

EXHIBIT NO. 1

36
6-12-04

~~15~~
~~6-9-04~~

Introduction and first reading:	6/09/04
Public hearing:	6/12/04
Second reading and enactment:	6/12/04

INFORMATION ON PROPOSED ORDINANCE

Title

AN ORDINANCE to amend and reordain Section 6-300 (FLOODPLAIN DISTRICT), of Article VI (SPECIAL AND OVERLAY ZONES) of the City of Alexandria Zoning Ordinance (TA No. 2004-0002).

Summary

The proposed ordinance accomplishes the final adoption of Text Amendment No. 2004-0002, to implement changes to the City's floodplain regulations required for the City's continued participation in the National Flood Insurance Program.

Sponsor

Staff

Rich Baier, Director of Transportation and Environmental Services
Ignacio B. Pessoa, City Attorney

Authority

§ 9.09, Alexandria City Charter

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 Section 6-300 (FLOODPLAIN DISTRICT), of Article VI (SPECIAL AND OVERLAY ZONES) of the City of Alexandria Zoning Ordinance (TA No. 2004-0002).

THE CITY COUNCIL OF ALEXANDRIA HEREBY ORDAINS:

Section 1. That Section 6-300 of the City of Alexandria Zoning Ordinance be, and the same hereby is, amended to read as shown in the text attached hereto and incorporated herein fully by reference.

Section 2. That Section 6-300 of the City of Alexandria Zoning Ordinance, as amended by this ordinance, be, and the same hereby is, reordained as part of the City of Alexandria Zoning Ordinance.

Section 3. That this ordinance shall become effective upon the date and at the time of its final passage, and shall apply to all applications for land use or land development approval provided for under the City of Alexandria Zoning Ordinance which are filed on and after June 12, 2004, and are pending on and after the effective date before any city department, agency or board, or before city council, or on judicial review, and shall apply to all other facts and circumstances subject to the provisions of the City of Alexandria Zoning Ordinance, except as may be provided in Article XII of said Ordinance.

WILLIAM D. EUILLE
Mayor

Introduction: 6/9/04
First Reading: 6/9/04
Publication:
Public Hearing:
Second Reading:
Final Passage:

Sec. 6-300 Floodplain district.

6-301 Floodplain districts created.

- (A) There are hereby established floodplain districts throughout the city as shown on a map entitled "Floodplain Map, The City of Alexandria, Alexandria, Virginia," dated May 15, 1991, signed by the mayor, the chairman of the planning commission and the director of transportation and environmental services, which map is on file in the offices of the director of transportation and environmental services. Said floodplain district map is hereby made a part of this ordinance, and such map and all notations, references and other data shown thereon are by this reference made a part hereof as if fully described herein. The basis for the Floodplain Map is the Flood Insurance Rate Map (FIRM) dated May 15, 1991, and any subsequent revisions thereto. Any changes in said map are subject to approval by the Federal Insurance Administration of the Federal Emergency Management Agency (FEMA) prior to becoming effective and such approval shall be evidenced by notice in writing from the federal insurance administrator or an authorized representative.
- (B) Any uncertainty on the floodplain district map with respect to the boundary of any floodplain district, either A or AE zone as hereinafter defined, shall be determined by the director of transportation and environmental services by scaling and computation from the map.

6-302 Regulations required.

- (A) The floodplain management regulations in this section 6-300 are adopted in compliance with floodplain management criteria set forth in regulations promulgated by the Federal Insurance Administration of FEMA.
- (B) Should any uncertainty occur with respect to the definition of any word, term or phrase used in this section 6-300, the applicable definitions set out in 44 C.F.R. 59.1, as amended, shall apply.
- (C) For purposes of this ordinance, the 100-year-flood level, as defined in section 6-303 shall be used as the basis for regulation.

- (1) *Within Zone A*, when available, information from federal, state and other acceptable sources shall be used to determine the 100-year-flood level and, if possible, the floodway. When no other information is available, the 100-year-flood level shall be determined by using a point on the boundary of the floodplain which is nearest the construction site in question *and base flood elevation data shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres (whichever is less)*.
- (2) Notwithstanding the provisions of section 6-302(C)(1), the director of transportation and environmental services may require an applicant for a building permit to determine the 100-year-flood level with hydrologic and hydraulic engineering techniques. Hydrologic and hydraulic analyses shall be undertaken only by professional engineers or others of demonstrated qualifications, who shall certify that the technical methods used correctly reflect currently accepted technical concepts. Studies, analyses, computations and other information relied on shall be submitted in sufficient detail to allow a thorough technical review by the director of transportation and environmental services.

6-303 Definitions. For the purposes of this section 6-300 the following terms and words are defined as follows:

- (A) A Zone. An area of 100-year-flood as shown on the floodplain district map.
- (B) AE Zone. An area shown on the floodplain district map for which base flood levels have been provided.
- (C) Base flood/100-year-flood. A flood that, on the average, is likely to occur once every 100 years (i.e., that has a one percent chance of occurring each year, although the flood may occur in any year).
- (D) Base flood level/100-year-flood level. The elevation to which the water associated with a base, or 100-year, flood will rise.
- (E) Basement. Any area of a building having its floor subgrade, or below ground level, on all sides.

