

ORDINANCE O-4367

AN ORDINANCE OF THE CITY OF KIRKLAND RELATING TO FLOOD DAMAGE PREVENTION AND AMENDING CHAPTER 21.56 OF THE KIRKLAND MUNICIPAL CODE, FILE CAM12-00694.

The City Council of the City of Kirkland do ordain as follows:

Section 1. Kirkland Municipal Code ("KMC") 21.56.020 is hereby amended to read as follows:

**21.56.020 Definitions.**

Unless specifically defined below, words or phrases used in this chapter shall be interpreted so as to give them the meaning they have in common usage and to give this chapter its most reasonable application.

(1) "Appeal" means a request for a review of the building official's interpretation of any provision of this chapter or a request for a variance.

(2) "Area of shallow flooding" means a designated AO or AH zone on the flood insurance rate map (FIRM). The AO Zones have base flood depths that range from one to three feet above the natural ground; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and, velocity flow may be evident. AO is characterized as sheet flow, and AH indicates zones have ponding, as shown with standard base flood elevations.

(3) "Area of special flood hazard" means the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. Designation on maps always includes the letters A or V.

(4) "Base flood" means the flood having a one percent chance of being equaled ~~equalled~~ or exceeded in any given year. Also referred to as the "one-hundred-year flood." ~~Designation~~ Designated on maps ~~FIRMs by always includes~~ the letters A or V.

(5) "Basement" means any area of the building having its floor subgrade (below ground level) on all sides.

(6) "Breakaway wall" means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation systems.

(67) "Critical facility" means a facility for which even a slight chance of flooding might be too great. Critical facilities include but are not limited to schools, nursing homes, hospitals, police, fire and emergency response installations and installations which produce, use or store hazardous materials or hazardous waste.

(78) "Development" means any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or material located within the area of special flood hazard.

(9) "Elevated building" means for insurance purposes, a non-basement building that has its lowest elevated floor raised above

ground level by foundation walls, shear walls, post, piers pilings, or columns.

~~(810)~~ "Flood" or "flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- (A) The overflow of inland or tidal waters; and/or
- (B) The unusual and rapid accumulation of runoff of surface waters from any source.

~~(911)~~ "Flood insurance rate map (FIRM)" means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

~~(1012)~~ "Flood insurance study" means the official report provided by the Federal Insurance Administration that includes flood profiles, the FIRM~~the flood boundary floodway map~~, and the water surface elevation of the base flood.

~~(1113)~~ "Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

~~(1214)~~ "Lowest floor" means 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 nonelevation design requirements of this chapter found at Section 21.56.090(1)(B).

~~(1315)~~ "Manufactured home" means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes, the term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than one hundred eighty consecutive days. For insurance purposes, the term "manufactured home" does not include park trailers, travel trailers, and other similar vehicles.

~~(1416)~~ "Manufactured home park or subdivision" means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

~~(1517)~~ "New construction" means structures for which the "start of construction" commenced on or after the effective date of the ordinance codified in this chapter.

(18) "New manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of adopted floodplain management regulations.

~~(1619)~~ "Recreational vehicle" means a vehicle:

- (A) Built on a single chassis;
- (B) Four hundred square feet or less when measured at the largest horizontal projection;
- (C) Designed to be self-propelled or permanently towable by a light duty truck; and

(D) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational camping, travel or seasonal use.

~~(1720)~~ "Start of construction" includes substantial improvement, and means the date the building permit was issued; provided, the actual start of construction, repair, reconstruction, placement or other improvement was within one hundred eighty days of the permit date. The "actual start" means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage 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; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundation or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the "actual start" of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

~~(1821)~~ "Structure" means a walled and roofed building including a gas or liquid storage tank that is primarily above ground.

(22) "Substantial damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed fifty percent of the market value of the structure before the damage occurred.

~~(1923)~~ "Substantial improvement" means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds fifty percent of the market value of the structure either:

(A) Before the improvement or repair is started; or

(B) If the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure.

The term ~~does not, however, include either~~ excludes:

(i) Any project for improvement of a structure to ~~comply with correct existing state or local health, sanitary, or safety code specifications which are solely~~ have been previously identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or

(ii) Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

~~(20) "Water dependent" means a structure for commerce or industry which cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations.~~

~~(2124)~~ "Variance" means a grant of relief from the requirements of this chapter which permits construction in a manner that would otherwise be prohibited by this chapter.

