

	Introduction and first reading:	04/12/11
	Public hearing:	04/12/11
	Second reading and enactment:	04/16/11

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, in accordance with the text amendment heretofore approved by city council as Text Amendment No. 2011-0004.

Summary

The proposed ordinance accomplishes the final adoption of Text Amendment No. 2011-0004 to implement changes to the City's floodplain regulations in accord with the model Federal Emergency Management Agency (FEMA) regulations and adopting new Flood Insurance Rate Maps (FIRMS) as the City's floodplain maps.

Sponsor

Department of Transportation and Environmental Services

Staff

Emily Baker, City Engineer, Department of Transportation and Environmental Services
 Joanna C. Anderson, Assistant City Attorney

Authority

§9.09 Alexandria City Charter
 § 11-800, City of Alexandria Zoning Ordinance

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, in accordance with the text amendment heretofore approved by city council as Text Amendment No. 2011-0004.

WHEREAS, the City Council finds and determines that:

1. In Text Amendment No. 2011-0004, the planning commission, having found that the public necessity, convenience, general welfare and good zoning practice so require, recommended approval to the City Council on March 1, 2011 of a text amendment to the Zoning Ordinance to adopt revised floodplain regulations, which recommendation was approved by the City Council at public hearing on March 12, 2011;

2. The City Council in adopting this ordinance expressly adopts, ratifies, affirms and concurs in the finding and action of the Planning Commission above stated;

3. All requirements of law precedent to the adoption of this ordinance have been complied with; now, therefore,

THE CITY COUNCIL OF ALEXANDRIA HEREBY ORDAINS:

Section 1. That Section 6-300 of the Zoning Ordinance be, and the same hereby is, amended by deleting the current section in its entirety and inserting new language, as shown:

Sec. 6-300 Floodplain district.

6-301 Purpose and Intent.

(A) This ordinance is adopted pursuant to the authority granted to all localities by Va. Code § 15.2 – 2280, as well as the authority specifically granted to the City in its Charter. The purpose of these provisions is to prevent: the loss of life and property, the creation of health and safety hazards, the disruption of commerce and governmental services, the extraordinary and unnecessary expenditure of public funds for flood protection and relief, and the impairment of the tax base by:

- (1) regulating uses, activities, and development which, alone or in combination with other existing or future uses, activities, and development, will cause unacceptable increases in flood heights, velocities, and frequencies;
- (2) restricting or prohibiting certain uses, activities, and development from locating within districts subject to flooding;
- (3) requiring all those uses, activities, and developments that do occur

1 in flood-prone districts to be protected and/or flood-proofed
2 against flooding and flood damage; and,
3

- 4 (4) protecting individuals from buying land and structures which are
5 unsuited for intended purposes because of flood hazards.
6

7 *6-302 Applicability.*
8

9 (A) These provisions shall apply to all privately and publicly owned lands
10 within the jurisdiction of the City of Alexandria and identified as being in
11 a floodplain as designated in the Flood Insurance Study and as shown on
12 the Flood Insurance Rate Maps prepared by the Federal Emergency
13 Management Agency (FEMA) dated June 16, 2011.
14

15 (B) The floodplain district regulations in Section 6-300 are adopted in
16 compliance with floodplain management criteria set forth in regulations
17 promulgated by FEMA.
18

19 (C) This section shall be applicable to all applicants for building permits in the
20 floodplain area.
21

22 (D) All buildings for which a building permit shall have been duly and
23 regularly issued by the director of building and mechanical inspections on
24 or before May 24, 1977, which permit has not expired, may be completed
25 without the necessity of complying with the floodplain district regulations
26 in Section 6-300, but after completion, any such building or structure and
27 the land on which it is situated shall be subject to all the provisions of said
28 section.
29

30 (E) All preliminary site plans which have been duly and regularly approved on
31 or before May 24, 1977, and which have not expired, may be completed
32 without the necessity of complying with the floodplain district regulations
33 in Section 6-300, but after completion, any building or structure on said
34 site plan together with the land included in said site plan shall be subject to
35 all the provisions of said section
36

37 (F) All final site plans which have been duly and regularly approved and
38 released on or before May 24, 1977, and which have not expired may be
39 completed without the necessity of complying with the floodplain district
40 regulations in Section 6-300, but after completion, any building or
41 structure on said site plan together with the land included in said site plan
42 shall be subject to all the provisions of said section.
43

44 (G) Any building or structure which is in existence on or before June 15, 2011,
45 or for which a preliminary or combination site plan, building permit or
46

