

## **Hoh Tribal Code Title 5**

### **Health and Human Services**

#### **Chapter 5.01 Flood Damage Prevention**

##### **§ 5.01.010 Statutory Authorization**

The Congress of the United States has delegated the responsibility to tribal government units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the Hoh Tribal Council does ordain as follows:

##### **§ 5.01.020 Findings of Fact**

- (1) The flood hazard areas of the Hoh Reservation are subject to periodic inundation which results in loss of life and property, health, and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
- (2) These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities, and when inadequately floodproofed, elevated, or otherwise protected from flood damage also contributed to the flood loss.

##### **§ 5.01.030 Statement of Purpose**

It is the purpose of this ordinance to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

- (1) To protect human life and health;
- (2) To minimize expenditure of public money and costly flood control projects;
- (3) To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) To minimize prolonged business interruptions;

- (5) To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and such sewer lines, streets and bridges located in areas of special flood hazard;
- (6) To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
- (7) To ensure that potential buyers are notified that property is in an area of special flood hazard; and
- (8) To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

### **§ 5.01.040 Methods of Reducing Flood Losses**

In order to accomplish its purposes, this ordinance includes methods and provisions for:

- (1) Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
- (2) Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- (3) Controlling the alteration of natural flood plains, stream channel flood waters;
- (4) Controlling filling, grading, dredging, and other development which may increase flood damage;
- (5) Preventing or regulating the construction of flood barriers which will unnaturally divert flood water or may increase flood hazards in other areas.

### **§ 5.01.050 Definitions**

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

- (1) “Appeal” means a request for review of the interpretation of any provision of this ordinance or a request for variance.
- (2) “Appointed Administrator” means the person, if any, designated by the Executive Director to administer and implement this ordinance by granting or denying development permit applications in accordance with its provisions.

- (3) “Area of Shallow Flooding” means a designated AO, or AH Zone on the Flood Insurance Rate Map (FIRM). The base flood depths range from one to three feet; 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 ponding.
- (4) “Area of Special Flood Hazard” means the land in the flood plain 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.
- (5) “Base Flood” means the flood having a one percent chance of being equaled or exceeded in any given year. Also referred to as the "100-year flood." Designation on maps always includes the letters A or V.
- (6) “Basement” means any area of the building having its floor subgrade (below ground level) on all sides.
- (7) “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 system.
- (8) “Coastal High Hazard Area” means an area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The area is designated on the FIRM as Zone V1-V30, VE or V.
- (9) “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, installations which produce, use or store hazardous materials or hazard waste.
- (10) “Development” means any man-made change to improved or unimproved real estate, including but not limited to building or other structure, mining, dredging, filling, grading, paving, excavation or drilling operations located within the area of special flood hazard, or storage of equipment and materials.
- (11) “Elevated Building” means for insurance purposes, a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns.
- (12) “Existing Manufactured Home Park or Subdivision” means a manufactured home park 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 installations of utilities, the construction of streets, and either final site grading or the pouring of concrete

pads) is completed before the effective date of the adopted floodplain management regulations.

- (13) “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 manufactured 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).
- (14) “Flood” or “Flooding” means a general and temporary condition of partial or complete inundation of normally dry land area 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.
- (15) “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.
- (16) “Flood Insurance Study” means the official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Boundary Floodway Map, and the water surface elevation of the base flood.
- (17) “Flood Way” means the channel of a river or other water concurrent, and the adjacent to land are that in host be reserved in order to discharge the base-flood without cumulative increasing the water surface elevation more than one foot.
- (18) “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 non-elevation design requirements of this ordinance found at Section 5.01.160(2).
- (19) “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 attached to the required utilities. The term manufactured home does not include a "recreational vehicle.”
- (20) “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.
- (21) “New Construction” means structure for which the “start of construction” commenced on or after the effective date of this ordinance.

- (22) “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.
- (23) “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, travel, or seasonal use.
- (24) “Start of Construction” includes substantial improvement, and means the date the building permit was issued, provided the actual start of constitution, repair, reconstitution, placement or other improvement was within 180 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 foundations or the erection of temporary forms; nor does it include the installation of the property or accessory buildings, such as garages or sheds not occupied as dwellings units or not part of the main structure. For a substantial improvement, the actual start of constitution 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.
- (25) “Structure” means a walled and roofed building including a gas or liquid storage tank that is principally above ground.
- (26) “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 percent of the market value of the structure before the damage occurred.
- (27) “Substantial Improvement” means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage,” regardless of the actual repair work performed. The term does not, however, include either:

- (a) 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;
  - (b) Any project for improvement of a structure to comply with, existing state of local health, sanitary, or safety code specifications which are solely necessary to assure safe living condition; or
  - (c) Any alteration of a “historic structure,” provided that the alteration will not preclude the structure's continued designation as a “historic structure.”
- (28) “Variance” means a grant of relief from the requirements of this ordinance which permits construction in a manner that would otherwise be prohibited by this ordinance.
- (29) “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.