- (F) Development. Any man made change to improved or unimproved real estate, including, but not limited to, the construction of buildings or other structures, the placement of manufactured homes, the construction of streets, the installation of utilities and other activities or operations involving paving, filling, grading, excavating, mining, dredging or drilling, the storage of equipment or materials.
- (G) Flood. A general and temporary inundation by water of normally dry land areas.
- (H) Floodplain. A relatively flat or low land area adjoining a river, stream or other watercourse which is subject to partial or complete inundation by water from such watercourse, or a land area which is subject to the unusual and rapid accumulation or runoff of surface waters from any source.
- (I) Floodplain district map. The map referenced in and adopted pursuant to section 6-301 of this ordinance.
- (J) Flood-prone area. Any land area susceptible to being inundated by water from any source more often than once in a 100-year period.
- (K) Floodway. The designated area of a floodplain required to carry and discharge flood waters of a given magnitude. For purposes of this section 6-300, a floodway must be capable of accommodating a flood of the 100-year magnitude.
- (L) Lowest floor. The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable ~~flood water~~ floodproofing non-elevation design requirements of this section 6-300.
- (M) Manufactured home. A structure, transportable in one or more sections, which is eight body feet or more in width and 40 body feet or more in length in the traveling mode, or 320 or more square feet when erected on site, which is built on a permanent chassis and is designed to be used as a single-family dwelling, with or without permanent foundation, when connected to the required facilities, and which includes the plumbing, heating, air conditioning and electrical systems contained in the structure. A manufactured home shall

include park trailers and other similar vehicles when placed on a site for greater than 180 days.

- (N) **Nonresidential building.** Any building or structure which is not a residential building.
- (O) **Residential building.** Any single-family dwelling, two-family dwelling, row or townhouse dwelling or multifamily dwelling and any accessory building or structure.
- (P) **Substantial damage.** Damage of any origin sustained by a building or structure whereby the cost of restoring the building or structure to its before damaged condition would equal or exceed 50 percent of the market value of the building or structure before the damage occurred.
- (Q) **Substantial improvement.** Any repair, reconstruction, rehabilitation, addition or other improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the building or structure immediately before construction of the improvement is commenced, or any restoration of a building or structure which has incurred substantial damage; provided, that the term does not include (i) any improvement of a building or structure that is necessary to correct existing violations of state or local health, sanitary or safety code specifications which have been identified by appropriate officials of the state or city and which are the minimum necessary to assure safe living conditions, or (ii) any improvement of a "historic structure," as defined in 44 C.F.R. 59.1, so long as the improvement does not preclude the structure's continued designation as a "historic structure."
- (R) **Start of construction.** The date a building permit is issued, provided that the actual start of construction begins within 180 days of the permit issuance date. For new construction, the actual start of construction means the initial placement of permanent construction of a structure on the site, such as the pouring of footings or a slab, the installation of piles, the construction of columns or any work beyond the state of excavation, or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling, or the installation of streets or walkways, or excavation for a basement or for footings, piers or foundations, or the erection of temporary forms, or the installation of accessory buildings, such as garages or sheds not occupied as dwelling units and not part of the main structure. For substantial improvements, the actual start of construction means the first alteration of

any wall, ceiling, floor or other structural part of a building, whether or not the alteration affects the external dimensions of the buildings.

- (S) New construction. Buildings and structures as to which the start of construction occurred on or after May 24, 1977, including any subsequent improvements to such buildings or structures.

6-304 Floodproofing. Wherever floodproofing is utilized within the scope of this section 6-300, such floodproofing shall be done by approved methods. A registered professional engineer or architect shall certify the adequacy of the floodproofing design to withstand the stresses of the base flood and such plan shall cite the elevation to which the structure is floodproofed. Such certification shall be provided on Federal Emergency Management Agency National Flood Insurance Program Elevation Certificate and/or Floodproofing Certificate as applicable. Designs meeting the requirements of the W-1 and W-2 without human intervention technique as outlined in floodproofing regulations of the Office of the Chief of Engineers, U.S. Army, ~~June 1972~~ December 15, 1995, shall be deemed to comply with this requirement. The building or code official shall maintain a file of such certifications, including the elevation of the lowest floor for structures that are elevated in lieu of watertight floodproofing.

6-305 Director's review.