(25) "Water dependent" means a structure for commerce or industry which cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations.

Section 2. KMC 21.56.030 is hereby amended to read as follows:

**21.56.030 Basis for establishing the areas of special flood hazard.**

The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for the City of Kirkland King County, Washington and Incorporated Areas" dated September 30, 1993, having an effective date of May 16, 1995, and any revisions thereto with accompanying flood insurance maps is adopted by reference and declared to be a part of this chapter. The flood insurance study and the FIRM are is on file at City Hall, 123 Fifth Avenue, Kirkland, WA 98033.

Section 3. KMC 21.56.035 is hereby amended to read as follows:

**21.56.035 Penalties for noncompliance.**

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this chapter and other applicable regulations. Violation of the provisions of this chapter by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a misdemeanor. ~~Any person who violates this chapter or fails to comply with any of its requirements shall be guilty of a simple crime and subject to the penalties provided therefor in Section 1.04.010(C) of this code.~~ Each day of violation shall constitute a separate offense. Nothing herein contained shall prevent the city from taking such other lawful action as is necessary to prevent or remedy any violation.

Section 4. KMC 21.56.055 is hereby amended to read as follows:

**21.56.055 Development permit required.**

A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 21.56.030. The permit shall be for all structures including manufactured homes, as set forth in the definitions, Section 21.56.020, and for all development including fill and other activities, also as set forth in the definitions. The applicant shall also submit a habitat assessment in compliance with "FEMA's Floodplain Habitat Assessment and Mitigation: Regional Guidance Manual" when developing within the special flood hazard area. The applicant shall either: (a) fund a habitat assessment prepared by the City's consultant; or (b) submit a habitat assessment prepared by a qualified professional approved by the City and fund a review of this assessment by the City's consultant.

Section 5. KMC 21.56.070 is hereby amended to read as follows:

**21.56.070 Duties and responsibilities of the building official.**

Duties of the building official shall include, but not be limited to:

- (1) Permit Review.
  - (A) Review all development permits to determine that the permit requirements of this chapter have been satisfied;
  - (B) Review all development permits to determine that all necessary permits have been obtained from those federal, state, or local governmental agencies from which prior approval is required;
  - (C) Review all development permits to determine if the proposed development is located in the floodway. If located in the floodway, assure that the encroachment provisions of Section 21.56.095(1) are met.
- (2) Use of Other Base Flood Data. When base flood elevation data has not been provided in accordance with Section 21.56.030, the building official shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, in order to administer Sections 21.56.090 and 21.56.095.
- (3) Information to Be Obtained and Maintained.
  - (A) Where base flood elevation data is provided through the flood insurance study, FIRM, or required as in subsection (2) of this section, obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement;
  - (B) For all new or substantially improved floodproofed nonresidential structures where base flood elevation data is provided through the flood insurance study, FIRM, or as required as in subsection (2) of this section:
    - (i) ~~Verify and record the actual elevation (in relation to mean sea level);~~ Obtain and record the elevation (in relation to mean sea level) to which the structure was floodproofed; and
    - (ii) Maintain the floodproofing certifications required in Section 21.56.060(3);
  - (C) Maintain for public inspection all records pertaining to the provisions of this chapter.
- (4) Alteration of Watercourses.
  - (A) Notify adjacent communities and the Washington State Department of Ecology prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration;
  - (B) Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.
- (5) Interpretation of FIRM Boundaries. Make interpretations where needed, as to exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Section 21.56.075.

Section 6. KMC 21.56.085 is hereby amended to read as follows:

**21.56.085 Provisions for flood hazard reduction—General standards.**

In all areas of special flood hazards, the following standards are required:

(1) Anchoring.

(A) All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.

(B) All manufactured homes must likewise be anchored to prevent flotation, collapse or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors. (For more detailed information, refer to guidebook FEMA-85 "Manufactured Home Installation in Flood Hazard Areas.")

(2) Construction Materials and Methods.

(A) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

(B) All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.