1 subdivision approved on or before June 15, 2011, continues in force and
2 effect shall not be deemed a nonconforming use provided, that any such
3 building or structure which, following June 15, 2011, is the subject of
4 substantial improvement shall comply with the floodplain regulations in
5 effect at the time of such improvement.
6

7 **6-303 Definitions.** For the purposes of this Section 6-300 the following terms and
8 phrases shall have the meaning ascribed as follows below. Should any
9 uncertainty occur with respect to the definition of any word, term or phrase used
10 in this section, the applicable definitions set out in 44 CFR 59.1, as amended,
11 shall apply.
12

- 13 (A) *A Zone.* An area of the one hundred (100)-year flood as shown on the
14 Flood Insurance Rate Map. This zone is also referred to as the
15 Approximated Floodplain District.
16
- 17 (B) *AE Zone.* An area shown of the 100-year flood on the Flood Insurance
18 Rate Map for which corresponding base flood elevations have been
19 provided. This zone is also referred to as the Special Floodplain District.
20
- 21 (C) *Base flood.* The flood having a one percent chance of being equaled or
22 exceeded in any given year. May also be referred to as the 100-year flood.
23
- 24 (D) *Base flood elevation (BFE).* The FEMA designated 100-year water
25 surface elevation as shown on the Flood Insurance Rate Map that
26 corresponds to the base flood.
27
- 28 (E) *Basement.* Any area of a building (including parking) having its floor
29 subgrade (below ground level) on all sides.
30
- 31 (F) *Development.* Any man-made change to improved or unimproved real
32 estate, including, but not limited to, the construction of buildings or other
33 structures, the placement of manufactured homes, the construction of
34 streets, the installation of utilities and other activities or operations
35 involving paving, filling, grading, excavating, mining, dredging or
36 drilling, the storage of equipment or materials.
37
- 38 (G) *Existing manufactured home park or subdivision.* A manufactured home
39 park or subdivision for which the construction of facilities for servicing
40 the lots on which the manufactured homes are to be affixed (including, at a
41 minimum, the installation of utilities, the construction of streets, and either
42 final site grading or the pouring of concrete pads) is completed before the
43 effective date of the floodplain management regulations adopted by a
44 community.
45
- 46 (H) *Flood/flooding.*

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- (1) A general and temporary condition of partial or complete inundation of normally dry land areas from:
 - (a) the overflow of inland or tidal waters;
 - (b) the unusual and rapid accumulation or runoff of surface waters from any source; or,
 - (c) mudflows which are proximately caused by flooding as defined in paragraph (1)(b) of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.

- (2) The collapse or subsistence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in paragraph (1)(a) of this definition.

- (I) *Flood Insurance Rate Map (FIRM)*. An official map of a community, on which the FEMA Federal Insurance Administrator has delineated both the special flood hazard areas and the risk premium zones applicable to the community. A Flood Insurance Rate Map that has been made available digitally is called a Digital Flood Insurance Rate Map (DFIRM). The official Flood Insurance Rate Map for the City of Alexandria shall be the in the digital format prepared by FEMA, Federal Insurance Administration, dated June 16, 2011, as amended.

- (J) *Flood Insurance Study (FIS)*. An examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudflow and/or flood-related erosion hazards. The official Flood Insurance Study for the City of Alexandria shall be the Flood Insurance Study prepared by FEMA, Federal Insurance Administration, dated June 16, 2011, as amended.

- (K) *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.

- 1 (L) *Floodplain district.* The areas encompassed by the 100-year floodplain as
2 shown on the Flood Insurance Rate Map.
3
- 4 (M) *Flood-prone area.* Any land area susceptible to being inundated by water
5 from any source more often than once in a 100-year period.
6
- 7 (N) *Floodproofing.* Any combination of structural and non-structural
8 additions, changes, or adjustments to structures which reduce or eliminate
9 flood damage to real estate or improved real property, water and sanitary
10 facilities, structures and their contents.
11
- 12 (O) *Floodway.* The designated area of a floodplain required to carry and
13 discharge flood waters of a given magnitude. For purposes of this Section
14 6-300, a floodway must be capable of accommodating a flood of the 100-
15 year magnitude.
16
- 17 (P) *Freeboard.* A factor of safety usually expressed in feet above a specified
18 flood level for purposes of floodplain management. "Freeboard" tends to
19 compensate for the many unknown factors that could contribute to flood
20 heights greater than the height calculated for a selected size flood and
21 floodway conditions, such as wave action, bridge openings, and the
22 hydrological effect of urbanization in the watershed.
23
- 24 (Q) *Highest adjacent grade.* The highest natural elevation of the ground
25 surface prior to construction next to the proposed walls of a structure.
26
- 27 (R) *Historic structure.* Any structure that is:
28
- 29 (1) listed individually in the National Register of Historic Places (a
30 listing maintained by the Department of Interior) or preliminarily
31 determined by the Secretary of the Interior as meeting the
32 requirements for individual listing on the National Register;
33
 - 34 (2) certified or preliminarily determined by the Secretary of the
35 Interior as contributing to the historical significance of a registered
36 historic district or a district preliminarily determined by the
37 Secretary to qualify as a registered historic district;
38
 - 39 (3) individually listed on a state inventory of historic places in states
40 with historic preservation programs which have been approved by
41 the Secretary of the Interior; or,
42
 - 43 (4) individually listed on a local inventory of historic places in
44 communities with historic preservation programs that have been
45 certified either by an approved state program as determined by the
46 Secretary of the Interior or directly by the Secretary of the Interior