- (A) Permit Required for development. A permit must be obtained prior to the start of any development within the 100 year floodplain district.
- (B) The director of transportation and environmental services shall review all site plans submitted pursuant to section 11-400 of this ordinance, all plats of subdivision submitted pursuant to section 11-1700 of this ordinance ~~chapter 5, title 7, of the city code~~ and all applications for building permits which plans, plats or applications propose to construct or make substantial improvements within any floodplain district. No such site plan, subdivision plat or building permit application for property within any floodplain district shall be approved by any agency of the city without certification by the director of transportation and environmental services that the plan, plat or permit application meets the requirements of this section 6-300. The director shall insure that all other required permits from state or federal governmental agencies have been obtained.

6-306 Prohibitions for trailer camps, manufactured homes, mobile homes and septic tank systems.

(A) Trailer camps, manufactured homes and mobile homes are not permitted in any floodplain district shown on the map adopted pursuant to section 6-301. For purposes of this section 6-306(A), "mobile home" means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities.

(B) Installations of septic tank systems in any floodplain district shown on the map adopted pursuant to section 6-301 are prohibited.

6-307 Special regulations. Within the boundaries of any A or AE zones in any floodplain district as shown on the floodplain district map, buildings or structures and their extensions and accessory buildings or structures may be constructed or substantially improved only in accordance with the following requirements and all other applicable provisions of law:

(A) The elevation of the lowest floor, including the basement, for any new residential building or any extension to a residential building shall be at or above the 100-year-flood level as noted on said map.

(B) The elevation of the lowest floor, including the basement, for any new nonresidential building or structure and any extension or accessory to a nonresidential building shall be at or above the 100-year-flood level as noted on said map, unless all floors below the 100-year-flood level, together with their attendant utility and sanitary facilities, are ~~adequately~~ watertight floodproofed up to the 100-year-flood level, and the building or structure or the extension or accessory is designed to resist uplift and/or horizontal water pressure; provided, that in no event shall any floor below the 100-year-flood level be used for human or animal habitation, food storage or food preparation.

(C) All new and replacement public utilities, water mains and sanitary sewers shall be designed to minimize or eliminate infiltration and exfiltration and to insure their structural integrity under flood conditions to the satisfaction of the director.

- (D) Water heaters, furnaces, electrical distribution panels and other critical mechanical or electrical installations shall not be installed below the 100-year-flood level. Separate electrical circuits shall serve areas below the 100-year-flood level and shall be dropped from above.
- (E) Any proposed use of land development and any new construction or substantial improvement of a building or structure within an AE zone where no floodway is delineated, in conjunction with all other uses, existing or possessing a valid permit for construction, shall not increase the water surface elevation of the 100-year-flood more than one-half foot. Any person proposing a land use or development or such construction or improvement within an AE zone where no floodway is delineated, shall furnish specific engineering data and information as to the effect of the proposed action on future flood heights and obtain approval from the director of transportation and environmental services prior to undertaking the action.
- (F) Any proposed use of land, development and any new construction or substantial improvement within a floodway, in conjunction with all other uses, existing or possessing a valid permit for construction, shall not increase the water surface elevation of the 100-year-flood in the floodway. Any person proposing a land use or development or such construction or improvement within a floodway shall furnish specific engineering data and information as to the effect of the proposed action on future flood heights and obtain approval from the director of transportation and environmental services prior to undertaking the action.
- (G) No building permit shall be issued for the construction or substantial improvement of a building or structure unless the applicant submits to the code enforcement bureau a certification from a duly registered architect or engineer that the proposed construction (including prefabricated homes) or improvement meets the following requirements:
- (1) The construction shall be protected against flood damage;
 - (2) The construction shall be designed (or modified) and anchored to prevent flotation, collapse or lateral movement of the building and structure;
 - (3) The construction shall be built using materials and utility equipment that are resistant to flood damage; and

- (4) The construction shall be built using methods and practices that will minimize flood damage.

The certification required by sections 6-307(G)(1) and (2) shall be based on the 100-year-flood level as noted on the floodplain district map.

- (H) No building permit for the substantial improvement of an existing nonresidential building shall be issued unless the building, together with attendant utility and sanitary facilities, has the lowest floor (including the basement) elevated to or above the 100-year-flood level. Should this not be feasible, no such permit shall be issued unless the existing structure is watertight floodproofed in all areas below the 100-year-flood level to the classification designated by the director of transportation and environmental services.
- (I) No building permit for the substantial improvement of an existing residential building shall be issued unless the building has the lowest floor (including the basement) elevated to or above the 100-year-flood level.

6-308 Other conditions.

- (A) No filling of any kind shall be allowed within the boundaries of any AE zone floodplain district except where such filling, when considered in conjunction with all other uses, existing and proposed, will not increase the water surface elevation of the 100 year-flood more than one-half foot. No filling of any kind shall be allowed within the floodway except where such filling will not increase that water surface elevation of the 100-year flood. Persons proposing such filling shall furnish specific engineering data and information as to the effect of their proposed action on future flood heights and shall obtain approval from the director of transportation and environmental services prior to any filling.
- (B) No wall, fence or other outdoor obstruction shall be constructed in any floodplain district unless such structure is approved by the director of transportation and environmental services; provided that open mesh wire fences of not less than No. 9 wire, with mesh openings of not less than six inches times six inches, whose supports shall be securely anchored in concrete and whose wire shall be securely fastened to the supports, may be erected without any review by or approval of the director of transportation and environmental services under this section 6-300.

