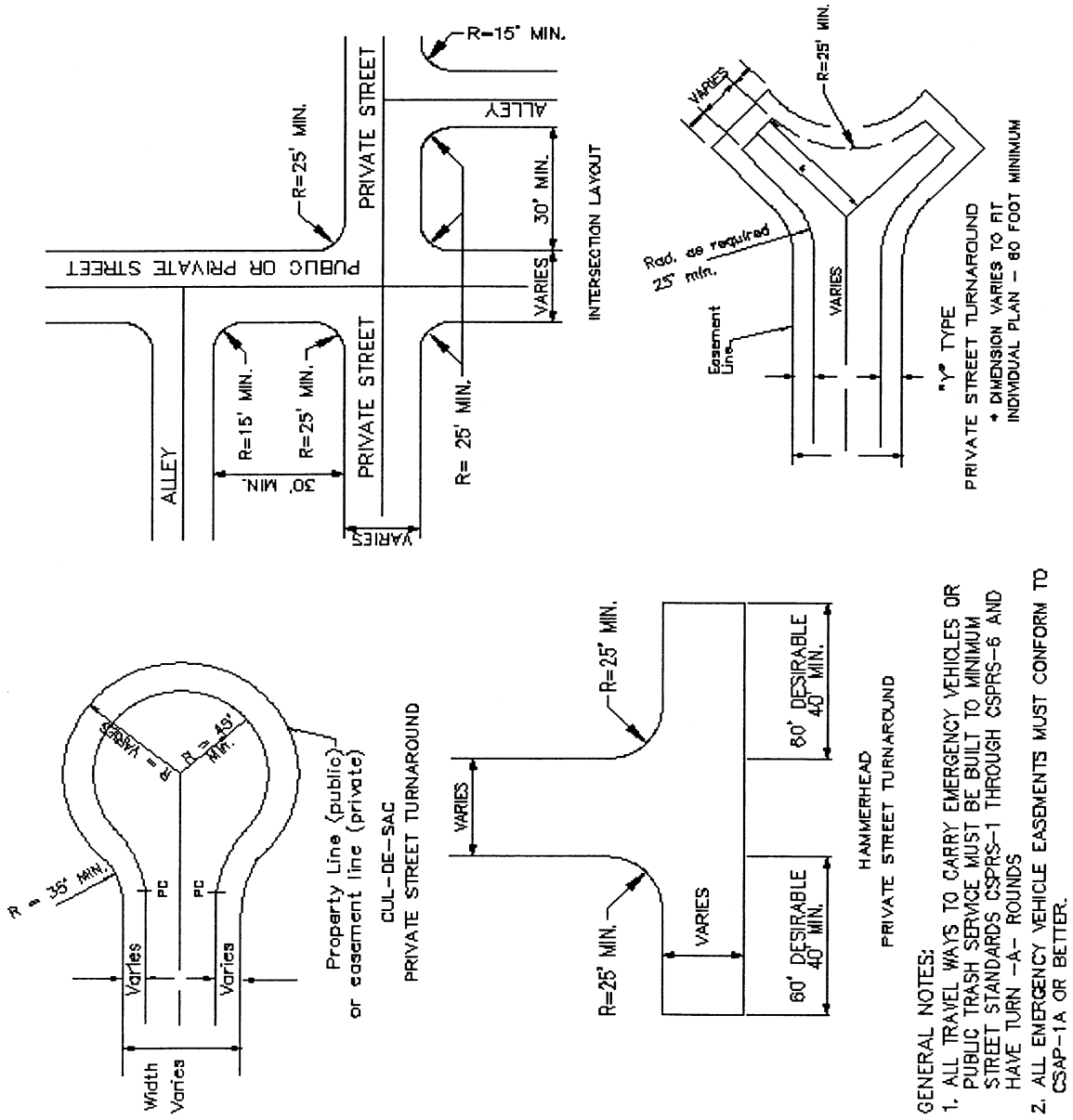
7. A 12-foot wide access lane to within 50 feet of the edge of swimming pools, with an eight-foot wide personnel gate in the fence at the point of access is required except for individually owned pools located on single-family lots.
8. Building overhangs which cross an emergency vehicle easement threshold shall not be occupied space and shall be no less than 15 feet in height, as measured from the top surface of the roadway to the lowest protrusion of the overhang.
9. Residential rear service alleys that function as fire department emergency vehicle access shall meet the access criteria as described in Item 2 of this section and Figure A106.2.
10. Design live load for emergency vehicle on parking structure, deck shall conform at a minimum to A.A.H.S.T.O. Loading Standard HS-20.
11. Alternatives to Emergency Vehicle Access will be considered on a case-by-case basis and examined and approved through the Code Modification process in accordance with Section 109.2 of the Virginia Uniform Statewide Building . Features that will be considered include, but are not limited to occupancy, combustibility, construction enhancements, and passive and active fire protection enhancements over the base-line requirements for the structure. Refer to Alexandria Fire and EMS Department document *Exterior Fire Department Operations and Supplemental Fire Protection and Rescue Features in Mid-Rise and High-Rise Structures* for alternative design approaches.

SECTION A107 - EMERGENCY VEHICLE EASEMENTS

A107.1 Emergency Vehicle Easements. Emergency vehicle easements shall be a minimum of 22 feet across the travel lane. The emergency vehicle easement shall provide access to strategic areas of the building and fire protection systems as designated by the Director of Code Enforcement. Curbing and street components shall conform the standards established by Transportation and Environmental Services for emergency vehicle easements.

A107.2 Sign Specifications. Emergency vehicle easement signs shall be metal construction, 12-inches wide and 18 inches in height. Provide red letters on reflective white background with a 3/8-inch red trim strip around the entire outer edge of the sign. The lettering shall be "NO PARKING", " EMERGENCY VEHICLE EASEMENT", "EM. VEH. EAS.", and "City of Alex." placed as shown in Figure 3. Lettering size shall be as follows: "NO PARKING" - 2 inches, "EMERGENCY VEHICLE EASEMENT" - 2½ inches. EM. VEH. EAS. - 1 inch, CITY OF ALEX. - ½ inch. Directional Arrows - 1 inch by 6 inches solid shaft with solid head 1½ inches wide and 2 inches deep (See Figures A107.1, A107.2, A107.3 for examples). Signs shall be mounted with the bottom of the sign 7 feet above the roadway, and shall be properly attached to a signpost or other approved structure as designated by the Director of Code Enforcement. Posts for signs, when required, shall be metal and securely mounted. Signs shall face in the direction of vehicle travel. In areas where emergency vehicle easements involve two-way traffic, double mounted signs shall be provided. The maximum distance between signs shall be 100 feet. Other special signs or modifications to emergency vehicle easement signs shall be approved by the Director of Code Enforcement.

FIGURE A106.1 MINIMUM STANDARDS FOR EMERGENCY VEHICLE ACCESS TO PRIVATE STREETS AND ALLEYS

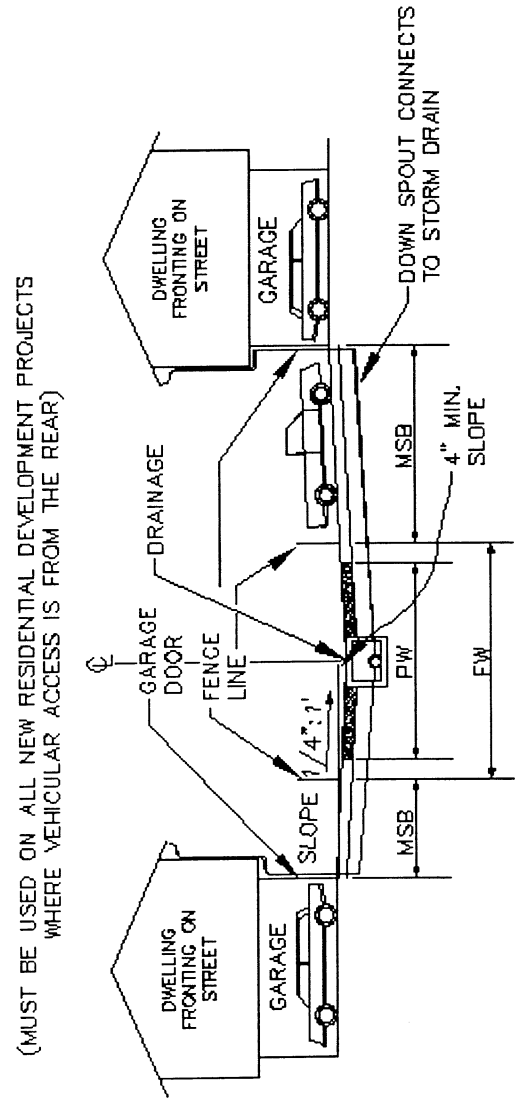


GENERAL NOTES:

1. ALL TRAVEL WAYS TO CARRY EMERGENCY VEHICLES OR PUBLIC TRASH SERVICE MUST BE BUILT TO MINIMUM STREET STANDARDS CSPRS-1 THROUGH CSPRS-6 AND HAVE TURN -A- ROUNDS
2. ALL EMERGENCY VEHICLE EASEMENTS MUST CONFORM TO CSAP-1A OR BETTER.

1

FIGURE A106.2
RESIDENTIAL REAR SERVICE ALLEY STANDARDS



CSRR SA–2
ALL REQUIRED PARKING IN GARAGE (NO PARKING IN ALLEY)

CSRR SA–1
REQUIRED PARKING IN DRIVEWAY AND GARAGE (NO PARKING IN ALLEY)

RESIDENTIAL REAR SERVICE ALLEY STANDARD	MINIMUM WIDTHS							
	TWO – WAY TRAFFIC FLOW			ONE – WAY TRAFFIC FLOW				
	PW	EW	MSB	PW	EW	MSB		
CSRR SA–1	22'	24'	20'	18'	20'	20'		
CSRR SA–2	22'	24'	10'	18'	20'	10'		

NOTES:
1. MINIMUM RADII WHERE ALLEYS MEET STREETS OR OTHER ALLEYS = 15'.
2. ALLEY GUTTER MAY BE ADJUSTED OFF CENTER TO MATCH TERRAIN.
3. (MSB) = MINIMUM SET BACK.
4. (EW) = EASEMENT WIDTH.
5. (PW) = PAVEMENT WIDTH.

A107.3 Fire Dept. Access Lanes / Mountable Curbs. Where curbing is a component of the emergency vehicle easement, the curbing construction shall conform to weight and grade requirements for vehicular traffic. In no circumstances shall a raised curb be located in the path of travel in a emergency vehicle easement. Where a mountable curb is provided as part of an emergency vehicle easement, emergency vehicle easement signs shall be posted at the point nearest the edge of the emergency vehicle easement, but in no case within the clear width of the emergency vehicle easement.

SECTION A108 CONVEYANCE OF EMERGENCY VEHICLE EASEMENT TO CITY OF ALEXANDRIA

A108.1 General. The property owner shall have an Engineer or Surveyor submit to the Transportation & Environmental Services Department a preliminary plat indicating location, width, boundary, and a description of the composition of easement for the Emergency Vehicle Easement.

A108.2 Agency Review. The Transportation & Environmental Services Department and the Director of Code Enforcement shall review the plat to determine whether the Emergency Vehicle Easement is necessary or desirable and has adequate access, width, and turning radius. Transportation & Environmental Services Department will determine if the existing paved surface meets city standard (CSAP-1A). All elevated surfaces shall meet H–20 specifications. If the Emergency Vehicle Easement is attached to the terms and conditions of a Special Use Permit, then the applicant must also file the with the City's Planning and Zoning office for review. All appropriate agencies will comment on the content of the plat.

A108.3 Approval. If approved, the applicant will submit a final plat and descriptive deed. The City of Alexandria will sign and return to applicant for recordation.

A108.4 Recordation. Upon recordation, the applicant will report deed book and page number (instrument number) to Transportation Environmental Services Department to be kept on file. The final plat and bond will not be released until the deed has been recorded.

FIGURE A107.1 FIRE LANE SIGN

FIGURE A107.2 FIRE LANE SIGN

FIGURE A107.2 FIRE LANE SIGN

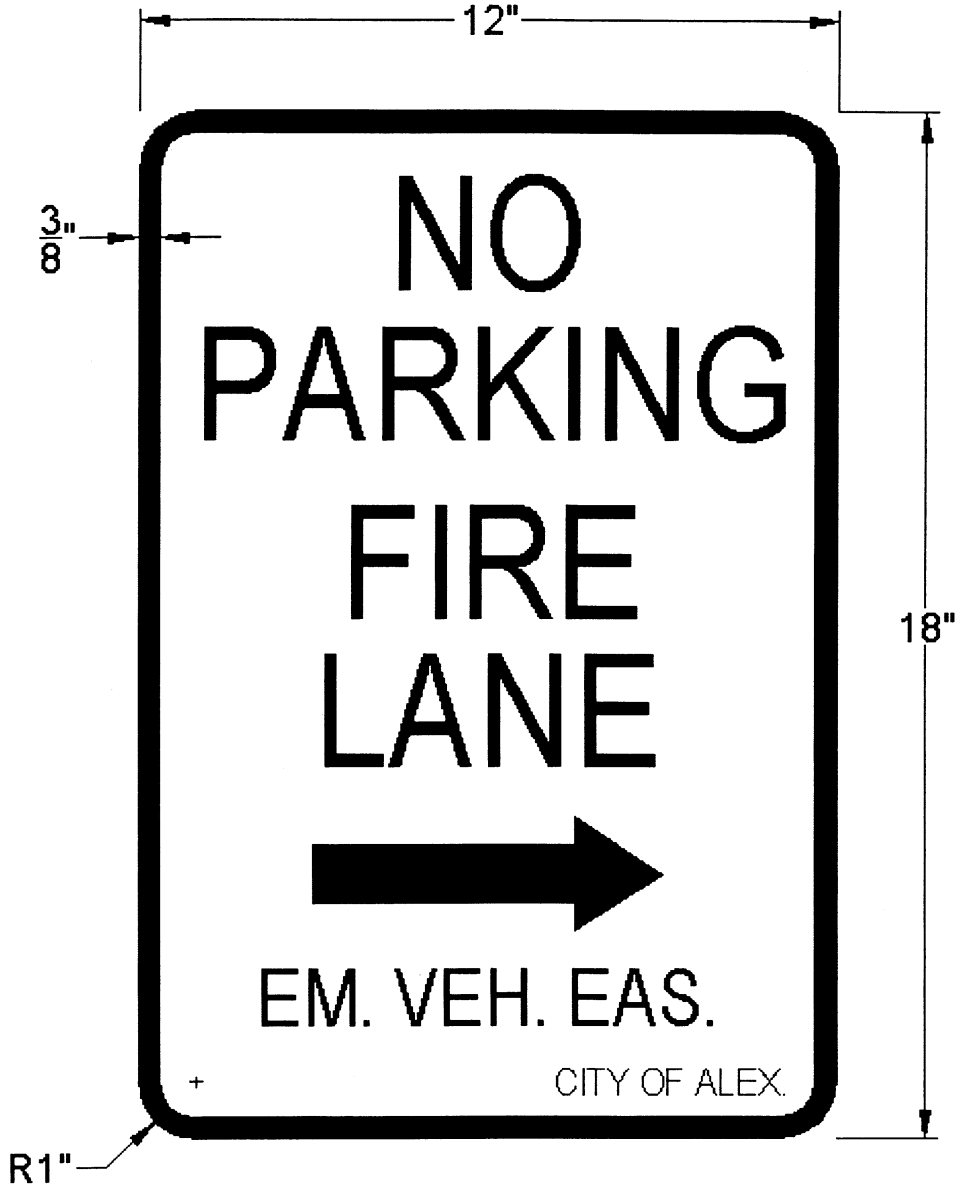
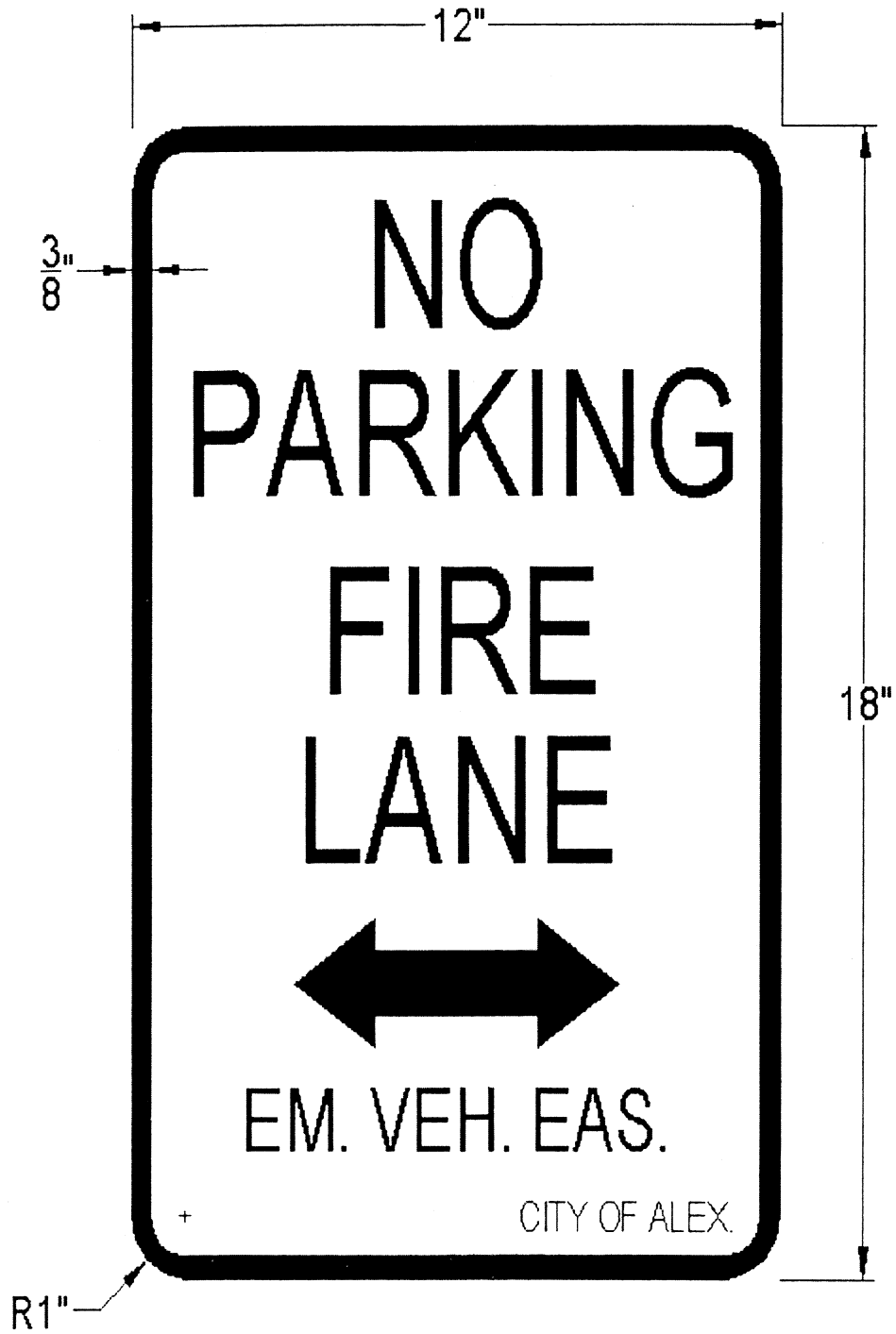


FIGURE A107.3 FIRE LANE SIGN



Appendix B – Requirements for a Fire Watch

APPENDIX B

REQUIREMENTS FOR A FIRE WATCH

SECTION B101 GENERAL

B101.1 Scope. When a fire sprinkler, alarm, detection, or suppression system becomes impaired or is unable to provide the proper protection for which it was designed, it becomes necessary to find an alternate means to monitor the conditions in buildings relative to life safety and property protection. For short term and on a temporary basis, a fire watch is a system of activities designed to provide onsite observation, documentation, and notification in the event of a fire emergency.

SECTION B102 REQUIREMENTS

B102.1 Procedures. When the establishment of a fire watch is ordered by the Fire Department or Code Enforcement Bureau, the owner or the owner's representative shall implement the following procedures and requirements for the duration of the fire watch. The fire watch shall be maintained until such time the noted system(s) is returned to normal ready service and approved for use by the Code Enforcement Bureau.

B102.2 Requirements. A fire watch shall consist of the following:

Designated number of staff (minimum of two personnel), at all times and until the compromised system has been repaired, inspected, tested and certified to be placed back in service by the Code Enforcement Bureau.
Each participating staff member shall be equipped with reliable two-way communications.
One staff member shall always be stationed in an area or room equipped with a working telephone or cellular phone to report an alarm by dialing 9-1-1.

NOTE: When dialing 911 from a cellular phone, some cellular phone systems may systems may connect user with another jurisdiction's emergency communications center, therefore the caller should confirm they are speaking with the "Alexandria Fire and EMS Department Emergency Communications Center".

Walking tour of all areas of the building no less than every 15 minutes to observe for conditions where fire, smoke, or hazardous situations require fire department response

or,

A complete tour of the facility within a time frame prescribed by a representative of the Code Enforcement Bureau or Fire Department and with the staffing level contingent upon the size of the facility and the type of occupancy.

NOTE: If the building or property is of such size that two individuals cannot adequately perform the required fire watch, the Fire Department representative may require additional on site personnel. The Fire Department representative may permit one person to perform the fire watch if the building or property is size that one person can adequately perform the required fire watch.

A legibly written log shall be kept on site at all times for review by any Fire Department employee documenting:

(a) Reason the fire watch was implemented.
(a) Date and time the fire department was notified the fire watch was initiated and concluded.
(c) Start and stop time of each building or property tour.
(d) Key locations visited in the building(s) requiring the fire watch.
(e) Name(s) of personnel conducting the fire watch.
(f) Name(s) of personnel recording the information.

Personnel conducting the fire watch shall be:

(a) Capable of performing patrol duties.
(b) Reliable.
(c) Not addicted to the use of or under the influence of intoxicants, narcotics, illegal drugs, and /or physically or mentally impaired by prescription drugs.
(d) Able to clearly and accurately converse with fire department personnel in English, in the event of an emergency.
(e) Able to remain awake and alert at all times.

NOTE: In all cases, the sole duty of personnel assigned to the fire watch shall be to perform constant patrols of the of the protected premises, to keep watch for fires, and if necessary to summon the fire department.

If a fire is located:

(a) The fire watch staff shall immediately call 9-1-1 and report the location of the fire within the building.
(b) Begin the evacuation of the building starting on the fire floor, then above the fire floor, then below the fire floor.
(c) Do not attempt to extinguish the fire.

Appendix C – Requirements for Fireworks Displays

APPENDIX C

REQUIREMENTS FOR FIREWORKS DISPLAYS

SECTION C101 GENERAL

C101.1 Scope. This appendix provides the permit and display requirements for the use of fireworks within the City of Alexandria. The City of Alexandria shall issue permits, upon application in writing, for the display of aerial fireworks, commonly known as pyrotechnic displays, for fair associations, amusement parks, or by any organization or group of individuals; provided such display is in general

accord with the applicable sections of National Fire Protection Association (NFPA) 1123, *Fireworks Displays,* a referenced standard, listed in Chapter 45, of the Virginia Statewide Fire Prevention Code.

SECTION C102 REQUIREMENTS

C102.1 Insurance Requirements. The Code Enforcement Bureau shall issue no permit until all requirements of this appendix are submitted for review, approved, and the applicant files a certificate of insurance with the City of Alexandria named as a co-insured on all policies in the amount of two million ($2,000,000) dollars for each bodily injury and property damage. The insurance policy shall become available for the payment of any damage arising from acts or omissions of the applicant, his agents or his employees in connection with the display of aerial fireworks. The applicant shall ensure the insurance policy is in effect at the time of the commencement of activities authorized by the permit and remains continuously in effect until such are completed.

C102.2 Requirements for Permit Application. An application for the display of aerial fireworks shall be completed and submitted to the Code Enforcement Bureau 45 days before the scheduled event. The application for aerial fireworks display shall include the following:

Display area shall incorporate a 70 feet diameter radius, per inch of largest fireworks display shell.

Ground Displays shall be located a minimum distance of 75 feet from spectator viewing areas and parking areas. Spinning Wheels, Roman Candles, and Large Salutes shall be located 125 feet form viewing areas.
Fire works shall not be discharged within 100 feet of any tent or canvas shelter.
The point of firing of aerial fireworks is to be at least 200 feet from the nearest permanent building, public highway, or railroad, and be at least 50 feet from the nearest aboveground telephone or telegraph line or other overhead obstruction. In no case shall a display be fired within 500 feet of a school, theater, church, hospital or similar institution.
The potential landing area shall be a large, clear, open area acceptable to the authority having jurisdiction.
Spectators, vehicles, or any readily combustible materials shall not be located within the potential landing area during the display.
Spectators shall be restrained behind lines at least 200 feet from the firing point by physical barriers and monitors. Only persons in active charge of the display shall be allowed inside these lines.
Projectile type fireworks shall fire into the air as nearly as possible in a vertical direction except fireworks fired beside a lake or other large body of water, the fireworks may be directed in such a manner that the firing residue of deflagrations will fall into the said body of water.
Unfired fireworks shall be covered or protected during firing and those remaining after display shall be immediately disposed of in a way safe for the particular type of firework.
If at any time, high winds in excess of 15 miles per hour, unusually wet weather prevails, or any other condition that represents an unsafe condition in the opinion of the authority having jurisdiction or the display operator, the public display shall be postponed until weather or other unsafe conditions improve to an acceptable level.
Extremely dry conditions shall require the display and fallout areas to be soaked with water before event commencing. If the outdoor burning restrictions are in place, outdoor firework displays shall not occur.
Portable water fire extinguishers or other adequate fire protection will be required at discharge site.

Display operators and assistants shall use only flashlights or electric lighting for artificial illumination.
Neither smoking nor open flames shall be allowed in the display or shell storage area as long as shells are present. Signs to this effect shall be conspicuously posted.
In the event of a shell failing to ignite in the mortar, the mortar shall be left alone for a minimum of 15 minutes then, carefully flood with water. Immediately following the display, the mortar shall be emptied into a bucket of water. The supplier shall be contacted as soon as possible for disposal instructions.
The entire firing range shall be inspected immediately following the display to locate any defective shells. The inspection shall be completed before the public having access. Any shells found shall be immediately doused with water before handling. The shells shall then be placed in a bucket of water. The supplier shall then be contacted as soon as possible for proper disposal instructions.
All operators shall be at least 21 years of age. Assistants shall be 18 years of age.
An adequate number operators, assistants, and monitors shall be on hand to conduct the display. At no time shall there be less than two operators on duty.
No person shall handle or be involved in the firing of fireworks while under the influence of alcohol, narcotics, or drugs, which could adversely affect judgment, movement, or stability.
A method of communication (preferably a cellular phone) shall be on or near the display site in the event of an emergency. The Alexandria Fire and EMS Communication Center (phone number 911) shall be immediately notified in the event of fire and/or injury.
Fireworks Displays shall be completely set-up and ready for inspection at least 2 hours before event.
Personnel from the Code Enforcement Bureau Fire Marshals Office are required to inspect the display area before the event commencing, monitor the event and conduct a post event inspection.
Obtain and maintain original Fire Prevention Code Permit for Aerial Fireworks Display on the event site.
If the storage of fireworks is approved in the City of Alexandria, the operator shalll maintain the original Fire Prevention Code Permit for aerial fireworks on the event site and comply with all Bureau of Alcohol, Tobacco and Firearms storage requirements.

Appendix D – Requirements for Stairway Identification

STAIRWAY IDENTIFICATION

SECTION D101 GENERAL

D101.1 Scope. Stairway identification prevents firefighters and citizens from becoming disoriented during a fire when smoke obscures vision. The requirement shall apply to all buildings above three stories in height.

D101.2 Purpose. Stairway identification ensures all stairwell landings are marked in a prescribed manner to help determine the location of the person within the building.

D102 REQUIREMENTS

D102.1 Requirements. The requirements outlined shall be followed to identify and properly mark each stairwell located within your building greater than three stories.

- A Building Stairwell Identification Program shall be submitted to the Code Enforcement Bureau for approval within 90 days of receipt of notification.

- All buildings greater than three stories must display in the lobby and fire control room a simplified

schematic with the building's footprint.

- The footprint shall be an overhead view of the building's exterior and the general layout of the lobby of the first floor. Stairwells shall be denoted by letter, starting next to the main entrance with "A" and continuing in a clockwise or left to right pattern. (See Figure D102.1)

- Additionally, a sign approved by the Code Enforcement Bureau shall be provided at each landing in all interior stairwells, identifying the stairwell's letter, designating the floor level and the level of exit discharge. It should also state if there is no access to the roof. (Roof Access means doors to the roof regardless whether they are locked).

- The sign shall be located five (5) feet above the floor landing in a position that is readily visible when the stairwell door is opened or closed. This information may be stenciled directly onto the wall. (See Figure D102.2)

- The signs must have lettering that is a minimum of 4 inches in height, and the lettering must be of a color contrasting with the background stairwell wall color.

- Two copies of the footprint and the stairwell sign shall be submitted to the Code Enforcement Bureau for approval prior to installation.