(C) Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

(3) Utilities.

(A) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.

(B) Water wells shall be located on high ground that is not in the floodway (FEMA endorses the more restrictive WAC floodway standard identified in WAC 173-160-171).

(BC) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters.

(ED) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

(4) Subdivision Proposals.

(A) All subdivision proposals shall be consistent with the need to minimize flood damage.

(B) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.

(C) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.

(D) Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least fifty lots or five acres (whichever is less).

(5) Review of Building Permits. Where elevation data is not available either through the flood insurance study or from another authoritative source (Section 21.56.070(2)), applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past

flooding, etc., where available. Failure to elevate at least two feet above grade in these zones may result in higher insurance rates.

Section 7. KMC 21.56.090 is hereby amended to read as follows:

**21.56.090 Provisions for flood hazard reduction—Specific standards.**

In all areas of special flood hazards where base flood elevation data has been provided as set forth in Sections 21.56.030 or 21.56.070(2), the following provisions are required:

(1) Residential Construction.

(A) New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated one foot or more above base flood elevation.

(B) Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

(i) A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.

(ii) The bottom of all openings shall be no higher than one foot above grade.

(iii) Openings may be equipped with screens, louvers, or other coverings or devices; provided, that they permit the automatic entry and exit of floodwaters.

(2) Nonresidential Construction. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated one foot or more above the level of the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

(A) Be floodproofed so that below one foot above the base flood level the structure is watertight with walls substantially impermeable to the passage of water;

(B) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;

(C) Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural designs, specifications and plans. Such certification shall be provided to the official as set forth in Section 21.56.070(3)(B);

(D) Nonresidential structures that are elevated, and not floodproofed, must meet the same standards for space below the lowest floor as described in subsection (1)(B) of this section;

(E) Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g., a building constructed to ~~one foot above the base flood level~~ will be rated as one foot below ~~that level~~).

(3) Critical Facility. Construction of new critical facilities shall be, to the extent possible, located outside the limits of the base

~~floodplain~~ Special Flood Hazard Area (SFHA)(100-year floodplain). Construction of new critical facilities shall be permissible within the ~~base floodplain~~ SFHA if no feasible alternative site is available. Critical facilities constructed within the ~~base floodplain~~ SFHA shall have the lowest floor elevated ~~to three feet or more~~ above the level of the base flood elevation at the site or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility should also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the ~~base floodplain~~ flood elevation shall be provided to all critical facilities to the extent possible.

(4) Manufactured Homes.

(A) All manufactured homes to be placed or substantially improved within zones A1-30, AH, and AE shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is one foot or more above the base flood elevation; and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement in accordance with the provisions of Section 21.56.085 (1)(B). This applies to manufactured homes:

(i) Outside of a manufactured home park or subdivision;

(ii) In a new manufactured home park or subdivision;

(iii) In an expansion to an existing manufactured home park or subdivision; or

(iv) In an existing manufactured home park or subdivision on a site which a manufactured home has incurred "substantial damage" as a result of a flood.

(B) Manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision that are not subject to the above manufactured home provisions shall be elevated so that either:

(i) The lowest floor of the manufactured home is elevated one foot or more above the base flood elevation; or

(ii) The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and are securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

(5) Recreational vehicles placed on sites are required to either:

(A) Be on the site for fewer than one hundred eighty consecutive days; or

(B) Be fully licensed and ready for highway use, on wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or

(C) Meet the requirements of subsection (4) of this section.

Section 8. KMC 21.56.095 is hereby amended to read as follows:

**21.56.095 Floodways.**

Located within areas of special flood hazard established in Section 21.56.030 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which



carry debris, potential projectiles, and erosion potential, the following provisions apply:

(1) Prohibit encroachments, including fill, new construction, substantial improvements, and other development unless certification by a registered professional engineer or architect is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

(2) If subsection (1) of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Sections 21.56.085 through 21.56.105.

(3) Construction or reconstruction of residential structures is prohibited within designated floodways, except for (A<sub>i</sub>) repairs, reconstruction or improvements to a structure which do not increase the ground floor area; and (B<sub>ii</sub>) repairs, reconstruction or improvements to a structure, the cost of which does not exceed fifty percent of the market value of the structure, either (iA) before the repair, reconstruction or improvement is started or (iiB) if the structure has been damaged and is being restored before the damage occurred. ~~Work done on structures to comply with existing health, sanitary or safety codes, Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions or to structures identified as historic places, may not be included~~ be excluded in the fifty percent of market value limitation.