1 in states without approved programs.

- 2
- 3 (S) *Lowest floor.* The lowest floor of the lowest enclosed area (including
- 4 basement). A parking structure that is below grade on all sides is
- 5 considered a basement and therefore the lowest floor. An unfinished or
- 6 flood resistant enclosure, usable solely for parking of vehicles, building
- 7 access or storage, in an area other than a basement area (the enclosure is
- 8 not below grade on all sides) is not considered a building's lowest floor;
- 9 provided, that such enclosure is not built so as to render the structure in
- 10 violation of the applicable floodproofing non-elevation design
- 11 requirements of this Section 6-300.
- 12
- 13 (T) *Manufactured home.* A structure, transportable in one or more sections,
- 14 which is built on a permanent chassis and is designed to be used as a
- 15 single-family dwelling, with or without permanent foundation, when
- 16 connected to the required facilities, and which includes the plumbing,
- 17 heating, air conditioning and electrical systems contained in the structure.
- 18 A manufactured home shall include park trailers and other similar vehicles
- 19 when placed on a site for greater than 180 days.
- 20
- 21 (U) *Mixed-use building.* Any building or structure that is used or intended for
- 22 use for a mixture of nonresidential and residential uses in the same
- 23 building or structure. For floodplain management purposes, a mixed-use
- 24 building is subject to the same rules and conditions as a residential
- 25 building unless all of the provisions set forth more specifically herein are
- 26 met.
- 27
- 28 (V) *New construction.* Buildings and structures as to which the start of
- 29 construction occurred on or after May 24, 1977, including any subsequent
- 30 improvements to such buildings or structures. For floodplain management
- 31 purposes, new construction means structures for which the start of
- 32 construction commenced on or after the effective date of a floodplain
- 33 management regulation adopted by a community and includes any
- 34 subsequent improvements to such structures.
- 35
- 36 (W) *Nonresidential building.* Any building or structure which is not a
- 37 residential building or a mixed-use building.
- 38
- 39 (X) *Recreational vehicle.* A vehicle which is
- 40
- 41 (1) built on a single chassis;
- 42
- 43 (2) 400 square feet or less when measured at the largest horizontal
- 44 projection;
- 45
- 46 (3) designed to be self-propelled or permanently towable by a light

1 duty truck; and,

2
3 (4) designed primarily not for use as a permanent dwelling but as
4 temporary living quarters for recreational camping, travel, or
5 seasonal use.

6
7 (Y) *Residential building.* Any single-family dwelling, two-family dwelling,
8 row or townhouse dwelling, or multi-family dwelling, and any accessory
9 building or structure.

10
11 (Z) *Shallow flooding area.* A special flood hazard area with base flood depths
12 from one to three feet where a clearly defined channel does not exist,
13 where the path of flooding is unpredictable and indeterminate, and where
14 velocity flow may be evident. Such flooding is characterized by ponding
15 or sheet flow.

16
17 (AA) *Special Flood Hazard Area (SFHA).* The land in the floodplain subject to
18 a one percent or greater chance of being flooded in any given year as
19 designated on the official Flood Insurance Rate Map for the City of
20 Alexandria.

21
22 (BB) *Start of construction.* The date a building permit is issued, provided that
23 the actual start of construction begins within 180 days of the permit
24 issuance date. For new construction, the actual start of construction means
25 the initial placement of permanent construction of a structure on the site,
26 such as the pouring of footings or a slab, the installation of piles, the
27 construction of columns or any work beyond the state of excavation, or the
28 placement of a manufactured home on a foundation. Permanent
29 construction does not include land preparation, such as clearing, grading
30 and filling, or the installation of streets or walkways, or excavation for a
31 basement or for footings, piers or foundations, or the erection of
32 temporary forms, or the installation of accessory buildings, such as
33 garages or sheds not occupied as dwelling units and not part of the main
34 structure. For substantial improvements, the actual start of construction
35 means the first alteration of any wall, ceiling, floor or other structural part
36 of a building, whether or not the alteration affects the external dimensions
37 of the buildings.