FIGURE D102.1

EXAMPLE BUILDING FOOTPRINT AND STAIRWELL IDENTIFICATION LAYOUT

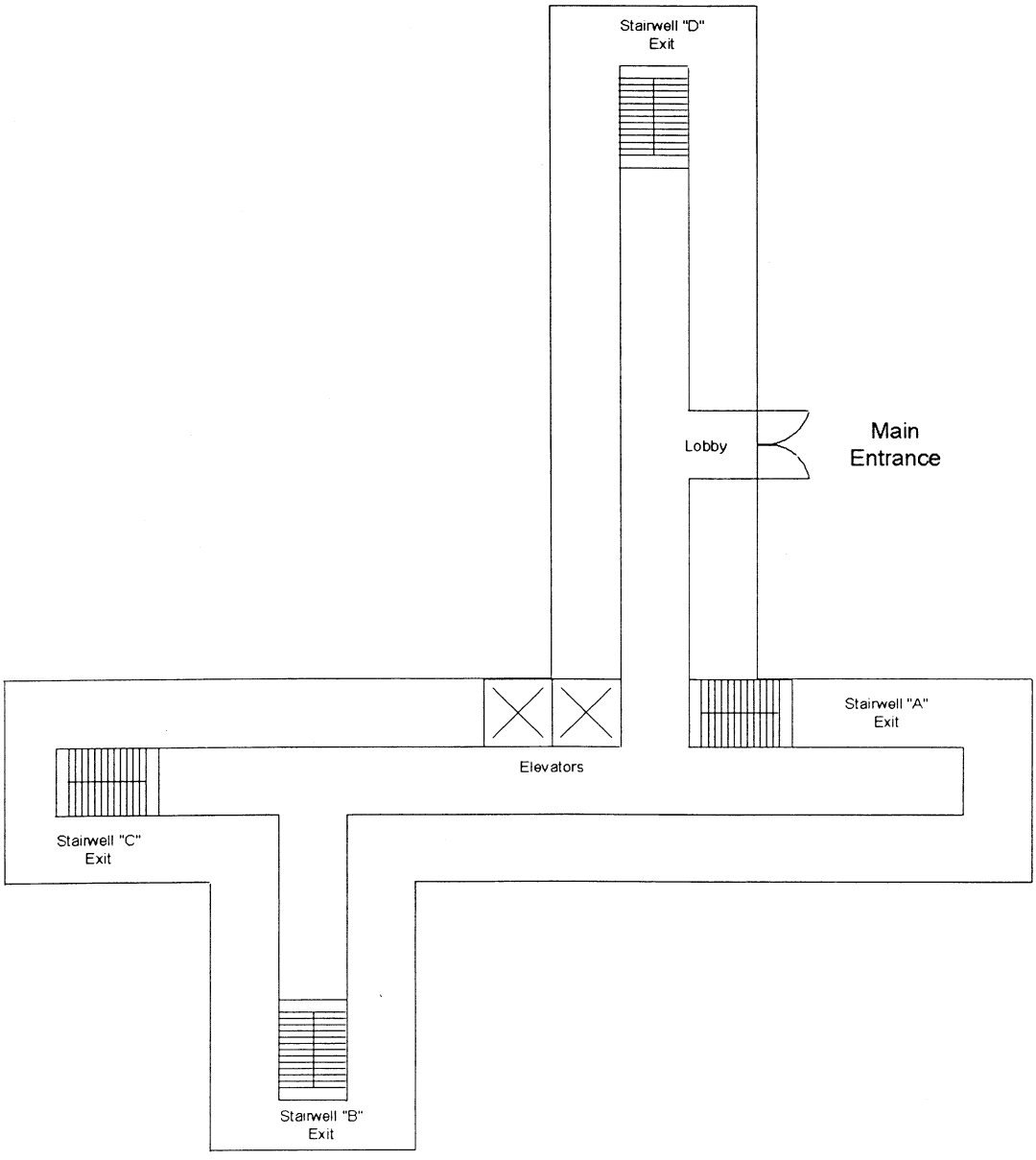
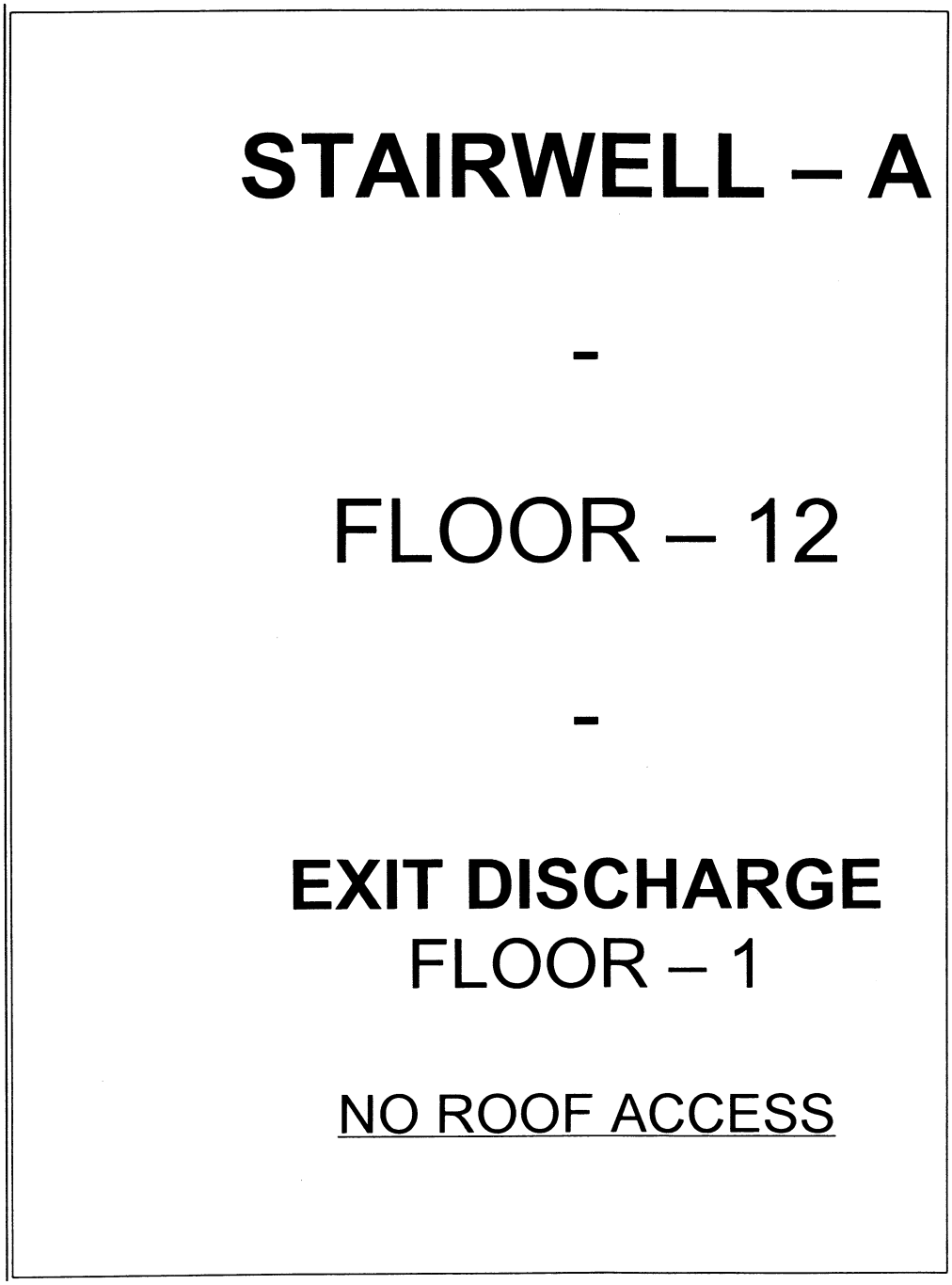


FIGURE D102.2

EXAMPLE STAIRWELL IDENTIFICATION SIGN



APPENDIX F - REQUIREMENTS FOR EXTERIOR SPRAY PAINTING OPERATIONS

SECTION F101 - GENERAL

F101.1 Scope. This appendix provides permit and other requirements for exterior spray painting operations that do not exceed an accumulative area of 9 (nine) square feet per day.

SECTION F102 - REQUIREMENTS

F102.1 Permit Requirements. A permit shall be applied for with all required supporting documentation and upon approval, issued to perform limited exterior spray-painting. The applicant shall submit two copies of the proposed procedure outlining process to include the following: a complete list of Material Safety Data Sheets for materials to be utilized, a chemical / paint inventory, the method of on site storage, the method of transportation between sites, the method of paint application, the method of waste / spray paint recovery, site plans, list of all application areas in which spraying will occur, the type of on site fire protection, a 24 hour emergency contact information and the site contact.

F102.2 General Requirements. The following general requirements shall apply to all exterior spray painting operations and are subject to review and approval by Code Enforcement Bureau personnel prior to commencing exterior spray painting operations:

The Hazardous Use Permit shall be kept in the on site contractor's vehicle at all times. Absence of the on site permit will void permitted process and the area will be deemed non-compliant. If this occurs, all equipment and paint shall be removed from the City of Alexandria limits.
The applicant shall locate spray-painting operations a minimum of 50 feet from a building, structure or a property line.
The applicant shall ensure the spray painting operation is not continuous in nature.
The applicant shall ensure that no exterior electrical equipment is within 20 feet unless it meets the requirement of NEC Class I, Division II, including flexible electrical extension cords, and approved by the Code Enforcement Bureau.
The applicant shall not use portable electrical lamps inside the spray-painting area.
The applicant shall provide a minimum of one (40-BC) dry chemical fire extinguisher outside the application area and within 30 feet of travel.
The applicant shall remove all possible ignition sources. This shall include securing and stopping all motors on vehicles.
The applicant shall not permit open flames within 20 feet of the designated spray area.
The applicant shall not permit hot or heated surfaces within the designated spray area.
The applicant shall not permit smoking within the spray area. Signage shall be posted and visible from the exterior of the designated spray areas.
The applicant shall clean spray-painting equipment in a manner approved by the Fire Official.
Only Class II or III solvents shall be utilized on the exterior.
The applicant shall provide a smooth surface for the limited area spray operation. Porous surfaces such as asphalt is not permitted.
If an interior limited area spray operation is approved and utilized, the applicant shall provide the area with approved fire protection and positive ventilation approved for flammable liquids.
The applicant shall ensure that all equipment and containers are listed for the flammable or combustible liquid use.
If flammable liquids will be transferred from one container to another, the applicant shall ensure that at least one container is bonded and/or grounded

The applicant shall ensure that Class I flammable liquids and/or solvents are not utilized for cleaning of equipment. Only Class II and III combustible liquids may be utilized for cleaning of equipment.
The applicant shall keep the limited spray-painting area clean of over spray and residue.
The applicant shall provide self-closing metal waste cans to handle waste and rags.
The applicant shall control odors, smoke and any other air pollution from operations at the site and prevent them from leaving the property or becoming a nuisance to neighboring properties, as determined by the Department of Transportation and Environmental Services.
The applicant shall not dispose of material by venting material into the atmosphere.

(3) Chapter 1, section 105.1 is amended by deleting and substituting the following:

105.1 Fire Official. The provisions of the Virginia Statewide Fire Prevention Code and this article shall be enforced by the director of code enforcement as the fire official, ~~chief fire marshal, deputy fire marshals~~ and any other person authorized by the fire official or fire chief to conduct inspections under the Virginia Statewide Fire Prevention Code or this article.

(4) Chapter 1, section 107.1 is deleted and substitute the following:

107.1 Notice. It shall be unlawful to engage in any business activity involving the handling, storage or use of hazardous materials, substances or devices; or to maintain, store or handle materials; or to conduct processes producing conditions hazardous to life or property; or to install equipment utilized in connection with such activities; or to establish an assembly occupancy without first notifying the director of code enforcement.

(5) Chapter 1, Table F-108.2 is deleted. Chapter 1, Table 107.2 replaces Table F-108.2 and is amended by adding the following quantities, approvals and fees:

~~Table F-108.2 PERMIT REQUIREMENTS~~

~~Section~~	~~Description~~	~~Permit Fee~~
~~F-402.3~~	~~Candles-assembly/educational occupancies~~	~~$88.50~~
~~F-403.4~~	~~Open burning, bonfire~~	~~$88.50~~
	~~charitable organizations~~	~~$10.00~~
~~F404.2~~	~~Use of torch to remove paint, sweat pipe or apply roofing material~~	~~$88.50~~
~~F-601.4~~	~~Assembly/educational occupancies or other such occupancies used for other than solely religious purposes:~~	
	~~occupancy less than 50 persons~~	~~$50.00~~
	~~occupancy 50 to 100 persons~~	~~$100.00~~
	~~occupancy over 100 persons~~	~~$250.00~~
~~F-801.2~~	~~Airports, heliports and helistops~~	~~$88.50~~
~~F-901.2~~	~~Use of flammable liquids to resurface bowling lanes~~	~~$88.50~~
~~F-1001.2~~	~~Crop ripening and coloring processes~~	~~$88.50~~
~~F-1101.2~~	~~Dry cleaning~~	~~$88.50~~
~~F-1201.2~~	~~Dust explosion hazards~~	~~$88.50~~

F-1301.2	Application of flammable finishes	$100.00
F-1401.2	Insecticidal Fumigation	$100.00
F-1501.2	HPM facilities	$100.00
F-1601.2	Lumber yard or woodworking plant	$88.50
F-1701.2	Bulk storage of matches	$88.50
F-1801.2	Oil/gas wells	$100.00
F-1901.2	Organic coatings	$88.50
F-2001.2	Tents/air supported structures	$88.50
F-2102.1	Wrecking yard, junk yard or waste material handling	$88.50
F2103.1	Storage of combustible materials, etc.	$88.50
F-2201.2	Welding or cutting	$88.50
F-2205.2	Storage of welding cylinders	$88.50
F-2207.1	Calcium carbide	$88.50
F2208.1	Acetylene generators	$88.50
F-2208.7	Acetylene cylinder storage	$88.50
F-2301.2	Hazardous materials	$100.00
F-2401.2	Aerosol products	$88.50
F-2501.2	Cellulose nitrate plastics	$88.50
F-2601.2	Combustible fibers	$88.50
F-2701.2	Compressed gases	$88.50
F-2801.2	Corrosives	$88.50
F-2901.2	Cryogenic liquids	$88.50
F-3001.2.1	Blasting/explosives, storage	$88.50
F-3001.2.2	Blasting/explosives, transportation (each vehicle)	$88.50
F-3001.2.3	Blasting/explosives, use (each site)	$88.50
F-3101.2	Fireworks display	$100.00
F-3201.2.1	Install, remove, repair or alter any stationary tank	$88.50
F-3201.2.2	Storage and use of flammable liquids	$88.50
F-3201.2.3	Storage and use of combustible liquids	$88.50
F-3201.2.6	Placing a tank temporarily/permanently out of service	$88.50
F-3201.2.7	Utilizing any portion of a structure for servicing or repairing a motor vehicle	$88.50
F-3301.2	Flammable solids	$88.50
F-3401.2	Highly toxic solids and liquids	$88.50
F-3501.2	Irritants, sensitizers and other health hazards	$88.50
F-3601.2	Liquefied petroleum gases	$88.50
F-3701.2	Organic peroxides	$88.50

~~F-3801.2~~	~~Liquid and solid oxidizers~~		~~$88.50~~
~~F-3901.2~~	~~Pesticides~~		~~$88.50~~
~~F-4001.2~~	~~Pyrophoric materials~~		~~$88.50~~
~~F-4101.2~~	~~Radioactive materials~~		~~$100.00~~
~~F-4201.2~~	~~Unstable (reactive) materials~~		~~$88.50~~
~~F-4301.2~~	~~Water reactive materials~~		~~$88.50~~

Table 107.2 Operational Permit Requirements

Description (Permit thresholds stated in SFPC Table 107.2)	Permit Required	Code Section	Permit Fee
Aerosol products. Aggregate quantity of Level 2 or Level 3 aerosol products in excess of 500 pounds (227 kg) net weight when manufacturing, storing or handling.	Yes	2801.2	88.50
Amusement buildings.	Yes	403.1.3	88.50
Aviation facilities.	Yes	1101.3	88.50
Carnivals and fairs.	Yes	403.1.2	88.50
Battery systems. Stationary lead-acid battery systems having a liquid capacity of more than 50 gallons (189 L).	Yes	608.1.2	88.50
Cellulose nitrate film. Storage, handling, or use in any assembly or educational occupancy (Group A and E).	Yes	306.2.1	88.50
Combustible dust-producing operations.	Yes	1301.2	88.50
Combustible fibers. Storage and handling of combustible fibers in quantities greater than 100 cubic feet (2.8 m²) Exception: Not required for agricultural storage.	Yes	2901.3	88.50

Compressed gas. Storage, use, or handling at normal temperature and pressure (NTP) of compressed gases in excess of the amounts listed below. Exception: Vehicles equipped for and using compressed gas as a fuel for propelling the vehicle.	Yes	3001.2	88.50

PERMIT AMOUNTS FOR COMPRESSED GASES

TYPE OF GAS	AMOUNT (CUBIC FEET AT NTP)
Corrosive	200
Flammable (except cryogenic fluids and liquefied petroleum gases)	200
Highly toxic	Any amount
Inert, simple asphyxiant and non-flammable gases	6000
Oxidizing (including oxygen)	504
Toxic	Any amount

For SI: 1 cubic foot = 0.02832 m^3

Covered mall buildings.	Yes	408.11.4	500.00
Corrosives. Storage, use, handling	Yes	3101.2	88.50
Gases	200 cubic feet at (NTP)		
Liquids	55 gallons		
Solids	1000 pounds		

Cryogenic fluids. Produce, store, transport on site, use, handle or dispense	Yes	3201.2	88.50

Type	Inside Building (gal)	Outside Building (gal)
Flammable	more than 1	60
Inert	60	500
Oxidizing (includes oxygen)	10	50
Physical or health hazard not indicated above	Any Amount	Any Amount

Exception: Vehicles equipped for and using cryogenic fluids as a fuel for propelling the vehicle or for refrigerating the lading.

Cutting and welding.	Yes	2601.2	88.50
Dry cleaning plants.	Yes	1201.2	88.50
Exhibits and trade shows.	Yes	403.1.3	88.50
Explosives. An operational permit is required for the manufacture, possession, storage, handling, sale or other disposition, transportation, or use of any quantity of explosive, explosive material, fireworks, or pyrotechnic special effects within the scope of Chapter 33, or to operate a terminal for handling explosive materials, or to deliver or receive delivery of explosives or explosive materials from a carrier between sunset and sunrise.	Yes	3301.2	100.00
Explosive Vehicle Inspection – (Valid for 6 months only)			
Emergency Vehicle Access Roadway.	Yes	503.1.1	88.50
Fire hydrants and valves. Operate or use any fire hydrants or valves used for fire suppression service.	Yes	508.4	88.50

Flammable and combustible liquids.	Yes	3401.4	88.50

1. To use or operate a pipeline for the transportation with facilities or flammable or combustible liquids. This requirement shall not apply to the offsite transportation in pipelines regulated by the Department of transportation (DOTn) (see Section 3503.6).
2. To store, handle or use of Class 1 liquids in excess of 5 gallons (19L) in a building or in excess of 10 gallons (37.9L) outside of a building, except that a permit is not required for the following:
   a. The storage or use of Class 1 liquids in the fuel tanks of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant, unless such storage, in the opinion of the fire official, would cause an unsafe condition.

Flammable and combustible liquids (cont.)	Yes	3401.4	88.50

b. The storage or use of paints, oils, varnishes or similar flammable mixtures when such liquids are stored for maintenance, painting, or similar purposes for a period of not more than 30 days.

3. To store, handle or use Class II or Class IIIA liquids in excess of 25 gallons (95L) in a building or in excess of 60 gallons (227L) outside a building, except for fuel oil used in connection with oil-burning equipment.

4. To remove Class I or Class II liquids form an underground storage tank used for fueling motor vehicles by means other than the approved, stationary on-site pumps normally used for dispensing purposes.

5. To operate tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.

6. To install, alter, remove, abandon, place temporarily out of service (for more than 90 days) or otherwise dispose of an underground, protected above-ground or above-ground flammable or combustible liquid tank.

7. To change the type of contents stored in a flammable or combustible liquid tank to a material which poses a greater hazard that for which the tank was designed and constructed.

Flammable Gases.	Yes	3501.2	88.50
Flammable Solids.	Yes	3601.2	88.50
Floor finishing. Using Class I or Class II liquids exceeding 350 square feet (33 m^2).	Yes	1510.1.2	88.50
Fruit and crop ripening.	Yes	1601.2	88.50
Fumigation and thermal insecticidal fogging.	Yes	1701.2	100.00

FOR HAZARDOUS MATERIALS Yes 2701.4 88.50

TYPE OF MATERIAL	AMOUNT
Combustible liquids	See flammable and combustible liquids
Corrosive material	
Gases	See compressed gases
Liquids	55 gallons
Solids	1000 pounds
Explosive materials	See explosives
Flammable materials	
Gases	See compressed gases
Liquids	See flammable and combustible liquids
Solids	100 pounds
Highly Toxic materials	
Gases	See compressed gases
Liquids	See flammable and combustible liquids
Solids	100 pounds
Oxidizing materials	
Gases	See compressed gases
Liquids	
Class 4	Any amount
Class 3	1 gallon
Class 2	10 gallons
Class 1	55 gallons
Solids	
Class 4	Any amount
Class 3	10 gallons
Class 2	100 gallons
Class 1	500 gallons
Organic peroxides	
Liquids	
Class I	Any amount
Class II	Any amount
Class III	1 gallon
Class IV	2 gallons
Class V	No permit required
Solids	
Class I	Any amount
Class II	Any amount
Class III	10 pounds
Class IV	20 pounds
Class V	No permit required

	Yes	2701.4	88.50

Hazardous materials – continued

PERMIT AMOUNTS FOR HAZARDOUS MATERIALS

TYPE OF MATERIAL	AMOUNT
Pyrophoric materials	
Gases	See compressed gases
Liquids	Any amount
Solids	Any amount
Toxic materials	
Gases	See compressed gases
Liquids	10 gallons
Solids	100 pounds
Unstable (reactive) materials	
Liquids	
Class 4	Any amount
Class 3	Any amount
Class 2	5 gallons
Class 1	10 gallons
Solids	
Class 4	Any amount
Class 3	Any amount
Class 2	50 pounds
Class 1	100 pounds
Water-reactive materials	
Liquids	
Class 3	Any amount
Class 2	5 gallons
Class 1	55 gallons
Solids	
Class 3	Any amount
Class 2	50 pounds
Class 1	500 pounds

For SI: 1 gallon = 3.785 L, 1 pound = 0.454 kg.

Highly Toxic Materials.	Yes	3701.2	88.50
High-piled storage. Use a building or portion exceeding 500 square feet (46 m²).	Yes	2301.2	100.00
Hot work operations.	Yes	303.9	88.50
Indoor display of vehicles or equipment.	Yes	314.4.1	88.50
Industrial ovens.	Yes	2101.2	88.50
Lumber yards and woodworking plants. Storage or processing exceeding 100,000 board feet (8,333 ft³) (236m³).	Yes	1901.2	88.50
Liquid or gas fueled vehicles in assembly buildings.	Yes	3803.2.2.1	88.50
LP Gas. Storage and use inside or outside of any building Exception: 1. Individual containers with 500 gallons (1893L) water capacity or less serving occupancies in Use Group R-3.	Yes	3801.2	88.50
2. Operation of cargo tankers that transport LP–gas.			
Magnesium. Melt, cast, heat, heat treat or grind more than 10 pounds (4.54 kg).	Yes	3606.1.2	88.50
Miscellaneous combustible storage. – store in any building or upon any premises in excess of 2,500 cubic feet (71m³) gross volume of combustible empty packing cases, boxes, barrels or similar containers, rubber tires, rubber cork or similar combustible material.	Yes	315.1.2	88.50
Open burning.	Yes	307.2	88.50
Open burning charitable organizations.	Yes	307.2	10.00
Open flames, ~~and~~ candles and heat producing appliances or torches for removing paint.	Yes	308.1.1	88.50
Organic coatings. Manufacturing operation producing more than 1 gallon (4 L) of an organic coating in one day.	Yes	2001.2	88.50
Organic peroxides.	Yes	3901.2	88.50
Oxidizers.	Yes	4001.2	88.50
Places of assembly/ educational	Yes	403.1.4	
occupancy less than 50 persons	Yes	403.1.4 a	50.00
occupancy 50 to 100 persons	Yes	403.1.4 b	100.00
occupancy over 100 persons	Yes	403.1.4 c	250.00
Private fire hydrants.	Yes	508.5.2.1	88.50
Pyrophoric materials.	Yes	4101.2	88.50
Pyrotechnic special effects material.	Yes	3301.2	100.00
Pyroxylin plastics. Storage and handling of more than 25 pounds (11 kg) of cellulose nitrate (pyroxylin) plastic and for the assembly or manufacture of articles involving pyroxylin plastics.	Yes	4201.2	88.50
Refrigeration equipment.	Yes	606.1.2	88.50
Repair garages and service stations.	Yes	2201.2	88.50
Rooftop heliports.	Yes	1107.1	88.50
Semiconductor Fabrication Facilities – HPM Facilities.	Yes	1801.5	250.00

Special Outdoor Assembly and Events.	Yes	403.1.2	250.00
Spraying and dipping.	Yes	1501.2	100.00
Storage of scrap tires and tire byproducts. Establish, conduct or maintain storage of scrap tires and tire byproducts exceeding 2,500 cubic feet (71 m^3) of total volume of scrap tires and foe indoor storage of tires and tire byproducts.	Yes	2501.2	100.00
Temporary membrane structures, tents and canopies.	Yes	2401.2	88.50
Tire rebuilding plants.	Yes	2503.1.2	250.00
Unstable (reactive) materials.	Yes	4301.2	88.50
Waste ~~handling~~ material and junk yards.	Yes	316.2	88.50
Water reactive materials. Store chips, hogged material, lumber or plywood in excess of 200 cubic feet (6 m^3).	Yes	4401.2	88.50
Wood products. Store chips, hogged material, lumber or plywood in excess of 200 cubic feet (6 m^3).	Yes	1907.1.1	88.50

(6) Chapter 1, section 107.14 ~~F-107-3~~ is amended by adding the following after the last sentence of the paragraph to read:

The permit fee schedule is shown in Table 107.2 ~~F-108.2~~ **Operational Permit Requirements.**

(7) Chapter 1, section 108.3.1 ~~F-108.5.2~~ is deleted and substitute the following:

108.3.1 ~~F-108.5.2~~ **Period of validity.** ~~Expiration~~ Permits are valid for a period of 12 months from issuance, unless a different period is stated on the permit or the permit is revoked. Notwithstanding the foregoing, multiple permits issued at different times for the same location shall all expire at the same time as the first permit issued for the location. ~~An operational permit shall remain in effect until reissued, renewed or revoked for such a period of time as specified in the permit. Permits are not transferable and any change in occupancy, operation, tenance or ownership shall require that a new permit be issued.~~

(8) Chapter 1, section 108.3.5 ~~F-108.5.1, F-108.5.3, F-108.5.4~~ is amended by adding the following subsections:

108.3.5.1 ~~F-108.5.4~~**Access to permit premises.** Any person or business required by section 107.2 to have a permit(s) on premises shall make the necessary keys, any manufacturer's material safety data sheets related to products regulated by the permit(s), location of the operation subject to permit(s) within the premises, emergency personnel information and other pertinent information relating to the permitted activity available to fire department personnel by use of an approved locking box on the exterior of the building.

108.3.5.2 ~~F-108.5.3~~ **Permit location.** Permits are valid only at the location stated in the permit, and cannot be transferred to a different location or address.

108.3.5.3 ~~F-108.5.4~~ **Permit location - exception.** Permits issued under sections 308.1.1 ~~F-404.2~~ for the use of a heat producing appliance or torch to remove paint or 2601.2 ~~F-2201.2~~ for cutting and welding operations may be used on a citywide basis during the period of validity of the permit. All necessary fire protection equipment required by section 308.4 ~~F-404.1~~ and Chapter 26 of the Virginia Statewide Fire Prevention Code, or other referenced codes or standards, must be in place and ready for use at each location prior to beginning operations covered under these types of permit.

(9) Chapter 1, section 110 ~~F-110.5~~ is amended by adding subsection 110.7 ~~F-110.5.1~~:

110.7 ~~F-110.5.1~~ Imminent danger or threat to human health or safety or to property. If the fire official determines that any violation creates an imminent danger or threat to human health or safety or to property, the fire official may forthwith correct or abate such violation, and request that the city attorney institute appropriate legal proceedings to recover the full cost of such response from the property owner, tenant or other responsible party.

(10) Chapter 2, Section 202 is amended by adding the following definitions:

Overcrowding: See section 1002.1.

Person: Includes a corporation, firm partnership association, organization or any other group acting as a unit, as well as individuals. It shall also include an executor, administrator, trustee, receiver or other representative appointed according to law. Whenever the term "person" appears in any section of this code prescribing a penalty or fine, as to partnerships and associations, the word shall include the partners or members thereof, and as to corporations, shall include the officer, agents or members

thereof, who are responsible for any violation of such section.

(11) Chapter 3, section 301.2 Permits is deleted.

(12) Chapter 3, section 303 is amended by adding the following subsections:

303.9 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

303.9.1 Safety Plan. Where required by the director of code enforcement, a fire safety plan, emergency procedures, and employee training programs for roof installation, repair, and other related operations shall be approved by the director of code enforcement or designee prior to operations.

(13) Chapter 3 subsection 304 is amended by adding the following:

304.1.1 Waste materials. Accumulations of wastepaper, wood, hay, straw, weeds, litter or

combustible or flammable waster, cooking oils or rubbish of any type shall not be permitted to remain on a roof or in any court, yard, vacant lot, alley, parking lot, open space, or beneath a grandstand, bleacher, pier, wharf, manufactured home, recreational vehicle or other similar structure.

(14) Chapter 3 subsection 304 is amended by deleting the following:

304.3 Containers. Combustible rubbish, and waste material ~~kept within a structure~~ shall be stored in accordance with Section 304.3.1 through 304.3.3.

(15) Chapter 3 subsection 304 is amended by adding the following subsections:

304.3.1.1 Container lids. All containers shall be equipped with a self-closing lid unless approved by the Director of Code Enforcement.

304.3.2.1 Secondary containment. All cooking oil containers exceeding 5.33 cubic feet (40 gallons) shall be provided with approved secondary containment.

(16) Chapter 3 subsection 306 is amended by adding the following subsection:

306.2.1 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(17) Chapter 3, Section 307 ~~F-403.1~~ is amended by deleting and adding the following:

307.1 ~~F-403.1~~ **General**. A person shall not cause or allow open burning unless approved in accordance with this code and the air pollution control code (chapter 1 of title 11 of the city code) of the city. No person shall kindle, or authorize to be kindled or maintain any fire in such a manner that it constitutes a danger to public health and safety as determined by the director of code enforcement. ~~A person shall not kindle or maintain or authorize to be kindled or maintained any open burning unless conducted and approved in accordance with this section.~~

307.2 Permit Required. A permit shall be obtained from director of code enforcement ~~code official~~ in accordance with Table 107.2 ~~section 105.6~~ prior to kindling a fire for recognized silvicultural or range or wildlife management practices, prevention or control of disease or pests, or a bonfire. Application for such approval shall only be presented by and permits issued to the owner of the land upon which the fire is to be kindled.

307.2.1 ~~F-403.3~~ **Allowable burning:** Open burning shall be allowed without prior notification to the code official for recreational fires, highway safety flares, fires for the training of fire fighters under the direction of the fire department, smudge pots. ~~**Authorization**. Where required by state or local law or regulations, open burning shall only be permitted with prior approval from state or local air and water quality management authority, provided that all conditions specified in the authorization are followed.~~

(18) Chapter 3, section 308 is amended by adding the following subsection:

308.1.1 Permit Required. A permit shall be obtained from director of code enforcement in accordance with Table 107.2.

(19) Chapter 3, section 308.4 ~~F-404.1~~ is amended by deleting and adding the following text and subsections:

308.4 Torches for removing paint and sweating pipe. Persons utilizing a torch or other flame-producing device for removing paint from a structure shall provide a minimum of one portable fire extinguisher complying with Section 906 and with a minimum 4-A rating, two portable fire extinguishers, each with a minimum 2-A rating, or a water hose connected to the water supply on the premises where such burning is done. The person doing the burning shall remain on the premises 1 hour after the torch or flame-producing device is utilized. ~~F-404.1 General: Any person utilizing a torch or other flame producing device for removing paint, sweating pipe, applying roofing material, or for other such occupational uses, shall provide at least one portable fire extinguisher with a minimum 4-A rating, or tow portable fire extinguishers with a minimum 2-A rating each or a water hose connected to the water supply on the premises where such work is to be done. In all cases, a responsible person shall maintain a fire watch on the premises for at least one hour after the use of the torch or flame producing device~~. This person shall be at least 21 years of age and shall have access to a means of contacting the fire department in an emergency.

308.4.1 ~~F-404.2~~ **Permit required.** ~~Approval~~ A permit ~~Approval~~ shall be obtained from the director of code enforcement ~~code official~~ prior to the utilization of a torch or other flame producing device for removing paint, sweating pipe, applying roofing material, or for other such occupational uses.

(20) Chapter 3, section F-317.0 is deleted.

~~F-317.0 Storage, display or repair~~

(21) Chapter 3, section 314.4 is amended by deleting and adding the following:

314.4 Vehicles and equipment. ~~F-317-1 General~~ It shall be unlawful to store, display or repair in or on a building or structure, or any part thereof, any vehicle, tool or equipment that has a fuel tank containing a flammable or combustible liquid or a liquefied petroleum gas as a source of fuel, unless the building or structure is built and maintained in accordance with the requirements of the Uniform Statewide Building Code, and this code, for such storage, display or repair; provided, that this section shall not apply to single-family dwellings where the storage, display or repair is not conducted as a business. Where indoor display of vehicles is permitted by the fire official, the following safeguards shall be employed: ~~Liquid or gas fueled vehicles, boats or other motor craft shall not be located indoors except as follows.~~

1) Batteries are disconnected.
2) Fuel in fuel tanks does not exceed one-quarter tank or 5 gallons (19L) (whichever is least).
3) Fuel tanks and fill openings are closed and sealed to prevent tampering.
4) Vehicles, boats or other motorcraft equipment are not fueled or defueled with the building.