**§ 5.01.060 Lands to Which This Ordinance Applies**

This ordinance shall apply to all areas of special flood hazards within the jurisdiction of the Hoh Indian Tribe.

**§ 5.01.070 Basis for Establishing the Areas of Special Flood Hazard**

The areas of special flood hazard which will be identified by Federal Insurance Administration scientific and engineering report entitled, “The Flood Insurance Study (FIS) for Jefferson County and Incorporated Areas”, dated June 7, 2019, with accompanying Flood Insurance Rate Maps (FIRM), dated June 7, 2019, as amended, are hereby adopted by reference and declared to be a part of this ordinance. The Flood Insurance Study will be on file at the office of the Executive Director/Appointed Administrator of the Hoh Tribe when it is completed. The best available information for flood hazard area identification as outlined in Section 5.01.130(2) shall be the basis for regulation until a new FIRM is issued which incorporates the data utilized under Section 5.01.130(2).

**§ 5.01.080 Penalties for Noncompliance**

No structure or land shall hereafter be constructed, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations. Violations of the provisions of this ordinance 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 ordinance or fails to comply with any of its requirements shall upon conviction thereof be fined not more than \$1,000 or imprisoned for not more than 30 days, or both, for each violation, and in addition shall pay all costs and expenses

involved in the case. Nothing herein contained shall prevent the Hoh Tribal Business Committee from taking such other lawful action as is necessary to prevent or remedy any violation.

### **§ 5.01.090 Abrogation and Greater Restrictions**

This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another ordinance, easement, covenant, or deed restriction shall prevail.

### **§ 5.01.100 Interpretation**

In the interpretation and application of this ordinance, all provisions:

- (1) Considered as minimum requirements; and
- (2) Liberally construed in favor of the Hoh Tribal Business Committee.

### **§ 5.01.110 Establishment of Development Permit**

- (1) Development Permit Required. A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 5.01.070. The permit shall be for all structures including manufactured homes, as set forth in Section 5.01.050 (Definitions) and for all development including fill and other activities, also as set forth in Section 5.01.050 (Definitions).
- (2) Application for Development Permit. Application for a development permit shall be made on forms furnished by the Executive Director or Appointed Administrator and may include but not be limited to plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question, existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing, specifically, the following information is required:
  - (a) Elevation in relation to mean sea level of the lowest floor (including basement) of all structures, and in particular, the elevation in relation to mean sea level of the lowest floor (including basement) of all new and substantially improved structures;
  - (b) Elevation in relation to mean sea level to which any structure has been floodproofed. If a non-residential structure has been floodproofed, obtain and retain the elevation in relation to mean sea level of the lowest to which it is floodproofed; and
  - (c) Certification by a registered professional engineer or architect that the flood proofing methods for non-residential structure meet the flood proofing, criteria in Section 5.01.160(2).

### **§ 5.01.120 Designation of the Local Administrator**

The Executive Director/Appointed Administrator is hereby appointed to administer and implement this ordinance by granting or denying development permit applications in accordance with its provisions.

### **§ 5.01.130 Duties and Responsibilities of the Local Administrator**

Duties of the Executive Director/Appointed Administrator shall include, but not be limited to:

- (1) Permit Review.
  - (a) Review all development permits to determine that the permit requirements of this ordinance 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 5.01.160(5) are met.
- (2) Use of Other Base Flood Data. When base flood elevation data has not been provided in accordance with Section 5.01.070 (Basis for Establishing the Areas of Flood Hazard), the administrator shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source, or order to administer Section 5.01.160 (Specific Standards).
- (3) Information to be Obtained and Maintained.
  - (a) Where base flood elevation data is provided through the Flood Insurance Study or required as in Section 5.01.130(2) above, 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 non-residential floodproofed structures;
    - (i) Verify and record the actual elevation (in relation to mean seal level), and
    - (ii) Maintain the flood proofing certification required in Section 5.01.110(2)(c).
  - (c) Maintain for public inspection all records pertaining to the provisions of this ordinance.



- (4) Alteration of Watercourses.
  - (a) Notify adjacent communities prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administrator.
  - (b) Require that maintenance is provided within the altered or relocated portion of said water course 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. Such appeals shall be granted consistent with the standards of Section 60.6 of the rules and Regulations of the National Flood Program (44 CFR 59-76).