38
39 (CC) *Structure.* For flood plain management purposes, a walled and roofed
40 building, including a gas or liquid storage tank, that is principally above
41 ground, as well as a manufactured home. "Structure" for insurance
42 coverage purposes, means:

43
44 (1) A building with two or more outside rigid walls and a fully secured
45 roof, that is affixed to a permanent site;

- 1 (2) A manufactured home (also known as a mobile home), is a
 2 structure: built on a permanent chassis, transported to its site in one
 3 or more sections, and affixed to a permanent foundation; or
 4
 5 (3) A travel trailer without wheels, built on a chassis and affixed to a
 6 permanent foundation, that is regulated under the community's
 7 floodplain management and building ordinances or laws.
 8

9 For the latter purpose, "structure" does not mean a recreational vehicle or a park
 10 trailer or other similar vehicle, except as described in paragraph (3) of this
 11 definition, or a gas or liquid storage tank.
 12

13 (DD) *Substantial damage.* Damage of any origin sustained by a building or
 14 structure whereby the cost of restoring the building or structure to its
 15 before damaged condition would equal or exceed 50 percent of the market
 16 value of the building or structure before the damage occurred.
 17

18 (EE) *Substantial improvement.* Any repair, reconstruction, rehabilitation,
 19 addition or other improvement of a building or structure, the cost of which
 20 equals or exceeds 50 percent of the market value of the building or
 21 structure immediately before construction of the improvement is
 22 commenced, or any restoration of a building or structure which has
 23 incurred substantial damage; provided, that the term does not include:
 24

25 (1) Any improvement of a building or structure that is necessary to
 26 correct existing violations of state or local health, sanitary or safety
 27 code specifications which have been identified by appropriate
 28 officials of the state or city and which are the minimum necessary
 29 to assure safe living conditions; or
 30

31 (2) Any improvement of a "historic structure," as defined in this
 32 section, so long as the improvement does not preclude the
 33 structure's continued designation as a "historic structure."
 34

35 (FF) *Violation.* The failure of a structure or other development to be fully
 36 compliant with the City of Alexandria's floodplain management
 37 regulations. A structure or other development without the elevation
 38 certificate, other certifications, or other evidence of compliance required
 39 in 44 CFR Sec. 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) is
 40 presumed to be in violation until such time as that documentation is
 41 provided.
 42
 43

44 *6-304 Description of Floodplain Districts.*
 45

46 (A) The various floodplain districts shall include the Special Flood Hazard

1 Areas described below. The basis for the delineation of these districts
2 shall be the Flood Insurance Study and the Flood Insurance Rate Maps for
3 the City of Alexandria prepared by FEMA, Federal Insurance
4 Administration, dated June 16, 2011, and any subsequent revisions and
5 amendments thereto.
6

7 (1) The Special Floodplain District shall include those areas identified
8 as an AE Zone on the Flood Insurance Rate Map for which 100-
9 year base flood elevations have been provided.
10

11 (2) The Approximated Floodplain District shall include those areas
12 identified as an A Zone on the Flood Insurance Rate Map. In these
13 zones, no detailed flood profiles or elevations are provided, but the
14 100-year floodplain boundary has been approximated. For these
15 areas, the 100-year flood elevations and floodway information
16 from federal, state, and other acceptable sources shall be used,
17 when available. Where the specific 100-year flood elevation
18 cannot be determined for this area using other sources of data, such
19 as the U.S. Army Corps of Engineers Flood Plain Information
20 Reports, U.S. Geological Survey Flood-prone Quadrangles, etc.,
21 then the applicant for the proposed use, development and/or
22 activity shall determine this elevation in accordance with FEMA-
23 approved hydrologic and hydraulic engineering techniques.
24 Hydrologic and hydraulic analyses shall be undertaken only by
25 professional engineers or others of demonstrated qualifications,
26 who shall certify that the technical methods used correctly reflect
27 currently-accepted technical concepts. Studies, analyses,
28 computations, etc., shall be submitted in sufficient detail to allow a
29 thorough review by the Director of Transportation and
30 Environmental Services.
31

