

Upon the application of the Planning and Zoning Staff for amendment PLPZ #201000004 to amend sections of the Town of Greenwich Building Zone Regulations as follows:

**TEXT IN BOLD TO BE ADDED.** [TEXT IN BRACKETS TO BE DELETED]

Sec. 6-139.1 (a) Purpose

The FHO zone is intended to add additional safeguards to those areas of Greenwich subject to riverine and coastal flooding as shown on the Flood Insurance Rate Maps and Flood Insurance Study of the Town of Greenwich effective August 19, 1986, and revised [February 22, 1999] **June 18, 2010**, and as amended from time to time.

Sec. 6-139.1 (c) Definitions

- (4) Area of Special Flood Hazard - is the land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year. [After detailed rate-making has been completed in preparation for publication of the FIRM, Zone A is usually refined into Zones A, AE, AO, A1-99, VE, VO and VI-30.] **On the Flood Insurance Rate Map (FIRM), the flood zones are delineated as zones A, AE and VE.**
- (6) **Base Flood Elevation (BFE) - means the elevation of the crest of the base flood or 100-year flood. The height in relation to mean sea level expected to be reached by the waters of the base flood at pertinent points in the floodplains of coastal and riverine areas.**
- ([6] 7) Basement - means that portion of a building having its floor subgrade (below ground level) on all sides.
- ([7] 8) 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 the supporting foundation system.
- ([8] 9) Building - means any structure build for support, shelter or enclosure for any occupancy or storage.
- ([9] 10) Coastal High Hazard Area - means the area **of special flood hazard** subject to high velocity waters caused by, but not limited to, **storms and** hurricane wave wash. The area is designated on a FIRM as Zone [VI-30,]-VE [or V.]
- ([10] 11) Development - means any man-made change to improved or unimproved real estate, including, but not limited to **the construction of buildings or structures; the construction of additions, alterations or substantial improvements to buildings or structures; the placement of buildings or structures; mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment; the storage, deposition, or extraction of materials; and the installation, repair or removal of public or private sewage disposal systems or water supply facilities.** [buildings or other structures, mining, dredging, filling, grading, paving, excavating, drilling operations, or permanent storage of equipment or materials.]

- ([11] 12) Elevated Building - means a building without a basement built to have the lowest floor elevated the above ground level by means of fill, solid foundation perimeter walls, pilings, columns (posts and piers), shearwalls, or breakaway walls, as allowed under applicable standards.
- (13) Existing 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 home are to be affixed (including, as a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date, August 19, 1986, of the floodplain management ordinance adopted by the community.
- (14) Expansion to an Existing Manufactured Home Park or Subdivision - means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufacturing homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).
- (15) Federal Emergency Management Agency (FEMA) - is the federal agency that administers the National Flood Insurance Program (NFIP).
- ([12] 16) Flood or Flooding - means a general and temporary condition of partial or complete inundation of normally dry land areas due to the overflow of inland or tidal water and/or the unusual and rapid accumulation or runoff of surface waters from any source.
- ([13] 17) Flood Insurance Rate Map - means an official map of a community on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard and the applicable risk premium zones.
- ([14]18) Flood Insurance Study (FIS) - is the official report (dated [February 22, 1999] **June 18, 2010**) by the Federal Emergency Management Agency. The report contains flood profiles as well as the Flood Insurance Rate Map (**FIRM**) and the water surface elevation of the base flood.
- ([15] 19) 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.
- ([16] 20) Floor - means the top surface of an enclosed area in a building (including basement) i.e. top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking of vehicles.
- ([17] 21) Functionally Dependent Facility - means a facility which cannot be used for its intended purpose unless it is located in close proximity to water. **The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities. The term does not include seafood processing facilities, long-term storage, manufacturing, sales or service facilities.**[such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, ship repair, or seafood processing facilities. The term does not include long term storage, manufacture, sales or service facilities.]

- ([18]-22) Free Board - the distance from the water surface to the top of the facility. It provides a factor of safety usually expressed in feet above a flood level for purposes of flood plain management. Freeboard tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings and the hydrological effect of urbanization of the watershed.
- (23) **Historic Structure - means any structure that is: (a) Listed individually in the National Register of Historic Places (a) listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; (b) Is part of a Local Historic District or Historic Overlay Zone; (c) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historic significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (c) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or (d) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either: (1) By an approved state program as determined by the Secretary of the Interior or (2) Directly by the Secretary of the Interior in states without approved programs.**
- ([19] 24) 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. In Special Flood Hazard areas, these areas must be designed in accordance with Section 6-139.19 (f) (11) (D) of these regulations and with the definition of elevated Buildings and Section 31 of these regulations.
- ([20] 25) Manufactured 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. The term also includes recreational vehicles, park trailers, travel and recreational trailers, and similar transportable structures placed on a site for 180 consecutive days or longer and intended to be improved property.
- ([21] 26) 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.
- (27) **Market Value - means the market value of the structure shall be determined by the appraised value of the structure using the cost approach to value method prior to the start of the initial repair or improvement, or in the case of damage, the value of the structure prior to the damage occurring.**
- ([22] 28) Mean Sea Level - means, for purposes of the National Flood Insurance Program, the [National Geodetic Vertical Datum, (NGVD 1929)] **North**

**American Vertical Datum (NAVD) of 1988** or other datum, to which base flood elevations shown on the community's Flood Insurance Rate Map are referenced.

- ([23] **29)** National Geodetic Vertical Datum (NGVD) - as corrected in 1929 is a vertical control used as a reference for establishing varying elevations within the flood plain.
- ([24] **30)** New Construction - means structure for which the "start of construction" commenced on or after the effective date of this section. (8/19/986)
- (31) **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, August 19, 1986, of the floodplain management regulation adopted by the community.
- ([25] **32)** Recreational Vehicle - means a vehicle which is: a) built on a single chassis, b) 400 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.
- ([26] **33)** Regulatory 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 (1) foot.
- ([27] **34)** Riverine - means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.
- ([28] **35)** Sand Dunes - means naturally occurring accumulations of sand ridges or mounds landward of the beach.
- ([29] **36)** Special Flood Hazard Areas - the determination of flood hazard areas shall be based on the flood elevation shown on the FIRM map in conjunction with an up-to-date and accurate topographical survey of the site prepared by a Connecticut Licensed Professional Land Surveyor. Special Flood Hazard areas shall also include areas where the land surface elevation is lower than the base flood elevations as shown in the Flood Insurance Study, and the area is not protected from flooding by a natural or man made feature. In no case shall the regulated area be closer to the source of flooding than that shown on the FEMA maps without revising or amending the maps in accordance with FEMA procedures.
- ([30] **37)**Start of Construction - (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (P.L. 97-348), includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, or improvement was within 180 days of the permit date. The actual start means the first placement or permanent construction of a structure (including a manufactured home) on a site such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of

excavation or placement of a manufactured home on a foundation. Permanent construction does not include land preparations, 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 foundations or the erection of temporary forms; 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 or 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.**

- ([31] 38) Structure - means a walled and roofed building that is principally above ground, a manufactured home, a gas or liquid storage tank, or other man-made facilities or infrastructures.
- ([32] 39) 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 50% of the market value of the structure before the damage occurred.
- ([33] 40) Substantial Improvement - means any combination of repairs, reconstruction, alteration, or improvements to a structure taking place during the life of a structure, in which the cumulative costs equal or exceeds fifty percent of the market value of the structure. The market value of the structure should be (1) the appraised value of the structure (using the cost approach to value) prior to the start of the initial repair or improvement, or (2) in the case of damage, the value of the structure prior to the damage occurring. For purposes of this definition, "Substantial Improvement" is considered to occur when the first alteration (after 8/19/86) of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the extended dimensions of the structure. The term does not however, include any improvement project required to comply with existing health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions. Separate conditions govern any alteration of a structure listed on the National Register of Historical Places of the State Inventory of Historical Places.
- ([34] 41) Variance - is a grant of relief from the requirements of this ordinance which permits construction in a manner otherwise prohibited by this ordinance where specific enforcement would result in unnecessary hardship.
- (42) **Violation – means a failure of a structure or other development to be fully compliant with the community’s floodplain management regulations. A structure or other development without required permits, lowest floor elevation documentation, flood-proofing certificates or required floodway encroachment calculations is presumed to be in violation until such time as that documentation is provided.**
- ([35] 43) Water Surface Elevation - means the height, in relation to the **North American Vertical Datum (NAVD) of 1988** [National Geodetic Vertical

Datum (NGVD) of 1929], (or other datum, where specified) of floods of various magnitudes and frequencies in the flood plains of coastal or riverine areas.

Sec. 6-139.1 (d) General Provisions

- [(2) The areas of special flood hazard identified by the Federal Emergency Management Agency in its Flood Insurance Study, dated February 22, 1999, with accompanying floodway and flood insurance rate maps, other special flood hazard areas as defined in Sections c.4 and c.29, and other supporting data, and revision thereto, are adopted by reference and declared to be a part of this regulation.]
- (2) **The areas of special flood hazard identified by the Federal Emergency Management Agency (FEMA) in its Flood Insurance Study (FIS) for Fairfield County, Connecticut, dated June 18, 2010, and accompanying Flood Insurance Rate Maps (FIRM), dated June 18, 2010, other special flood hazard areas as defined in Sections c.4 and c. 29, and other supporting data applicable to the Town of Greenwich, and any subsequent revisions thereto, are adopted by reference and declared to be a part of this regulation. Since mapping is legally adopted by reference into this regulation it must take precedence when more restrictive until such time as a map amendment or map revision is obtained from FEMA. The area of special flood hazard includes any area shown on the FIRM as Zones A, AE, and VE, including areas designated as a floodway on a FIRM. Zone VE is also identified as a Coastal High Hazard Area. Areas of special flood hazard are determined utilizing the base flood elevations (BFE) provided on the flood profiles in the Flood Insurance Study (FIS) for a community. BFEs provided on a Flood Insurance Rate Map (FIRM) are only approximate (rounded up or down) and should be verified with the BFEs published in the FIS for a specific location. The determination of areas of special flood hazard shall be based on the flood elevations shown on the FIRM and published in the FIS in conjunction with an up-to-date and accurate topographical survey of the site prepared by a Connecticut Licensed Professional Land Surveyor. Areas of special flood hazard shall also include areas where the land surface elevation is lower than the base flood elevations as shown in the FIS, and the area is not protected from flooding by a natural or man-made feature. In no case shall the regulated area be closer to the source of flooding than that shown on the FEMA maps without revising or amending the maps in accordance with FEMA procedures.**
- (8) **Portion of Structure in Flood Zone - If any portion of a structure lies within the Special Flood Hazard Area (SFHA), the entire structure is considered to be in the SFHA. The entire structure must meet the construction requirements of the flood zone. The structure includes any attached additions, garages, sunrooms, or any other structure attached to the main structure.**

- (9) **Structures in Two Flood Zones - If a structure lies within two or more flood zones, the construction standards of the most restrictive zone apply to the entire structure (i.e., V zone is more restrictive than A zone; structure must be built to the highest BFE). The structure includes any attached additions, garages, sunrooms, or any other structure attached to the main structure.**
- (10) **Severability - If any section, subsection, paragraph, sentence, clause, or phrase of this regulation should be declared invalid for any reason whatsoever, such decision shall not affect the remaining portions of this regulation, which shall remain in full force and effect; and to this end the provisions of this regulation are hereby declared to be severable.**

Sec. 6-139.1 (f) Provisions for Flood Hazard Reduction:

- (9) Manufactured Homes: All manufactured homes **including those located outside of a manufactured home park or subdivision, in a new manufactured home park or subdivision, in an existing manufactured home park or subdivision, in an expansion to an existing manufactured home park or subdivision, or in an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage as a result of a flood,** (including recreational vehicles [homes] placed on a site for 180 consecutive days or longer) to be placed or substantially improved shall be:
  - (A) Elevated so that the lowest floor is **one foot** above the base flood elevation, in accordance with this regulation.
  - (E) **Meet all the construction standards for Zones A and AE as per Section 6-139.1 (f) (11).**
  - (F) **Recreational vehicles shall either be on the site for fewer than 180 consecutive days, and be fully licensed and ready for highway use, or meet all the general standard of Sec. 6-139.1 (f) (1)-(8) and the elevation and anchoring requirement of Sec. 6-139.1 (f) (9) (A)-(D). A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.**
- (11) Specific Standards: In all areas of special flood hazard **A and AE** [A1-30, AE, AH] where base flood elevation data has been provided the following provision shall apply:
  - (A) Residential Construction. New construction or substantial improvement of any residential structure shall have the lowest floor, including basement, elevated at least to one (1) foot above the base flood elevation.
  - (B) Non-Residential Construction. New construction or substantial improvement of any commercial, industrial, or non-residential structure located in **A and AE Zones** [A1-30, AE and AH] shall have the lowest floor including basement, elevated at least to one (1) foot above the level of the base flood elevation, or
  - (C) Non-Residential Structures located in all **A and AE Zones** [A Zones] may be flood-proofed in lieu of being elevated provided that together with all attendant

utilities and sanitary facilities the areas of the structure below the required elevation are water tight with walls substantially impermeable to the passage of water, and use structural components having the capability or resisting hydrostatic and hydrodynamic loads and the effects of buoyancy. A registered professional engineer or architect shall review and/or development structural design specifications and plans for the construction, and shall certify that the design and methods or construction are in accordance with acceptable standards of practice for meeting the provisions of this sub-section. Such certification shall be provided to the Zoning Enforcement Officer as set forth in [Sec. (e) (3) (F)].

- (D) Fully Enclosed Areas Below Base Flood Elevation. New construction or substantial improvements of Non-Residential buildings not flood proofed per Section (f) (11) (c) and all Residential Buildings that include fully enclosed areas formed by foundation and other exterior walls below the base flood elevation shall be designed to preclude finished living space and designed to allow for the automatic entry and exit of flood waters to equalize hydrostatic flood forces on exterior walls. Designs for complying with this requirement must either be certified by a professional engineer or architect and meet the following minimum criteria: (2/9/2000)
- (iv) **Mechanical equipment**, electrical, plumbing, and other utility connections [are prohibited below]-**must be placed one foot above** the base flood elevation; and
- (E) Floodways: Located within areas of special flood hazard established in Sec. (d) (2) are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris and potential projectiles and have erosion potential, no encroachments including fill, new construction, substantial improvements and other developments shall be permitted unless certification (with supporting technical data), by a registered professional engineer is provided demonstrating, **through hydrologic and hydraulic analyses performed in accordance with standard engineering practice**, that encroachments shall not result in any (0.00 feet) increase in flood levels during occurrence of the base flood discharge.
- (12) Coastal High Hazard Areas ([V 1-30], **VE** Zones). Located within the areas of special flood hazard established in Sec. (d) (2) are areas designated as Coastal High Hazard Areas (Zones [V1-30] and **VE**). Since these areas have special flood hazards associated with high velocity waters, including hurricane wave wash, the following provisions shall apply:
- (B) All new construction, [or] substantial improvement **or mechanical equipment, electrical, plumbing, and other utility connections** shall be elevated so that the bottom of the lowest supporting horizontal member (excluding pilings or columns) is located no lower than one (1) foot above the base flood elevation level, with all space below the lowest supporting member so as not to impede the flow of water;