### **§ 5.01.140 Variance Procedure**

- (1) Appeal Board.
  - (a) The Hoh Tribal Business Committee, established by the Hoh Tribe Constitution, shall hear and decide appeals and requests for variances from the requirements of this ordinance.
  - (b) The Hoh Tribal Business Committee shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Executive Director/Appointed Administrator in the enforcement or administration of this ordinance.
  - (c) Those aggrieved by the decision of the Executive Director/Appointed Administrator, or any legal resident of the lands to which this ordinance applies as defined in Section 5.01.060, may appeal such decision to the Hoh Tribal Business Committee.
  - (d) In passing upon such applications, the Hoh Tribal Business Committee shall consider all technical evaluations, all relevant factors, standards specified in other sections of this ordinance, and:
    - (i) The danger that materials may be swept onto other lands, to the injury of others;
    - (ii) The danger of life and property due to flooding and erosion damage;
    - (iii) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

- (iv) The importance of the services provided by the facility to the community;
  - (v) The necessity to the facility of a waterfront location, where applicable;
  - (vi) The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
  - (vii) The compatibility of the proposed use with existing and anticipated development;
  - (viii) The relationship of the proposed use to the comprehensive plan flood plain management program for that area;
  - (ix) The safety of access to the property in times of flood for ordinary and emergency vehicles;
  - (x) The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters and effects of wave action, if applicable, expected at the site; and
  - (xi) The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.
- (e) Upon consideration of the factors of Section 5.01.140(1)(d) above and the purposes of this ordinance, the Hoh Tribal Business Committee may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.
- (f) The Executive Director/Appointed Administrator shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request.

(2) Conditions for Variances.

- (a) Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected.
- (b) Variances may be issued for the reconstruction, rehabilitation, or restoration of structures listed on the National Register of Historic Places, without regard to procedures set forth in this section.
- (c) Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.

- (d) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (e) Variances shall only be issued upon:
  - (i) A showing of good and sufficient cause;
  - (ii) A determination that failure to grant the variance would result in exceptional hardship to the applicant;
  - (iii) A Determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public as identified in Section 5.01.140(4)(d), or conflict with existing local laws or ordinances.
- (f) Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that pertain to a physical piece or property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from the flood elevations should be quite rare. Variances may be issued for nonresidential buildings in very limited circumstances to a lesser degree of flood proofing than watertight or dry flood proofing, where it can be determined that such action will have low damage potential complies with all other variance criteria except those found in Section 5.01.140(2)(a), and otherwise complies with Sections 5.01.150(1) and (2).
- (g) Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest floor elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

### **§ 5.01.150 General Standards for Flood Hazards**

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 structure.
  - (b) All manufactured homes must likewise be anchored to prevented 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 (Reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).

(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 flood waters into the system;
- (b) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters; and
- (c) 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; and
- (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 50 lots or 5 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 5.01.130(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.

### **§ 5.01.160 Specific Standards for Flood Hazards**

In all areas of special flood hazards where base flood elevation data has been provided as set forth in Section 5.01.070 or Section 5.01.130(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 above the 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 flood waters. Designs for meeting this requirement must be either 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 permit the automatic entry and exit of flood water.
- (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 above 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) All 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 design, specifications and plans. Such certifications shall be provided to the official as set forth in Section 5.01.130(2).

- (d) Nonresidential structures that are elevated, not floodproofed, must meet the same standards for the space below the lowest floor as described in Section 5.01.160(1)(b).

(3) Manufactured Homes.

- (a) All manufactured homes to be placed or substantially improved within Zones A1-A30, AH, and AE on the community's FIRM on sites:
  - (i) Outside of a manufactured home park or subdivision,
  - (ii) In a new manufactured home or subdivision,
  - (iii) In an expansion to an existing manufactured home park or subdivision,
  - (iv) In an existing manufactured home or subdivision on which a manufactured home has incurred “substantial damage” as the result of a flood; shall be elevated on a permanent foundation such that the lowest floor or the manufactured home is elevated one foot above the base flood elevation and be securely anchored to an adequately designed foundation system to resist flotation, collapse and lateral movement.
- (b) Manufactured homes to be placed or substantially improved on sites, in an existing manufactured home park or subdivision, within Zones AJ-30, AH, and AE on community's FIRM that are not subject to the above manufactured home provisions be elevated so that the lowest floor of the manufactured home is elevated one foot above the base flood elevation.

(4) Recreational Vehicles. Recreational vehicles placed on sites within Zones A 1-30, AH, and AE on the community's FIRM either:

- (a) Be on site for fewer than 180 consecutive days;
- (b) Be fully licensed and ready for highway use, 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; or
- (c) Meet the requirements, of Section 5.01.160(3) above and the elevation and anchoring requirements for manufactured homes.

(5) Floodways. Located within areas of special flood hazard established in Section 5.01.070 are areas designated as floodway. Since the floodway is an extremely hazardous area due

to the velocity of flood waters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

- (a) Prohibit encroachments, including fill, new construction, substantial improvements, and other development unless certification by a registered, professional engineer or architect is provided demonstrating that encroachments shall not result in any increased inflat levels during the occurrence of any base discharge is satisfied.
- (b) All new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this ordinance.