32 (B) The delineation of any of the floodplain districts may be revised by the
33 City of Alexandria where natural or man-made changes have occurred
34 and/or where more detailed studies have been conducted or undertaken by
35 the U.S. Army Corps of Engineers or other qualified agency, or an
36 individual documents the need for such change. Updates to the
37 delineation of the floodplain districts require approval from both the City
38 of Alexandria and the FEMA Federal Insurance Administration.
39

40 (C) Any uncertainty on the floodplain district map, or Flood Insurance Rate
41 Map, with respect to the boundary of any floodplain district, either A or
42 AE Zone, shall be determined by the Director of Transportation and
43 Environmental Services by scaling and computation from the map or by
44 land survey information.
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- (A) The Director of Transportation and Environmental Services shall be responsible for the administration of the floodplain management regulations set forth in this Section 6-300. He or she shall be responsible for the review of all proposed uses and development to determine whether the land on which the proposed use or development is located is in a floodplain, and that the site is reasonably safe from flooding.

- (B) An applicant must apply for a permit and issuance of the permit is required prior to the start of any development within the Special Flood Hazard Area.

- (C) No site plan, subdivision plat or building permit application which proposes to construct or make substantial improvements within any floodplain district shall be approved by any agency of the City of Alexandria 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 of Transportation and Environmental Services shall insure that all other required permits related to development in the floodplain from state or federal governmental agencies have been obtained.

- (D) All applications for new construction or substantial improvement within any floodplain district, and all building permits issued for the floodplain shall incorporate the following information:
 - (1) the base flood elevation at the site;
 - (2) the elevation of the lowest floor (including basement);
 - (3) for structures to be floodproofed (nonresidential only), the elevation to which the structure will be floodproofed; and,
 - (4) topographic information showing existing and proposed ground elevations.

- (E) The Director of Transportation and Environmental Services may require information from the applicant, including, but not limited to, an engineering study of the floodplain. Upon a determination that the land on which the proposed use or development is located in a floodplain, the Director of Transportation and Environmental Services shall determine whether such use or development may be permitted in accordance with the provisions of Section 6-306 through 6-308 or requires the approval of a variance as set forth in Section 6-311.

- (F) The Director of Transportation and Environmental Services shall be

1 responsible for the collection and maintenance of records necessary for the
2 City's participation in the National Flood Insurance Program. Base flood
3 elevations may increase or decrease resulting from physical changes
4 affecting flooding conditions. As soon as practicable, but not later than
5 six months after the date such information becomes available, the Director
6 of Transportation and Environmental Services shall notify or require the
7 applicant to notify the FEMA Federal Insurance Administrator of any
8 change in base flood elevation or the boundaries of any Special Flood
9 Hazard Area depicted on the City's Flood Insurance Rate Map by
10 submitting technical and scientific data to FEMA for a Letter of Map
11 Revision.
12

13 *6-306 Special Regulations.*
14

15 Within the boundaries of any A or AE Zones in any floodplain district as shown
16 on the Flood Insurance Rate Map, buildings or structures and their extensions and
17 accessory buildings or structures maybe be constructed or substantially improved
18 only in accordance with the following requirements of this Section 6-300 and all
19 other applicable provisions of law.
20

- 21 (A) The elevation of the lowest floor, including the basement, for any new
22 residential building or any extension to a residential building shall be at
23 least one foot above the base flood elevation.
24
- 25 (B) The elevation of the lowest floor, including the basement for any new
26 nonresidential building or structure and any extension or accessory to a
27 nonresidential building shall be at least one foot above the base flood
28 elevation. Nonresidential buildings located in all A or AE zones may be
29 floodproofed in lieu of being elevated provided that all areas of the
30 building components below the elevation corresponding to the base flood
31 elevation plus one foot are watertight with walls substantially
32 impermeable to the passage of water, and use structural components
33 having the capability of resisting hydrostatic and hydrodynamic loads and
34 the effect of buoyancy. In no event shall any floor below at least one foot
35 above the base flood elevation be used for human or animal habitation,
36 food storage or food preparation.
37
- 38 (C) All new and replacement public utilities, water mains and sanitary sewers
39 shall be designed to minimize or eliminate infiltration and exfiltration and
40 to insure their structural integrity under flood conditions to the satisfaction
41 of the Director of Transportation and Environmental Services.
42 (D) Water heaters, furnaces, electrical distribution panels and other critical
43 mechanical or electrical installations shall not be installed below the base
44 flood elevation. Separate electrical circuits shall serve areas below the
45 base flood elevation and shall be dropped from above.
46