(22) Chapter 3, section 314 is amended by adding the following subsection:

314.4.1 Permit Required. A permit shall be obtained from director of code enforcement in accordance with Table 107.2.

(23) Chapter 3, section 314.0 ~~F-306.6~~ is amended as adding subsection 314.5.

314.5 ~~F-306.6~~ Storage or display in roofed-over malls: No combustible goods, merchandise or decorations shall be displayed or stored in a roofed-over mall unless approved by the fire official.

(24) Chapter 3, subsection 315.1 is amended by deleting the following:

315.1 General. Storage, use and handling of miscellaneous combustible materials shall be in accordance with this section. ~~A permit shall be obtained in accordance with Section 105.6.~~

(25) Chapter 3, subsection 315.1 is amended by adding the following subsection:

315.1.2 Permit Required. A permit shall be obtained from director of code enforcement in accordance with Table 107.2.

(26) Chapter 3, subsection 315.2.1 ~~F-317.2~~ Ceiling clearance: delete and substitute:

315.2.1 Ceiling clearance. ~~F-317.2 Storage inside a structure.~~ Storage inside any structure shall be maintained in a neat, orderly and safe manner. No storage shall be permitted within 24 inches of the lowest portion of a ceiling, or the supporting structure thereof, or within 18 inches of the deflector plate of a sprinkler head, is so equipped, in any building. In buildings where sprinkler heads are mounted above the supporting structure of the roof, no storage shall be permitted within 18 inches of the supporting structure. ~~Storage shall be maintained 2 feet (610 mm) or more below the ceiling in non-sprinklered areas of buildings or a minimum of 18 inches (457 mm) below sprinkler head deflectors in sprinklered areas of buildings.~~

(27) Chapter 3 is amended by adding a new section 316.0 ~~F-316.0~~:

316.0 ~~F-316.0~~ Waste Materials and Junk Yards ~~Handling readily combustible materials~~

316.1 ~~F-316.1~~ **General**: No person making, using storing, having charge of or having under his control in a building or on any vacant lot, alley, parking lot, open space or property any combustible excelsior, rubbish, sacks, bags, litter, hay, straw or other combustible waste material shall fail, at the close of each day, to remove all such material which is not compactly baled and/or stacked in an orderly manner, from the building or on any vacant lot, alley, parking lot, open space or property or store it in suitable vaults or in metal or metal-lined and covered receptacles or bins. The director of code enforcement ~~fire marshal~~ shall require suitable baling equipment to be installed in stores, apartment buildings, factories and other buildings where accumulations of paper and waste material are not removed at least every second day.

316.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2 for the operation of waste material facilities, junkyards, or any facility where 2500 cubic feet or material is stored.

(28) Chapter 3 section F-317.3 is deleted.

~~F-317.3 Blocked access. In any building or structure where exterior doors are blocked by storage,~~ other use, or otherwise inaccessible or non-usable for fire department access, a permanent durable sign with the work "BLOCKED" shall be securely affixed on the exterior side of each door. The size of the lettering shall be six inch block lettering, of a contrasting color to the door.

(29) Chapter 3 is amended by adding a new section 317.0 ~~F-381.0~~

317.0 ~~F-381.0~~ **Noxious, Flammable or combustible vapors.**

317.1 ~~F-381.1~~ **General.** This section shall apply to any process or operation which produces flammable, combustible or noxious fumes or vapors, other than during the regular course of processes or operations normally conducted at the premises.

317.2 ~~F-381.2~~ **Ventilation.** All such processes or operations shall have sufficient natural or supplied ventilation to prevent the migration of such fumes or vapors within the structure. Such processes or operations shall be conducted at times when the building has the fewest number of occupants.

317.3 ~~F-381.3~~ **Ignition sources**. No such process or operation shall be conducted prior to assuring that all potential ignition sources have been identified and extinguished.

317.4 ~~F-318.4~~ **Alarm and sprinkler systems**. If the potential exists to activate an alarm system by conducting such a process or operation, the alarm system shall be disabled and a fire watch in accordance with Appendix B, "Requirements for a Fire Watch" shall be maintained by a person other than the person conducting the process or operation. The person maintaining the fire watch shall have the capability of contacting the fire department without having to reactivate the alarm system. No disabling of the alarm system shall be permitted, without prior notification to the fire department communications division. Any protective measures taken to protect either the fire alarm or sprinkler systems at the premises, such as covering detectors or taping sprinkler head, shall be reported to the

communication section of the fire department, prior to such measures being taken. At the completion of the process or operation, all such systems shall be fully restored to function, and the fire department shall be so notified.

317.5 ~~F-318.5~~ **Fire department notification**. Any person conducting such process or operation shall notify the fire department communications division of the time, date and place at which such process or operation will be conducted, at least 24 hours prior to commencement. Such notice is required even if a permit has previously been obtained for the process or operation.

317.6 ~~F-318.6~~ **Occupant notification**. The owner, tenant, property manager or other person responsible for causing such process or operation to be conducted shall give reasonable notice to occupants of the premises of the type of process, date and time of occurrence, and of the potential for the production of flammable, combustible or noxious fumes or vapors.

(30) Chapter 4, section 403 is amended by adding the following subsections:

403.1.2 Permits. A permit shall be obtained from director of code enforcement for special outdoor assembly events, carnivals and fairs in accordance with Table 107.2.

403.1.2.1 Safety plan. A safety plan outlining the event shall be submitted to the director of code enforcement 30 days prior to event start date. The safety plan shall include a site map identifying locations of fire lanes, apparatus access points, food vendors, amusement rides, tents hazardous materials, hydrants, citizens assembly points and emergency evacuation shelters.

403.1.2.2 Emergency coordinators. The event coordinator shall provide the director of code enforcement with on-site and emergency contact telephone numbers for at least five event coordinators.

403.1.2.3 Outdoor food handling. All deep fat fryers, woks utilized for deep fat frying or similar cooking devices using hot oil or grease shall be in a mobile unit or trailer with a vented hood and an approved fire suppression system.

403.1.3 Permits. A permit shall be obtained from director of code enforcement for all indoor exhibits, tradeshows, and special amusement events in accordance with Table 107.2.

403.1.4 Permits. A permit shall be obtained from director of code enforcement for the utilization of a space or structure for the purposes of assembly in accordance with Table 107.2.

(31) Chapter 6 section F - 610.5 of the City fire code is deleted.

(32) Chapter 4, Section 404 is amended by adding and editing the following subsection:

404.2.1 ~~F-703.5~~ **Fire evacuation plans.** Fire evacuation plans for all educational occupancies shall be submitted to the fire official for review and approval ~~Submission shall be made~~ at least 30 days prior to the start of each school session, unless otherwise approved by the fire official.

(33) Table 405.2 is amended and a new footnote is added as follows:

Table 405.2
FIRE AND EVACUATION DRILL
FREQUENCY AND PARTICIPATION

GROUP OR OCCUPANCY	FREQUENCY	PARTICIPATION
Group A	Quarterly	Employees
Group E	Monthly[a]	All occupants[c]
Group I	Quarterly on each shift	Employees[b]
Group R-1	Quarterly on each shift	Employees
Group R-4	Quarterly on each shift	Employees

[a.] The frequency shall be permitted to be modified in accordance with Section 408.3.2.
[b.] Fire and evacuation drills in residential care assisted living facilities shall include complete evacuation of the premises in accordance with Section 408.10.5. Where occupants receive habilitation or rehabilitation training, fire prevention and fire safety practices shall be included as part of the training program.
[c.] ~~F-703.4 Exception~~. In those buildings equipped with "areas of rescue assistance" evacuation to such areas by persons designated to use such areas, shall be deemed to comply with the requirements of this section.

(34) Chapter 4 section 408.11 is amended as follows:

408.11 Covered mall buildings. Covered mall buildings shall comply with the provisions of Sections 408.11.1 through 408.11.4 ~~408.11.3~~

(35) Chapter 4 section 408.11 is amended by adding the following subsection:

408.11.4 Permit Required. A permit shall be obtained from director of code enforcement in accordance with Table 107.2.

(36) Chapter 5 section 501.2 Permits is deleted.

(37) Chapter 5 section 501.4 is reinstated and amended as follows:

501.4 Timing of installation: Fire apparatus access roads and water supply for fire protection shall be installed and maintained in accordance with Appendix A "Water and Fire Requirements for New Construction," prior to, and during construction, except when alternative methods of protection are approved by the Director of Code Enforcement. ~~When fire apparatus access roads or a water supply for fire protection is required to be installed and made serviceable prior to and during the time of construction except when approved alternate methods of protection are provided.~~Temporary street signs shall be shall be installed at each intersection when construction of new roadways allows passage of vehicles in accordance with Section 505.2.

(38) Chapter 5 section 503 is amended by deleting and substituting the following:
503.1 Emergency access roadways. ~~Where required~~. Emergency vehicle access shall be installed and maintained in accordance with this section and Appendix A "Water and Fire Requirements for New Construction." ~~Fire apparatus access roads shall be approved and maintained in accordance sith sections 503.1.1 through 503.1.3.~~

(39) Chapter 5 section 503.1 Virginia Statewide Fire Prevention Code exceptions 1 and 2 are deleted.

(40) Chapter 5 sections 503.1.1 and 503.1.2 are deleted and the following subsections substituted:

503.1.1 Permit Required. A permit shall be obtained from the director of code enforcement in accordance with Table 107.2.

503.1.2 ~~F-311.1.1~~ **Temporary fire lanes**. The fire official is authorized to designate and identify temporary fire lanes during emergency conditions to ensure access of fire department equipment and personnel.

(41) Chapter 5, section 503.2 through 503.2.7 are deleted and the following subsection substituted:

503.2 ~~F-311.4~~ **Signs and markings**. The property owner or designee shall supply, install and maintain signs and other required markings to designate and identify fire lanes (emergency vehicle easements) as directed by the director of code enforcement ~~fire official.~~ The signs shall identify the starting point, continuation and end point for all fire lanes.

(42) Chapter 5, section 503.3 is deleted and the following subsection substituted:

503.3 ~~F-313.5~~ **Sign specifications.** Fire lane signs shall conform to the following standards, and shall be installed ~~as required by the most recent edition of~~ in accordance with the requirements of Appendix A "Water and Fire Requirements for Site Plans and New Construction" as follows: ~~promulgated by the fire official from time to time:~~
Metal construction, dimensions 12 inches by 18 ~~15~~ inches.

Red letters on a reflective white background, with a three-eights inch red boarder around the entire outer edge of the sign.

Red directional arrows on the sign shall be used to indicate the direction and continuation of the fire lanes.

Lettering size and layout, with uniform spacing between words and centered inside the red boarder, as follows:

NO (2 inches)
PARKING (2 inches)

FIRE (2 ½ inches) ~~(2 inches)~~
LANE (2 ½ inches) ~~(2 inches)~~

(directional arrow) (1 inch x 6 inch solid shaft with solid head 1 ½ inches wide and 2 inches deep)
~~(1 inch)~~

EM. ~~EMERG~~ VEH. EAS. (1 inch)

City of Alex. (½ inch) or approved City Seal

(43) Chapter 5, section 503.4 is amended by adding the following text:

503.4 Obstruction of fire apparatus access roads. Fire apparatus access roads and fire lanes shall not be obstructed in any manner, including the parking vehicles. The minimum widths and clearances established in Section 503.2.1 shall be maintained at all times.

(44) Chapter 5, section 506 is amended by deleting and substituting the following:

506.1 ~~F-504.8~~ Key repository: ~~When required~~. Owners of buildings in which fire alarm or fire suppression systems are installed after June 14, 1997, shall provide a key repository to the satisfaction of the director of code enforcement . This key repository shall be of a type approved by the director of code enforcement
~~fire marshal~~ and shall be located on the exterior of the building, near the main entrance. Keys shall be placed in the repository to allow the fire department access to investigate alarms of fire reported from the building. ~~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 official is authorized to require a key box to be installed in an accessible location. The key box shall be of an approved type and shall contain keys to gain access as required by the code official.~~

(45) Chapter 5, section 508 is amended by deleting and substituting the following:

508.3 Fire flow. Fire flow requirements for buildings or portions of buildings and facilities shall be determined ~~by an approved method~~ in accordance with Appendix A "Water and Fire Requirements for Site Plans and New Construction."

(46) Chapter 5, section 508.5.1 is deleted with the following text substituted:

508.5.1 Where required. Fire hydrants shall be installed as required by Appendix A "Water and Fire Requirements for Site Plans and New Construction."

(47) Chapter 5, section 508.5.1 is amended by adding the following subsection:

508.5.1.2. Permits. Permits shall be obtained from the director of code enforcement in accordance with Table 107.2 for all private fire hydrants to operate or use fire hydrants or valves used for fire suppression service.

Exception: A permit is not required for authorized employees of the City of Alexandria, the Virginia American Water Company or their designees that manage the water system or the fire department to use or operate fire hydrants or valves.

(48) Chapter 5, Section 509, add subsection 509.1 as follows:

509.1.1 ~~F-504.9~~ All buildings that have a fire control room shall equip that room with an operations ~~book~~ manual. The fire official shall review and approve the contents of ~~such book~~ the manual.

(49) Chapter 6, subsection 601.2 is deleted.

(50) Chapter 6, subsection 606 is amended by adding the following subsection:

606.1.2 Permit required. A permit shall be obtained from director of code enforcement in accordance with Table 107.2.

(51) Chapter 6, subsection 608 is amended by adding the following subsection:

608.1.2 Permit required. A permit shall be obtained from director of code enforcement in accordance with Table 107.2.

(52) Chapter 6, subsection 609 is amended by adding the following:

609.8 Service. All commercial kitchen hoods and ductwork shall be cleaned, serviced, and maintained at a minimum of 6-month intervals. A cleaning schedule shall be submitted for review and approval to the director of code enforcement.

(53) Chapter 9, subsection 901.3 is deleted.

(54) Chapter 9 section 901 is amended by deleting and adding the following:

901.6.2 ~~F-501.4.1~~ Test records: ~~Records~~. A completed written record of all tests and inspections required under this chapter shall be maintained on the premises by the owner or occupant responsible for said premises and a copy of any such record shall be provided to the code official after the completion of any test or inspection. Accurate logs shall be maintained, indicating the number, location and type of device tested. Any defect, modification or repair shall be logged, and the log shall be made available to the code official. All records of ~~all~~ system inspections, tests and maintenance required by the referenced standards shall be maintained on the premises for a minimum of 5 ~~1~~ years and made available to the code official upon request.

901.6.3 ~~F-501.4.3~~ Test responsibility and notification: The code official shall not be held responsible for any damages incurred during any test required under the provisions of this chapter. Any test required under the provisions of this chapter shall be performed in the presence of the code official, unless such requirement is waived by the code official. Any such test shall be scheduled at the convenience of the owner or occupant responsible for said premises and the code official.

901.6.4 ~~F-506.1~~ Periodic testing, inspection, and maintenance: ~~Water based extinguishing systems~~. All water-based extinguishing systems including fire sprinkler, water mist, water-spray, and standpipe systems shall be periodically inspected, tested and maintained in accordance with the requirements of NFPA 25 listed in Chapter 45 ~~44~~. Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.5 ~~F-507.1~~ Periodic testing, ~~and~~ inspection, and maintenance: All foam-extinguishing systems shall be maintained, periodically inspected and tested in accordance with NFPA 11, 11A and 16 listed in Chapter 45 ~~44~~.. Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.6 ~~F-508.1~~ Periodic testing, ~~and~~ inspection, and maintenance: All carbon dioxide extinguishing systems shall be maintained, periodically inspected and tested in accordance with NFPA 12 listed in Chapter 45 ~~44~~. and Sections 904.8.1 ~~F-508.2~~ through 904.8.5. ~~F-509.5~~ Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived

by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.7 ~~F-509.1~~ Periodic testing, ~~and~~ inspection, and maintenance: All halogenated extinguishing systems shall be maintained, periodically inspected and tested in accordance with NFPA 12 A listed in Chapter 45 ~~44.~~ and Sections 904.9.1 ~~F-509.2~~ through 904.9.3 ~~F-509.5~~ Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.8 ~~F-510.1~~ Periodic testing, inspection, and maintenance: All clean agent fire extinguishing systems shall be maintained, periodically inspected and tested in accordance with NFPA 2001 listed in Chapter 45 , the system manufacturer's instructions and Sections 904.10.1 through 904.10.3. Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.9 ~~F-511.1~~ Periodic testing, ~~and~~ inspection, and maintenance: All dry-chemical extinguishing systems shall be maintained, periodically inspected and tested in accordance with NFPA 17 listed in Chapter 45 ~~44.~~ and Sections 904.6.1 ~~F-511.2~~ and 904.6.2 ~~F-511.3~~ Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.10 ~~F-512.1~~ Periodic testing, inspection, and maintenance: All wet-chemical extinguishing systems shall be maintained, periodically inspected and tested in accordance with NFPA 17A listed in Chapter 45 and Sections 904.5.1 ~~F-512.2~~ and 904.5.2 ~~F-512.3~~ Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.11 ~~F-513.1~~ Periodic testing, ~~and~~ inspection, and maintenance: All fire detection and alarm systems shall be maintained, periodically inspected and testing in accordance with NFPA 72 listed in Chapter 45 ~~44~~ and Sections 907.20.1 ~~F-513.2~~ and 907.20.5~~.F-513.3~~ Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.12 ~~F-514.1~~ Periodic testing, ~~and~~ inspection, and maintenance: Emergency alarms in buildings, rooms or areas used for the storage of hazardous materials shall be shall be maintained, periodically inspected and tested. Test methods and frequency shall be in accordance with NFPA 72 listed in Chapter 45. Any required inspections and tests shall be performed in the presence of the code official,

unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau. ~~All automatic fire detection systems shall be maintained, periodically inspected an tested in accordance with NFPA 72 listed in Chapter 44 and Sections F-514.2 through F-514.10. Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the code enforcement bureau.~~

901.6.13 ~~F-516.6~~ Periodic testing, inspection, and maintenance: ~~Inspection, testing and maintenance:~~ All fire pumps shall be inspected, tested and maintained in accordance with NFPA 25 listed in Chapter 45 ~~44~~. Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.14 ~~F-517.3~~ Periodic testing, inspection, and maintenance: ~~Inspection, testing and maintenance~~ Water tanks and fire ~~water~~ service mains shall be periodically inspected, tested and maintained in accordance with NFPA 25 listed in Chapter 45 ~~44~~. Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.15 ~~F-518.2~~ Periodic testing, inspection, and maintenance: ~~Inspection, testing and maintenance~~ All fire department connections shall be periodically inspected, tested and maintained in accordance with NFPA 25 listed in Chapter 45 ~~44~~. Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

(55) Chapter 9 section 901.7 is amended by adding the following text after the first sentence of the first paragraph:

901.7 Systems out of Service. Fire watches shall be established and operate in accordance with Appendix B, "Requirements for a Fire Watch".

(56) Delete sections F-504.6 and F-504.7 of the City fire code.

~~F-504.6 Fire watch: A fire watch shall be established whenever any fire protection system is unable to provide the protection for which it was designed. This fire watch shall be maintained until the system has been restored to normal operation. A written log of the fire watch shall be maintained for inspection by the fire marshal. Such log shall indicate the name and address of the person maintaining the watch, and describe the person activities during the watch. All areas subject to the watch shall be checked at 15 minute intervals.~~

~~F-504.7 Tampering: It shall be unlawful for any person to tamper with, damage, destroy or use without just cause or authorization any fire protection system or fire extinguisher installed in any building or structure within the city.~~

(57) Chapter 9, Section 903.5 is amended by adding the following text and subsections:

903.5 Testing and maintenance: Sprinkler systems shall be tested and maintained in accordance with this Section and Section 901.

903.5.1 Flow test. All systems shall be tested at the test pipe to determine that the water-flow detecting devices, including the associated alarm circuits, are in proper working order. Dry pipe systems shall deliver water to the inspector's test pipe in not more than 60 seconds.

903.5.2 Air test . Before the water supply for a dry pipe system is turned on and the system is placed into service, the system shall be tested with air pressure of at least 40 psi (276 k Pa) and be allowed to stand 24 hours with a maximum pressure loss of 1 ½ psi (10.34 k Pa). To prevent damaging the valve, the clapper valve of a differential-type dry pipe valve shall be held off the seat during any test at a pressure in excess of 50 psi (344.75 k Pa). Automatic air pressure maintenance devices shall be capable of restoring normal operating pressure to the system within 30 minutes, except for low-differential dry pipe systems where the maximum recovery time shall be 60 minutes.

(58) Chapter 10, section 1002.1 is amended by adding the following definition:

Overcrowding: A condition in which the number of occupants exceeds the total number of approved persons permitted to occupy a structure at any one time.

(59) Chapter 10, section 1003.3.1.8.4, exception 3 is deleted.

~~3. In stairways serving not more that four stories, doors are permitted to be locked from the side opposite the egress side, provided they are openable from the egress side.~~

(60) Chapter 10, section 1008 is amended by adding the following subsection:

1008.15 Accountability. A person responsible for controlling the occupancy capacity shall develop a system to manage the occupancy capacity for approval by the director of code enforcement. This system shall be implemented outside the main entrance and consist of a mechanism to count persons as they enter a facility without restricting egress.

(61) Chapter 10, section 1011 is amended by adding the following subsections:

1011.5 Overcrowding: A person shall not permit overcrowding or admittance of any person beyond the approved occupant load. The code official, upon finding overcrowded conditions or obstruction in aisles, passageways, or other means of egress, or upon finding any condition which constitutes a

hazard to life and safety, shall cause the occupancy, performance, presentation, spectacle or entertainment to be stopped until such a condition or obstruction is corrected and the addition of any further occupants prohibited until the approved occupant load is reestablished.

1011.6 Operator responsibility: The operator or the person responsible for the operation of an assembly or educational occupancy shall check egress facilities before such building is occupied to determine compliance with this section. If such inspection reveals that any element of the required means of egress cannot be accessed, is obstructed, locked, fastened or otherwise unsuited for immediate utilization, admittance to the building shall not be permitted until necessary corrective action has been completed.

(62) Chapter 11, subsection 1101 is amended as follows:

1101.3 **Permits.** ~~**For**~~ Permits to operate aircraft-refueling vehicles, application of flammable or combustible finishes, and hot works shall be obtained from director of code enforcement in accordance with Table 107.2.

(63) Chapter 11 subsection 1107 is amended by adding the following subsection:

1107.1.1 **Permits.** **P**ermits shall be obtained from director of code enforcement in accordance with Table 107.2.

(64) Chapter 12 subsection 1201 is amended by adding the following subsections:

1201.2 **Permits.** Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(65) Chapter 13 subsection 1301 is amended by adding the following subsections:

1301.2 **Permits.** Permits shall be ~~required as set forth in Section 105.6~~ obtained from Director of Code Enforcement in accordance with Table 107.2.

(66) Chapter 15, section 1501 is amended to read:

1501.1 4. Floor surfacing or finishing operations. ~~in areas exceeding 350 square feet (32.5m2).~~

1501.1 5. The application of dual-component coatings or Class I or II liquids when applied by brush or roller. in quantities exceeding 1 gallon (4L).

(67) Chapter 15, section 1501 is amended by adding the following subsection:

1501.2 Permits. Permits ~~F-1302.2 Permit required~~. Permits ~~approval~~ shall be obtained from the director of code enforcement ~~fire marshal~~ in accordance with Table 107.2 for spraying, dipping, and exterior spraying operations included within the scope of this chapter and Appendix F "Requirements

for Exterior Spray Painting Operations" utilizing any amount of flammable or combustible liquids on any working day. ~~required as set forth in Section 105.6. and 105.7.~~

(68) Chapter 15 subsection 1510 add the following subsection:

1510.1.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(69) Chapter 16 subsection 1601 is amended as follows:

1601.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(70) Chapter 17 subsection 1701 is amended as follows:

1701.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2

(71) Chapter 18 subsection 1801 is amended as follows:

1801.5 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(72) Chapter 19 subsection 1901 is amended as follows:

1901.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(73) Chapter 19 subsection 1907 is amended by adding the following:

1907.1.1 Permits. Permits shall be obtained from the director of code enforcement in accordance with Table 107.2.

(74) Chapter 20 subsection 2001 is amended as follows:

2001.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(75) Chapter 21 subsection 2101 is amended as follows:

2101.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from Director of Code Enforcement in accordance with Table 107.2.

(76) Chapter 22 subsection 2201 is amended as follows:

2201.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from Director of Code Enforcement in accordance with Table 107.2.

(77) Chapter 22, subsection 2204.3.1 is amended to read as follows:

2204.3.1 General. Where approved, unattended self-service stations are allowed where the public does not have access. As a condition of approval, the owner or operator shall provide and be accountable for, daily site visits, regular equipment inspection and maintenance.

(78) Chapter 22, subsection 2206.2.3 is amended by deleting and adding the following:

2206.2.3 Above-ground tanks located outside, above grade. Above-ground tanks shall not be used for the storage of Class I, II or IIIA liquids motors fuels except where the public does not have access, and as provided by this section.

(1) Above-ground tanks used for outside, above-grade storage of ~~Class 1~~ liquid motor fuels shall be listed and labeled as protected above-ground tanks and be in accordance Chapter 34. Such tanks shall be located in accordance with Table 2206.2.3.

~~(2) Above ground tanks use for outside, above grade storage of Class II and IIIA shall be listed and labeled as protected above ground tanks and be in accordance with Chapter 34. Such tanks shall be located in accordance with Table 2206.2.3.~~

(2)~~(3)~~ Above-ground tanks used for above-grade storage of Class II or IIIA liquids shall be protected above-ground tanks that comply with Chapter 34. Tank locations shall be in accordance with Table 2206.2.3. Tanks containing motor fuels shall not exceed 6,000 gallons) in individual capacity or 18,000 gallons in aggregate capacity. Installations shall be separated from other such installations by not less than 100 feet (30 480 mm)

(3)~~(4)~~ Tanks located at farms, construction projects, or rural areas shall comply with Section 3406.2.

(79) Chapter 23 subsection 2301 is amended as follows:

2301.2 **Permits.** Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(80) Chapter 24 subsection 2401 is amended as follows:

2401.2 **Permits.** ~~Approval Required~~ Tents and membrane structures having an area in excess of 200 square feet (19 m^2) and canopies in excess of 400 square feet (37 m^2) shall not be erected, operated

or maintained for any purpose without first obtaining a permit ~~and approval from the code official~~ from director of code enforcement in accordance with Table 107.2.

(81) Chapter 24 subsection 2401.4 is deleted.

(82) Chapter 24 subsection 2401 is amended by adding the following subsection:

2401.8 ~~F-2001-2.2~~ **Certification.** An affidavit or affirmation shall be submitted to the fire official and a copy retained on the premises at which the tent or air supported structure is located, attesting to the following relative to the flame resistance of the fabric:

1. The name and addresses of the owners of the tent or air supported structure;
2. Date the fabric was last treated with flame resistant solution;
3. Trade name or kind of chemical used in treatment;
4. The name of the person or firm treating the material, and
5. Name of the testing agency and test standard by which the fabric was tested.

(83) Chapter 25 subsection 2501 is amended as follows:

2501.2 **Permits.** ~~required~~ Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(84) Chapter 25 subsection 2503 is amended by adding subsection 2503.1.2 as follows:

2503.1.2 **Permits.** Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(85) Chapter 26 subsection 2601 is amended as follows:

2601.2 **Permits.** Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2

(86) Chapter 27, section 2701.1 is amended as follows:

2701.1 ~~F-2301.1~~ Exceptions 1, 4, ~~5, 6,~~ and 8 ~~and~~ 9 are deleted.

(87) Chapter 27 subsection 2701.4 is amended by deleting and adding the following in the first sentence:

2701.4 **Permits.** Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(88) Chapter 23, section F-2307.3 of the city fire code is deleted.

~~F-2307.3 Storage and retail display of any hazardous materials. The storage and display of all hazardous materials regulated by Chapters 24 through 44 of the Virginia Uniform Statewide Fire Prevention Code shall comply with the following requirements.~~

(89) Chapter 28, subsection 2801 is amended as follows:

2801. 2 Permits. ~~required.~~ Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(90) Chapter 29 subsection 2901 is amended as follows:

2901.3 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(91) Chapter 30 subsection 3001 is amended as follows:

3001.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(92) Chapter 31 subsection 3101 is amended as follows:

3101.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(93) Chapter 32 subsection 3201 is amended as follows:

3201.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(94) Chapter 33, Section 3301.1 is deleted and replaced with the following:

3301.1 ~~F-3001.1~~ Scope. The equipment, processes and operations involving the manufacture, possession, storage sale, use, maintenance and transportation of explosive materials shall comply with the requirements of this code, NFPA 495 and DOTn 49CFR listed in Chapter 45~~44~~ of this code ~~except that the year edition of NFPA 495 referenced shall be 1996.~~

1. The transportation and use of explosives by federal or state military agencies or federal, state or municipal agencies while engaged in normal or emergency performance of duties.

2. The manufacture and distribution of explosives material to, or storage of such materials by military agencies of the United States.
3. The use of explosive materials in medicines and medicinal agents in the forms prescribed by the U. S. Phamacopeia or the National Formulary.
4. Pyrotechnics such as flares, fuses and railway torpedoes.
5. Common fireworks in accordance with this Chapter ~~31~~.
6. The possession, transportation and use of not more than 15 pounds (6.81 kg) of smokeless powder and 1,000 ~~10,000~~ small arms primers for hand loading of small arms ammunition for personal use.
7. The storage, handling transportation or use of explosives or blasting agents pursuant to provisions of Title 45.1 of the Code of Virginia.

(95) Chapter 33 subsection 3301 is amended as follows:

3301.2 ~~F-3001.2~~ **Permits.** ~~required~~ Permits shall be ~~required as set forth in Section 105.6 and regulated in accordance with this section~~ obtained from director of code enforcement in accordance with Table 107.2 for all blasting operations, firework aerial displays, pyrotechnic events before an audience, the transportation, manufacture, possession, use, storage of explosives and fireworks, and the operation of a terminal for handling explosive material and the delivery to or receipt from a carrier at a terminal between sunset and sunrise. ~~The manufacture, possession, storage, sale and use of explosives shall not take place without first applying for and obtaining a permit.~~

~~Approval shall be required for the following conditions or operations:~~
~~1. The manufacture, possession, storage, sale or other dispositions of explosive materials.~~
~~2. The transportation of explosive materials.~~
~~3. the use of explosive materials~~

(96) Chapter 33, Section 3302.1, delete the following:

~~Permissible fireworks: Any sprinklers, fountains, Pharaoh's serpents, caps for pistols, or pinwheels commonly known as whirligigs or spinning jennies.~~

(97) Chapter 33, Section 3302.1, the definition of Fireworks is deleted and replaced with the following:

3302.1 ~~F-3101.2 Definitions:~~"Fireworks" shall mean and include any combustible or explosive composition, or any substance or combination of substances or articles prepared for the purpose of producing a visible or an audible effect by combustion, explosion, chemical reaction, deflagration or detonation and shall include blank cartridges, toy pistols, toy cannons, toy canes or toy guns in which explosives are used, the type of balloons which require fire underneath to propel them, firecrackers, torpedoes, skyrockets, model rockets, Roman candles, Daygo bombs, sparklers, pinwheels, poppers, or other devices containing any explosive or flammable compound, or any tablets or other devices of like construction and any devices containing any explosive; except that the term "fireworks" shall not

include auto flares, paper caps containing not in excess of an average of twenty-five hundredths of a grain of explosive content per cap manufactured in accordance with the DOT regulations for packing and shipping as provided therein, and toy pistols, toy cannons, toy canes, toy guns or other devices for use of the caps, the sale and use of which shall be permitted at all times. Pyrotechnics (special fireworks) shall comply with the applicable provisions of this Chapter ~~31~~.