### **§ 5.01.170 Encroachments**

The cumulative effect of any proposed development, where combined with all other existing and anticipated development, shall not increase the water surface elevation of the base flood more than one foot at any point.

### **§ 5.01.180 Standards for Shallow Flooding Area (AO Zones)**

Shallow flooding areas appear on FIRMs and AO zones with depth designations. The base flood depths in these zones range from 1 to 3 feet above ground 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 sheetflow 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 flood (including basement) elevated above the highest grade adjacent to the building, one foot or more above the depth number specified the FIRM (at least two feet 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, 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 attendant utility and sanitary facilities be completely flood proofed to or above that level 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 5.01.160(2)(c).

- (3) Require adequate drainage paths around structures on slopes to guide floodwater around and away from proposed structures.
- (4) Recreational vehicles placed on sites within AO Zones on the community's FIRM either:
  - (a) Be on the site for fewer than 180 consecutive days;
  - (b) Be fully licensed and ready for highway use, on its wheels or jacking system, is attached to site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or
  - (c) Meet the requirements of Section 5.01.180 above and the elevation and anchoring requirements for manufactured homes.

### **§ 5.01.190 Coastal High Hazard Areas**

Located within areas of special flood hazard established in Section 5.01.070 are Coastal High Hazard Areas, designated as Zones V1-V30, VE and/or V. These areas have special flood hazards associated with high velocity, waters from surges and, therefore, in addition to meeting all provisions in this ordinance, the following provisions shall also apply:

- (1) All new construction and substantial improvements in Zones V1-V30 and VE shall be elevated on pilings and columns so that:
  - (a) The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated one foot or more above the base flood level; and
  - (b) The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a one percent chance of being equaled to exceeded in and given year (100-year mean recurrence interval).
- (2) A registered professional engineer or architect shall develop or review the structural design, specifications and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of (1)(a) and (1)(b) of this Section.
- (3) Obtain the elevation (in relation to mean sea level) of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of all new and substantially improved structures in Zones V1-30 and VE, and whether or not such structures contain a basement. The local administrator shall maintain a record of all such information.
- (4) All new construction shall be located landward of the reach of mean high tide.



- (5) Provide that all new construction and substantial improvements have the space below the lowest floor either free of obstruction or constructed with non-supporting breakaway wall open wood latticework or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system. For the purpose of this section, a breakaway wall shall have a design safe loading resistance of not less than 10 and no more than 20 pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot either by design or when so required by local or states codes may be permitted only if a registered professional engineer or architect certifies that the designs proposed meet the following conditions:
- (a) Breakaway wall collapse shall result from water load less than that would occur during the base flood; and
  - (b) The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and nonstructural). Maximum wind and water loading values to be used in this determination shall each have one percent chance of being equaled or exceeded in any given year (100 year mean recurrence interval).
- (6) If breakaway walls are utilized, such enclosed space shall be useable solely for parking of vehicles, building access, or storage. Such space shall not be used for human habitation.
- (7) Prohibit the use of fill for structural support of buildings.
- (8) Prohibit man-made alteration of sand dunes which would increase potential flood damage.
- (9) All manufactured homes to be placed or substantially improved within Zones V1-V30, V, and VE on the community's FIRM on sites:
- (a) Outside of a manufactured home park or subdivision,
  - (b) In a new manufactured home park or subdivision,
  - (c) In an expansion to an existing manufactured home park or subdivision, or
  - (d) In an existing manufactured home park or subdivision on which a manufactured home has incurred “substantial damage” as the result of a flood, meet the standards of subsections 5.01.190(1) through (8) of this section and that manufactured homes placed or substantially improved on other sites in an existing manufactured home park or subdivision within Zones V1-30, V, and VE on the FIRM meet the requirements of Section 5.01.160(3).

- (10) Recreational vehicles placed on sites within Zones V1-30, V, and VE on the community's FIRM either:
- (a) Be on the site for fewer than 180 consecutive days;
  - (b) Be fully licensed and ready for highway use, 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; or
  - (c) Meet requirements of Section 5.01.110(1) (Permitting requirements) and subsections 5.01.190(1) through (8) of this section.

### **§ 5.01.200 Critical Facility**

Construction of new critical facilities shall be, to the extent possible, located outside the limits of the Special Flood Hazard Area (SFHA) (100-year floodplain). Construction of new critical facilities shall be permissible within the SFHA if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three feet or more above the level of the base flood elevation (100-year) at the site. Flood proofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into flood waters. Access routes elevated to or above the level of the base flood elevation shall be provided to all critical facilities to the extent possible.