Section 9. KMC 21.56.105 is hereby amended to read as follows:

**21.56.105 Standards for shallow flooding areas (AO zones).**

Shallow flooding areas appear on FIRMs as AO zones with depth designations. The base flood depths in these zones range from one to three feet where a clearly defined channel does not exist, or where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In these areas, the following provisions apply:

(1) New construction and substantial improvements of residential structures and manufactured homes within AO zones shall have the lowest floor (including basement) elevated above the highest adjacent grade of the building site structure, one foot or more, to or above the depth number specified on the FIRM (at least two feet above the highest adjacent grade if no depth number is specified).

(2) New construction and substantial improvements of nonresidential structures within AO zones shall either:

(A) Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, ~~to or above the depth number specified on the FIRM~~ one foot or more above the depth number specified on the FIRM (at least two feet if no depth number is specified); or

(B) Together with existing ~~attendant~~ utility and sanitary facilities, be completely floodproofed to or above that level one foot above the depth number specified on the FIRM so that any space below that

level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect as in Section 21.56.090(2)(C).

(3) Require adequate drainage paths around structure on slopes to guide floodwaters around and away from proposed structures.

(4) Recreational vehicles placed on sites within AO zones on the community's FIRM are required to either:

(A) Be on the site for fewer than one hundred eighty consecutive days; or

(B) Be fully licensed and ready for highway use, on its wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or

(C) Meet the requirements of subsections (1) and (3) of this section and the anchoring requirements for manufactured homes in Section 21.56.085(1)(B).

Section 10. If any provision of this ordinance or its application to any person or circumstance is held invalid, the remainder of the ordinance, or the application of the provision to other persons or circumstances is not affected.

Section 11. This ordinance shall be in force and effect five days from and after its passage by the Kirkland City Council and publication pursuant to Section 1.08.017, Kirkland Municipal Code in the summary form attached to the original of this ordinance and by this reference approved by the City Council.

Passed by majority vote of the Kirkland City Council in open meeting this 7th day of August, 2012.


Signed in authentication thereof this 7th day of August, 2012.

  
MAYOR

Attest:

  
City Clerk

Approved as to Form:

  
City Attorney

PUBLICATION SUMMARY  
OF ORDINANCE O-4367

AN ORDINANCE OF THE CITY OF KIRKLAND RELATING TO FLOOD DAMAGE PREVENTION AND AMENDING CHAPTER 21.56 OF THE KIRKLAND MUNICIPAL CODE, FILE CAM12-00694.

SECTION 1. Amends Kirkland Municipal Code (KMC) Section 21.56.020 relating to flood damage prevention definitions.

SECTION 2. Amends KMC Section 21.56.030 relating to the basis for establishing areas of special flood hazard.

SECTION 3. Amends KMC Section 21.56.035 relating to the penalties for noncompliance.

SECTION 4. Amends KMC Section 21.56.055 relating to development permit requirements.

SECTION 5. Amends KMC Section 21.56.070 relating to duties and responsibilities of the building official.

SECTION 6. Amends KMC Section 21.56.085 relating to general standards for flood hazard reduction.

SECTION 7. Amends KMC Section 21.56.090 relating to specific standards for flood hazard reduction.

SECTION 8. Amends KMC Section 21.56.095 relating to floodways.

SECTION 9. Amends KMC Section 21.56.105 relating to standards for shallow flooding areas.

SECTION 10. Provides a severability clause for the ordinance.

SECTION 11. Authorizes publication of the ordinance by summary pursuant to KMC Section 1.08.017 and establishes the effective date as five days after publication of summary.

The full text of this Ordinance will be mailed without charge to any person upon request made to the City Clerk for the City of Kirkland. The Ordinance was passed by the Kirkland City Council at its meeting on the 7th day of August, 2012.

I certify that the foregoing is a summary of Ordinance O-4367 approved by the Kirkland City Council for summary publication.

  
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City Clerk