(98) Chapter 33, Section 3303.2 is amended by adding the following subsection:

3303.2.1 ~~F-3004.2.2~~ Records: Daily records shall be kept of the amount of explosives received from a supplier and the amount delivered to the magazine. A daily record shall be kept of the amount of explosives removed from the magazine for daily use and the amount returned to the magazine. This record will be kept within the magazine so that, on inspection of the magazine, an inventory for all explosives can be made. The inventory shall be separated as to the different types of explosives stored and used. Forms for these records shall be approved by the director of code enforcement.

(99) Chapter 33, Section 3304.5 is amended by adding the following subsection:

3304.5.2.1 ~~F-3004.2.1~~ Type 2 magazines: Type 2 magazines may be used for temporary storage of explosives at the site of blasting operations where the amount constitutes not more than one day's supply for use in current operations. All explosives not used in the day's operation shall be returned to a Type 1 magazine at the end of the work day for overnight storage. In no case shall a Type 2 magazine be used for overnight storage unless approved by the director of code enforcement. Type 2 magazines shall be allowed only in the I/Industrial Zone.

(100) Chapter 33, Section 3306.4 is amended by adding the following:

3306.4.2 Small arms primers and ammunition. No more than 10,000 small arms primers and ammunition shall be stored in occupancies limited to Group R-3.

(101) Chapter 33, Section 3308.1 is deleted and amended by adding the following subsection:

3308.1 ~~F-3101.0~~ **General.** ~~F-3101.1 Scope~~

(a) This chapter shall apply to fireworks as hereinafter defined in 3302.1 ~~F-3101.2~~

(b) Nothing in this chapter shall be construed to prohibit: (i) any resident wholesaler, dealer or jobber to sell at wholesale any fireworks as are not herein prohibited; (ii) the sale of any kind of fireworks, provided they are to be shipped directly out of the state, in accordance with the Department of Transportation (DOT) regulations covering the transportation of explosives and other dangerous articles; (iii) the use of fireworks by railroads or other transportation agencies for signal purposes or illumination; or (iv) the sale or use of blank cartridges for a show or theater or for signal or ceremonial purposes in athletics or sports or for use by military organizations or the police department. Fireworks permitted by this section shall be stored in accordance with this Chapter ~~30~~.

(102) Chapter 33 section 3308 is amended by adding and editing the following subsections:

3308.1.1 ~~F-3101.3~~ Manufacture, sale, possession, and discharge of fireworks:

(b) The manufacture of fireworks is prohibited within the city.

(c) It shall be unlawful for any person to store, offer for sale, expose for sale, sell at retail, use, possess, or explode any fireworks except as otherwise provided in subsections (c) through (f) of subsection 3308.1.2. ~~F-3101.3~~

(d) The director of code enforcement ~~fire marshal~~ shall adopt rules and regulations for the granting of permits for supervised public displays of fireworks. The permits shall be issued upon application to the director of code enforcement ~~fire marshal~~ after the filing of a bond by the applicant as provided in subsection 3308.1.2 ~~F-3101.4~~ Every such display shall be handled by an experienced and competent operator approved by the director of code enforcement ~~fire marshal~~ and shall be of such composition, character and so located, discharged or fired as will, in the opinion of the director of code enforcement ~~fire marshal~~ after proper inspection, not be dangerous or hazardous to any property or person.

(e) Applications for permits shall be made in writing at least 45 ~~30~~ days in advance of the date of the display. After the permit has been granted, sale, possession, use and distribution of fireworks for display purposes shall be lawful for the purpose only. No permit granted hereunder shall be transferable. Applications for permit shall be in accordance with the requirements in Appendix C, "Requirements for Fireworks Displays"

(f) The sale, possession, use and distribution of fireworks for display purposes shall be conducted so as to be safe to persons and property. Evidence that the sale, possession, use and distribution of fireworks for display purposes has been conducted in accordance with the applicable provision of this chapter of the city code and the applicable standards contained in chapter 45 ~~42~~ of the Virginia Statewide Fire Prevention Code shall be evidence that such sale, possession, use and distribution of fireworks for display purposes provides safety to persons and property.

(g) The director of code enforcement ~~fire marshal~~ shall adopt rules and regulations for the use of model rockets. The design, construction and use of model rockets shall be safe to persons and property. Evidence that the design, construction and use of model rockets is in accordance with the ~~current~~ currently adopted edition of NFPA 1122, ~~the~~ "Code for Model Rocketry," published by the National Fire Protection Association, shall be evidence that any design, construction and use provides safety to persons and property.

3308.1.2 ~~F-3101.4~~ Bond and responsibility for fireworks display required:

(a) The director of code enforcement ~~fire marshal~~ shall require a bond from the ~~permittee~~ permit holder in a sum not less than $2,000,000 (Two Million Dollars) conditioned on compliance with the provisions of this chapter.

(b) Before any permit for a pyrotechnic display shall be issued, the person, firm, or corporation making application shall furnish proof of the responsibility, naming the City of Alexandria as co-insured, to satisfy claims for damages to property or personal injuries arising out of any act or omission on the part of the person, firm or corporation or any agent or employee thereof in such amount, character and form as the director of code enforcement ~~fire marshal~~ determines to be necessary for the protection of the public.

3308.1.3 ~~F-3101.5~~ Disposal of unfired fireworks: Any fireworks that remain unfired after the display is concluded shall be immediately disposed of in a manner safe for the particular type of fireworks remaining. Aerial fireworks shall be destroyed in an approved manner prior to removal from mortar tubes.

3308.1.4 ~~F-3101.6~~ Seizure of fireworks: The director of code enforcement or designee shall seize, take remove or cause to be removed at the expense of the owner, all fireworks offered for sale, stored or held in violation of this code. ~~chapter 31.~~

(103) Chapter 33, section 3308.2 is amended by deleting the exception:

~~3308.2 Exception: Permits are not required for the supervised use or display of permissible fireworks on private property with the consent of the owner of such property.~~

(104) Chapter 33, section 3308.11 is amended to read:

3308.11 Retail display and sale. The retail display or sale of fireworks is prohibited. ~~Fireworks displayed for retail sale shall not be readily accessible to the public. A minimum of one pressurized-water portable fire extinguisher complying with Section 906 shall be located not more that 15 feet (4572 mm) and not less than 10 feet (3048 mm) form the hazard. "No Smoking" signs complying with Section 310 shall be conspicuously posted where fireworks are stored or displayed for retail sale.~~

(105) Chapter 33, add section 3309 Transportation ~~F-3005~~ as follows:

3309.1 ~~F-3005.1~~ Prohibited transportation. Explosive materials shall not be carried or transported on a public conveyance or vehicle carrying passengers for hire.

3309.2 ~~F-3005.2~~ Vehicle design. Vehicles transporting explosive materials shall be strong enough to carry the load and shall be in good and safe mechanical condition. The floors shall be tight and have no exposed spark producing surface on the inside of the body. Where explosive materials are transported on a vehicle with an open body, the explosive material shall be stored in a portable magazine or closed container securely fastened to the vehicle body.

3309.3 ~~F-3005.3~~ Vehicle prohibitions. The attachment of a trailer behind a truck, tractor or semi trailer combination for transporting explosive materials is prohibited. The transport of explosive materials in any pole trailer is prohibited.

Exception: Such transport as permitted by DOTn 49CFR listed in Chapter 45 of this code.

3309.4 ~~F-3005.4~~ Vehicle restrictions. Vehicles containing explosive materials shall not be taken into a garage or repair shop for repair or storage.

3309.5 ~~F-3005.5~~ Vehicle contents. Only those dangerous articles authorized to be loaded with explosive materials in accordance with the provisions of this chapter shall be carried in the body of a vehicle transporting explosive materials.

3309.6 ~~F-3005.6~~ Vehicle inspections. The person to whom a permit has been issued to transport explosive materials over the streets and highways of the city shall inspect each vehicle used for such purposes daily, to ensure that:

1. Fire extinguishers are filled and in working order.

2. All electrical wiring is completely protected and securely fashioned to prevent short circuiting.

3. The motor, chassis, oil pan and body undersides are reasonably clean and free of excess grease and oil.

4. Both the fuel tank and fuel line are secure and free from leaks.

5. The brakes, lights windshield wipers, horn and steering mechanism are functioning properly.

6. The tires are properly inflated, have proper tread depth, and are free of defects.

7. The vehicle is otherwise in proper operating condition and acceptable for transporting explosive materials.

8. The operator shall maintain all inspection reports in vehicle at all times.

3309.6.1 ~~F-3005.6.1~~ Vehicles routinely transporting explosive materials within the city shall be inspected by the code official prior to entering the city limits. Inspection shall occur at six month intervals. The code official shall issue a fire prevention permit to all approved vehicles.

3309.7 ~~F-3005.7~~ Vehicle signs. Vehicles transporting any quantity of explosive materials shall display all placards, signs lettering or numbering in accordance with DOTn 49 CFR listed in Chapter 45 ~~44~~.

3309.8 ~~F-3005.8~~ Separation of detonators and explosives. Detonators shall not be transported in the same vehicle with Class A or Class B explosive materials or blasting agents, except as permitted by DOTn 49 CFR listed in Chapter 44.

3309.9 ~~F-3005.9~~ Vehicle traveling clearances. Vehicles transporting explosive materials and traveling in the same direction shall not be driven within 300 feet (91,440 mm) of each other.

3309.10 ~~F-3005.10~~ Vehicle routing. The route followed by vehicles transporting explosive materials shall not pass through congested areas or heavy traffic, except as permitted by the code official. A transportation plan identifying the route of travel shall be submitted to the code official for review and approval.

3309.11 ~~F-3005.11~~ Explosive materials shall not be transported through any vehicular tunnel or subway or over any bridge, roadway or elevated highway through or over which such transport is prohibited.

3309.12 ~~F-3005.12~~ Portable fire extinguishers. Every vehicle transporting explosive materials shall be equipped with portable fire extinguishers capable of being readily accessed, filled and ready for immediate discharge. ~~in accordance with sections F-3005.12.1 and F-3005.12.2.~~

3309.12.1 ~~F-3005.1~~2.1 Small trucks. At least two portable fire extinguishers with a minimum 2-A:10-B:C rating shall be provided on each truck with a gross vehicle weight of less than 14,000 lbs. (6356 kg).

3309.12.2 ~~F-3005.1~~2.2 Large trucks. At least two portable fire extinguishers with a minimum 2-A:40-B:C rating shall be provided on trucks with a gross vehicle weight of 14,000 lbs. (6356 kg) or greater.

3309.13 ~~F-3005.13~~ Operating precautions. No person shall carry matches or any other flame producing device, or carry unauthorized firearms or cartridges while in or near a vehicle transporting or storing explosive materials. No person shall drive, load or unload such a vehicle in a careless or reckless manner.

3309.14 ~~F-3005.14~~ Spark protection. Spark producing metal or tools, oils, matches, firearms, electric storage batteries, flammable materials, acids, oxidizers or corrosives shall not be transported or stored in the body of any vehicle being used to store or transport explosive materials or blasting agents.

3309.15 ~~F-3005.15~~ Unattended vehicles. Vehicles being used to store or transport explosive materials shall not be left unattended at any time within the city. No unauthorized person shall ride or be permitted to ride on any such vehicle.

3309.15.1 Responsibilities. The authorized vehicle attendant shall remain awake and alert at all time.

3309.16 ~~F-3005.16~~ Vehicle parking and transfer. Vehicles being used to transport explosive materials shall not be parked, attended or unattended, on any street or road within the city, or adjacent to or in proximity to any building or structure, including a bridge or tunnel, or other place where persons work, congregate or assemble, prior to reaching the vehicles' destination. Explosive materials shall not be transferred from one vehicle to another except in an emergency and under the supervision of the director of code enforcement ~~fire marshal.~~

3309.16.1 ~~F-30016.1~~ Emergency conditions. In the event a vehicle being used to transport explosive materials breaks down, is involved in an accident or catches on fire, the city police and fire department shall be notified immediately. Only in the event of a breakdown or accident shall explosive materials be transferred from the disabled vehicle to another, and then only by proper and qualified personnel and under the supervision of the director of code enforcement. ~~fire marshal.~~

3308.17 ~~F-3005.17~~ Delivery. Delivery of explosive materials shall only be made to authorized persons and into approved magazines or approved temporary storage or handling areas.

3309.18 ~~F-3005.18~~ Explosive materials at terminals. The code official shall designate the location and specify the maximum quantity of explosive materials which are to be loaded, unloaded, reloaded or stored at any given time at each terminal where such operations are permitted.

3309.19 ~~F-3005.19~~ Carrier responsibility. A carrier shall immediately notify the code official when explosive materials or blasting agents are to be transported within the city.

3309.20 ~~F-3005.20~~ Notice to consignee. A carrier shall immediately notify the consignee of the arrival of explosive materials at the carrier's terminal.

3309.21 ~~F-3005.21~~ Consignee responsibility. Upon notification that a shipment of explosive materials has arrived at a terminal, the consignee shall remove such materials to a storage area complying with the provisions of this chapter. Such removal shall be accomplished within 48 hours after receipt of notice, excluding Saturdays, Sundays and legal holidays.

(106) Chapter 34 subsection 3401 is amended as follows:

3401.4 Permits. Permits shall be ~~required as set forth in Section 105.6 and 105.7~~ obtained from director of code enforcement in accordance with Table 107.2.

(107) Chapter 34 section 3404 is amended by adding the following subsections:

3404.2.7.12 ~~F-3203.12~~ Spill prevention plan: The owner or operator of any storage facility comprised of one or more tanks above or below ground with a total capacity of 5,000 gallons or more shall prepare and maintain on site a plan for product spill prevention, control and countermeasures certified by a professional engineer registered in the Commonwealth of Virginia and approved by the director

of code enforcement. ~~fire marshal.~~ The certification of the professional engineer shall be that the plan is in substantial compliance with the spill prevention, control and countermeasures plan requirements of the Environmental Protection Agency contained in part 112 of title 40, Code of Federal Regulations. A plan that has been approved by the Environmental Protection Agency may be submitted to the director of code enforcement ~~fire marshal.~~ in lieu of one certified by a professional engineer.

3404.2.7.13 ~~F-3203.13~~ Clean-up of spills and leaks: The owner, tenant or other person in control of premises where a spill or leak has occurred shall be responsible for taking immediate and effective countermeasures to contain the spill, clean up the flammable or combustible liquid and dispose of all waste in an approved manner. Upon notification by the city that it has determined that such person lacks the capability or intent to perform these countermeasures, the person notified shall have a reasonable opportunity to elect either to contract with another for the performance of these countermeasures or to join the city in a contract with another for such work. In either case, the person shall pay the entire cost of the work. If a person who has received a notice from the city under this section fails to inform the city of his election within the time specified in the notice, the city may proceed without delay to undertake the required countermeasures, and to charge the owner, tenant or other person in control of the premises the entire cost of such work.

3404.2.7.14 ~~F-3208.12~~ Monitoring wells: Two permanent monitoring wells shall be installed in opposing corners of the tank field on all new installations after the effective date of this regulation. These wells shall extend to a minimum depth of two feet below the bottom of the tanks in the tank field. These wells shall be a minimum of four inches schedule 40 PVC screen pipe or equivalent and shall be flush with covering surface and covered with standard metal cover and gravel packed to prevent clogging. The screened section shall have a minimum size of .025 inch.

3404.2.7.15 ~~F-3208.13~~ Tank closure: All underground storage tanks permanently removed from service shall have a site assessment in accordance with the regulations of the Virginia State Water Control Board. A copy of this Assessment must be submitted to the fire official, and to the Virginia Water Control Board if it so requires. A minimum of three soil samplings should be obtained to complete this assessment. Previously used tanks which are removed from the ground shall not be reinstalled unless the original manufacturer certifies that they are suitable for service. The manufacturers written certification must be kept on file at the facility and be available for inspection by the director of code enforcement ~~fire marshal~~

3404.2.7.16 ~~F-3208.14~~ Product inventory: All buried tanks installed after this regulation is effective shall have provisions for taking direct measurements of readings of content level by the stick method. Liquid levels of storage tanks shall be measured by the operator each day of operation and compared with pump meter readings taken on receipt of the product. These records shall be kept in a log book and be available for reasonable inspection by the director of code enforcement ~~fire marshal~~ and/or his representative. Loss of product above normal evaporation (one-half of one percent of pump meter sales readings) shall be reported immediately to the director of code enforcement. ~~fire marshal~~

Records shall be retained for two years. This period shall be extended upon request of the director of code enforcement.~~fire marshal~~

3404.2.7.17 ~~F-3208.15~~ Special equipment: High liquid level gauges or alarm systems as well as pump cut-off devices shall be installed by the owner or the authorized operator in all oil storage tanks wherever in the judgment of the Director of Code Enforcement there is a possibility that product may be lost by overflowing. Since these emergency devices can fail to operate, their use for spill prevention purposes shall be considered only as auxiliary and supplementary to the use of personnel engaged in a transfer or fill operation.

(108) Chapter 34, section 3406 is amended by adding the following subsection:

3406.6.5 ~~F-3210.3~~ Maintenance: Tank vehicles operating within the city while in transit into or out of the city shall be maintained in accordance with the federal regulations contained in parts 390 through 397 of title 49, Code of Federal Regulations. Part 397.3 of Title 49 requires that all motor vehicles carrying hazardous materials comply with state and local laws, ordinances and regulations, unless the regulations of the U.S. Department of Transportation apply and are more strict. Pursuant to the authority granted in section 18.2-278.4 of the Code of Virginia (1950), as amended, any duly sworn law enforcement officer of the city, including the chief fire marshal, chief deputy fire marshal, and any deputy fire marshals may halt any tank vehicle which is observed to have a condition or characteristic which indicates that there exists a violation of city, state or federal regulations governing the transportation of hazardous materials. The vehicle may be detained long enough to determine whether the permits required for transporting hazardous materials have been obtained, whether the cargo is secure, and whether the observed condition or characteristic presents an immediate threat of a transportation related spill or other catastrophic event. The tank vehicle may resume operation if it is found to be in good repair and free of leaks in accordance with NFPA 385. If that finding is not made, the vehicle shall not be detained any longer than necessary for the officer or official to determine that arrangements for the repair of the vehicle where situated or for its removal to a safe place and repair there, whichever in the judgment of the officer or official is appropriate, are made. Upon refusal of the operator to make arrangements required by the officer or official, the vehicle shall be impounded and held until the repair is made or until the officer or official is certain it will be made. (Ord. No. 4243, 3/16/02, Sec. 1)

(109) Chapter 35 subsection 3501 is amended as follows:

3501.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(110) Chapter 36 subsection 3601 is amended as follows:

3601.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(111) Chapter 36 subsection 3606 is amended by adding the following subsection:

3606.1.2 Permits. Permits shall be obtained from the director of code enforcement in accordance with Table 107.2.

(112) Chapter 37 subsection 3701 is amended as follows:

3701.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(113) Chapter 38 subsection 3801 is amended as follows:

3801.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(114) Chapter 38 subsection 3803 is amended by adding the following subsection:

3803.2.2.1 **Permits.** Permits shall be obtained from director of code enforcement in accordance with Table 107.2 for the storage and operation of industrial vehicles and floor maintenance machines.

(115) Chapter 39 subsection 3901 is amended as follows:

3901.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(116) Chapter 40 subsection 4001 is amended as follows:

4001.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(117) Chapter 41 subsection 4101 is amended as follows:

4101.2. Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(118) Chapter 42 subsection 4201 is amended as follows:

4201.2. Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(119) Chapter 43 subsection 4301 is amended as follows:

4301.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

(120) Chapter 44 subsection 4401 is amended as follows:

4401.2 Permits. Permits shall be ~~required as set forth in Section 105.6~~ obtained from director of code enforcement in accordance with Table 107.2.

Section 2. That this ordinance shall become effective upon the date and at the time of its final passage.

WILLIAM D. EUILLE
Mayor

Introduction: 6/14/05
First Reading:
Publication:
Public Hearing:
Second Reading:
Final Passage:

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ORDINANCE NO. 4411

AN ORDINANCE to amend and reordain Article B (FIRE PREVENTION) of Chapter 2 (FIRE PROTECTION AND PREVENTION), Title 4 (PUBLIC SAFETY), of the Code of the City of Alexandria, Virginia, 1981, as amended.

THE CITY COUNCIL OF ALEXANDRIA HEREBY ORDAINS:

Section 1. That Article B of Chapter 2, Title 4 of the Code of the City of Alexandria, Virginia, 1981, as amended, be, and the same hereby is, amended and reordained to read as follows:

ARTICLE B
Fire Prevention

Sec. 4-2-11 Title.

This article shall be known as the Fire Prevention Code of the City of Alexandria, Virginia.

Sec. 4-2-12 Adoption of Virginia Statewide Fire Prevention Code.

There is hereby adopted and incorporated, as if fully set out in this article, the Virginia Statewide Fire Prevention Code, as promulgated in 2000 and as thereafter amended by the Virginia Board of Housing and Community Development, except such portions of the Virginia Statewide Fire Prevention Code as are deleted, modified or amended by section 4-2-21 of this article.

Sec. 4-2-13 Same – official copy.

One copy of the Virginia Statewide Prevention Code and the ordinances adopted deletions, modifications and/or amendments thereto shall be manually signed on it cover by the mayor and the fire official and shall be filed and kept at all times in the office of the city clerk.

Sec. 4-2-14 Definition of fire official, fire marshal and code official.

Whenever the terms "fire official," "fire marshal" and "code official" are used in this article or the Virginia Statewide Fire Prevention Code, they shall mean the city's director of code enforcement.

Sec. 4-2-15 Duties of the fire marshal and deputy fire marshals.

(a) The director of code enforcement, chief fire marshal, chief deputy fire marshal, all deputy fire marshals, all fire inspectors and other authorized employees of the city shall enforce the applicable provisions of this article.

(b) The city manager shall appoint the chief fire marshal, chief deputy fire marshal and

deputy fire marshals.

(c) The chief of the fire department of the city may designate any members of the fire department as deemed necessary as temporary fire inspectors to make fire safety inspections pursuant to this article.

(d)(1) The chief fire marshal, chief deputy fire marshal and deputy fire marshals shall have the same police powers as a sheriff, police officer or law-enforcement officer, and, in addition to such other duties as may be prescribed by law, shall have the primary responsibility of investigation and prosecution of all offenses involving fires, fire bombings, bombings and attempts to commit such offenses; possession and manufacture of explosive devices, substances and fire bombs; storage, use and transportation of hazardous materials and hazard wastes and the investigation of all releases of hazardous materials and wastes and all other environmental offenses; false alarms relating to such offenses, and may investigate and prosecute all other criminal or civil offenses under local, state or federal law arising out of or during the investigation of the enumerated offenses, and out of or during such other investigations and prosecutions as may be approved by the city manager.

(2) The police powers granted in this section shall not be exercised by the chief fire marshal, chief deputy fire marshal or any deputy fire marshal until such person has satisfactorily completed a course for fire marshals with police powers, designed by the Department of Fire Programs in cooperation with the Department of Criminal Justice Services, and approved by the Virginia Fire Services Board.

(3) The chief fire marshal, chief deputy fire marshal, and deputy fire marshals with police powers shall continue to exercise such powers only upon satisfactory participation in in-service and advanced courses and programs designed by the Department of Fire Programs in cooperation with the Department of Criminal Justice Services, and approved by the Virginia Fire Services Board.

Sec. 4-2-16 Unlawful boarding or tampering with fire department vehicles.

It shall be unlawful for any person, without proper authorization, to cling, attach to, climb upon or board or swing upon any fire department vehicle, whether the vehicle is in motion or at rest, to sound any warning device thereon or to manipulate, tamper with or destroy any lever, valve, switch, starting device, brake, pump or any equipment, protective clothing or tool on or a part of the fire department vehicle.

4-2-17 Tampering with fire protection devices; failure to report, or delaying alarm of fire.

(a) It shall be unlawful for any person to tamper with, damage, destroy, use without just cause or authorization, or hinder the use of any fire alarm system, fire protection system or fire extinguisher installed in any building or structure within the city.

(b) It shall be unlawful for any person knowingly to delay or to cause to be delayed an alarm of fire, or to fail to report an alarm of fire to the fire department.

(c) When a fire or evidence of the occurrence of a fire is discovered, even though it has apparently been extinguished, the person making such discovery shall immediately report the same to the fire department.

Sec. 4-2-17.1 Stairway identification.

An identification system, as approved by the fire official, shall be provided at each landing in all interior exit stairways connecting more than three stories, identifying the floor level, the level of discharge to the exterior of the structure, the mane of designation of the stairway within the structure, and whether there is access to the roof of the structure from the stairway. The identification shall be located five feet (1,525 mm) above the finished floor landing, at a location, which is readily visible within the stairway and will not be obstructed by the operation of any door into the stairway. Stairway identification shall conform to the requirements established in Sec. 4-2-21 Changes in Virginia Statewide Fire Prevention Code, Chapter 1, section 103.3, Appendix D, "Requirements for Stairway Identification."

Sec. 4-2-18 Fire hydrants and water mains.

(a) It shall be unlawful for any person to reset any fire protection system without prior authorization from the director of code enforcement or his designees.

Exceptions:
(1) Fire suppression personnel
(2) Fire protection personnel conducting inspection, testing, service, or maintenance on fire protection system during emergencies
(3) Law enforcement personnel

(b) It shall be unlawful for any person to use, tamper with, damage or destroy any fire hydrant, valve or water main within the city, except that the fire department may use fire hydrants for fire fighting or training purposes, and persons who have obtained a permit as provided for in this section from the fire marshal may use the fire hydrants in accordance with the terms of the permit.

(c) Application for a permit for use of fire hydrants shall be made to the fire marshal on forms provided for this purpose. Any permit shall be subject to the conditions and specifications imposed by the fire marshal for the purpose of protection equipment and preventing water leakage. No permit shall be issued unless approval to use water shall first have been obtained from the Virginia-American Water Company. A separate permit shall be required for each hydrant used and each time the hydrant is used. A fee of $88.50 ($10 for charitable or nonprofit groups) will be charged for each permit issued in accordance with Table 107.2. A permit holder shall be responsible for the costs of labor and materials for any repair or replacement needed after hydrant use. A permit must be in the possession of the actual user at the time of use.

(d) No person shall plant, erect, or place any obstruction within four feet of any hydrant, nor shall a person stop, stand, or cause a motor vehicle to be placed within 15 feet of a hydrant.

(e) No person shall plant, erect, or place any obstruction within 10 feet of any other fire department connection point, whether mounted on the exterior of a structure or freestanding. All such connections, which are mounted on a building, including all such connections in existence on January 26, 2002, shall be identified by a sign as follows. Such sign shall bear the letters FDC, six inched in height, of a white color on a red background, and shall be mounted directly above the connection, four feet above the top of the connection.

Sec. 4-2-19 Impersonation.

It shall be unlawful for any person falsely to use a fire department badge, uniform or credentials to identify himself as, or otherwise to impersonate, a fire marshal, a fire officer, a fire fighter, a paramedic, an inspector or another authorized representative of the fire department.

Sec. 4-2-20 reserved.

Sec. 4-2-21 Changes in Virginia Statewide Fire Prevention Code.

The Virginia Statewide Fire Prevention Code, adopted by the city in section 4-2-12, is deleted, modified or amended in the following respects:

(1) Chapter 1, section F-101.1 is amended to read:

101.1 Title. The regulations set forth herein, as modified and amended in Section 4-2-21 of the Code of the City of Alexandria, together with the additional regulations in article B of chapter 2, title 4 of that code, shall be known as the Fire Prevention Code of the City of Alexandria, Virginia, and are herein referred to as such or as "the code."

(2) Chapter 1, section 103 is amended by adding the following subsection:

103.4 International Fire Code Appendices. IFC Appendices A, B, C, D, and F are deleted. The following appendices are hereby incorporated as fully enforceable provisions of this code:

Appendix A - Water and Fire Requirements for Site Plans and New Construction.

APPENDIX A

WATER AND FIRE REQUIREMENTS FOR SITE PLANS AND NEW CONSTRUCTION

SECTION A101 - GENERAL

A101.1 Scope. Appendix A. *Water and Fire Requirements for Site Plans and New Construction* provides specific information concerning various fire protection related issues including, fire hydrant and fire main requirements, site plan requirements, emergency vehicle access and easements (emergency vehicle easement requirements), and fire flow calculations. In addition, this document provides information concerning fire department construction site requirements, hydrant permits, and acceptance of emergency vehicle easements from the public.

A101.2 References. *Code of Virginia, Uniform Statewide Building Code, Statewide Fire Prevention Code with City of Alexandria amendments. Design and Construction Standards - Department of Transportation & Environmental Services, and Virginia-American Water Company Specifications for Pipeline Installation and Street Restoration.*

A101.3 Alternatives. Alternative approaches to these requirements will be considered on a case-by-case basis and are subject to the review and approval by the Director of Code Enforcement.

SECTION A102 - FIRE FLOW REQUIREMENTS

A102.1 Fire Flow Requirements. Fire flow requirements shall be based on the methodology described in the Insurance Services Office's (ISO) *Fire Suppression Rating Schedule.* This methodology considers building construction, occupancy, adjacent exposed building, and communication paths between buildings. (See Section A102.10 - Fire Flow Analysis for guidance)

A102.2 One and Two Family Dwellings. The fire flow required shall be based on the minimum exposure distance listed in Table A102.1:

Table 102.1 - MINIMUM EXPOSURE DISTANCE

Minimum Exposure Distance	Fire Flow (GPM)
0 ft. - 10 ft.	1,500 - 2,000
11 ft. - 30 ft.	1,000 - 1,500
31 ft. and greater	1,000

A102.3 Townhouses or Multiplex Units. Townhouses or multiplex units (residential or professional) where individual units are not separated by two-hour fire, party, or separation walls require a flow of 2,500 GPM. Townhouses (residential or professional) where individual units are separated by a minimum one-hour fire, party, or separation walls and approved fire sprinkler systems establish fire flow requirements based on calculations for **Other Uses** as described in Section

A102.4. Multiplex units (residential or professional) where individual units are separated by two-hour fire, party or separation walls and approved fire sprinkler systems establish fire flow requirements based on calculations for **Other Uses** as described in Section A102.4. Note: The Code Enforcement Bureau reserves the right to increase the required fire flow if building construction issues or access factors present an unusual fire or life safety challenge.

A102.4 Other Uses. Fire flow requirements established by the procedures and formula for needed fire flow delineated below is based on the Insurance Services Office (ISO) methodology.

A102.5 Computation of Needed Fire Flow. The needed fire flow shall be calculated at a minimum 20-psi residual pressure on the water system.

The basic formula is: $NFF_i = (C_i)(O_i)(X + P)_i$

C_i = Construction factor where: $C_i = 18F \sqrt{A_i}$

F = coefficient related to type of construction:

- F = 1.5 for wood frame construction (2000 VUSBC Types VA & VB)
- F = 1.0 for ordinary construction (2000 VUSBC Types IIIA &IIIB)
- F - 0.9 for heavy timber construction (2000 VUSBC Type IV)
- F = 0.8 for noncombustible construction (2000 VUSBC Types IIA and IIB)
- F = 0.6 for fire-resistive construction (2000VUSBC Types IA &IB)

A (effective building area) = the total area of the largest floor plus:

- Construction Type I & II -25% of the area not exceeding the other two largest floors when all vertical openings have at least 1 ½ - hour fire-rated protection

-or-

- 50% of the area not exceeding eight other floors when the vertical openings are unprotected or have less than 1 ½ - hour protection.

- Construction Type III through V - 50% of all other floors.

NOTE: In buildings with mixed construction a value Cm shall be calculated for each class of construction using the effective area of the building. These Cm values are multiplied by their individual percentage of the total area. The Ci applicable to the entire building is the sum of these values. However, the value of the Ci shall not be less than the values for any part of the building based upon its own construction and area.

O_i = Occupancy Factor, which reflects the combustibility of the occupancy.

- = 0.75 for non-combustible

- = 0.85 for limited combustible
- = 1.00 for combustible
- = 1.15 for free burning
- = 1.25 for rapid burning

$(X+P)_i$ = Exposure and Communication Factors

$$(X+P)_i = 1.0 \sum_{i=1}^{n} (X_i + P_{i)} \text{ (Maximum 1.75 where n = number of sides of subject building)}$$

Values for X and P are determined from Tables A102.3 and A102.4 containing factors for type of separation or connections, and separation distance. (See Section A102.10 - Example Fire Flow Calculation for guidance).

Add 500 gpm to total fire flow for building with wood construction members, sheeting, shingles, or roof.

A102.6 Minimum Flow. Fire flow shall never be less than 500 gpm for a structure. Fire Flow required for single-family detached dwellings shall never be less than 1,000 gpm. Both values are absolute minimums after all reductions are taken.

A102.7 Maximum Flow. The maximum fire flow shall be as listed in Table A102.2, except for structures requiring special consideration as described in Section A102.8.

TABLE 102.2 - MAXIMUM FLOW

Construction Type	Flow in gpm
III, IV or V	8,000
I or II	6,000

A102.8 Reductions Based on Sprinkler Protection. The value obtained from the formula in Section 4, *COMPUTATION OF NEED FIRE FLOW,* may be reduced by 50 percent when the structure under consideration is protected throughout with an approved automatic sprinkler system in accordance with the *Virginia Uniform Statewide Building Code* and the currently referenced edition of NFPA 13 *Standard for the Installation of Sprinkler Systems* or other approved fire sprinkler system design and installation codes. Reductions are not permitted for structures with partial protection. Reductions for installations based on NFPA 13D or NFPA 13R designs, shall be approved by the Director of Code Enforcement on a case-by-case basis.

A102.9 Special Consideration. The above calculation procedures do not apply to the following, which require special consideration and direct consultation with the Code Enforcement Bureau:

a. Structures containing a group H fire area
b. Lumber yards
c. Petroleum Storage
d. Refineries
e. Chemical Plants
f. Grain storage
g. Power generating facilities
h. Hazardous manufacturing processes
i. Paint, flammable liquid storage
j. High piled combustible storage

			Construction of facing Wall of Exposed Building Classes			
Construction of Facing Wall of Subject Bldg.	Distance Feed to the Exposed Building	Length-Height of Facing Wall of Exposed Building	3.5	1, 2, 4		
				Unprotected	Semi-Protected	Blank
				Openings	Openings (wired glass or outside open sprinklers)	Wall
Frame, Metal or Masonry with Openings	0-10	1-100	0.22	0.21	0.16	0
		101-200	0.23	0.22	0.17	0
		201-300	0.24	0.23	0.18	0
		301-400	0.25	0.24	0.19	0
		Over 400	0.25	0.25	0.20	0
	11-30	1-100	0.17	0.15	0.11	0
		101-200	0.18	0.16	0.12	0
		201-300	0.19	0.18	0.14	0
		301-400	0.20	0.19	0.15	0
		Over 400	0.20	0.19	0.15	0
	31-60	1-100	0.12	0.10	0.07	0
		101-200	0.13	0.11	0.08	0
		201-300	0.14	0.13	0.10	0
		301-400	0.15	0.14	0.11	0
		Over 400	0.15	0.15	0.12	0
	61-100	1-100	0.08	0.06	0.04	0
		101-200	0.08	0.07	0.05	0
		201-300	0.09	0.08	0.06	0
		301-400	0.10	0.09	0.07	0
		Over 400	0.10	0.10	0.08	0
Blank Masonry Wall	Facing Wall of the Exposed Building is Higher Than Subject Building: Use the above table EXCEPT use only the Length-Height of Facing Wall of the Exposed Building ABOVE the Height of the Facing Wall of the Subject Building. Buildings five stories or over in height, consider as five stories When the Height of the Facing Wall of the Exposed Building is the Same or Lower than the					
	Height of the Facing wall of the Subject Building, X_j=0.					

Description of Protection of Passageway Openings	**Fire Resistance, Non-Combustible or Slow-Burning Communications**				**Communications with Combustible Construction**					
	Open	Estimated			Open			Enclosed		
	Any	10 ft.	11 ft.	21 ft.	10 ft.	11 ft.	21 ft.	10 ft.	11 ft.	21 ft.
	Length	or Less	to 20 ft.	to 50 ft.	or Less	to Less	to 50 ft.	or Less	to 20 ft.	to 50 ft.
Unprotected	0	0	0.30	0.20	0.30	0.20	0.10	0	0	0.30
Single Class A Fire Door at One End of passageway	0	0.20	0.10	0	0.20	0.15	0	0.30	0.20	0.10
Single Class B Fire Door at One End of passageway	0	0.30	0.20	0.10	0.25	0.20	0.10	0.35	0.25	0.15
Single class A fire door at each end or double class A fire doors at one end of passage	0	0	0	0	0	0	0	0	0	0
Single class B fire door at each end or double class B fire doors at one end of passage	0	0.10	0.05	0	0	0	0	0	0.15	0

\+ For over 50 feet, $P_f=0$

++ For unprotected passageways of this length, consider the 2 buildings as a single Fire Division

Note: When a party wall has communicating openings protected by a single automatic or self-

closing Class B fire door, it qualifies as a division wall* for reduction of area.

Note: Where communications are protected by a recognized water curtain, the value of P_i is 0.

A102.10- EXAMPLE FIRE FLOW ANALYSIS

A new cinema building will be constructed and has a footprint area of 77,680 square feet and a gross area of 134,320 square feet. The building is three-stories, Type 1B construction, and is classified Use Group A-1 for theaters with the ground floor primarily movie theater seating. To the west of the proposed cinema is a hi-rise office building approximately 85 feet away. To the north and south, there is on-grade parking and no structure within 100 feet. To the east there is a future structure planned and it will be within 30 feet of the cinema. All vertical openings are unprotected or have less than one ½ hour fire-rated protection. The facility will have full fire sprinkler protection based on the NFPA 13 standard.

Needed Fire Flow = $NFF_i = (C_i)(O_i)(X+P)_i$

(a) C_i = Construction Factor where $C_i = 18\ F\ \sqrt{A_i}$

F = coefficient related to type of construction:

- F = 0.6 for fire-resistive construction (2000 VUSBC Types IA &IB)

A = effective building area = the total area of the largest floor plus 50% of the area not exceeding eight other floors when all vertical openings are unprotected or have at less than 1½-hour fire-rated protection for Construction Type I and II.

A = 77,680 + (134,320 – 77,680) x .50 = 106,000 square feet

$C = 18 \times .6 \times \sqrt{106{,}000} = 3516$ gpm

(b) O_i = Occupancy Factor, which reflects the combustibility of the occupancy.

O = 1.15 for free burning based on a conservative design approach from undetermined plastic and fabric seating fixtures

(c) $(X + P)_i$ = Exposure and Communication Factors from Tables 102.3 and 102.4. Values for X and P are determined from charts containing factors for type of separation or connections, separation distance.

$(Xi + Pi) = 1 + \sum_{I=1} (X_i + Pi) = 1.0 + (0.10 + 0.0 + 0.19 + 0.0) + 0 = 1.29$
west north east south

Needed Fire Flow = $(C) \times (O) \times (1 + X_I + P_I)$ = **3,516 x 1.15 x 1.29 = 5250 gpm**

NOTE: 50% reduction available since a full NFPA 13 sprinkler system will be installed. Therefore:

N.F.F. = 5250 x 0.50 = 2,625 gpm =2,705 (rounding to the nearest 250 gpm increment)

SECTION A103 - SITE PLAN INFORMATION

A103.1 Site Plan Requirements: The following information shall be provided on site plans:

1. Submitter name, address telephone number.
2. Building name and address
3. Edition of the building code (Virginia Uniform Statewide Building Code), occupancy classification, use group, and type of construction.
4. Height of building in feet and stories.
5. Foot print area of building and gross floor area of building
6. Identification of fire walls, fire barriers, other fire separations with hourly rating.
7. Existing and proposed water and fire main locations and sizes.
8. Existing and proposed fire hydrants locations, size of pipe, and expected flow and pressure.
   Note: Fire Hydrant Coverage and Location
   a) Minimum 40-foot clearance from hydrant to any structure.
   b) Maximum 100 feet from hydrant to fire department connection.
   c) Fire hydrant coverage: 300 feet, measured from the hydrant to the most remote point of vehicular access on the site, via the vehicular travel path.
   d) Dead-end water main to fire hydrant distance:

6" line	380 feet max. distance
8" line	1,550 fee max. distance
10" line	4,600 feet max. distance
12" line	11,150 feet max. distance

   e) No obstructions within 4 feet of hydrant (plants, fences, retaining walls, etc.)
   f) fire hydrants and water mains in or on parking structures shall be protected from freezing, but no heat tape permitted.
   g) Fire hydrant location for single-family dwellings: lot line and/or curve of pavement
9. State if a full or partial fire sprinkler system will be installed.
10. If fire sprinkler system will be installed, show location of fire department siamese connection(s).
    Note: Siamese shall be located on street front, address side of building but provide additional siamese for buildings five stories or 50 feet or greater, on the other side of the building). Siamese connection shall be visible and accessible with no obstructions within 10 feet.
11. Topographical map relating grade and elevation to fire department connections.
12. Available water pressure and flow capability, static pressure, residual pressure, flow in gpm.
13. Calculate required fire flow and indicate available fire flow at 20 psi per Insurance Services Office (ISO) methodology as described in this document.
14. Location of all Emergency Vehicle Easements (EVE) and locations of EVE signs outlining EVE minimum 22 feet.
15. Adequate emergency vehicle access, turning radii.

Note: a) Buildings more than 5 stories or 50 feet in height require ladder truck access

on the two longest opposing sides with 100% of those respective sides accessible to the fire department.

b) Dead-end emergency vehicle easements greater than 100 feet require turnaround.

c) Emergency vehicle access to within 100 feet of main entrance.

d) Swimming pool access - to be within 50 feet of edge of pool.

e) Show all overhangs and obstructions to emergency vehicle easement. The minimum emergency vehicle clearance for canopies, etc., is 15 feet.

f) Design live load for emergency vehicle on parking structure, deck shall conform at a minimum to A.A.H.S.T.O. Loading Standard HS-20.

16. Check IBC Table 503 for area and height requirements.

SECTION A104 - FIRE HYDRANTS

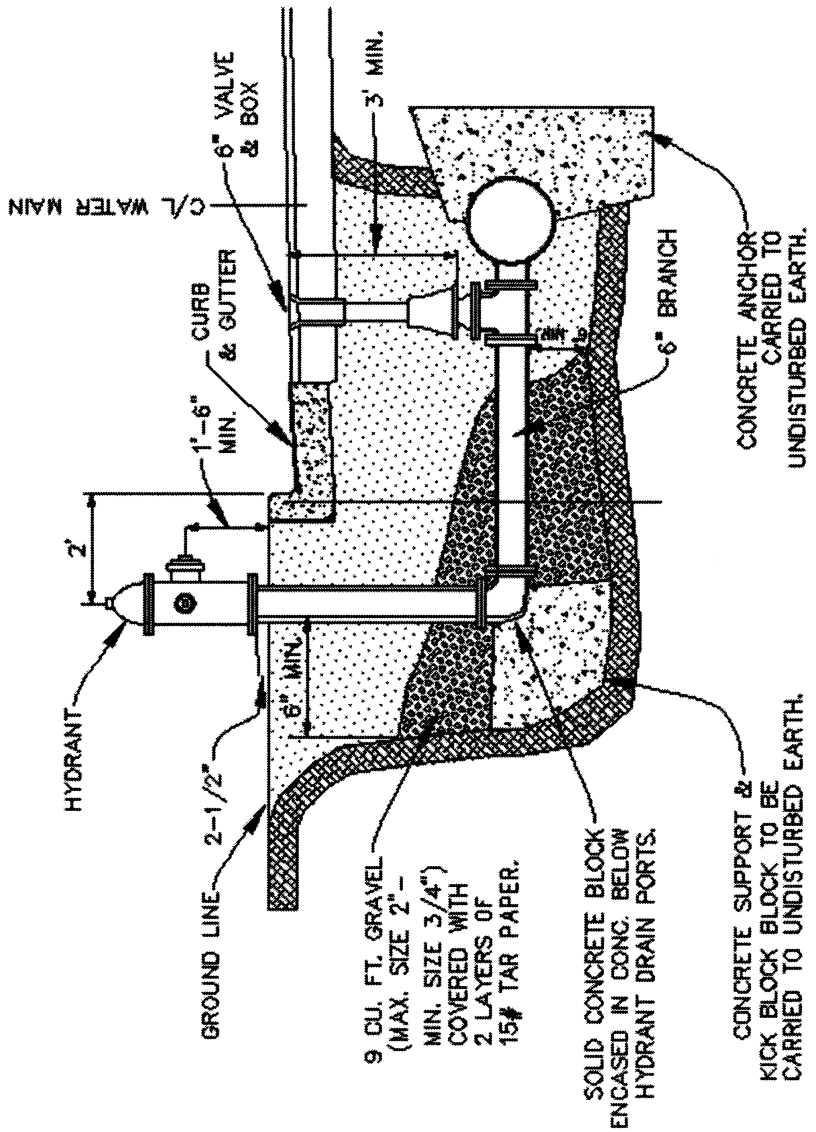
A104.1 Fire Hydrant Requirements Hydrants shall be Mueller "Centurion" (Catalog #A-423) provided with a 6-inch connection to the water main. The hydrant shall have an 1 ½ inch pentagon-operating nut, left turn to open, two 2-1/2 inch NSH nipple outlets capped, and one 4-inch NSH nipple outlet capped. The hydrant shall be connected to a Muller Gate Valve (Catalog #A2380-20 or Virginia American Water Company approved equivalent) by the 6 inch water supply line and have a minimum 5 1/4 inch valve opening with 6 inch mechanical joints as shown in Figure A104.1 - *Fire Hydrant Installation Specifications*. Additional requirements are as follows:

1. The hydrant shall be supported by hard, compacted block with hard gravel bedding.
2. Fire hydrant branch connections placed in fill material shall be installed using restrained joint pipe or tie rods as approved by Virginia-American Water Company.
3. The hydrant shall be located so that the thrust is placed in undisturbed soil. Where this is not practical, the soil beneath the surrounding thrust block shall be compacted to 95% of maximum density in accordance with VDOT Sections 523.03, 302, 303.10, and 200.02.
4. The hydrant shall be plumb and the center of the hydrant (4-inch nozzle cover) shall be a minimum of 18 inches and maximum of 24 inches from the top face of the curb.
5. Excavation shall contain one ton of coarse washed gravel around base of hydrant for drainage.
6. The bottom of the safety flange shall be 2 ½ inches above the edge of the shoulder on streets without curb and gutter and 2 ½ inches above the elevation of curb on streets with curb and gutter.
7. Bends in underground piping shall be rodded and blocked.
8. Laterals shall be equipped with shut-off valves at tees or tapping sleeves. Valves shall be secured by rods or bolts, to tees or mains. Valves shall be quipped with standard two-inch square operating nuts and valve boxes with covers. Valves shall have right hand closure.
9. All hydrant branches shall have a minimum cover of four feet at the ditch line.
10. Public hydrants shall be painted with rust inhibitive primer and exterior enamel in the following color(s): Sherwin Williams "Safety Yellow" #B54Y37 for barrels and Sherwin Williams "Pure White" #B54W101 for hydrant bonnets and caps. **Exception**: Public hydrant barrels may be painted with an approved flat black paint where such locations are

specifically approved in writing by the Fire Chief. Private hydrant barrels, bonnets, and caps shall be painted with a rust inhibitive primer and exterior enamel Sherwin Williams "Safety Yellow #B54Y37. **Exception:** Private hydrant barrels may be painted with an approved flat black where such locations are specifically approved in writing by the Fire Chief.

11. Code Enforcement Bureau personnel shall witness all flushing, perform visual inspection, hydrostatic and flow testing of all public and private hydrants by a licensed contractor. Code Enforcement personnel shall confirm the hydrant meets the 100% design flow requirement. If the 100% design flow requirement is not met, the hydrant shall be placed out of service until the contractor brings the hydrant into compliance with the 100% design flow requirement.
12. Sidewalks shall be wrapped around hydrants in areas where the grass area is shown as two feet or less.
13. Easements shall be required for hydrants located in ditch section streets where there is less than five feet clearance from hydrant to the property line.
14. Hydrants shall be installed, either five feet from the point of curvature of curb returns or on the property line in subdivisions.
15. Fire hydrants shall be located at least 40 feet from all buildings served by the hydrant. When a hydrant cannot be placed at the required distance, the Director of Code Enforcement will consider exceptions to the requirement if the conditions are within the parameters listed in the currently adopted edition of NFPA 24, ***Private Fire Service Mains and their Appurtenances.***
16. No plantings or other obstructions shall be located within four feet of any hydrant or ten feet of a fire department siamese connection.
17. Four-inch steel pipe bollards shall be installed in accordance the requirements of Figure A104-2 Fire Hydrant Protection Pipe Bollard Installation Detail around hydrants as needed for industrial and commercial developments where curbs are not available and in locations where the potential for damage is greater than normal due to vehicular traffic as determined by the Director of Code Enforcement. Bollards shall be located adjacent to the hydrant and in such a manner as not to interfere with the ability to connect hoses or operate the hydrant. Where possible, bollards shall be at least 30 inches from the center of the hydrant-operating nut in all directions. The bottom of the bollards and encasement shall not be located above the hydrant supply piping and valve or within the area of the hydrant supply piping to prevent the possibility of damage to the underground piping should the bollard be displaced by vehicular contact. Exact locations of bollards will be determined by the engineer of record and approved by the Director of Code Enforcement.

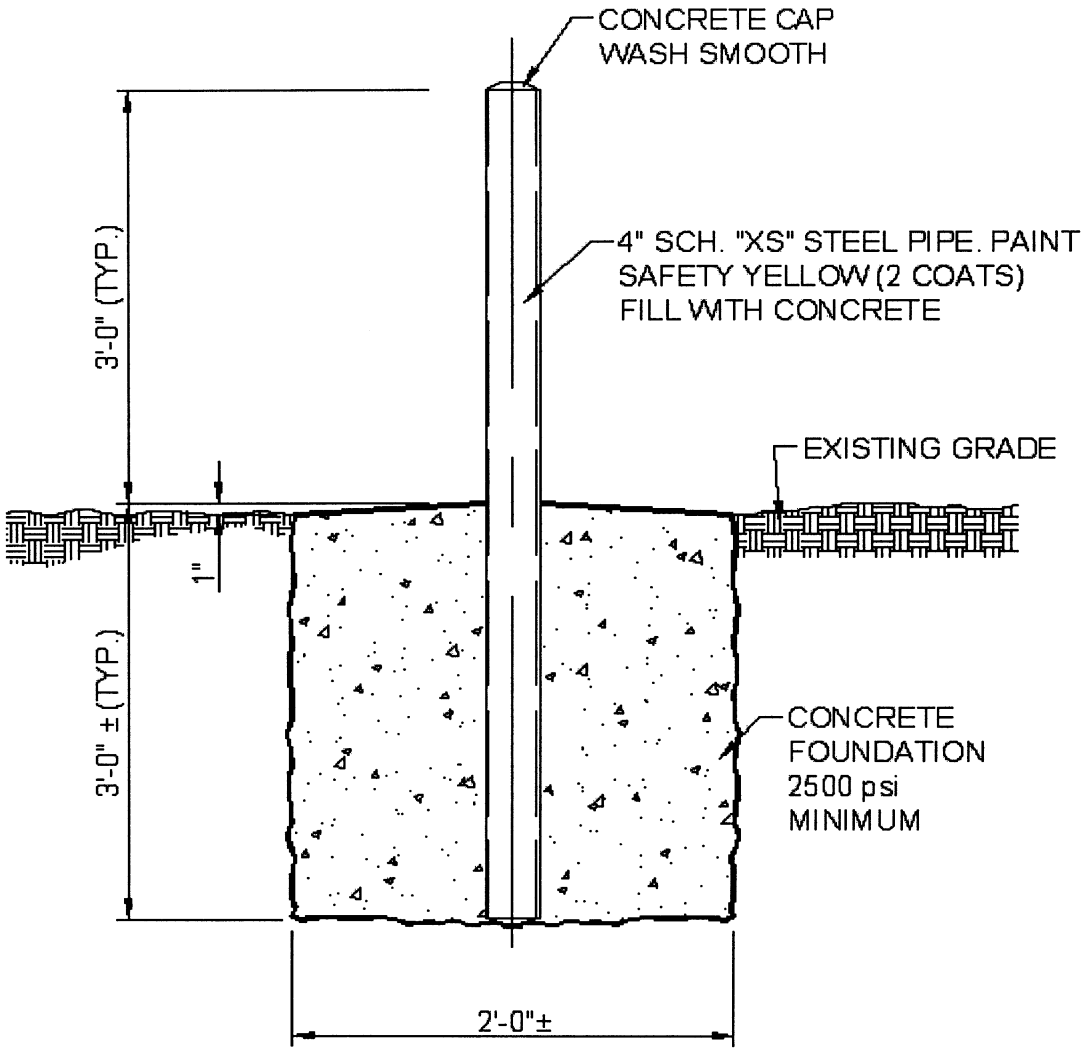
FIGURE A104.1 FIRE HYDRANT INSTALLATION SPECIFICATIONS



NOTES

1. FIRE HYDRANT: MUELLER CENTURION – CATALOG " A423 WITH 1-1/2 INCH PENTAGON OPERATING NUT; LEFT TURN TO OPEN TWO 2-1/2" HOSE NOZZLES AND ONE 4" HOSE NOZZLE.
2. VALVE: MUELLER GATE VALVE – CATALOG # A2380-20, WITH 6 INCH MECHANICAL JOINTS. 2 INCH SQUARE NUT, LEFT TURN TO OPEN.

FIGURE A104.2 FIRE HYDRANT PROTECTION
PIPE BOLLARD DETAIL



SECTION A105 - INSTALLATION AND TESTING OF UNDERGROUND FIRE MAINS AND FIRE LINES

A105.1 Fire Main and Fire Lines Requirements. All installation and testing shall be in accordance with the currently referenced edition of **NFPA 24, *Private Fire Service Mains and Their Appurtenances,*** as referenced by the ***Virginia Uniform Statewide Building Code.*** A Contractors Materials and Test Certificate for Underground Piping, (See NFPA 24 appendix) shall be completed and signed by the installing contractor. A Code Enforcement Bureau inspector shall witness all required inspection and tests.

A105.2 General Requirements. The following general requirements shall be followed when installing fire main and fire lines:

1 Fire lines shall have at least four (4) feet of ground cover from the top of the pipe.

2. All bends and tees shall be provided with thrust blocks in accordance with NFPA 24.

3. All rods shall be a minimum of 5/8 inch in diameter. The number of rods shall be determined by the pipe size.

4. All rods, nuts, bolts, washers, clamps, and other restraining devices shall be cleaned and thoroughly coated with bituminous or other acceptable corrosion-retarding material.

5. Thrust blocks shall be placed against undisturbed soil. Pipe clamps and tie-rods, thrust blocks, locked mechanical or push-on joints, mechanical joints utilizing set screw retainer glands, or other approved methods or devices shall be used. The type of pipe, soil conditions, and available space shall determine the method.

6. When using clamps, rods shall be used in pairs, two to each clamp.

7. Fire lines shall not run under buildings.

8. All pipe shall be flushed, hydrostatically tested, and visually inspected before being covered. The trench shall be backfilled between joints before testing to prevent movement of pipe.

9. The hydrostatic test of 200 psi or 50 psi over static pressure, whichever is higher shall be conducted for two (2) hours.

10. The contractor shall remain responsible for locating and correcting any leakage. If pipe is covered, no drop in pressure during the hydrostatic test is permitted.

11. Gauges used in performing acceptance tests shall meet the following:
    a. Gauges shall be appropriate for the type of test (i.e. air gauge for air pressure test, water gauge for hydrostatic test.)
    b. Air gauges shall have increments of two (2) pounds or less. Water gauges shall have increments of ten (10) pounds or less.
    c. The gauge shall be capable of registering pressures above the minimum pressure required during the test. The pressure registered during the actual test shall be at least the minimum required for the test and less than the maximum of gauge register. Gauges shall be marked as accepted by UL or FM testing laboratories. No valves shall be installed in a fire line between the street valve at the water main and the OS & Y valve inside the building.

12. All fire lines shall be thoroughly flushed with an opening the same size as the pipe when possible. The minimum rate of flow shall be not less than the water demand rate of the system, which is determined by the system design, or not less than that necessary to provide a velocity of 10 feet per second, whichever is greater. The flushing operation shall continue for sufficient time to ensure thorough cleaning.

TABLE A105.1 - FLOW RATES

Pipe Size	Flow Rate (gpm)
4	390
6	880
8	1560
10	2440
12	3520

13. When the above flow rate cannot be verified or met, supply piping shall be flushed at the maximum flow rate available to the system under fire conditions.
14. Approved site plans showing the size and location of pipe shall be on the job site before the inspection or test is performed.
15. Galvanized spool piece (potable water). The procedure for installing a galvanized pipe between the ductile iron fire line and the OS&Y valve is as follows:
    a. If a spool piece is used between the fire line stub and the OS&Y valve to raise the valve off the fire line stub, then it shall be galvanized pipe. This spool may be hydrostatically tested as part of the underground, or part of the sprinkler riser.

    -or-

    b. If the OS&Y valve is rated by the AWWA as suitable for connection to a potable water system, this valve is a suitable transition piece between the fire line stub and the check valve. This OS&Y valve may be attached directly to the fire line stub if there is adequate clearance for proper operation of the valve, and then no galvanized pipe is required.
16. All items shall be inspected before any backfill.
17. Electrical ground wires shall not be connected to underground fire lines.
18. Backfill shall be well tamped, free of rocks and construction debris, and free of corrosives.

SECTION A106 - EMERGENCY VEHICLE ACCESS

A106.1 Requirements. The following requirements shall be followed when designing emergency vehicle access:

1. Access for emergency vehicles shall be provided to within 100 feet of the main or principal entrance to every building. The access shall be provided by a public or private street or

parking lot.

2. When new buildings are more than five stories or 50 feet in height, ladder truck access shall be provided on the two longest opposing sides with 100% of those respective sides accessible to the fire department.
3. The access to the rear may be provided by either a street, parking lot, or emergency vehicle easement designed to all appropriate standards.
4. The inner surface of the ladder truck access way shall be no less than 15 feet and no more than 30 feet from the exterior building wall.
5. Where required, emergency vehicle easements shall have a minimum width of 22 feet.
6. Required fire department access ways over 100 feet in length shall have provision for turning apparatus around according to the requirements referenced in Figure A106.1 for emergency vehicle easements in this document.
7. A 12-foot wide access lane to within 50 feet of the edge of swimming pools, with an eight-foot wide personnel gate in the fence at the point of access is required except for individually owned pools located on single-family lots.
8. Building overhangs which cross an emergency vehicle easement threshold shall not be occupied space and shall be no less than 15 feet in height, as measured from the top surface of the roadway to the lowest protrusion of the overhang.
9. Residential rear service alleys that function as fire department emergency vehicle access shall meet the access criteria as described in Item 2 of this section and Figure A106.2.
10. Design live load for emergency vehicle on parking structure, deck shall conform at a minimum to A.A.H.S.T.O. Loading Standard HS-20.
11. Alternatives to Emergency Vehicle Access will be considered on a case-by-case basis and examined and approved through the Code Modification process in accordance with Section 109.2 of the Virginia Uniform Statewide Building. Features that will be considered include, but are not limited to occupancy, combustibility, construction enhancements, and passive and active fire protection enhancements over the base-line requirements for the structure. Refer to Alexandria Fire and EMS Department document Exterior Fire Department Operations and Supplemental Fire Protection and Rescue Features in Mid-Rise and High-Rise Structures for alternative design approaches.

SECTION A107 - EMERGENCY VEHICLE EASEMENTS

A107.1 Emergency Vehicle Easements. Emergency vehicle easements shall be a minimum of 22 feet across the travel lane. The emergency vehicle easement shall provide access to strategic areas of the building and fire protection systems as designated by the Director of Code Enforcement. Curbing and street components shall conform to the standards established by Transportation and Environmental Services for emergency vehicle easements.

A107.2 Sign Specifications. Emergency vehicle easement signs shall be metal construction, 12-inches wide and 18 inches in height. Provide red letters on reflective white background with a 3/8 inch red trim stip around the entire outer edge of the sign. The lettering shall be "NO PARKING," "EMERGENCY VEHICLE EASEMENT," "EM. VEH. EAS.," and "City of Alex.," placed as shown in Figure 3. Lettering size shall be as follows: "NO PARKING" - 2 inches, "EMERGENCY

VEHICLE EASEMENT" - 2 ½ inches. EM.VEH. EAS. - 1 inch, CITY OF ALEX. - ½ inch. Directional Arrows - 1 inch by 6 inches solid shaft with solid head 1 ½ inches wide and 2 inches deep (See Figures A107.1, A107.2, A107.3 for examples). Signs shall be mounted with the bottom of the sign 7 feet above the roadway, and shall be properly attached to a signpost or other approved structure as designated by the Director of Code Enforcement. Posts for signs, when required, shall be metal and securely mounted. Signs shall face in the direction of vehicle travel. In areas where emergency vehicle easements involve two-way traffic, double mounted signs shall be provided. The maximum distance between signs shall be 100 feet. Other special signs or modifications to emergency vehicle easement signs shall be approved by the Director of Code Enforcement.

A107.3 Fire Dept. Access Lanes/Mountable Curbs. Where curbing is a component of the emergency vehicle easement, the curbing construction shall conform to weight and grade requirements for vehicular traffic. In no circumstances shall a raised curb be located in the path of travel of an emergency vehicle easement. Where a mountable curb is provided as part of an emergency vehicle easement, emergency vehicle easement signs shall be posted at the point nearest the edge of the emergency vehicle easement, but in no case within the clear width of the emergency vehicle easement.

SECTION A108 CONVEYANCE OF EMERGENCY VEHICLE EASEMENT TO CITY OF ALEXANDRIA

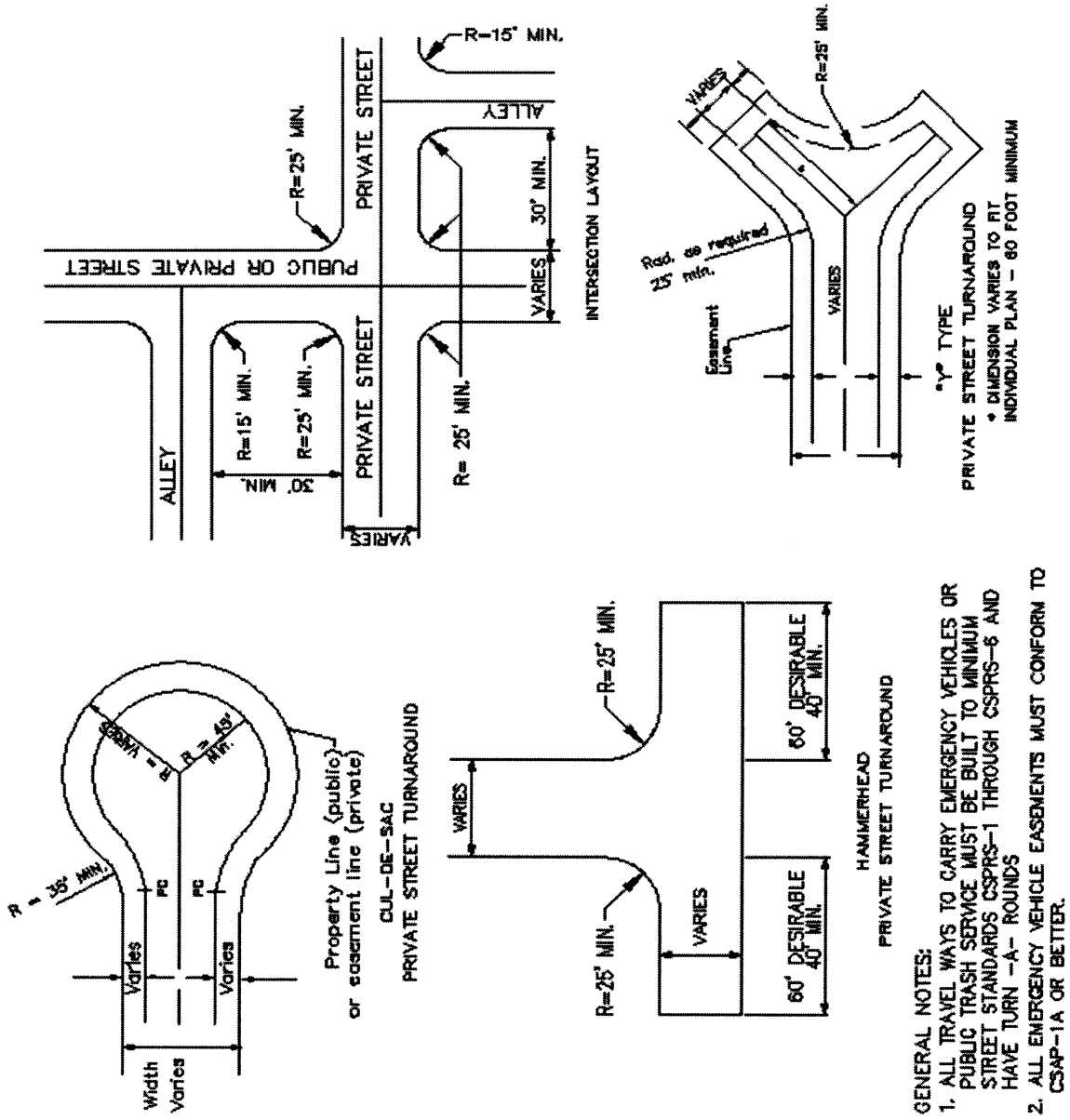
A108.1 General. The property owner shall have an Engineer or Surveyor submit to the Transportation & Environmental Services Department a preliminary plat indicating location, width, boundary, and a description of the composition of easement for the Emergency Vehicle Easement.

A108.2 Agency Review. The Transportation & Environmental Services Department and the Director of Code Enforcement shall review the plat to determine whether the Emergency Vehicle Easement is necessary or desirable and has adequate access, width, and turning radius. Transportation & Environmental Services Department will determine if the existing paved surface meets city standard (CSAP-1A). All elevated surfaces shall meet H-20 specifications. If the Emergency Vehicle Easement is attached to the terms and conditions of a Special Use Permit, then the applicant must also file with the City's Planning and Zoning office for review. All appropriate agencies will comment on the content of the plat.

A108.3. Approval. If approved, the applicant will submit a final plat and descriptive deed. The City of Alexandria will sign and return to applicant for recordation.

A108.4 Recordation. Upon recordation, the applicant will report deed book and page number (instrument number) to Transportation Environmental Services Department to be kept on file. The final plat and bond will not be released until the deed has been recorded.

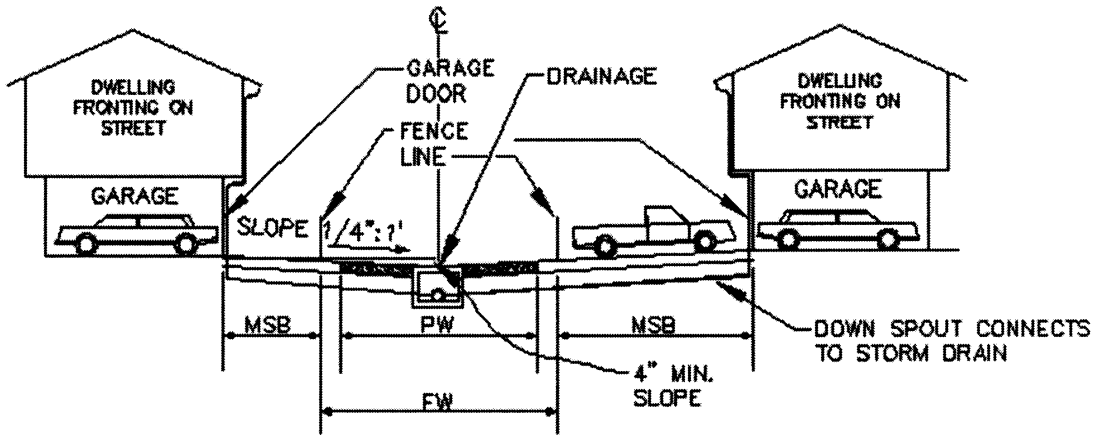
FIGURE A106.1 MINIMUM STANDARDS FOR EMERGENCY VEHICLE ACCESS TO PRIVATE STREETS AND ALLEYS



GENERAL NOTES:

1. ALL TRAVEL WAYS TO CARRY EMERGENCY VEHICLES OR PUBLIC TRASH SERVICE MUST BE BUILT TO MINIMUM STREET STANDARDS CSPRS-1 THROUGH CSPRS-6 AND HAVE TURN -A- ROUNDS
2. ALL EMERGENCY VEHICLE EASEMENTS MUST CONFORM TO CSAP-1A OR BETTER.

(MUST BE USED ON ALL NEW RESIDENTIAL DEVELOPMENT PROJECTS
WHERE VEHICULAR ACCESS IS FROM THE REAR)



CSRR SA–2
ALL REQUIRED PARKING IN GARAGE (NO PARKING IN ALLEY)

CSRR SA–1
REQUIRED PARKING IN DRIVEWAY AND GARAGE (NO PARKING IN ALLEY)

RESIDENTIAL REAR SERVICE ALLEY STANDARD	MINIMUM WIDTHS					
	TWO – WAY TRAFFIC FLOW			ONE – WAY TRAFFIC FLOW		
	PW	EW	MSB	PW	EW	MSB
CSRR SA–1	22'	24'	20'	18'	20'	20'
CSRR SA–2	22'	24'	10'	18'	20'	10'

NOTES: 1. MINIMUM RADII WHERE ALLEYS MEET STREETS OR OTHER ALLEYS = 15'.
2. ALLEY GUTTER MAY BE ADJUSTED OFF CENTER TO MATCH TERRAIN.
3. (MSB) = MINIMUM SET BACK.
4. (EW) = EASEMENT WIDTH.
5. (PW) = PAVEMENT WIDTH.

FIGURE A106.2
RESIDENTIAL REAR SERVICE ALLEY STANDARDS

FIGURE A107.1 FIRE LANE SIGN

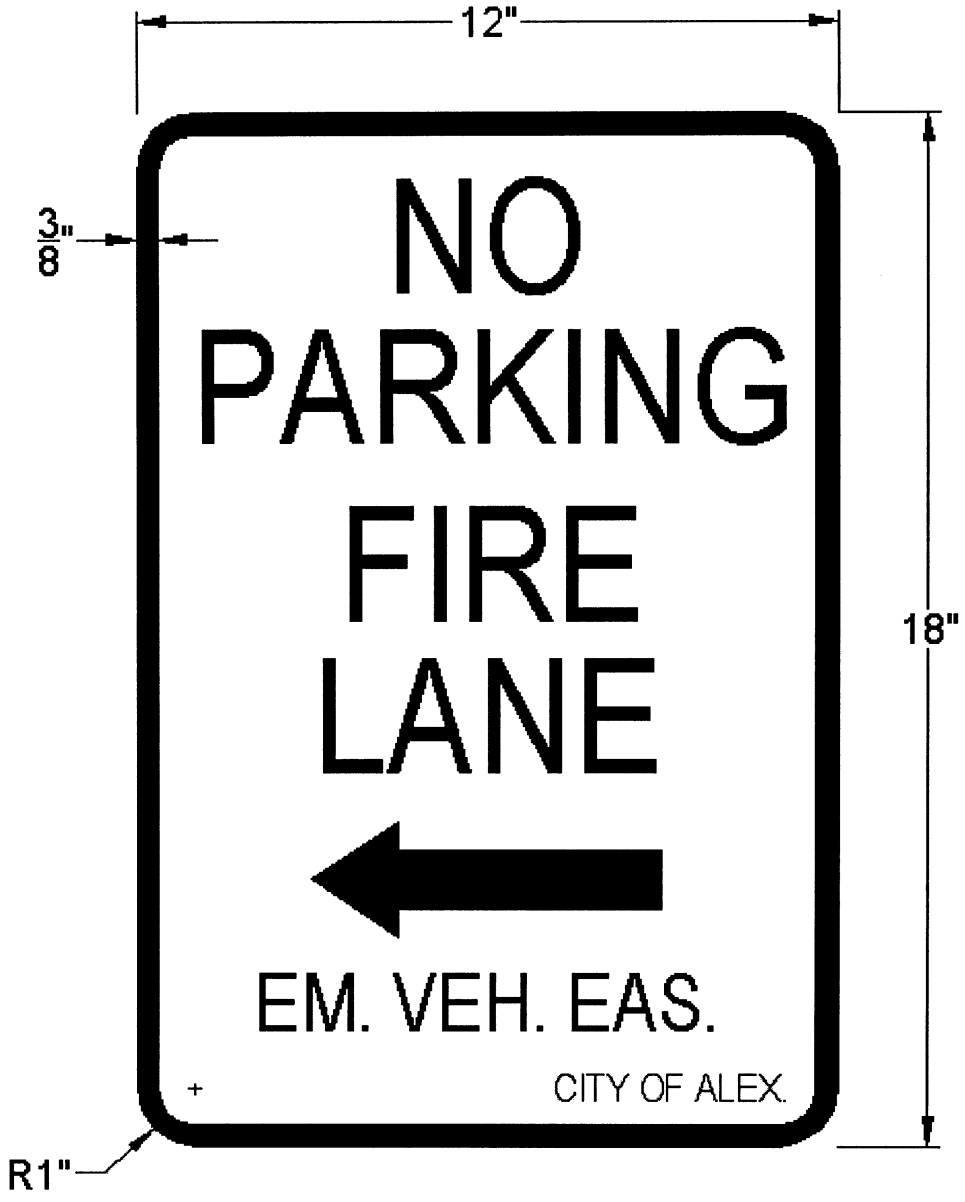


FIGURE A107.2 FIRE LANE SIGN

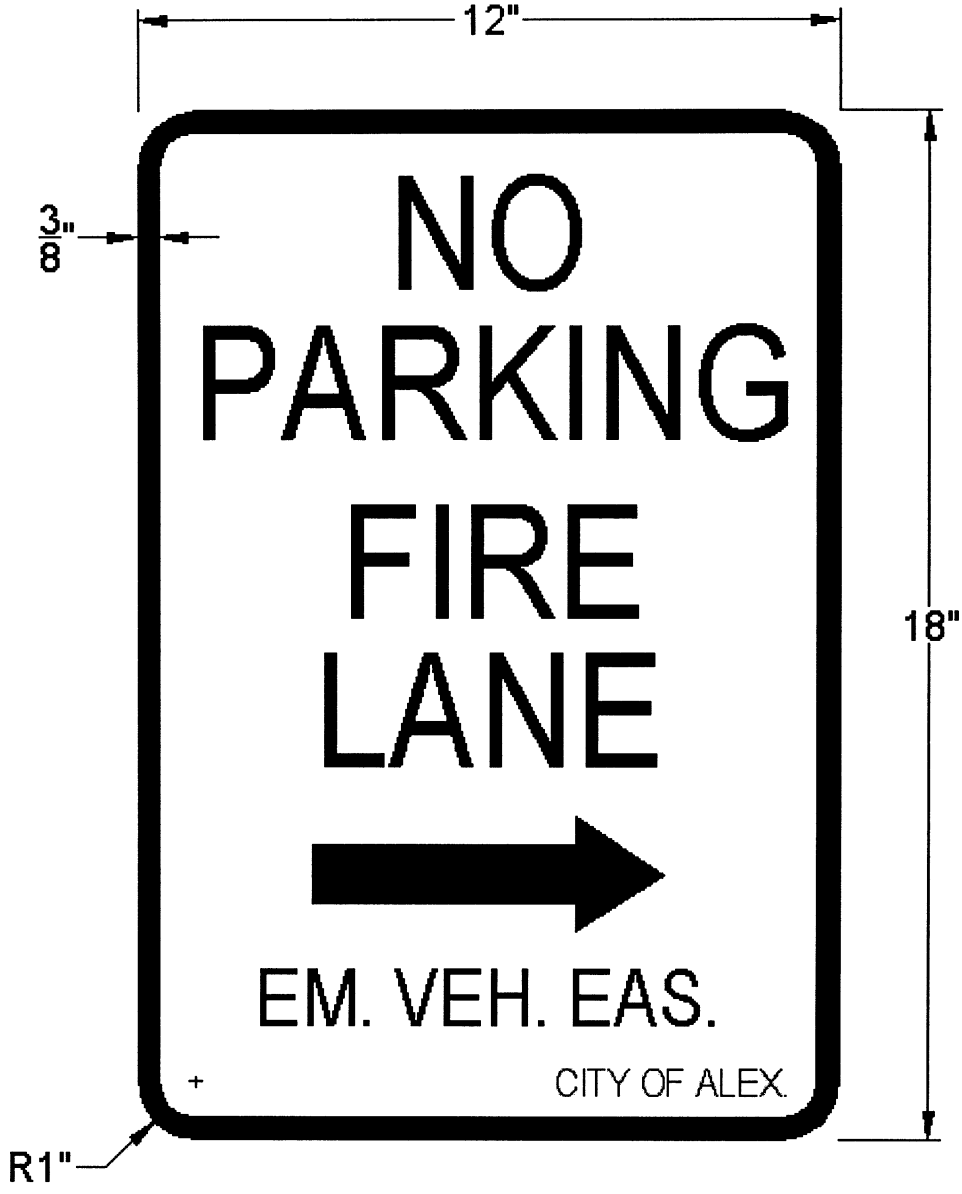


FIGURE A107.2 FIRE LANE SIGN

18E

FIGURE A107.3 FIRE LANE SIGN

APPENDIX B

REQUIREMENTS FOR A FIRE WATCH

SECTION B101 GENERAL

B101.1 Scope. When a fire sprinkler, alarm, detection, or suppression system becomes impaired or is unable to provide the proper protection for which it was designed, it becomes necessary to find an alternate means to monitor the conditions in buildings relative to life safety and property protection. For short term and on a temporary basis, a fire watch is a system of activities designed to provide onsite observation, documentation, and notification in the event of a fire emergency.

SECTION B102 REQUIREMENTS

B102.1 Procedures. When the establishment of a fire watch is ordered by the Fire Department or Code Enforcement Bureau, the owner or the owner's representative shall implement the following procedures and requirements for the duration of the fire watch. The fire watch shall be maintained until such time the noted system(s) is returned to normal ready service and approved for use by the Code Enforcement Bureau.

B102.2 Requirements. A fire watch shall consist of the following:

Designated number of staff (minimum of two personnel), at all times and until the compromised system has been repaired, inspected, tested and certified to be placed back in service by the Code Enforcement Bureau.

Each participating staff member shall be equipped with reliable two-way communications. One staff member shall always be stationed in an area or room equipped with a working telephone or cellular phone to report an alarm by dialing 9-1-1.

NOTE: When dialing 911 from a cellular phone, some cellular phone systems may connect user with another jurisdiction's emergency communications center, therefore the caller should confirm they are speaking with the "Alexandria Fire and EMS Department Emergency Communications Center".

Walking tour of all areas of the building no less than every 15 minutes to observe for conditions where fire, smoke, or hazardous situations require fire department response

-or-

A complete tour of the facility within a time frame prescribed by a representative of the Code Enforcement Bureau or Fire Department and with the staffing level contingent upon the size of the facility and the type of occupancy.

NOTE: If the building or property is of such size that two individuals cannot adequately perform the required fire watch, the Fire Department representative may require additional on site personnel. The Fire Department representative may permit one person to perform the fire watch if the building or property is size that one person can adequately perform the required fire watch.

A legibly written log shall be kept on site at all times for review by any Fire Department employee documenting:

(a) Reason the fire watch was implemented.
(b) Date and time the fire department was notified the fire watch was initiated and concluded.
(c) Start and stop time of each building or property tour.
(d) Key locations visited in the building(s) requiring the fire watch.
(e) Name(s) of personnel conducting the fire watch.
(f) Name(s) of personnel recording the information.

Personnel conducting the fire watch shall be:

(a) Capable of performing patrol duties.
(b) Reliable.
(c) Not addicted to the use of or under the influence of intoxicants, narcotics, illegal drugs, and /or physically or mentally impaired by prescription drugs.
(d) Able to clearly and accurately converse with fire department personnel in English, in the event of an emergency.
(e) Able to remain awake and alert at all times.

NOTE: In all cases, the sole duty of personnel assigned to the fire watch shall be to perform constant patrols of the protected premises, to keep watch for fires, and if necessary to summon the fire department.

If a fire is located:

(a) The fire watch staff shall immediately call 9-1-1 and report the location of the fire within the building.
(b) Begin the evacuation of the building starting on the fire floor, then above the fire floor, then below the fire floor.
(c) Do not attempt to extinguish the fire.

APPENDIX C

REQUIREMENTS FOR FIREWORKS DISPLAYS

SECTION C101 GENERAL

C101.1 Scope. This appendix provides the permit and display requirements for the use of fireworks within the City of Alexandria. The City of Alexandria shall issue permits, upon application in writing, for the display of aerial fireworks, commonly known as pyrotechnic displays, for fair associations, amusement parks, or by any organization or group of individuals; provided such display is in general accord with the applicable sections of National Fire Protection Association (NFPA) 1123, *Fireworks Displays,* a referenced standard, listed in Chapter 45, of the Virginia Statewide Fire Prevention Code.

SECTION C102 REQUIREMENTS

C102.1 Insurance Requirements. The Code Enforcement Bureau shall issue no permit until all requirements of this appendix are submitted for review, approved, and the applicant files a certificate of insurance with the City of Alexandria named as a co-insured on all policies in the amount of two million ($2,000,000) dollars for each bodily injury and property damage. The insurance policy shall become available for the payment of any damage arising from acts or omissions of the applicant, his agents or his employees in connection with the display of aerial fireworks. The applicant shall ensure the insurance policy is in effect at the time of the commencement of activities authorized by the permit and remains continuously in effect until such are completed.

C102.2 Requirements for Permit Application. An application for the display of aerial fireworks shall be completed and submitted to the Code Enforcement Bureau 45 days before the scheduled event. The application for aerial fireworks display shall include the following:

Display area shall incorporate a 70 feet diameter radius, per inch of largest fireworks display shell.

Ground Displays shall be located a minimum distance of 75 feet from spectator viewing areas and parking areas. Spinning Wheels, Roman Candles, and Large Salutes shall be located 125 feet form viewing areas.

Fire works shall not be discharged within 100 feet of any tent or canvas shelter.

The point of firing of aerial fireworks is to be at least 200 feet from the nearest permanent building, public highway, or railroad, and be at least 50 feet from the nearest aboveground telephone or telegraph line or other overhead obstruction. In no case shall a display be fired within 500 feet of a school, theater, church, hospital or similar institution.

The potential landing area shall be a large, clear, open area acceptable to the authority having jurisdiction.

Spectators, vehicles, or any readily combustible materials shall not be located within the potential landing area during the display.

Spectators shall be restrained behind lines at least 200 feet from the firing point by physical barriers and monitors. Only persons in active charge of the display shall be allowed inside these lines.

Projectile type fireworks shall fire into the air as nearly as possible in a vertical direction except fireworks fired beside a lake or other large body of water, the fireworks may be directed in such a manner that the firing residue of deflagrations will fall into the said body of water.

Unfired fireworks shall be covered or protected during firing and those remaining after display shall be immediately disposed of in a way safe for the particular type of firework.

If at any time, high winds in excess of 15 miles per hour, unusually wet weather prevails, or any other condition that represents an unsafe condition in the opinion of the authority having jurisdiction or the display operator, the public display shall be postponed until weather or other unsafe conditions improve to an acceptable level.

Extremely dry conditions shall require the display and fallout areas to be soaked with water before event commencing. If the outdoor burning restrictions are in place, outdoor firework displays shall not occur.

Portable water fire extinguishers or other adequate fire protection will be required at discharge site.

Display operators and assistants shall use only flashlights or electric lighting for artificial illumination.

Neither smoking nor open flames shall be allowed in the display or shell storage area as long as shells are present. Signs to this effect shall be conspicuously posted.

In the event of a shell failing to ignite in the mortar, the mortar shall be left alone for a minimum of 15 minutes then, carefully flood with water. Immediately following the display, the mortar shall be emptied into a bucket of water. The supplier shall be contacted as soon as possible for disposal instructions.

The entire firing range shall be inspected immediately following the display to locate any defective shells. The inspection shall be completed before the public having access. Any shells found shall be immediately doused with water before handling. The shells shall then be placed in a bucket of water. The supplier shall then be contacted as soon as possible for proper disposal instructions.

All operators shall be at least 21 years of age. Assistants shall be 18 years of age.

An adequate number operators, assistants, and monitors shall be on hand to conduct the display. At no time shall there be less than two operators on duty.

No person shall handle or be involved in the firing of fireworks while under the influence of alcohol, narcotics, or drugs, which could adversely affect judgment, movement, or stability.

A method of communication (preferably a cellular phone) shall be on or near the display site in the event of an emergency. The Alexandria Fire and EMS Communication Center (phone number 911) shall be immediately notified in the event of fire and/or injury.

Fireworks Displays shall be completely set-up and ready for inspection at least 2 hours before event. Personnel from the Code Enforcement Bureau Fire Marshals Office are required to inspect the display area before the event commencing, monitor the event and conduct a post event inspection.

Obtain and maintain original Fire Prevention Code Permit for Aerial Fireworks Display on the event site.

If the storage of fireworks is approved in the City of Alexandria, the operator shall maintain the original Fire Prevention Code Permit for aerial fireworks on the event site and comply with all Bureau of Alcohol, Tobacco and Firearms storage requirements.

Appendix D – Requirements for Stairway Identification

STAIRWAY IDENTIFICATION

SECTION D101 GENERAL

D101.1 Scope. Stairway identification prevents firefighters and citizens from becoming disoriented during a fire when smoke obscures vision. The requirement shall apply to all buildings above three stories in height.

D101.2 Purpose. Stairway identification ensures all stairwell landings are marked in a prescribed manner to help determine the location of the person within the building.

D102 REQUIREMENTS

D102.1 Requirements. The requirements outlined shall be followed to identify and properly mark each stairwell located within your building greater than three stories.

- A Building Stairwell Identification Program shall be submitted to the Code Enforcement Bureau for approval within 90 days of receipt of notification.

- All buildings greater than three stories must display in the lobby and fire control room a simplified schematic with the building's footprint.

- The footprint shall be an overhead view of the building's exterior and the general layout of the lobby of the first floor. Stairwells shall be denoted by letter, starting next to the main entrance with "A" and continuing in a clockwise or left to right pattern. (See Figure D102.1)

- Additionally, a sign approved by the Code Enforcement Bureau shall be provided at each landing in all interior stairwells, identifying the stairwell's letter, designating the floor level and the level of exit discharge. It should also state if there is no access to the roof. (Roof Access means doors to the roof regardless whether they are locked).

- The sign shall be located five (5) feet above the floor landing in a position that is readily visible when the stairwell door is opened or closed. This information may be stenciled directly onto the wall. (See Figure D102.2)

- The signs must have lettering that is a minimum of 4 inches in height, and the lettering must be of a color contrasting with the background stairwell wall color.

- Two copies of the footprint and the stairwell sign shall be submitted to the Code Enforcement Bureau for approval prior to installation.

FIGURE D102.1

EXAMPLE BUILDING FOOTPRINT AND STAIRWELL IDENTIFICATION LAYOUT

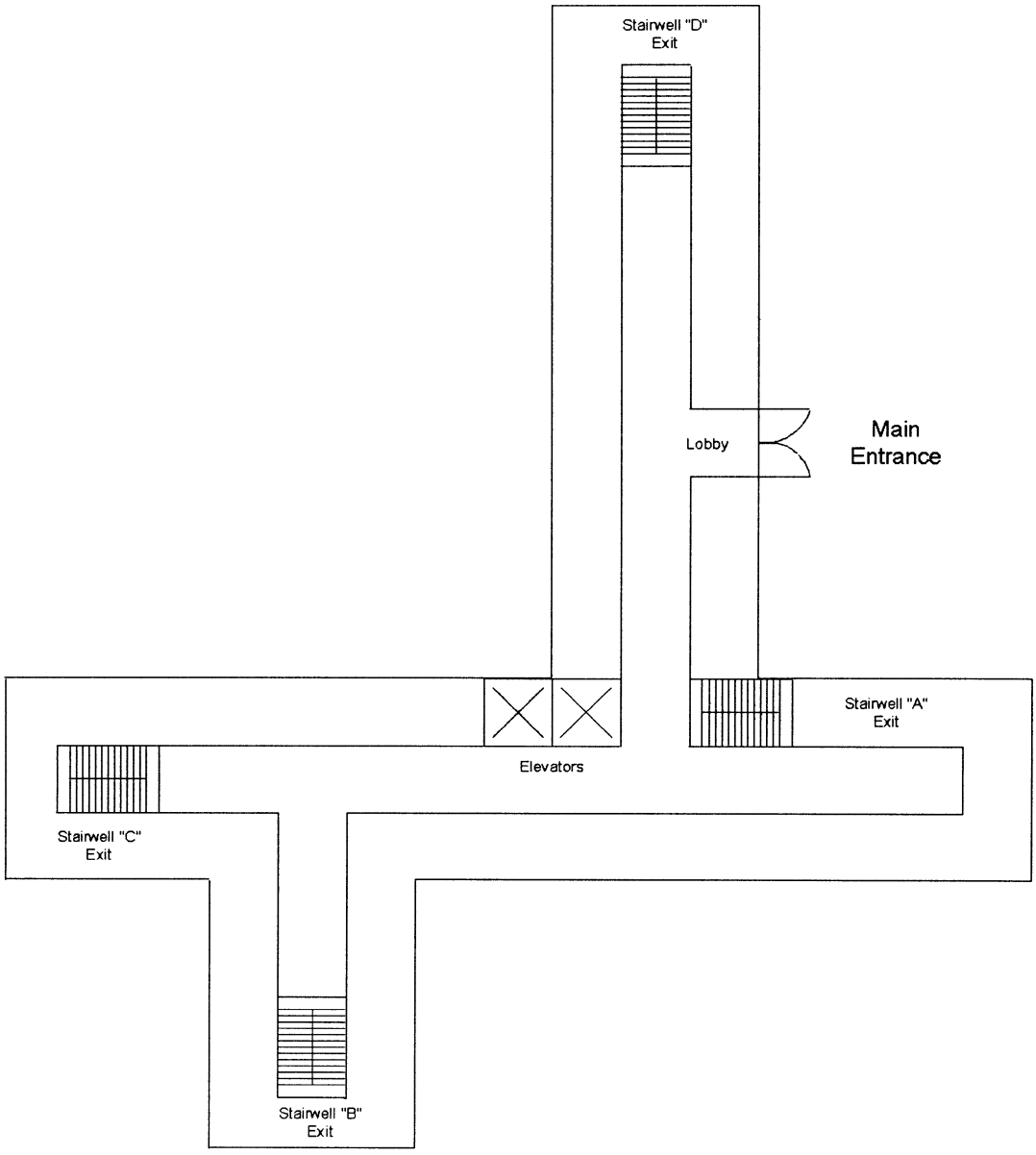
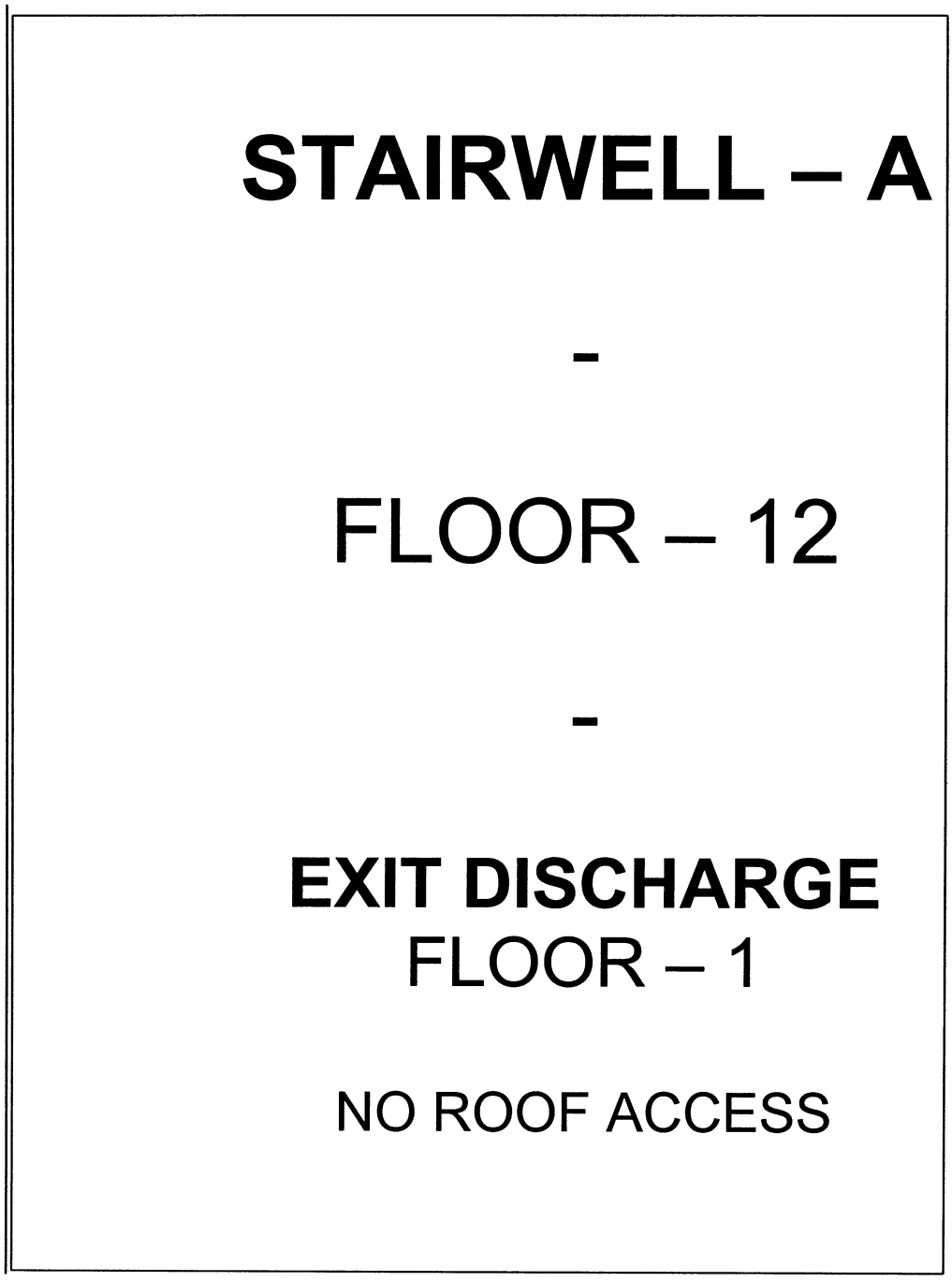


FIGURE D102.2

EXAMPLE STAIRWELL IDENTIFICATION SIGN



APPENDIX F - REQUIREMENTS FOR EXTERIOR SPRAY PAINTING OPERATIONS

SECTION F101 - GENERAL

F101.1 Scope. This appendix provides permit and other requirements for exterior spray painting operations that do not exceed an accumulative area of 9 (nine) square feet per day.

SECTION F102 - REQUIREMENTS

F102.1 Permit Requirements. A permit shall be applied for with all required supporting documentation and upon approval, issued to perform limited exterior spray-painting. The applicant shall submit two copies of the proposed procedure outlining process to include the following: a complete list of Material Safety Data Sheets for materials to be utilized, a chemical/paint inventory, the method of on-site storage, the method of transportation between sites, the method of paint application, the method of waste/spray paint recovery, site plans, list of all application areas in which spraying will occur, the type of on site fire protection, a 24-hour emergency contact information and the site contact.

F102.2 General Requirements. The following general requirements shall apply to all exterior spray painting operations and are subject to review and approval by Code Enforcement Bureau personnel prior to commencing exterior spray painting operations:

The Hazardous Use Permit shall be kept in the on-site contractor's vehicle at all times. Absence of the on site permit will void permitted process and the area will be deemed non-compliant. If this occurs, all equipment and paint shall be removed from the City of Alexandria limits.

The applicant shall locate spray-painting operations a minimum of 50 feet from a building, structure or a property line.

The applicant shall ensure the spray painting operation is not continuous in nature.

The applicant shall ensure that no exterior electrical equipment is within 20 feet unless it meets the requirement of NEC Class I, Division II, including flexible electrical extension cords, and approved by the Code Enforcement Bureau.

The applicant shall not use portable electrical lamps inside the spray-painting area.
The applicant shall provide a minimum of one (40-BC) dry chemical fire extinguisher outside the application area and within 30 feet of travel.
The applicant shall remove all possible ignition sources. This shall include securing and stopping all motors on vehicles.
The applicant shall not permit open flames within 20 feet of the designated spray area.
The applicant shall not permit hot or heated surfaces within the designated spray area.
The applicant shall not permit smoking within the spray area. Signage shall be posted and visible from the exterior of the designated spray areas.

The applicant shall clean spray-painting equipment in a manner approved by the Fire Official. Only Class II or III solvents shall be utilized on the exterior.

The applicant shall provide a smooth surface for the limited area spray operation. Porous surfaces such as asphalt is not permitted

If an interior limited area spray operation is approved and utilized, the applicant shall provide the area with approved fire protection and positive ventilation approved for flammable liquids.

The applicant shall ensure that all equipment and containers are listed for the flammable or combustible liquid use.

If flammable liquids will be transferred from one container to another, the applicant shall ensure that at least one container is bonded and/or grounded.

The applicant shall ensure that Class I flammable liquids and/or solvents are not utilized for cleaning of equipment. Only Class II and III combustible liquids may be utilized for cleaning of equipment.

The applicant shall keep the limited spray-painting area clean of over spray and residue.

The applicant shall provide self-closing metal waste cans to handle waste and rags.

The applicant shall control odors, smoke and any other air pollution from operations at the site and prevent them from leaving the property or becoming a nuisance to neighboring properties, as determined by the Department of Transportation and Environmental Services.

The applicant shall not dispose of material by venting material into the atmosphere.

(3) Chapter 1, section 105.1 is amended by deleting and substituting the following:

105.1 Fire Official. The provisions of the Virginia Statewide Fire Prevention Code and this article shall be enforced by the director of code enforcement as the fire official, and any other person authorized by the fire official or fire chief to conduct inspections under the Virginia Statewide Fire Prevention Code or this article.

(4) Chapter 1, section 107.1 is deleted and substitute the following:

107.1 Notice. It shall be unlawful to engage in any business activity involving the handling, storage or use of hazardous materials, substances or devices; or to maintain, store or handle materials; or to conduct processes producing conditions hazardous to life or property; or to install equipment utilized in connection with such activities; or to establish an assembly occupancy without first notifying the director of code enforcement.

(5) Chapter 1, Table F-108.2 is deleted. Chapter 1, Table 107.2 replaces Table F-108.2 and is amended by adding the following quantities, approvals and fees:

Table 107.2 Operational Permit Requirements

Description (Permit thresholds stated in SFPC Table 107.2)	Permit Required	Code Section	Permit Fee
Aerosol products. Aggregate quantity of Level 2 or Level 3 aerosol products in excess of 500 pounds (227 kg) net weight when manufacturing, storing or handling.	Yes	2801.2	88.50
Amusement buildings.	Yes	403.1.3	88.50
Aviation facilities.	Yes	1101.3	88.50
Carnivals and fairs.	Yes	403.1.2	88.50
Battery systems. Stationary lead-acid battery systems having a liquid capacity of more than 50 gallons (189 L).	Yes	608.1.2	88.50
Cellulose nitrate film. Storage, handling or use in any assembly or educational occupancy (Group A and E).	Yes	306.2.1	88.50
Combustible dust-producing operations.	Yes	1301.2	88.50
Combustible fibers. Storage and handling of combustible fibers in quantities greater than 100 cubic feet (2.8 m^2). Exception: Not required for agricultural storage.	Yes	2901.3	88.50
Compressed gas. Storage, use, or handling at normal temperature and pressure (NTP) of compressed gases in excess of the amounts listed below. Exception: Vehicles equipped for and using compressed gas as a fuel for propelling the vehicle.	Yes	3001.2	88.50

PERMIT AMOUNTS FOR COMPRESSED GASES

TYPE OF GAS	AMOUNT (CUBIC FEET AT NTP)
Corrosive	200
Flammable (except cryogenic fluids and liquefied petroleum gases)	200
Highly toxic	Any amount
Inert, simple asphyxiant and non-flammable gasses	6000
Oxidizing (including oxygen)	504

Toxic	Any amount			

For SI: 1 cubic foot = 0.02832m^3

Covered mall buildings.		Yes	408.11.4	500.00
Corrosives. Storage, use, handling		Yes	3101.2	88.50
Gases	200 cubic feet at (NTP)			
Liquids	55 gallons			
Solids	1000 pounds			

Cryogenic fluids. Produce, store, transport on site, use, handle or dispense	Yes	3201.2	88.50

Type	Inside Building (gal)	Outside Building (gal)
Flammable	more than 1	60
Inert	60	500
Oxidizing (Includes oxygen)	10	50
Physical or health hazard not indicated above	Any Amount	Any Amount

Exception: Vehicles equipped for and using cryogenic fluids as a fuel for propelling the vehicle or for refrigerating the lading.

Cutting and welding.	Yes	2601.2	88.50
Dry cleaning plants.	Yes	1201.2	88.50
Exhibits and trade shows.	Yes	403.1.3	88.50
Explosives. An operational permit is required for the manufacture, possession, storage, handling, sale or other disposition, transportation, or use of any quantity of explosive, explosive material, fireworks, or pyrotechnic special effects within the scope of Chapter 33, or to operate a terminal for handling explosive materials, or to deliver or receive delivery of explosives or explosive materials from a carrier between sunset and sunrise. Explosive Vehicle Inspection - (Valid for 6 months only)			
Emergency Vehicle Access Roadway.	Yes	503.1.1	88.50
Fire hydrants and valves. Operate or use any fire hydrants or valves used for fire suppression service.	Yes	503.1.1	88.50

Flammable and combustible liquids (cont.)	Yes	3401.4	88.50

b. The storage or use of paints, oils, varnishes or similar flammable mixtures when such liquids are stored for maintenance, painting, or similar purposes for a period of not more than 30 days.

3. To store, handle or use Class II or Class IIIA liquids in excess of 25 gallons (95L) in a building or in excess of 60 gallons (227L) outside a building, except for fuel oil used in connection with oil-burning equipment.

4. To remove Class I or Class II liquids from an underground storage tank used for fueling motor vehicles by means other than the approved, stationary on-site pumps normally used for dispensing purposes.

5. To operate tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.

6. To install, alter, remove, abandon, place temporarily out of service (for more than 90 days) or otherwise dispose of an underground, protected above-ground or above-ground flammable or combustible liquid tank.

7. To change the type of contents stored in a flammable or combustible liquid tank to a material which poses a greater hazard that for which the tank was designed and constructed.

Flammable Gases.	Yes	3501.2	88.50
Flammable Solids.	Yes	3601.2	88.50
Floor finishing. Using Class I or Class II liquids exceeding 350 square feet (33 m^3).	Yes	1510.1.2	88.50
Fruit and crop ripening.	Yes	1601.2	88.50
Fumigation and thermal insecticidal fogging.	Yes	1701.2	100.00

FOR HAZARDOUS MATERIALS	Yes	2701.4	88.50

TYPE OF MATERIAL	**AMOUNT**
Combustible liquids	See flammable and combustible liquids
Corrosive material	
Gases	See compressed gases
Liquids	55 gallons
Solids	1000 pounds
Flammable materials	
Gasses	See compressed gases
Liquids	See flammable and combustible liquids
Solids	100 pounds
Highly Toxic materials	
Gases	See compressed gases
Liquids	See flammable and combustible liquids
Solids	100 pounds
Oxidizing materials	
Gases	See compressed gases
Liquids	
Class 4	Any amount
Class 3	1 gallon
Class 2	10 gallons
Class 1	55 gallons
Solids	
Class 4	Any amount
Class 3	10 gallons
Class 2	100 gallons
Class 1	500 gallons
Organic peroxides	
Liquids	
Class I	Any amount
Class II	Any amount
Class III	1 gallon
Class IV	2 gallons
Class V	No permit required
Solids	
Class I	Any amount

Class II	Any amount
Class III	10 pounds
Class IV	20 pounds
Class V	No permit required

Hazardous materials - continued Yes 2701.4 88.50

PERMIT AMOUNTS FOR HAZARDOUS MATERIALS

TYPE OF MATERIAL	AMOUNT
Pyrophoric materials	
Gases	See compressed gases
Liquids	Any amount
Solids	Any amount
Toxic materials	
Gasses	See compressed gases
Liquids	10 gallons
Solids	100 pounds
Unstable (reactive) materials	
Liquids	
Class 4	Any amount
Class 3	Any amount
Class 2	5 gallons
Class 1	10 gallons
Solids	
Class 4	Any amount
Class 3	Any amount
Class 2	50 pounds
Class 1	100 pounds
Water-reactive materials	
Liquids	
Class 3	Any amount
Class 2	5 gallons
Class 1	55 gallons
Solids	
Class 3	Any amount
Class 2	50 pounds
Class 1	500 pounds

For SI: 1 gallon = 3.785 L, 1 pound = 0.454 kg.

Highly Toxic Materials.	Yes	3701.2	88.50
High-piled storage. Use a building or portion exceeding 500 square feet (46 m^2).	Yes	2301.2	100.00
Hot work operations.	Yes	303.9	88.50
Indoor display of vehicles or equipment.	Yes	314.4.1	88.50
Industrial ovens.	Yes	2101.2	88.50
Lumber yards and woodworking plants. Storage or processing exceeding 1000,000 board feed (8,333 ft^3) (236 m^2).	Yes	1901.2	88.50
Liquid or gas fueled vehicles in assembly buildings.	Yes	3803.2.1	88.50
LP Gas. Storage and use inside or outside of any building Exception: 1. Individual containers with 500 gallons (1893L) water capacity or less serving occupancies in Use Group R-3.	Yes	3801.2	88.50
2. Operations of cargo tankers that transport LP-gas			
Magnesium. Melt, cast, heat, heat treat or grind more than 10 pounds (4.54 kg).	Yes	3606.1.2	88.50
Miscellaneous combustible storage. - store in any building or upon any premises in excess of 2,500 cubic feet (71 m^3) gross volume of combustible empty packing cases, boxes, barrels or similar containers, rubber tires, rubber cork or similar combustible material.	Yes	315.1.2	88.50
Open burning.	Yes	307.2	88.50
Open burning charitable organizations.	Yes	307.2	10.00
Open flames, candles and heat-producing appliances or torches for removing paint	Yes	308.1.1	88.50
Organic coatings. Manufacturing operations producing more than 1 gallon (4 L) of an organic coating in one day.	Yes	2001.2	88.50
Organic peroxides.	Yes	3901.2	88.50
Oxidizers	Yes	4001.2	88.50
Places of assembly / educational	Yes	403.1.4	
occupancy less than 50 persons	Yes	4023.1.4a	50.00
occupancy 50 to 100 persons	Yes	403.1.4b	100.00
occupancy over 100 persons	Yes	403.1.4c	250.00
Private fire hydrants.	Yes	508.5.2.1	88.50

Pyrophoric materials.	Yes	4101.2	88.50
Pyrotechnic special effects material.	Yes	3301.2	100.00
Pyroxylin plastics. Storage and handling of more than 25 pounds (11 kg) of cellulose nitrate (pyroxylin) plastic and for the assembly or manufacture of articles involving pyroxylin plastics.	Yes	4201.2	88.50
Refrigeration equipment.	Yes	606.1.2	88.50
Repair garages and service stations.	Yes	2201.2	88.50
Rooftop heliports.	Yes	1107.1	88.50
Semiconductor Fabrication Facilities - HPM Facilities.	Yes	1801.5	250.00
Special Outdoor Assembly and Events.	Yes	403.1.2	250.00
Spraying and dipping.	Yes	1501.2	100.00
Storage of scrap tires and tire byproducts. Establish, conduct or maintain storage of scrap tires and tire byproducts exceeding 2,500 cubic feet (71 m^3) of total volume of scrap tires and foe indoor storage of tires and tire byproducts.	Yes	2501.2	100.00
Temporary membrane structures, tents and canopies.	Yes	2401.2	88.50
Tire rebuilding plants.	Yes	2503.1.2	250.00
Unstable (reactive) materials.	Yes	4301.2	88.50
Waste materials and junk yards.	Yes	316.2	88.50
Waste reactive materials. Store chips, hogged material, lumber or plywood in excess of 200 cubic feet (6 m^3).	Yes	4401.2	88.50
Wood products. Store chips, hogged material, lumber or plywood in excess of 200 cubic feet (6 m^3).	Yes	1907.1.1	88.50

(6) Chapter 1, section 107.14 is amended by adding the following after the last sentence of the paragraph to read:

The permit fee schedule is shown in Table 107.2 **Operational Permit Requirements.**

(7) Chapter 1, section 108.3.1 is deleted and substitute the following:

108.3.1 Period of validity. Permits are valid for a period of 12 months from issuance, unless a different period is stated on the permit or the permit is revoked. Notwithstanding the foregoing, multiple permits issued at different times for the same location shall all expire at the same time as the first permit issued for the location.

(8) Chapter 1, section 108.3.5 is amended by adding the following subsections:

108.3.5.1 Access to permit premises. Any person or business required by section 107.2 to have a permit(s) on premises shall make the necessary keys, any manufacturer's material safety data sheets related to products regulated by the permit(s), location of the operation subject to permit(s) within the premises, emergency personnel information and other pertinent information relating to the permitted activity available to fire department personnel by use of an approved locking box on the exterior of the building.

108.3.5.2 Permit location. Permits are valid only at the location stated in the permit, and cannot be transferred to a different location or address.

108.3.5.3 Permit location - exception. Permits issued under sections 308.1.1 for the use of a heat producing appliance or torch to remove paint or 2601.2 for cutting and welding operations may be used on a citywide basis during the period of validity of the permit. All necessary fire protection equipment required by section 308.4 and Chapter 26 of the Virginia Statewide Fire Prevention Code, or other referenced codes or standards, must be in place and ready for use at each location prior to beginning operations covered under these types of permit.

(9) Chapter 1, section 110 is amended by adding subsection 110.7:

110.7 Imminent danger or threat to human health or safety or to property. If the fire official determines that any violation creates an imminent danger or threat to human health or safety or to property, the fire official may forthwith correct or abate such violation, and request that the city attorney institute appropriate legal proceedings to recover the full cost of such response from the property owner, tenant or other responsible party.

(10) Chapter 2, Section 202 is amended by adding the following definitions:

Overcrowding: See section 1002.1.

Person: Includes a corporation, firm partnership association, organization or any other group acting as a unit, as well as individuals. It shall also include an executor, administrator, trustee, receiver or other representative appointed according to law. Whenever the term "person" appears in any section of this code prescribing a penalty or fine, as to partnerships and associations, the word shall include the partners or members thereof, and as to corporations, shall include the officer, agents or members thereof, who are responsible for any violation of such section.

(11) Chapter 3, section 301.2 Permits is deleted

(12) Chapter 3, section 303 is amended by adding the following subsections:

303.9 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

303.9.1 Safety Plan. Where required by the director of code enforcement, a fire safety plan, emergency procedures, and employee training programs for roof installation, repair, and other related operations shall be approved by the director of code enforcement or designee prior to operations.

(13) Chapter 3 subsection 304 is amended by adding the following:

304.1.1 Waste materials. Accumulations of wastepaper, wood, hay, straw, weeds, litter or combustible or flammable water, cooking oils or rubbish of any type shall not be permitted to remain on a roof or in any court, yard, vacant lot, alley, parking lot, open space, or beneath a grandstand, bleacher, pier, wharf, manufactured home, recreational vehicle or other similar structure.

(14) Chapter 3 subsection 304 is amended by deleting the following:

304.3 Containers. Combustible rubbish, and waste material shall be stored in accordance with Section 304.3.1 through 304.3.3.

(15) Chapter 3 subsection 304 is amended by adding the following subsections:

304.3.1.1 Container lids. All containers shall be equipped with a self-closing lid unless approved by the Director of Code Enforcement.

304.3.2.1 Secondary containment. All cooking oil containers exceeding 5.33 cubic feet (40 gallons) shall be provided with approved secondary containment.

(16) Chapter 3 subsection 306 is amended by adding the following subsection:

306.2.1 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(17) Chapter 3, Section 307 is amended by deleting and adding the following:

307.1 General. A person shall not cause or allow open burning unless approved in accordance with this code and the air pollution control code (chapter 1 of title 11 of the city code) of the city. No person shall kindle, or authorize to be kindled or maintain any fire in such a manner that it constitutes a danger to public health and safety as determined by the director of code enforcement.

307.2 Permit Required. A permit shall be obtained from director of code enforcement in accordance with Table 107.2 prior to kindling a fire for recognized silvicultural or range or wildlife management practices, prevention or control of disease or pests, or a bonfire. Application for such approval shall only be presented by and permits issued to the owner of the land upon which the fire is to be kindled.

307.2.1 Allowable burning: Open burning shall be allowed without prior notification to the code official for recreational fires, highway safety flares, fires for the training of fire fighters under the direction of the fire department, smudge pots.

(18) Chapter 3, section 308 is amended by adding the following subsection:

308.1.1 Permit Required. A permit shall be obtained from director of code enforcement in accordance with Table 107.2.

(19) Chapter 3, section 308.4 is amended by deleting and adding the following text and subsections:

308.4 Torches for removing paint and sweating pipe. Persons utilizing a torch or other flame-producing device for removing paint from a structure shall provide a minimum of one portable fire extinguisher complying with Section 906 and with a minimum 4-A rating, two portable fire extinguishers, each with a minimum 2-A rating, or a water hose connected to the water supply on the premises where such burning is done. The person doing the burning shall remain on the premises 1 hour after the torch or flame-producing device is utilized. This person shall be at least 21 years of age and shall have access to a means of contacting the fire department in an emergency.

308.4.1 Permit required. A permit shall be obtained from the director of code enforcement prior to the utilization of a torch or other flame producing device for removing paint, sweating pipe, applying roofing material, or for other such occupational uses.

(20) Chapter 3, section F-317.0 is deleted

(20) Chapter 3, section F-317.0 is deleted.

(21) Chapter 3, section 314.4 is amended by deleting and adding the following:

314.4 Vehicles and equipment.- It shall be unlawful to store, display or repair in or on a building or structure, or any part thereof, any vehicle, tool or equipment that has a fuel tank containing a flammable or combustible liquid or a liquefied petroleum gas as a source of fuel, unless the building or structure is built and maintained in accordance with the requirements of the Uniform Statewide Building Code, and this code, for such storage, display or repair; provided, that this section shall not apply to single-family dwellings where the storage, display or repair is not conducted as a business. Where indoor display of vehicles is permitted by the fire official, the following safeguards shall be employed:

1) Batteries are disconnected.
2) Fuel in fuel tanks does not exceed one-quarter tank or 5 gallons (19L) (whichever is least).
3) Fuel tanks and fill openings are closed and sealed to prevent tampering.
4) Vehicles, boats or other motorcraft equipment are not fueled or defueled with the building.

(22) Chapter 3, section 314 is amended by adding the following subsection:

314.4.1 Permit Required. A permit shall be obtained from director of code enforcement in accordance with Table 107.2.

(23) Chapter 3, section 314.0 is amended as adding subsection 314.5.

314.5 Storage or display in roofed-over malls: No combustible goods, merchandise or decorations shall be displayed or stored in a roofed-over mall unless approved by the fire official.

(24) Chapter 3, subsection 315.1 is amended by deleting the following:

315.1 General. Storage, use and handling of miscellaneous combustible materials shall be in accordance with this section.

(25) Chapter 3, subsection 315.1 is amended by adding the following subsection:

315.1.2 Permit Required. A permit shall be obtained from director of code enforcement in accordance with Table 107.2.

(26) Chapter 3, subsection 315.2.1 Ceiling clearance: delete and substitute:

315.2.1 Ceiling clearance: Storage inside any structure shall be maintained in a neat, orderly and safe manner. No storage shall be permitted within 24 inches of the lowest portion of a ceiling, or the supporting structure thereof, or within 18 inches of the deflector plate of a sprinkler head, is so equipped, in any building. In buildings where sprinkler heads are mounted above the supporting structure of the roof, no storage shall be permitted within 18 inches of the supporting structure.

(27) Chapter 3 is amended by adding a new section 316.0:

316.0 Waste Materials and Junk Yards

316.1 General: No person making, using, storing, having charge of or having under his control in a building or on any vacant lot, alley, parking lot, open space or property any combustible excelsior, rubbish, sacks, bags, litter, hay, straw or other combustible waste material shall fail, at the close of each day, to remove all such material which is not compactly baled and/or stacked in an orderly manner, from the building or on any vacant lot, alley, parking lot, open space or property or store it in suitable vaults or in metal or metal-lined and covered receptacles or bins. The director of code enforcement shall require suitable baling equipment to be installed in stores, apartment buildings, factories and other buildings where accumulations of paper and waste material are not removed at least every second day.

316.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2 for the operation of waste material facilities, junkyards, or any facility where 2500 cubic feet or material is stored.

(28) Chapter section F-317.3 is deleted.

Other use, or otherwise inaccessible or non-usable for fire department access, a permanent durable sign with the work "BLOCKED" shall be securely affixed on the exterior side of each door. The size of the lettering shall be six inch block lettering, of a contrasting color to the door.

(29) Chapter 3 is amended by adding a new section 317.0

317.0 Noxious, Flammable or combustible vapors.

317.1 General. This section shall apply to any process or operation which produces flammable, combustible or noxious fumes or vapors, other than during the regular course of processes or operations normally conducted at the premises.

317.2 Ventilation. All such processes or operations shall have sufficient natural or supplied ventilation to prevent the migration of such fumes or vapors within the structure. Such processes or operations shall be conducted at times when the building has the fewest number of occupants.

317.3 Ignition sources. No such process or operation shall be conducted prior to assuring that all potential ignition sources have been identified and extinguished.

317.4 Alarm and sprinkler systems. If the potential exists to activate an alarm system by conducting such a process or operation, the alarm system shall be disabled and a fire watch in accordance with Appendix B, "Requirement for a Fire Watch" shall be maintained by a person other than the person conducting the process or operation. The person maintaining the fire watch shall have the capability of contacting the fire department without having to reactivate the alarm system. No disabling of the alarm system shall be permitted, without prior notification to the fire department communications division. Any protective measures taken to protect either the fire alarm or sprinkler systems at the premises, such as covering detectors or taping sprinkler head, shall be reported to the communication section of the fire department, prior to such measures being taken. At the completion of the process or operation, all such systems shall be fully restored to function, and the fire department shall be so notified.

317.5 Fire department notification. Any person conducting such process or operation shall notify the fire department communications division of the time, date and place at which such process or operation will be conducted, at least 24 hours prior to commencement. Such notice is required even if a permit has previously been obtained for the process or operation.

317.6. Occupant notification. The owner, tenant, property manager or other person responsible for causing such process or operation to be conducted shall give reasonable notice to occupants of the premises of the type of process, date and time of occurrence, and of the potential for the production of flammable, combustible or noxious fumes or vapors.

(30) Chapter 4, section 403 is amended by adding the following subsections:

403.1.2. Permits. A permit shall be obtained from director of code enforcement for special outdoor assembly events, carnivals and fairs in accordance with Table 107.2

403.1.2.1 Safety plan. A safety plan outlining the event shall be submitted to the director of code enforcement 30 days prior to event start date. The safety plan shall include a site map identifying locations of fire lanes, apparatus access points, food vendors, amusement rides, tents hazardous materials, hydrants, citizens assembly points and emergency evacuation shelters.

403.1.2.2 Emergency coordinators. The event coordinator shall provide the director of code enforcement with on-site and emergency contact telephone numbers for at least five event coordinators.

403.1.2.3 Outdoor food handling. All deep fat fryers, woks utilized for deep fat frying or similar cooking devices using hot oil or grease shall be in a mobile unit or trailer with a vented hood and an approved fire suppression system.

403.1.3 Permits. A permit shall be obtained from director of code enforcement for all indoor exhibits, tradeshows, and special amusement events in accordance with Table 107.2

403.1.4 Permits. A permit shall be obtained from director of code enforcement for the utilization of a space or structure for the purposes of assembly in accordance with Table 107.2.

(31) Chapter 6 section F - 610.5 of the City fire code is deleted.

(32) Chapter 4, section 404 is amended by adding and editing the following subsection:

404.2.1 Fire evacuation plans. Fire evacuation plans for all educational occupancies shall be submitted to the fire official for review and approval at least 30 days prior to the start of each school session, unless otherwise approved by the fire official.

(33) Table 405.2 is amended and a new footnote is added as follows:

Table 405.2
FIRE AND EVACUATION DRILL
FREQUENCY AND PARTICIPATION

GROUP OR OCCUPANCY	FREQUENCY	PARTICIPATION
Group A	Quarterly	Employees
Group E	Monthly[a]	All occupants[c]
Group I	Quarterly on each shift	Employees[b]
Group R-1	Quarterly on each shift	Employees
Group R-4	Quarterly on each shift	Employees

[a]The frequency shall be permitted to be modified in accordance with Section 408.3.2
[b]Fire and evacuation drills in residential care assisted living facilities shall include complete evacuation of the premises in accordance with Section 408.10.5. Where occupants receive habilitation or rehabilitation training, fire prevention and fire safety practices shall be included as part of the training program.
[c]In those buildings equipped with "areas of rescue assistance" evacuation to such areas, shall be deemed to comply with the requirement of this section.

(34) Chapter 4 section 408.11 is amended as follows:

408.11 Covered mall buildings. Covered mall building shall comply with the provisions of Sections 408.11.1 through 408.11.4.

(35) Chapter 4 section 408.11 is amended by adding the following subsection:

408.11.4 Permit Required. A permit shall be obtained from director of code enforcement in accordance with Table 107.2.

(36) Chapter 5 section 501.2 Permits is deleted.

(37) Chapter 5 section 501.4 is reinstated and amended as follows:

501.4 Timing of installation. Fire apparatus access roads and water supply for fire protection shall be installed and maintained in accordance with Appendix A "Water and Fire Requirements for New Construction," prior to, and during construction, except when alternative methods of protection are approved by the Director of Code Enforcement. Temporary street signs shall be installed at each intersection when construction of new roadways allows passage of vehicles in accordance with Section 505.2.

(38) Chapter 5 section 503 is amended by deleting and substituting the following:

503.1 Emergency access roadways. Emergency vehicle access shall be installed and maintained in accordance with this section and Appendix A "Water and Fire Requirements for New Construction."

(39) Chapter 5 section 503.1 Virginia Statewide Fire Prevention Code exception 1 and 2 are deleted.

(40) Chapter 5 section 503.1.1 and 503.1.2 are deleted and the following subsections substituted.

503.1.1 Permit Required. A permit shall be obtained from the director of code enforcement in accordance with Table 107.2.

503.1.2 Temporary fire lanes. The fire official is authorized to designate and identify temporary fire lanes during emergency conditions to ensure access of fire department equipment and personnel.

(41) Chapter 5, section 503.2 through 503.2.7 are deleted and the following subsection substituted:

503.2 Signs and markings. The property owner or designee shall supply, install and maintain signs and other required markings to designate and identify fire lanes (emergency vehicle easements) as directed by the director of code enforcement. The signs shall identify the starting point, continuation and end point for all fire lanes.

(42) Chapter 5, section 503.3 is deleted and the following subsection substituted.

503.3 Sign specifications. Fire lane signs shall conform to the following standards, and shall be installed in accordance with the requirements of Appendix A "Water and Fire Requirements for Site Plans and New Construction" as follows:

Metal construction, dimensions 12 inches by 18 inches.

Red letter on a reflective white background, with a three-eighths inch red boarder around the entire outer edge of the sign.

Red directional arrows on the sign shall be used to indicate the direction and continuation of the fire lanes.

Lettering size and layout, with uniform spacing between words and centered inside the red boarder, as follows:

NO (2 inches)
PARKING (2 inches)

FIRE (2 ½ inches)
LANE (2 ½ inches)

(directional arrow) (1 inch x 6 inches solid shaft with solid head 1 ½ inches wide and 2 inches deep)

EM. VEH. EAS (1 inch)

City of Alex. (½ inch) or approved City Seal

(43) Chapter 5, section 503.4 is amended by adding the following text:

503.4 Obstruction of fire apparatus access roads. Fire apparatus access roads and fire lanes shall not be obstructed in any manner, including the parking vehicles. The minimum widths and clearances established in Section 503.2.1 shall be maintained at all times.

(44) Chapter 5, section 506 is amended by deleting and substituting the following:

506.1 Key repository:. Owners of buildings in which fire alarm or fire suppression systems are installed after June 14, 1997, shall provide a key repository to the satisfaction of the director of code enforcement . This key repository shall be of a type approved by the director of code enforcement and shall be located on the exterior of the building, near the main entrance. Keys shall be placed in the repository to allow the fire department access to investigate alarms of fire reported from the building.

(45) Chapter 5, section 508 is amended by deleting and substituting the following:

508.3 Fire flow. Fire flow requirements for buildings or portions of buildings and facilities shall be determined in accordance with Appendix A "Water and Fire Requirements for Site Plans and New Construction."

(46) Chapter 5, section 508.5.1 is deleted with the following text substituted:

508.5.1 Where required. Fire hydrants shall be installed as required by Appendix A "Water and Fire Requirements for Site Plans and New Construction."

(47) Chapter 5, section 508.5.1 is amended by adding the following subsection:

508.5.1.2. Permits. Permits shall be obtained from the director of code enforcement in accordance with Table 107.2 for all private fire hydrants to operate or use fire hydrants or valves used for fire suppression service.

> Exception: A permit is not required for authorized employees of the City of Alexandria, the Virginia American Water Company or their designees that manage the water system or the fire department to use or operate fire hydrants or valves.

(48) Chapter 5, Section 509, add subsection 509.1 as follows:

509.1.1 All buildings that have a fire control room shall equip that room with an operations manual. The fire official shall review and approve the contents of the manual.

(49) Chapter 6, subsection 601.2 is deleted.

(50) Chapter 6, subsection 606 is amended by adding the following subsection:

606.1.2 Permit required. A permit shall be obtained from director of code enforcement in accordance with Table 107.2.

(51) Chapter 6, subsection 608 is amended by adding the following subsection:

608.1.2 Permit required. A permit shall be obtained from director of code enforcement in accordance with Table 107.2.

(52) Chapter 6, subsection 609 is amended by adding the following:

609.8 Service. All commercial kitchen hoods and ductwork shall be cleaned, serviced, and maintained at a minimum of 6-month intervals. A cleaning schedule shall be submitted for review and approval to the director of code enforcement.

(53) Chapter 9, subsection 901.3 is deleted.

(54) Chapter 9 section 901 is amended by deleting and adding the following:

901.6.2 Test records: A completed written record of all tests and inspections required under this chapter shall be maintained on the premises by the owner or occupant responsible for said premises and a copy of any such record shall be provided to the code official after the completion of any test or inspection. Accurate logs shall be maintained, indicating the number, location and type of device tested. Any defect, modification or repair shall be logged, and the log shall be made available to the code official. All records of system inspections, tests and maintenance required by the referenced standards shall be maintained on the premises for a minimum of 5 years and made available to the code official upon request.

901.6.3 Test responsibility and notification: The code official shall not be held responsible for any damages incurred during any test required under the provisions of this chapter. Any test required under the provisions of this chapter shall be performed in the presence of the code official, unless such requirement is waived by the code official. Any such test shall be scheduled at the convenience of the owner or occupant responsible for said premises and the code official.

901.6.4 Periodic testing, inspection, and maintenance: All water-based extinguishing systems including fire sprinkler, water mist, water-spray, and standpipe systems shall be periodically inspected, tested and maintained in accordance with the requirements of NFPA 25 listed in Chapter 45. Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.5 Periodic testing, inspection, and maintenance: All foam-extinguishing systems shall be maintained, periodically inspected and tested in accordance with NFPA 11, 11A and 16 listed in Chapter 45.. Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.6 Periodic testing, inspection, and maintenance: All carbon dioxide extinguishing systems shall be maintained, periodically inspected and tested in accordance with NFPA 12 listed in Chapter 45 and Sections 904.8.1 through 904.8.5. Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.7 Periodic testing, inspection, and maintenance: All halogenated extinguishing systems shall be maintained, periodically inspected and tested in accordance with NFPA 12 A listed in Chapter 45 and Sections 904.9.1 through 904.9.3. Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.8 Periodic testing, inspection, and maintenance: All clean agent fire extinguishing systems shall be maintained, periodically inspected and tested in accordance with NFPA 2001 listed in Chapter 45 , the system manufacturer's instructions and Sections 904.10.1 through 904.10.3. Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.9 Periodic testing, inspection, and maintenance: All dry-chemical extinguishing systems shall be maintained, periodically inspected and tested in accordance with NFPA 17 listed in Chapter 45 and Sections 904.6.1 and 904.6.2 Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.10 Periodic testing, inspection, and maintenance: All wet-chemical extinguishing systems shall be maintained, periodically inspected and tested in accordance with NFPA 17A listed in Chapter 45 and Sections 904.5.1 and 904.5.2 Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.11 Periodic testing, inspection, and maintenance: All fire detection and alarm systems shall be maintained, periodically inspected and testing in accordance with NFPA 72 listed in Chapter 45 and Sections 907.20.1 and 907.20.5 Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.12 Periodic testing, inspection, and maintenance: Emergency alarms in buildings, rooms or areas used for the storage of hazardous materials shall be shall be maintained, periodically inspected and tested. Test methods and frequency shall be in accordance with NFPA 72 listed in Chapter 45. Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.13 Periodic testing, inspection, and maintenance: All fire pumps shall be inspected, tested and maintained in accordance with NFPA 25 listed in Chapter 45. Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.14 Periodic testing, inspection, and maintenance: Water tanks and fire service mains shall be periodically inspected, tested and maintained in accordance with NFPA 25 listed in Chapter 45. Any required inspections and tests shall be performed in the presence of the code official, unless

such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

901.6.15 Periodic testing, inspection, and maintenance: All fire department connections shall be periodically inspected, tested and maintained in accordance with NFPA 25 listed in Chapter 45. Any required inspections and tests shall be performed in the presence of the code official, unless such requirement is waived by the code official. Fees for the attendance of the code official shall be charged in accordance with the fee schedule of the Code Enforcement Bureau.

(55) Chapter 9 section 901.7 is amended by adding the following text after the first sentence of the first paragraph:

901.7 Systems out of Service. Fire watches shall be established and operate in accordance with Appendix B, "Requirements for a Fire Watch".

(56) Delete sections F-504.6 and F-504.7 of the City fire code.

(57) Chapter 9, Section 903.5 is amended by adding the following text and subsections:

903.5 Testing and maintenance: Sprinkler systems shall be tested and maintained in accordance with this Section and Section 901.

903.5.1 Flow test. All systems shall be tested at the test pipe to determine that the water-flow detecting devices, including the associated alarm circuits, are in proper working order. Dry pipe systems shall deliver water to the inspector's test pipe in not more than 60 seconds.

903.5.2 Air test . Before the water supply for a dry pipe system is turned on and the system is placed into service, the system shall be tested with air pressure of at least 40 psi (276 k Pa) and be allowed to stand 24 hours with a maximum pressure loss of 1 ½ psi (10.34 k Pa). To prevent damaging the valve, the clapper valve of a differential-type dry pipe valve shall be held off the seat during any test at a pressure in excess of 50 psi (344.75 k Pa). Automatic air pressure maintenance devices shall be capable of restoring normal operating pressure to the system within 30 minutes, except for low-differential dry pipe systems where the maximum recovery time shall be 60 minutes.

(58) Chapter 10, section 1002.1 is amended by adding the following definition:

Overcrowding: A condition in which the number of occupants exceeds the total number of approved persons permitted to occupy a structure at any one time.

(59) Chapter 10, section 1003.3.1.8.4, exception 3 is deleted.

(60) Chapter 10, section 1008 is amended by adding the following subsection:

1008.15 Accountability. A person responsible for controlling the occupancy capacity shall develop a system to manage the occupancy capacity for approval by the director of code enforcement. This system shall be implemented outside the main entrance and consist of a mechanism to count persons as they enter a facility without restricting egress.

(61) Chapter 10, section 1011 is amended by adding the following subsections:

1011.5 Overcrowding: A person shall not permit overcrowding or admittance of any person beyond the approved occupant load. The code official, upon finding overcrowded conditions or obstruction in aisles, passageways, or other means of egress, or upon finding any condition which constitutes a hazard to life and safety, shall cause the occupancy, performance, presentation, spectacle or entertainment to be stopped until such a condition or obstruction is corrected and the addition of any further occupants prohibited until the approved occupant load is reestablished.

1011.6 Operator responsibility: The operator or the person responsible for the operation of an assembly or educational occupancy shall check egress facilities before such building is occupied to determine compliance with this section. If such inspection reveals that any element of the required means of egress cannot be accessed, is obstructed, locked, fastened or otherwise unsuited for immediate utilization, admittance to the building shall not be permitted until necessary corrective action has been completed.

(62) Chapter 11, subsection 1101 is amended as follows:

1101.3 Permits. Permits to operate aircraft-refueling vehicles, application of flammable or combustible finishes, and hot works shall be obtained from director of code enforcement in accordance with Table 107.2.

(63) Chapter 11 subsection 1107 is amended by adding the following subsection:

1107.1.1 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(64) Chapter 12 subsection 1201 is amended by adding the following subsections:

1201.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(65) Chapter 13 subsection 1301 is amended by adding the following subsections:

1301.2 Permits. Permits shall be obtained from Director of Code Enforcement in accordance with Table 107.2.

(66) Chapter 15, section 1501 is amended to read:

1501.1 4. Floor surfacing or finishing operations.

1501.1 5. The application of dual-component coatings or Class I or II liquids when applied by brush or roller. in quantities exceeding 1 gallon (4L).

(67) Chapter 15, section 1501 is amended by adding the following subsection:

1501.2 Permits. Permits. Permits shall be obtained from the director of code enforcement in accordance with Table 107.2 for spraying, dipping, and exterior spraying operations included within the scope of this chapter and Appendix F "Requirements for Exterior Spray Painting Operations" utilizing any amount of flammable or combustible liquids on any working day.

(68) Chapter 15 subsection 1510 add the following subsection:

1510.1.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(69) Chapter 16 subsection 1601 is amended as follows:

1601.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(70) Chapter 17 subsection 1701 is amended as follows:

1701.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2

(71) Chapter 18 subsection 1801 is amended as follows:

1801.5 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(72) Chapter 19 subsection 1901 is amended as follows:

1901.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(73) Chapter 19 subsection 1907 is amended by adding the following:

1907.1.1 Permits. Permits shall be obtained from the director of code enforcement in accordance with Table 107.2.

(74) Chapter 20 subsection 2001 is amended as follows:

2001.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(75) Chapter 21 subsection 2101 is amended as follows:

2101.2 Permits. Permits shall be obtained from Director of Code Enforcement in accordance with Table 107.2.

(76) Chapter 22 subsection 2201 is amended as follows:

2201.2 Permits. Permits shall be obtained from Director of Code Enforcement in accordance with Table 107.2.

(77) Chapter 22, subsection 2204.3.1 is amended to read as follows:

2204.3.1 General. Where approved, unattended self-service stations are allowed where the public does not have access. As a condition of approval, the owner or operator shall provide and be accountable for, daily site visits, regular equipment inspection and maintenance.

(78) Chapter 22, subsection 2206.2.3 is amended by deleting and adding the following:

2206.2.3 Above-ground tanks located outside, above grade. Above-ground tanks shall not be used for the storage of Class I, II or IIIA liquids motors fuels except where the public does not have access, and as provided by this section.

(1) Above-ground tanks used for outside, above-grade storage of liquid motor fuels shall be listed and labeled as protected above-ground tanks and be in accordance Chapter 34. Such tanks shall be located in accordance with Table 2206.2.3.

(2) Above-ground tanks used for above-grade storage of Class II or IIIA liquids shall be protected above-ground tanks that comply with Chapter 34. Tank locations shall be in accordance with Table 2206.2.3. Tanks containing motor fuels shall not exceed 6,000 gallons) in individual capacity or 18,000 gallons in aggregate capacity. Installations shall be separated from other such installations by not less than 100 feet (30 480 mm)

(3) Tanks located at farms, construction projects, or rural areas shall comply with Section 3406.2.

(79) Chapter 23 subsection 2301 is amended as follows:

2301.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(80) Chapter 24 subsection 2401 is amended as follows:

2401.2 Permits. Tents and membrane structures having an area in excess of 200 square feet (19 m^2) and canopies in excess of 400 square feet (37 m^2) shall not be erected, operated or maintained for any purpose without first obtaining a permit- from director of code enforcement in accordance with Table 107.2.

(81) Chapter 24 subsection 2401.4 is deleted.

(82) Chapter 24 subsection 2401 is amended by adding the following subsection:

2401.8 Certification. An affidavit or affirmation shall be submitted to the fire official and a copy retained on the premises at which the tent or air supported structure is located, attesting to the following relative to the flame resistance of the fabric:

1. The name and addresses of the owners of the tent or air supported structure;
2. Date the fabric was last treated with flame resistant solution;
3. Trade name or kind of chemical used in treatment;
4. The name of the person or firm treating the material, and
5. Name of the testing agency and test standard by which the fabric was tested.

(83) Chapter 25 subsection 2501 is amended as follows:

2501.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(84) Chapter 25 subsection 2503 is amended by adding subsection 2503.1.2 as follows:

2503.1.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(85) Chapter 26 subsection 2601 is amended as follows:

2601.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2

(86) Chapter 27, section 2701.1 is amended as follows:

2701.1 Exceptions 1, 4, and 8, 9 are deleted.

(87) Chapter 27 subsection 2701.4 is amended by deleting and adding the following in the first sentence:

2701.4 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(88) Chapter 23, section F-2307.3 of the city fire code is deleted.

(89) Chapter 28, subsection 2801 is amended as follows:

2801. 2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(90) Chapter 29 subsection 2901 is amended as follows:

2901.3 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(91) Chapter 30 subsection 3001 is amended as follows:
3001.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(92) Chapter 31 subsection 3101 is amended as follows:

3101.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(93) Chapter 32 subsection 3201 is amended as follows:

3201.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(94) Chapter 33, Section 3301.1 is deleted and replaced with the following:

3301.1 Scope. The equipment, processes and operations involving the manufacture, possession, storage sale, use, maintenance and transportation of explosive materials shall comply with the requirements of this code, NFPA 495 and DOTn 49CFR listed in Chapter 45 of this code.

1. The transportation and use of explosives by federal or state military agencies or federal, state or municipal agencies while engaged in normal or emergency performance of duties.
2. The manufacture and distribution of explosives material to, or storage of such materials by military agencies of the United States.
3. The use of explosive materials in medicines and medicinal agents in the forms prescribed by the U. S. Phamacopeia or the National Formulary.
4. Pyrotechnics such as flares, fuses and railway torpedoes.
5. Common fireworks in accordance with this Chapter.
6. The possession, transportation and use of not more than 15 pounds (6.81 kg) of smokeless powder and 1,000 small arms primers for hand loading of small arms ammunition for personal use.
7. The storage, handling transportation or use of explosives or blasting agents pursuant to provisions of Title 45.1 of the Code of Virginia.

(95) Chapter 33 subsection 3301 is amended as follows:

3301.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2 for all blasting operations, firework aerial displays, pyrotechnic events before an audience, the transportation, manufacture, possession, use, storage of explosives and fireworks, and the operation of a terminal for handling explosive material and the delivery to or receipt from a carrier at a terminal between sunset and sunrise.

(96) Chapter 33, Section 3302.1, delete the following:

(97) Chapter 33, Section 3302.1, the definition of Fireworks is deleted and replaced with the following:

3302.1: "Fireworks" shall mean and include any combustible or explosive composition, or any substance or combination of substances or articles prepared for the purpose of producing a visible or an audible effect by combustion, explosion, chemical reaction, deflagration or detonation and shall include blank cartridges, toy pistols, toy cannons, toy canes or toy guns in which explosives are used, the type of balloons which require fire underneath to propel them, firecrackers, torpedoes, skyrockets, model rockets, Roman candles, Daygo bombs, sparklers, pinwheels, poppers, or other devices containing any explosive or flammable compound, or any tablets or other devices of like construction and any devices containing any explosive; except that the term "fireworks" shall not include auto flares, paper caps containing not

in excess of an average of twenty-five hundredths of a grain of explosive content per cap manufactured in accordance with the DOT regulations for packing and shipping as provided therein, and toy pistols, toy cannons, toy canes, toy guns or other devices for use of the caps, the sale and use of which shall be permitted at all times. Pyrotechnics (special fireworks) shall comply with the applicable provisions of this Chapter .

(98) Chapter 33, Section 3303.2 is amended by adding the following subsection:

3303.2.1 Records: Daily records shall be kept of the amount of explosives received from a supplier and the amount delivered to the magazine. A daily record shall be kept of the amount of explosives removed from the magazine for daily use and the amount returned to the magazine. This record will be kept within the magazine so that, on inspection of the magazine, an inventory for all explosives can be made. The inventory shall be separated as to the different types of explosives stored and used. Forms for these records shall be approved by the director of code enforcement.

(99) Chapter 33, Section 3304.5 is amended by adding the following subsection:

3304.5.2.1 Type 2 magazines: Type 2 magazines may be used for temporary storage of explosives at the site of blasting operations where the amount constitutes not more than one day's supply for use in current operations. All explosives not used in the day's operation shall be returned to a Type 1 magazine at the end of the work day for overnight storage. In no case shall a Type 2 magazine be used for overnight storage unless approved by the director of code enforcement. Type 2 magazines shall be allowed only in the I/Industrial Zone.

(100) Chapter 33, Section 3306.4 is amended by adding the following:

3306.4.2 Small arms primers and ammunition. No more than 10,000 small arms primers and ammunition shall be stored in occupancies limited to Group R-3.

(101) Chapter 33, Section 3308.1 is deleted and amended by adding the following subsection:

3308.1 General.

(a) This chapter shall apply to fireworks as hereinafter defined in 3302.1

(b) Nothing in this chapter shall be construed to prohibit: (i) any resident wholesaler, dealer or jobber to sell at wholesale any fireworks as are not herein prohibited; (ii) the sale of any kind of fireworks, provided they are to be shipped directly out of the state, in accordance with the Department of Transportation (DOT) regulations covering the transportation of

explosives and other dangerous articles; (iii) the use of fireworks by railroads or other transportation agencies for signal purposes or illumination; or (iv) the sale or use of blank cartridges for a show or theater or for signal or ceremonial purposes in athletics or sports or for use by military organizations or the police department. Fireworks permitted by this section shall be stored in accordance with this Chapter.

(102) Chapter 33 section 3308 is amended by adding and editing the following subsections:

3308.1.1 Manufacture, sale, possession, and discharge of fireworks:

(b) The manufacture of fireworks is prohibited within the city.

(c) It shall be unlawful for any person to store, offer for sale, expose for sale, sell at retail, use, possess, or explode any fireworks except as otherwise provided in subsections (c) through (f) of subsection 3308.1.2.

(d) The director of code enforcement shall adopt rules and regulations for the granting of permits for supervised public displays of fireworks. The permits shall be issued upon application to the director of code enforcement after the filing of a bond by the applicant as provided in subsection 3308.1.2 Every such display shall be handled by an experienced and competent operator approved by the director of code enforcement and shall be of such composition, character and so located, discharged or fired as will, in the opinion of the director of code enforcement after proper inspection, not be dangerous or hazardous to any property or person.

(e) Applications for permits shall be made in writing at least 45 days in advance of the date of the display. After the permit has been granted, sale, possession, use and distribution of fireworks for display purposes shall be lawful for the purpose only. No permit granted hereunder shall be transferable. Applications for permit shall be in accordance with the requirements in Appendix C, "Requirements for Fireworks Displays."

(f) The sale, possession, use and distribution of fireworks for display purposes shall be conducted so as to be safe to persons and property. Evidence that the sale, possession, use and distribution of fireworks for display purposes has been conducted in accordance with the applicable provision of this chapter of the city code and the applicable standards contained in chapter 45 of the Virginia Statewide Fire Prevention Code shall be evidence that

such sale, possession, use and distribution of fireworks for display purposes provides safety to persons and property.

(g) The director of code enforcement shall adopt rules and regulations for the use of model rockets. The design, construction and use of model rockets shall be safe to persons and property. Evidence that the design, construction and use of model rockets is in accordance with the currently adopted edition of NFPA 1122, "Code for Model Rocketry," published by the National Fire Protection Association, shall be evidence that any design, construction and use provides safety to persons and property.

3308.1.2 Bond and responsibility for fireworks display required:

(a) The director of code enforcement shall require a bond from the permit holder in a sum not less than $2,000,000 (Two Million Dollars) conditioned on compliance with the provisions of this chapter.

(b) Before any permit for a pyrotechnic display shall be issued, the person, firm, or corporation making application shall furnish proof of the responsibility, naming the City of Alexandria as co-insured, to satisfy claims for damages to property or personal injuries arising out of any act or omission on the part of the person, firm or corporation or any agent or employee thereof in such amount, character and form as the director of code enforcement determines to be necessary for the protection of the public.

3308.1.3 Disposal of unfired fireworks: Any fireworks that remain unfired after the display is concluded shall be immediately disposed of in a manner safe for the particular type of fireworks remaining. Aerial fireworks shall be destroyed in an approved manner prior to removal from mortar tubes.

3308.1.4 Seizure of fireworks: The director of code enforcement or designee shall seize, take remove or cause to be removed at the expense of the owner, all fireworks offered for sale, stored or held in violation of this code.

(103) Chapter 33, section 3308.2 is amended by deleting the exception:

(104) Chapter 33, section 3308.11 is amended to read:

3308.11 Retail display and sale. The retail display or sale of fireworks is prohibited.

(105) Chapter 33, add section 3309 Transportation as follows:

3309.1 Prohibited transportation. Explosive materials shall not be carried or transported on a public conveyance or vehicle carrying passengers for hire.

3309.2 Vehicle design. Vehicles transporting explosive materials shall be strong enough to carry the load and shall be in good and safe mechanical condition. The floors shall be tight and have no exposed spark producing surface on the inside of the body. Where explosive materials are transported on a vehicle with an open body, the explosive material shall be stored in a portable magazine or closed container securely fastened to the vehicle body.

3309.3 Vehicle prohibitions. The attachment of a trailer behind a truck, tractor or semi trailer combination for transporting explosive materials is prohibited. The transport of explosive materials in any pole trailer is prohibited.

Exception: Such transport as permitted by DOTn 49CFR listed in Chapter 45 of this code.

3309.4 Vehicle restrictions. Vehicles containing explosive materials shall not be taken into a garage or repair shop for repair or storage.

3309.5 Vehicle contents. Only those dangerous articles authorized to be loaded with explosive materials in accordance with the provisions of this chapter shall be carried in the body of a vehicle transporting explosive materials.

3309.6 Vehicle inspections. The person to whom a permit has been issued to transport explosive materials over the streets and highways of the city shall inspect each vehicle used for such purposes daily, to ensure that:

1. Fire extinguishers are filled and in working order.

2. All electrical wiring is completely protected and securely fashioned to prevent short circuiting.

3. The motor, chassis, oil pan and body undersides are reasonably clean and free of excess grease and oil.

4. Both the fuel tank and fuel line are secure and free from leaks.

5. The brakes, lights windshield wipers, horn and steering mechanism are functioning properly.

6. The tires are properly inflated, have proper tread depth, and are free of defects.

7. The vehicle is otherwise in proper operating condition and acceptable for transporting explosive materials.

8. The operator shall maintain all inspection reports in vehicle at all times.

3309.6.1 Vehicles routinely transporting explosive materials within the city shall be inspected by the code official prior to entering the city limits. Inspection shall occur at six month intervals. The code official shall issue a fire prevention permit to all approved vehicles.

3309.7 Vehicle signs. Vehicles transporting any quantity of explosive materials shall display all placards, signs lettering or numbering in accordance with DOTn 49 CFR listed in Chapter 45.

3309.8 Separation of detonators and explosives. Detonators shall not be transported in the same vehicle with Class A or Class B explosive materials or blasting agents, except as permitted by DOTn 49 CFR listed in Chapter 44.

3309.9 Vehicle traveling clearances. Vehicles transporting explosive materials and traveling in the same direction shall not be driven within 300 feet (91,440 mm) of each other.

3309.10 Vehicle routing. The route followed by vehicles transporting explosive materials shall not pass through congested areas or heavy traffic, except as permitted by the code official. A transportation plan identifying the route of travel shall be submitted to the code official for review and approval.

3309.11 Explosive materials shall not be transported through any vehicular tunnel or subway or over any bridge, roadway or elevated highway through or over which such transport is prohibited.

3309.12 Portable fire extinguishers. Every vehicle transporting explosive materials shall be equipped with portable fire extinguishers capable of being readily accessed, filled and ready for immediate discharge.

3309.12.1 Small trucks. At least two portable fire extinguishers with a minimum 2-A:10-B:C rating shall be provided on each truck with a gross vehicle weight of less than 14,000 lbs. (6356 kg).

3309.12.2 Large trucks. At least two portable fire extinguishers with a minimum 2-A:40-B:C rating shall be provided on trucks with a gross vehicle weight of 14,000 lbs. (6356 kg) or greater.

3309.13 Operating precautions. No person shall carry matches or any other flame producing device, or carry unauthorized firearms or cartridges while in or near a vehicle transporting or storing explosive materials. No person shall drive, load or unload such a vehicle in a careless or reckless manner.

3309.14 Spark protection. Spark producing metal or tools, oils, matches, firearms, electric storage batteries, flammable materials, acids, oxidizers or corrosives shall not be transported or stored in the body of any vehicle being used to store or transport explosive materials or blasting agents.

3309.15 Unattended vehicles. Vehicles being used to store or transport explosive materials shall not be left unattended at any time within the city. No unauthorized person shall ride or be permitted to ride on any such vehicle.

3309.15.1 Responsibilities. The authorized vehicle attendant shall remain awake and alert at all time.

3309.16 Vehicle parking and transfer. Vehicles being used to transport explosive materials shall not be parked, attended or unattended, on any street or road within the city, or adjacent to or in proximity to any building or structure, including a bridge or tunnel, or other place where persons work, congregate or assemble, prior to reaching the vehicles' destination. Explosive materials shall not be transferred from one vehicle to another except in an emergency and under the supervision of the director of code enforcement.

3309.16.1 Emergency conditions. In the event a vehicle being used to transport explosive materials breaks down, is involved in an accident or catches on fire, the city police and fire department shall be notified immediately. Only in the event of a breakdown or accident shall explosive materials be transferred from the disabled vehicle to another, and then only by proper and qualified personnel and under the supervision of the director of code enforcement.

3308.17 Delivery. Delivery of explosive materials shall only be made to authorized persons and into approved magazines or approved temporary storage or handling areas.

3309.18 Explosive materials at terminals. The code official shall designate the location and specify the maximum quantity of explosive materials which are to be loaded, unloaded, reloaded or stored at any given time at each terminal where such operations are permitted.

3309.19 Carrier responsibility. A carrier shall immediately notify the code official when explosive materials or blasting agents are to be transported within the city.

3309.20 Notice to consignee. A carrier shall immediately notify the consignee of the arrival of explosive materials at the carrier's terminal.

3309.21 Consignee responsibility. Upon notification that a shipment of explosive materials has arrived at a terminal, the consignee shall remove such materials to a storage area complying with the provisions of this chapter. Such removal shall be accomplished within 48 hours after receipt of notice, excluding Saturdays, Sundays and legal holidays.

(106) Chapter 34 subsection 3401 is amended as follows:

3401.4 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(107) Chapter 34 section 3404 is amended by adding the following subsections:

3404.2.7.12 Spill prevention plan: The owner or operator of any storage facility comprised of one or more tanks above or below ground with a total capacity of 5,000 gallons or more shall prepare and maintain on-site a plan for product spill prevention, control and countermeasures certified by a professional engineer registered in the Commonwealth of Virginia and approved by the director of code enforcement. The certification of the professional engineer shall be that the plan is in substantial compliance with the spill prevention, control and countermeasures plan requirements of the Environmental Protection Agency contained in part 112 of title 40, Code of Federal Regulations. A plan that has been approved by the Environmental Protection Agency may be submitted to the director of code enforcement in lieu of one certified by a professional engineer.

3404.2.7.13 Clean-up of spills and leaks: The owner, tenant or other person in control of premises where a spill or leak has occurred shall be responsible for taking immediate and effective countermeasures to contain the spill, clean up the flammable or combustible liquid and dispose of all waste in an approved manner. Upon notification by the city that it has determined that such person lacks the capability or intent to perform these countermeasures, the person notified shall have a reasonable opportunity to elect either to contract with another for the performance of these countermeasures or to join the city in a contract with another for such work. In either case, the person shall pay the entire cost of the work. If a person who has received a notice from the city under this section fails to inform the city of his election within the time specified in the notice, the city may proceed without delay to undertake the required countermeasures, and to charge the owner, tenant or other person in control of the premises the entire cost of such work.

3404.2.7.14 Monitoring wells: Two permanent monitoring wells shall be installed in opposing corners of the tank field on all new installations after the effective date of this regulation. These wells shall extend to a minimum depth of two feet below the bottom of the tanks in the tank field. These wells shall be a minimum of four inches schedule 40 PVC screen pipe or equivalent and shall be flush with covering surface and covered with standard metal cover and gravel packed to prevent clogging. The screened section shall have a minimum size of .025 inch.

3404.2.7.15 Tank closure: All underground storage tanks permanently removed from service shall have a site assessment in accordance with the regulations of the Virginia State Water Control Board. A copy of this Assessment must be submitted to the fire official, and to the Virginia Water Control Board if it so requires. A minimum of three soil samplings should be obtained to complete this assessment.

Previously used tanks which are removed from the ground shall not be reinstalled unless the original manufacturer certifies that they are suitable for service. The manufacturers written certification must be kept on file at the facility and be available for inspection by the director of code enforcement.

3404.2.7.16 Product inventory: All buried tanks installed after this regulation is effective shall have provisions for taking direct measurements of readings of content level by the stick method. Liquid levels of storage tanks shall be measured by the operator each day of operation and compared with pump meter readings taken on receipt of the product. These records shall be kept in a log book and be available for reasonable inspection by the director of code enforcement and/or his representative. Loss of product above normal evaporation (one-half of one percent of pump meter sales readings) shall be reported immediately to the director of code enforcement. Records shall be retained for two years. This period shall be extended upon request of the director of code enforcement.

3404.2.7.17 Special equipment: High liquid level gauges or alarm systems as well as pump cut-off devices shall be installed by the owner or the authorized operator in all oil storage tanks wherever in the judgment of the Director of Code Enforcement there is a possibility that product may be lost by overflowing. Since these emergency devices can fail to operate, their use for spill prevention purposes shall be considered only as auxiliary and supplementary to the use of personnel engaged in a transfer or fill operation.

(108) Chapter 34, section 3406 is amended by adding the following subsection:

3406.6.5 Maintenance: Tank vehicles operating within the city while in transit into or out of the city shall be maintained in accordance with the federal regulations contained in parts 390 through 397 of title 49, Code of Federal Regulations. Part 397.3 of Title 49 requires that all motor vehicles carrying hazardous materials comply with state and local laws, ordinances and regulations, unless the regulations of the U.S. Department of Transportation apply and are more strict. Pursuant to the authority granted in section 18.2-278.4 of the Code of Virginia (1950), as amended, any duly sworn law enforcement officer of the city, including the chief fire marshal, chief deputy fire marshal, and any deputy fire marshals may halt any tank vehicle which is observed to have a condition or characteristic which indicates that there exists a violation of city, state or federal regulations governing the transportation of hazardous materials. The vehicle may be detained long enough to determine whether the permits required for transporting hazardous materials have been obtained, whether the cargo is secure, and whether the observed condition or characteristic presents an immediate threat of a transportation related spill or other catastrophic event. The tank vehicle may resume operation if it is found to be in good repair and free of leaks in accordance with NFPA 385. If that finding is not made, the vehicle shall not be detained any longer than necessary for the officer or official to determine that arrangements for the repair of the vehicle where situated or for its removal to a safe place and repair there, whichever in the judgment of the officer or official is appropriate, are made. Upon refusal of the operator to make arrangements required by the officer or

official, the vehicle shall be impounded and held until the repair is made or until the officer or official is certain it will be made.

(109) Chapter 35 subsection 3501 is amended as follows:

3501.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(110) Chapter 36 subsection 3601 is amended as follows:

3601.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(111) Chapter 36 subsection 3606 is amended by adding the following subsection:

3606.1.2 Permits. Permits shall be obtained from the director of code enforcement in accordance with Table 107.2.

(112) Chapter 37 subsection 3701 is amended as follows:

3701.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(113) Chapter 38 subsection 3801 is amended as follows:

3801.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(114) Chapter 38 subsection 3803 is amended by adding the following subsection:

3803.2.2.1 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2 for the storage and operation of industrial vehicles and floor maintenance machines.

(115) Chapter 39 subsection 3901 is amended as follows:

3901.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(116) Chapter 40 subsection 4001 is amended as follows:

4001.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(117) Chapter 41 subsection 4101 is amended as follows:

4101.2. Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(118) Chapter 42 subsection 4201 is amended as follows:

4201.2. Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(119) Chapter 43 subsection 4301 is amended as follows:

4301.2 Permits. Permits shall be obtained from director of code enforcement in accordance with Table 107.2.

(120) Chapter 44 subsection 4401 is amended as follows:

4401.2 Permits. Permits shall be required as set forth in Section 105.6 obtained from director of code enforcement in accordance with Table 107.2.

Section 2. That this ordinance shall become effective upon the date and at the time of its final passage.

WILLIAM D. EUILLE
Mayor

Final Passage: June 21, 2005