- 1 (E) Any proposed use of land, development and any new construction or
2 substantial improvement of a building or structure within an A or AE
3 zone, in conjunction with all other uses, existing or possessing a valid
4 permit for construction, shall not increase the water-surface elevation of
5 the 100-year flood by more than 0.5 foot. Any party proposing a land use
6 or development or such construction or improvement within an A or AE
7 Zone shall furnish specific engineering data and information as to the
8 effect of the proposed action on future flood heights and obtain approval
9 from the Director of Transportation and Environmental Services prior to
10 undertaking the action.
- 11
- 12 (F) No building permit shall be issued for the construction or substantial
13 improvement of a building or structure unless the applicant submits to the
14 Department of Code Administration a certification from a duly registered
15 architect or engineer that the proposed construction (including
16 prefabricated homes) or improvement meets the following requirements:
- 17
- 18 (1) the construction shall be protected against flood damage;
- 19
- 20 (2) the construction shall be designed (or modified) and anchored to
21 prevent flotation, collapse or lateral movement of the building and
22 structure;
- 23
- 24 (3) the construction shall be built using materials and utility equipment
25 that are resistant to flood damage; and,
- 26
- 27 (4) the construction shall be built using methods and practices that will
28 minimize flood damage. The certification required by Section 6-
29 306(F)(1) and (2) shall be based on the 100-year flood level as
30 noted on the Flood Insurance Rate Map.
- 31
- 32 (G) No building permit for the substantial improvement of an existing
33 nonresidential building shall be issued unless the building, together with
34 attendant utility and sanitary facilities, has the lowest floor (including the
35 basement) elevated at least one foot above the base flood elevation.
36 Should this not be feasible, no such permit shall be issued unless the
37 existing structure is watertight floodproofed as described in Section 6-306
38 in all areas below the base flood elevation to the classification designated
39 by the Director of Transportation and Environmental Services.
- 40
- 41 (H) No building permit for the substantial improvement of an existing
42 residential building shall be issued unless the building has the lowest floor
43 (including the basement) elevated at least one foot above the base flood
44 elevation.
- 45
- 46 (I) Wherever floodproofing is utilized within the scope of this Section 6-300,

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

- 14
- 15 (J) For all new construction or substantially improved structures, fully
16 enclosed areas below the lowest floor (other than a basement) which are
17 below the base flood elevation shall:
- 18
- 19 (1) only be used for the parking of vehicles, building access, or limited
20 storage of maintenance equipment used in connection with the
21 premises and shall not be designed or used for human habitation.
22 Access to the enclosed area shall be the minimum necessary to
23 allow for parking of vehicles (garage door) or limited storage of
24 maintenance equipment (standard exterior door), or the entry to the
25 living area (stairway or elevator);
- 26
- 27 (2) be constructed entirely of flood resistant materials below the base
28 flood elevation; and,
- 29
- 30 (3) include, in A and AE Zones, measures to automatically equalize
31 hydrostatic flood forces on walls by allowing for the entry and exit
32 of floodwaters. To meet this requirement, the openings must be
33 certified by a professional engineer or architect or meet the
34 minimum design criteria:
- 35
- 36 (a) provide a minimum of two openings on different sides of each
37 enclosed area subject to flooding;
- 38
- 39 (b) the total net area of all openings must be at least one square
40 inch for each square foot of enclosed area subject to flooding;
- 41 (c) if a building has more than one enclosed area, each area must
42 have openings to allow floodwaters to automatically enter and
43 exit;
- 44
- 45 (d) the bottom of all required openings shall be no higher than one
46 foot above the adjacent grade;

- (e) openings may be equipped with screens, louvers, or other opening coverings or devices, provided they permit the automatic flow of floodwaters in both directions; and,
- (f) foundation enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires openings as outlined above.

(K) Any mixed-use building may be considered a nonresidential building for purposes of this Section 6-306 if all of the following conditions are met; otherwise, the building shall be considered a residential building:

- (1) no more than twenty percent of the development site is within the boundaries of any A or AE Zones in any floodplain district as shown on the Flood Insurance Rate Map;
- (2) at least 20,000 square feet of finished floor area of the proposed mixed-use building is devoted to nonresidential use;
- (3) basement areas (including below grade parking) must be located outside the boundaries of any A or AE Zones in any floodplain district; and,
- (4) all floodproofing requirements specified in this Section 6-300 and as specified in FEMA Technical Bulletin 3-93 Non-Residential Floodproofing – Requirements and Certification must be met.

6-307 Other Conditions.