- (C) The provisions of this section 6-300 shall not be construed to prevent the remodeling (not amounting to substantial improvement), maintenance or floodproofing of buildings and structures now existing, or prevent the surfacing or resurfacing of existing streets or parking lots within two inches of the existing grade.

6-309 Flood prevention projects; conditions. Nothing in section 6-304 through section 6-308 inclusive shall be construed to prohibit the city or any person from undertaking lawful filling, draining, construction, realignment or relocation of stream channels or any other improvement that is intended to eliminate or reduce the danger of flooding, provided:

- (A) The improvement is in accord with the city flood improvement plan for the district involved, and the director of transportation and environmental services of the city has issued a certificate to that effect.
- (B) The improvement is under the general supervision of the director of transportation and environmental services.
- (C) The realignment or relocation of any stream channel is designed and constructed so that there will be no reduction in the natural valley storage capacity of the area with respect to the 100 year-flood, unless such relocation or realignment is designed to contain the 100 year-flood within the banks of the channel.
- (D) *The requirements of Section 6-307(E) and (F) and Section 308(A) must be met.*

6-310 Same; notification of other jurisdictions. The director of transportation and environmental services shall for any flood prevention project undertaken or approved after June 1, 1977, involving the alteration or relocation of a watercourse, notify the Federal Insurance Administrator of FEMA and the counties of Arlington and Fairfax of such project at least 15 days prior to commencing work. A copy of such notification shall be provided to the Division of *Dam Safety and Floodplain Management, Department of Conservation & Recreation Soil and Water Conservation in the Virginia Department of Conservation and Historic Resources.* Prior to any such alteration or relocation, any required approval shall be obtained from the Virginia Department of Conservation *& Recreation and Historic Resources,* the U.S. Corps of Engineers, the Marine Resources Commission and the Virginia State Water Control Board. The director of transportation and environmental services shall assure that the flood-carrying capacity within any such altered or relocated watercourse is maintained.

6-311 Variance or waiver.

- (A) The city council may, for good and sufficient cause shown, permit less than full compliance with or waive the provisions of section 6-304 through section 6-308, provided:

 - (1) Written application is made stating the hardship which will occur if the variance or waiver is not granted;
 - (2) A public hearing is held;
 - (3) The decision is made by a majority vote of the entire membership of city council upon a finding that the variance or waiver is the minimum necessary, considering the flood hazard, to afford relief;
 - (4) The director of transportation and environmental services states in writing that the variance or waiver will not result in increased danger to life, limb or property, will not violate the general principles of good floodplain management and control, and will not increase the water surface elevation of the 100-year flood more than one-half foot; and
 - (5) The director of transportation and environmental services notifies the applicant in writing that the issuance of a variance to construct a structure below the base flood level will result in increased insurance premium rates for flood insurance and that such construction will increase the risks to life and property;
- (B) Notwithstanding the provisions of section 6-311(A), no variance or waiver shall be granted for any construction, development, use or activity within any floodway that will cause any increase in the 100-year-flood level.
- (C) The director of transportation and environmental services shall maintain a record of all variance or waiver actions taken by city council, including their justifications. Such information shall be reported to the Federal Insurance Administration of FEMA, the clearing house established by the United States Office of Management and Budget Circular No. A-95, and the Virginia State Water Control Board.

6-312 Annual report. It shall be the city manager's duty to submit any reports that may be required regarding the city's compliance with flood management regulations.

6-313 Applicability As to transition period construction, etc., generally. Notwithstanding the provisions of section 6-304 through section 6-308 inclusive:

- (A) All buildings for which a building permit shall have been duly and regularly issued by the director of building and mechanical inspections on or before May 24, 1977, which permit has not expired, may be completed without the necessity of complying with section 6-304 through section 6-308 inclusive, but after completion, any such building or structure and the land on which it is situated shall be subject to all the provisions of said sections.**
- (B) All preliminary site plans which have been duly and regularly approved on or before May 24, 1977, and which have not expired, may be completed without the necessity of complying with section 6-304 through 6-308 inclusive, but after completion, any building or structure on said site plan together with the land included in said site plan shall be subject to all the provisions of said sections.**
- (C) All final site plans which have been duly and regularly approved and released on or before May 24, 1977, and which have not expired may be completed without the necessity of complying with section 6-304 through section 6-308 inclusive, but after completion, any building or structure on said site plan together with the land included in said site plan shall be subject to all the provisions of said sections.**
- (D) Any building or structure which is in existence on May 28, 1991, or for which a preliminary or combination site plan, building permit or subdivision approved on or before May 28, 1991, continues in force and effect shall not be deemed a nonconforming use by virtue of any amendment to article D, chapter 6, title 7 of the city code enacted on May 28, 1991, and may be completed in accordance with the provisions of sections 7-6-54 through 7-6-58 in effect prior to May 28, 1991; provided, that any such building or structure which, following May 28, 1991, is the subject of substantial improvement shall comply with the floodplain regulations in effect at the time of such improvement.**

6-314 Appeals. Any person aggrieved by a decision of the director of transportation and environmental services under this section 6-300 may appeal that decision to city council; provided, that the appeal shall be filed in writing with the city clerk within 15 days of the decision being appealed and shall describe the decision being appealed and the reasons why the person believes the decision to be invalid.

ORDINANCE NO. 4354

AN ORDINANCE to amend and reordain Section 6-300 (FLOODPLAIN DISTRICT), of Article VI (SPECIAL AND OVERLAY ZONES) of the City of Alexandria Zoning Ordinance (TA No. 2004-0002).

THE CITY COUNCIL OF ALEXANDRIA HEREBY ORDAINS:

Section 1. That Section 6-300 of the City of Alexandria Zoning Ordinance be, and the same hereby is, amended to read as shown in the text attached hereto and incorporated herein fully by reference.

Section 2. That Section 6-300 of the City of Alexandria Zoning Ordinance, as amended by this ordinance, be, and the same hereby is, reordained as part of the City of Alexandria Zoning Ordinance.

Section 3. That this ordinance shall become effective upon the date and at the time of its final passage, and shall apply to all applications for land use or land development approval provided for under the City of Alexandria Zoning Ordinance which are filed on and after June 12, 2004, and are pending on and after the effective date before any city department, agency or board, or before city council, or on judicial review, and shall apply to all other facts and circumstances subject to the provisions of the City of Alexandria Zoning Ordinance, except as may be provided in Article XII of said Ordinance.

WILLIAM D. EUILLE
Mayor

Final Passage: June 12, 2004

Sec. 6-300 Floodplain district.

6-301 Floodplain districts created.

- (A) There are hereby established floodplain districts throughout the city as shown on a map entitled "Floodplain Map, The City of Alexandria, Alexandria, Virginia," dated May 15, 1991, signed by the mayor, the chairman of the planning commission and the director of transportation and environmental services, which map is on file in the offices of the director of transportation and environmental services. Said floodplain district map is hereby made a part of this ordinance, and such map and all notations, references and other data shown thereon are by this reference made a part hereof as if fully described herein. The basis for the Floodplain Map is the Flood Insurance Rate Map (FIRM) dated May 15, 1991, and any subsequent revisions thereto. Any changes in said map are subject to approval by the Federal Insurance Administration of the Federal Emergency Management Agency (FEMA) prior to becoming effective and such approval shall be evidenced by notice in writing from the federal insurance administrator or an authorized representative.
- (B) Any uncertainty on the floodplain district map with respect to the boundary of any floodplain district, either A or AE zone as hereinafter defined, shall be determined by the director of transportation and environmental services by scaling and computation from the map.

6-302 Regulations required.

- (A) The floodplain management regulations in this section 6-300 are adopted in compliance with floodplain management criteria set forth in regulations promulgated by the Federal Insurance Administration of FEMA.
- (B) Should any uncertainty occur with respect to the definition of any word, term or phrase used in this section 6-300, the applicable definitions set out in 44 C.F.R. 59.1, as amended, shall apply.
- (C) For purposes of this ordinance, the 100-year-flood level, as defined in section 6-303 shall be used as the basis for regulation.
 - (1) Within Zone A, when available, information from federal, state and other acceptable sources shall be used to determine the 100-year-flood level and, if possible, the floodway. When no other information is available, the 100-year-flood level shall be

determined by using a point on the boundary of the floodplain which is nearest the construction site in question and base flood elevation data shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres (whichever is less).

- (2) Notwithstanding the provisions of section 6-302(C)(1), the director of transportation and environmental services may require an applicant for a building permit to determine the 100-year-flood level with hydrologic and hydraulic engineering techniques. Hydrologic and hydraulic analyses shall be undertaken only by professional engineers or others of demonstrated qualifications, who shall certify that the technical methods used correctly reflect currently accepted technical concepts. Studies, analyses, computations and other information relied on shall be submitted in sufficient detail to allow a thorough technical review by the director of transportation and environmental services.

6-303 Definitions. For the purposes of this section 6-300 the following terms and words are defined as follows:

- (A) A Zone. An area of 100-year-flood as shown on the floodplain district map.
- (B) AE Zone. An area shown on the floodplain district map for which base flood levels have been provided.
- (C) Base flood/100-year-flood. A flood that, on the average, is likely to occur once every 100 years (i.e., that has a one percent chance of occurring each year, although the flood may occur in any year).
- (D) Base flood level/100-year-flood level. The elevation to which the water associated with a base, or 100-year, flood will rise.
- (E) Basement. Any area of a building having its floor subgrade, or below ground level, on all sides.
- (F) Development. Any man made change to improved or unimproved real estate, including, but not limited to, the construction of buildings or other structures, the placement of manufactured homes, the construction of streets, the installation of utilities and other activities or operations involving paving, filling, grading, excavating, mining, dredging or drilling, the storage of equipment or materials.

- (G) Flood. A general and temporary inundation by water of normally dry land areas.
- (H) Floodplain. A relatively flat or low land area adjoining a river, stream or other watercourse which is subject to partial or complete inundation by water from such watercourse, or a land area which is subject to the unusual and rapid accumulation or runoff of surface waters from any source.
- (I) Floodplain district map. The map referenced in and adopted pursuant to section 6-301 of this ordinance.
- (J) Flood-prone area. Any land area susceptible to being inundated by water from any source more often than once in a 100-year period.
- (K) Floodway. The designated area of a floodplain required to carry and discharge flood waters of a given magnitude. For purposes of this section 6-300, a floodway must be capable of accommodating a flood of the 100-year magnitude.
- (L) Lowest floor. The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable floodproofing non-elevation design requirements of this section 6-300.
- (M) Manufactured home. A structure, transportable in one or more sections, which is eight body feet or more in width and 40 body feet or more in length in the traveling mode, or 320 or more square feet when erected on site, which is built on a permanent chassis and is designed to be used as a single-family dwelling, with or without permanent foundation, when connected to the required facilities, and which includes the plumbing, heating, air conditioning and electrical systems contained in the structure. A manufactured home shall include park trailers and other similar vehicles when placed on a site for greater than 180 days.
- (N) Nonresidential building. Any building or structure which is not a residential building.
- (O) Residential building. Any single-family dwelling, two-family dwelling, row or townhouse dwelling or multifamily dwelling and any accessory building or structure.

- (P) Substantial damage. Damage of any origin sustained by a building or structure whereby the cost of restoring the building or structure to its before damaged condition would equal or exceed 50 percent of the market value of the building or structure before the damage occurred.
- (Q) Substantial improvement. Any repair, reconstruction, rehabilitation, addition or other improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the building or structure immediately before construction of the improvement is commenced, or any restoration of a building or structure which has incurred substantial damage; provided, that the term does not include (i) any improvement of a building or structure that is necessary to correct existing violations of state or local health, sanitary or safety code specifications which have been identified by appropriate officials of the state or city and which are the minimum necessary to assure safe living conditions, or (ii) any improvement of a "historic structure," as defined in 44 C.F.R. 59.1, so long as the improvement does not preclude the structure's continued designation as a "historic structure."
- (R) Start of construction. The date a building permit is issued, provided that the actual start of construction begins within 180 days of the permit issuance date. For new construction, the actual start of construction means the initial placement of permanent construction of a structure on the site, such as the pouring of footings or a slab, the installation of piles, the construction of columns or any work beyond the state of excavation, or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling, or the installation of streets or walkways, or excavation for a basement or for footings, piers or foundations, or the erection of temporary forms, or the installation of accessory buildings, such as garages or sheds not occupied as dwelling units and not part of the main structure. For substantial improvements, the actual start of construction means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not the alteration affects the external dimensions of the buildings.
- (S) New construction. Buildings and structures as to which the start of construction occurred on or after May 24, 1977, including any subsequent improvements to such buildings or structures.

6-304 Floodproofing. Wherever floodproofing is utilized within the scope of this section 6-300, such floodproofing shall be done by approved methods. A registered professional engineer or architect shall certify the adequacy of the floodproofing

design to withstand the stresses of the base flood and such plan shall cite the elevation to which the structure is floodproofed. Such certification shall be provided on Federal Emergency Management Agency, National Flood Insurance Program, Elevation Certificate and/or Floodproofing Certificate as applicable. Designs meeting the requirements of the W-1 and W-2 without human intervention technique as outlined in floodproofing regulations of the Office of the Chief of Engineers, U.S. Army, December 15, 1995, shall be deemed to comply with this requirement. The building or code official shall maintain a file of such certifications, including the elevation of the lowest floor for structures that are elevated in lieu of watertight floodproofing.

6-305 Director's review.

- (A) Permit Required for development. A permit must be obtained prior to the start of any development within the 100 year floodplain district.
- (B) The director of transportation and environmental services shall review all site plans submitted pursuant to section 11-400 of this ordinance, all plats of subdivision submitted pursuant to section 11-1700 of this ordinance and all applications for building permits which plans, plats or applications propose to construct or make substantial improvements within any floodplain district. No such site plan, subdivision plat or building permit application for property within any floodplain district shall be approved by any agency of the city without certification by the director of transportation and environmental services that the plan, plat or permit application meets the requirements of this section 6-300. The director shall insure that all other required permits from state or federal governmental agencies have been obtained.

6-306 Prohibitions for trailer camps, manufactured homes, mobile homes and septic tank systems.

- (A) Trailer camps, manufactured homes and mobile homes are not permitted in any floodplain district shown on the map adopted pursuant to section 6-301. For purposes of this section 6-306(A), "mobile home" means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities.
- (B) Installations of septic tank systems in any floodplain district shown on the map adopted pursuant to section 6-301 are prohibited.

6-307 Special regulations. Within the boundaries of any A or AE zones in any floodplain district as shown on the floodplain district map, buildings or structures and their extensions and accessory buildings or structures may be constructed or substantially improved only in accordance with the following requirements and all other applicable provisions of law:

- (A) The elevation of the lowest floor, including the basement, for any new residential building or any extension to a residential building shall be at or above the 100-year-flood level as noted on said map.
- (B) The elevation of the lowest floor, including the basement, for any new nonresidential building or structure and any extension or accessory to a nonresidential building shall be at or above the 100-year-flood level as noted on said map, unless all floors below the 100-year-flood level, together with their attendant utility and sanitary facilities, are watertight floodproofed up to the 100-year-flood level, and the building or structure or the extension or accessory is designed to resist uplift and/or horizontal water pressure; provided, that in no event shall any floor below the 100-year-flood level be used for human or animal habitation, food storage or food preparation.
- (C) All new and replacement public utilities, water mains and sanitary sewers shall be designed to minimize or eliminate infiltration and exfiltration and to insure their structural integrity under flood conditions to the satisfaction of the director.
- (D) Water heaters, furnaces, electrical distribution panels and other critical mechanical or electrical installations shall not be installed below the 100-year-flood level. Separate electrical circuits shall serve areas below the 100-year-flood level and shall be dropped from above.
- (E) Any proposed use of land, development and any new construction or substantial improvement of a building or structure within an AE zone where no floodway is delineated, in conjunction with all other uses, existing or possessing a valid permit for construction, shall not increase the water surface elevation of the 100-year-flood more than one-half foot. Any person proposing a land use or development or such construction or improvement within an AE zone where no floodway is delineated, shall furnish specific engineering data and information as to the effect of the proposed action on future flood heights and obtain approval from the director of transportation and environmental services prior to undertaking the action.

- (F) Any proposed use of land, development and any new construction or substantial improvement within a floodway, in conjunction with all other uses, existing or possessing a valid permit for construction, shall not increase the water surface elevation of the 100-year-flood in the floodway. Any person proposing a land use or development or such construction or improvement within a floodway shall furnish specific engineering data and information as to the effect of the proposed action on future flood heights and obtain approval from the director of transportation and environmental services prior to undertaking the action.
- (G) No building permit shall be issued for the construction or substantial improvement of a building or structure unless the applicant submits to the code enforcement bureau a certification from a duly registered architect or engineer that the proposed construction (including prefabricated homes) or improvement meets the following requirements:
- (1) The construction shall be protected against flood damage;
 - (2) The construction shall be designed (or modified) and anchored to prevent flotation, collapse or lateral movement of the building and structure;
 - (3) The construction shall be built using materials and utility equipment that are resistant to flood damage; and
 - (4) The construction shall be built using methods and practices that will minimize flood damage. The certification required by sections 6-307(G)(1) and (2) shall be based on the 100-year-flood level as noted on the floodplain district map.
- (H) No building permit for the substantial improvement of an existing nonresidential building shall be issued unless the building, together with attendant utility and sanitary facilities, has the lowest floor (including the basement) elevated to or above the 100-year-flood level. Should this not be feasible, no such permit shall be issued unless the existing structure is watertight floodproofed in all areas below the 100-year-flood level to the classification designated by the director of transportation and environmental services.
- (I) No building permit for the substantial improvement of an existing residential building shall be issued unless the building has the lowest floor (including the basement) elevated to or above the 100-year-flood level.

6-308 Other conditions.

- (A) No filling of any kind shall be allowed within the boundaries of any AE zone floodplain district except where such filling, when considered in conjunction with all other uses, existing and proposed, will not increase the water surface elevation of the 100 year-flood more than one-half foot. No filling of any kind shall be allowed within the floodway except where such filling will not increase that water surface elevation of the 100-year flood. Persons proposing such filling shall furnish specific engineering data and information as to the effect of their proposed action on future flood heights and shall obtain approval from the director of transportation and environmental services prior to any filling.
- (B) No wall, fence or other outdoor obstruction shall be constructed in any floodplain district unless such structure is approved by the director of transportation and environmental services; provided that open mesh wire fences of not less than No. 9 wire, with mesh openings of not less than six inches times six inches, whose supports shall be securely anchored in concrete and whose wire shall be securely fastened to the supports, may be erected without any review by or approval of the director of transportation and environmental services under this section 6-300.
- (C) The provisions of this section 6-300 shall not be construed to prevent the remodeling (not amounting to substantial improvement), maintenance or floodproofing of buildings and structures now existing, or prevent the surfacing or resurfacing of existing streets or parking lots within two inches of the existing grade.

6-309 Flood prevention projects; conditions. Nothing in section 6-304 through section 6-308 inclusive shall be construed to prohibit the city or any person from undertaking lawful filling, draining, construction, realignment or relocation of stream channels or any other improvement that is intended to eliminate or reduce the danger of flooding, provided:

- (A) The improvement is in accord with the city flood improvement plan for the district involved, and the director of transportation and environmental services of the city has issued a certificate to that effect.
- (B) The improvement is under the general supervision of the director of transportation and environmental services.
- (C) The realignment or relocation of any stream channel is designed and constructed so that there will be no reduction in the natural valley storage

capacity of the area with respect to the 100 year-flood, unless such relocation or realignment is designed to contain the 100 year-flood within the banks of the channel.

- (D) The requirements of Section 6-307(E) and (F) and Section 308(A) must be met.

6-310 Same; notification of other jurisdictions. The director of transportation and environmental services shall for any flood prevention project undertaken or approved after June 1, 1977, involving the alteration or relocation of a watercourse, notify the Federal Insurance Administrator of FEMA and the counties of Arlington and Fairfax of such project at least 15 days prior to commencing work. A copy of such notification shall be provided to the Division of Dam Safety and Floodplain Management, Department of Conservation & Recreation. Prior to any such alteration or relocation, any required approval shall be obtained from the Virginia Department of Conservation & Recreation, the U.S. Corps of Engineers, the Marine Resources Commission and the Virginia State Water Control Board. The director of transportation and environmental services shall assure that the flood-carrying capacity within any such altered or relocated watercourse is maintained.

6-311 Variance or waiver.

- (A) The city council may, for good and sufficient cause shown, permit less than full compliance with or waive the provisions of section 6-304 through section 6-308, provided:
 - (1) Written application is made stating the hardship which will occur if the variance or waiver is not granted;
 - (2) A public hearing is held;
 - (3) The decision is made by a majority vote of the entire membership of city council upon a finding that the variance or waiver is the minimum necessary, considering the flood hazard, to afford relief;
 - (4) The director of transportation and environmental services states in writing that the variance or waiver will not result in increased danger to life, limb or property, will not violate the general principles of good floodplain management and control, and will not increase the water surface elevation of the 100-year flood more than one-half foot; and

- (5) The director of transportation and environmental services notifies the applicant in writing that the issuance of a variance to construct a structure below the base flood level will result in increased insurance premium rates for flood insurance and that such construction will increase the risks to life and property;
- (B) Notwithstanding the provisions of section 6-311(A), no variance or waiver shall be granted for any construction, development, use or activity within any floodway that will cause any increase in the 100-year-flood level.
- (C) The director of transportation and environmental services shall maintain a record of all variance or waiver actions taken by city council, including their justifications. Such information shall be reported to the Federal Insurance Administration of FEMA, the clearing house established by the United States Office of Management and Budget Circular No. A-95, and the Virginia State Water Control Board.

6-312 Annual report. It shall be the city manager's duty to submit any reports that may be required regarding the city's compliance with flood management regulations.

6-313 Applicability As to transition period construction, etc., generally. Notwithstanding the provisions of section 6-304 through section 6-308 inclusive:

- (A) All buildings for which a building permit shall have been duly and regularly issued by the director of building and mechanical inspections on or before May 24, 1977, which permit has not expired, may be completed without the necessity of complying with section 6-304 through section 6-308 inclusive, but after completion, any such building or structure and the land on which it is situated shall be subject to all the provisions of said sections.
- (B) All preliminary site plans which have been duly and regularly approved on or before May 24, 1977, and which have not expired, may be completed without the necessity of complying with section 6-304 through 6-308 inclusive, but after completion, any building or structure on said site plan together with the land included in said site plan shall be subject to all the provisions of said sections.

- (C) All final site plans which have been duly and regularly approved and released on or before May 24, 1977, and which have not expired may be completed without the necessity of complying with section 6-304 through section 6-308 inclusive, but after completion, any building or structure on said site plan together with the land included in said site plan shall be subject to all the provisions of said sections.
- (D) Any building or structure which is in existence on May 28, 1991, or for which a preliminary or combination site plan, building permit or subdivision approved on or before May 28, 1991, continues in force and effect shall not be deemed a nonconforming use by virtue of any amendment to article D, chapter 6, title 7 of the city code enacted on May 28, 1991, and may be completed in accordance with the provisions of sections 7-6-54 through 7-6-58 in effect prior to May 28, 1991; provided, that any such building or structure which, following May 28, 1991, is the subject of substantial improvement shall comply with the floodplain regulations in effect at the time of such improvement.

6-314 Appeals. Any person aggrieved by a decision of the director of transportation and environmental services under this section 6-300 may appeal that decision to city council; provided, that the appeal shall be filed in writing with the city clerk within 15 days of the decision being appealed and shall describe the decision being appealed and the reasons why the person believes the decision to be invalid.