- (A) No filling of any kind shall be allowed within the boundaries of any A or AE Zone except where such filling, when considered in conjunction with all other uses, existing and proposed, will not increase the base flood elevation more than 0.5 foot. 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) All uses, activities and development occurring within any floodplain district shall only be undertaken in strict compliance with the Virginia Uniform Statewide Building Code (VA USBC).
- (C) No wall, fence or other outdoor obstruction shall be constructed in any floodplain district unless such structure is approved by the Director of

1 Transportation and Environmental Services; provided that open mesh wire
2 fences of not less than No. 9 wire, with mesh openings of not less than six
3 inches times six inches, whose supports shall be securely anchored in
4 concrete and whose wire shall be securely fastened to the supports, may be
5 erected without any review by or approval of the Director of
6 Transportation and Environmental Services under this Section 6-300.
7

- 8 (D) The provisions of this Section 6-300 shall not be construed to prevent the
9 remodeling (not amounting to substantial improvement), maintenance or
10 floodproofing of buildings and structures now existing, or prevent the
11 surfacing or resurfacing of existing streets or parking lots within two
12 inches of the existing grade.
13

14 *6-308 Subdivision Requirements.*

- 15
16 (A) Subdivision proposals which are located in A or AE Zones must comply
17 with the provisions of Section 6-300 and shall:
18
19 (1) be consistent with the need to minimize flood damage;
20
21 (2) have public utilities and facilities such as sewer, gas, electrical and
22 water systems located and constructed to minimize flood damage;
23
24 (3) have adequate drainage provided to reduce exposure to flood
25 hazards; and,
26 (4) include base flood elevation data.
27

28 *6-309 Trailer Camps, Manufactured Homes, Mobile Homes, Recreational Vehicles and*
29 *Septic Tank Systems.*

- 30
31 (A) Trailer camps, manufactured homes and mobile homes are not permitted
32 in any floodplain district.
33
34 (B) All recreational vehicles in the floodplain must be on the site for fewer
35 than 180 consecutive days and be fully licensed and ready for highway
36 use.
37 (C) Installation of septic tank systems in any floodplain district is prohibited.
38
39
40

41 *6-310 Flood Prevention Projects.*

42
43 Nothing in Section 6-304 through Section 6-308 shall be construed to prohibit the
44 City of Alexandria or any person from undertaking lawful filling, draining,
45 construction, realignment or relocation of stream channels or any other
46 improvement that is intended to eliminate or reduce the danger of flooding,

1 provided:

- 2
- 3 (A) the improvement is in accord with the City of Alexandria's flood
- 4 improvement plan for the floodplain district involved and the Director of
- 5 Transportation and Environmental Services has issued a certificate to that
- 6 effect;
- 7
- 8 (B) the improvement is under the general supervision of the Director of
- 9 Transportation and Environmental Services;
- 10
- 11 (C) the realignment or relocation of any stream channel is designed and
- 12 constructed so that there will be no reduction in the natural valley storage
- 13 capacity of the area with respect to the 100-year flood, unless such
- 14 relocation or realignment is designed to contain the 100-year flood within
- 15 the banks of the channel;
- 16
- 17 (D) notification, in riverine situations, is provided to adjacent communities,
- 18 Virginia Department of Conservation and Recreation, FEMA, and other
- 19 required agencies prior to any alteration or relocation of a watercourse;
- 20 and,
- 21
- 22 (E) the requirements of Section 6-306 (E) and Section 6-307(A) must be met.
- 23

24 *6-311 Variances*

25

- 26 (A) The City Council may, for good and sufficient cause, permit less than full
- 27 compliance with or waive the provisions of Section 6-304 through Section
- 28 6-310, provided:
- 29
- 30 (1) written application is made stating the hardship which will occur if
- 31 the variance is not granted;
- 32
- 33 (2) a public hearing is held;
- 34
- 35 (3) the decision is made by a majority vote of the entire membership
- 36 of City Council upon finding that the variance is the minimum
- 37 necessary, considering the flood hazard, to afford relief;
- 38
- 39 (4) the Director of Transportation and Environmental Services states
- 40 in writing that the variance will not result in unacceptable or
- 41 prohibited increases in flood heights, additional threats to public
- 42 safety, extraordinary public expense; and will not create nuisances,
- 43 cause fraud or victimization of the public, or conflict with local
- 44 laws and ordinances; and,
- 45
- 46 (5) the Director of Transportation and Environmental Services notifies

1 the applicant in writing that the issuance of a variance to construct
2 a structure below the base flood elevation will result in increased
3 insurance premium rates for flood insurance and that such
4 construction will increase the risks to life and property.
5

6 (B) In evaluating applications for variances, the Director of Transportation and
7 Environmental Services shall satisfy all relevant factors and procedures
8 specified in other sections of the City's ordinance and consider the
9 following additional factors:

- 10
- 11 (1) the danger to life and property due to increased flood heights or
12 velocities caused by encroachments;
 - 13
 - 14 (2) the danger that materials may be swept onto other lands or
15 downstream to the injury of others;
 - 16
 - 17 (3) the susceptibility of the proposed facility and its contents to flood
18 damage and the effect of such damage on the individual owners;
 - 19
 - 20 (4) the importance of the services provided by the proposed facility to
21 the community.
 - 22
 - 23 (5) the requirements of the facility for a waterfront location;
 - 24
 - 25 (6) the availability of alternative locations not subject to flooding for
26 the proposed use;
 - 27
 - 28 (7) the compatibility of the proposed use with existing development
29 and development anticipated in the foreseeable future;
 - 30
 - 31 (8) the relationship of the proposed use to the comprehensive plan and
32 floodplain management program for the area;
 - 33
 - 34 (9) the safety of access by ordinary and emergency vehicles to the
35 property in time of flood;
 - 36
 - 37 (10) the expected heights, velocity, duration, rate of rise, and sediment
38 transport of the flood waters expected at the site; and,
 - 39
 - 40 (11) such other factors which are relevant to the purposes of this
41 ordinance.
 - 42

43 (C) The Director of Transportation and Environmental Services may refer any
44 application and accompanying documentation pertaining to any request for
45 a variance to any engineer or other qualified person or agency for
46 technical assistance in evaluating the proposed project in relation to flood

1 heights and velocities, and the adequacy of the plans for flood protection
2 and other related matters.

3
4 (D) A record shall be maintained of the above notification as well as all
5 variance actions, including justification for the issuance of the variances.
6 Any variances that are issued shall be noted in the annual or biennial
7 report submitted to the FEMA Federal Insurance Administrator.

8
9 (E) Variances may be issued by a community for new construction and
10 substantial improvements and for other development necessary for the
11 conduct of a functionally dependent use.

12
13 *6-312 Compliance, Liability, Severability and Penalties.*

14
15 (A) No land shall hereafter be developed and no structure shall be located,
16 relocated, constructed, reconstructed, enlarged or structurally altered
17 except in full compliance with the terms and provisions of this Section 6-
18 300 and any other applicable ordinances and regulations which apply to
19 uses within the jurisdiction of these floodplain district regulations.

20
21 (B) The degree of flood protection required by these floodplain district
22 regulations and all other applicable local, state and federal regulations is
23 considered reasonable for regulatory purposes. Larger floods may occur
24 on rare occasions or flood heights may be increased by man-made or
25 natural causes. Therefore, the regulations set forth in this Section 6-300
26 do not imply that areas outside the floodplain districts, or land uses
27 permitted within such districts, will be free from flooding and flood
28 damages under all conditions. Additionally, the granting of a permit or
29 approval of a development in an identified floodplain district shall not
30 constitute a representation, guarantee, or warranty of any kind by any
31 official or employee of the City of Alexandria of the practicability or
32 safety of the proposed use, and shall create no liability upon the City of
33 Alexandria, its officials or employees.

34
35 (C) If any section, subsection, paragraph, sentence, clause or phrase of this
36 Section 6-300 shall be declared invalid for any reason by a court of
37 competent jurisdiction, such decision shall not affect the remaining
38 portions of this Section 6-300. The remaining portions shall remain in full
39 force and effect; and for this purpose, the provisions of Section this 6-300
40 are hereby declared to be severable.

41
42 (D) Any person who shall engage in new construction, substantial
43 improvement or development without a building permit as required by VA
44 USBC and these floodplain management regulations shall be subject to the
45 penalties provided in Section 11-200 of the Zoning Ordinance.

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6-313 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 fifteen (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.

6-314 Annual Report.

It shall be the City Manager's duty to submit any reports to FEMA and the floodplain coordinator at the Virginia Department of Conservation and Recreation that may be required regarding the City of Alexandria's compliance with flood management regulations.

Section 2. That the director of planning and zoning be, and hereby is, directed to record the foregoing text amendment.

Section 3. That Section 6-300, as amended pursuant to Section 1 of this ordinance, be, and the same hereby is, reordained as part of the City of Alexandria Zoning Ordinance.

Section 4. That this ordinance shall become effective on the date and at the time of its final passage, and shall apply to all applications for land use, land development or subdivision approval provided for under the City of Alexandria Zoning Ordinance which may be filed after such date, 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 the Zoning Ordinance.

WILLIAM D. EUILLE
Mayor

Introduction: 4/12/11
First Reading: 4/12/11
Publication:
Public Hearing:
Second Reading:
Final Passage: