

CHAPTER 16.19
FLOODPLAIN OVERLAY ZONE

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16.19.000 PURPOSE. The purpose of the floodplain overlay zone is to:

- A. Restrict or prohibit 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.
- B. Minimize expenditure of public money for flood control projects, rescue and relief efforts in areas subject to flooding.
- C. Minimize flood damage to new construction by elevating or flood proofing all structures.
- D. Control the alteration of natural floodplains, stream channels and natural protective barriers which hold, accommodate or channel flood waters.
- E. Control filling, grading, dredging and other development which may be subject to or increase flood damage.
- F. Prevent or regulate the construction of flood barriers which may increase flood hazards in other areas.
- G. Comply with the requirements of the Federal Insurance Administration to qualify Marion County for participation in the National Flood Insurance Program.
- H. Minimize flood insurance premiums paid by the citizens of Marion County by reducing potential hazards due to flood damage.
- I. Implement the floodplain policies in the Marion County Comprehensive Plan.

16.19.010 DEFINITIONS. For purposes of this overlay zone the following terms shall mean:

- A. “Accessory” means a building, structure, vehicle, or use which is incidental and subordinate to an dependent upon the primary use on the lot.
- B. “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.
- C. “Base flood level” means the flood level having a one percent chance of being equaled or exceeded in any given year (100-year floodplain).
- D. “Basement” means any area of a building having its floor subgrade (below ground level on all sides) and not meeting the requirements for crawl space construction in FEMA Technical Bulletin 11-01.
- E. “Critical facility” means any buildings or locations vital to the emergency response effort (e.g., emergency operation centers, 911 centers, police and fire stations, municipal water distribution and storage systems,

hospitals, road departments and select roads and bridges, radio and TV stations and towers), and buildings or locations that, if damaged, would create secondary disasters (e.g., hazardous materials facilities, water and wastewater distribution and treatment facilities, schools, nursing homes, natural gas and petroleum pipelines, and prison or jail facilities).

- F. “Conveyance” means the carrying capacity of all or a part of the floodplain. It reflects the quantity and velocity of floodwaters. Conveyance is measured in cubic feet per second (CFS). If the flow is 30,000 CFS at a cross section, this means that 30,000 cubic feet of water pass through the cross section each second.
- G. “Existing manufactured home park or subdivision” is one in which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed was completed before the effective date (August 15, 1979) of the community’s floodplain management regulations. The construction of facilities includes, at a minimum, the installation of utilities, construction of streets, and either final site grading or the pouring of concrete pads.
- H. “Encroachment” means any obstruction in the floodplain which affects flood flows.
- I. “Flood” or “flooding” means a general and temporary condition of partial or complete inundation of usually dry land areas from the unusual and rapid accumulation of runoff of surface waters from any source.
- J. “Flood boundary floodway map (FBFM)” means the map portion of the Flood Insurance Study (FIS) issued by the Federal Insurance Agency on which is delineated the floodplain, floodway (and floodway fringe) and cross sections (referenced in the text portion of the FIS).
- K. “Floodplain 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 located within the floodplain.
- L. “Floodway fringe” means the area of the floodplain lying outside of the floodway as delineated on the FBFM where encroachment by development will not increase the flood elevation more than one foot during the occurrence of the base flood discharge.
- M. “Floodplain” means lands within the county that are subject to a one percent or greater chance of flooding in any given year and other areas as identified on the official zoning maps of Marion County.
- N. “Flood Insurance Rate Map (FIRM)” means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards (floodplain) and the risk premium zones applicable to the community and is on file with the Marion County planning division.
- O. “Flood Insurance Study (FIS)” 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 and is on file with Marion County planning division.
- P. “Floodproofing” means a combination of structural or non-structural provisions, changes or adjustments to structures, land or waterways for the reduction or elimination of flood damage to properties, water and sanitary facilities, structures and contents of buildings in a flood hazard area.
- Q. “Floodway” means the channel of a river or other watercourse and the adjacent land areas that must remain unobstructed to discharge the base flood without cumulatively increasing the water surface elevation more than one foot. The floodways are identified on the Flood Insurance Rate Maps (FIRMS) for Marion County. Once established, nothing can be placed in the floodway that would cause any rise in the Base Flood Elevation.
- R. “Highway ready recreational vehicle” means a fully licensed recreation vehicle that is on wheels or a jacking

system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.

- S. “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 title.
- T. “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 mobile homes as defined in subsection (T) of this section. For insurance and floodplain management purposes the term "manufactured home" does not include park trailers, travel trailers, and other similar vehicles as defined in subsection (X) of this section.
- U. “Manufactured home park or subdivision” means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots or spaces for rent or sale.
- V. “Mean sea level” means, for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map are referenced.
- W. “Mobile home” means a vehicle or structure, transportable in one or more sections, which is eight feet or more in width, is 32 feet or more in length, is built on a permanent chassis to which running gear is or has been attached, and is designed to be used as a dwelling with or without permanent foundation when connected to the required utilities. Such definition does not include any recreational vehicle as defined by subsection (X) of this section.
- X. “New construction” means any structure(s) for which the start of construction commenced on or after the effective date of the floodplain overlay zone (August 15, 1979).
- Y. “Obstruction” means any physical object which hinders the passage of water.
- Z. “Permanent foundation” means a natural or manufactured support system to which a structure is anchored or attached. A permanent foundation is capable of resisting flood forces and may include posts, piles, poured concrete or reinforced block walls, properly compacted fill, or other systems of comparable flood resistivity and strength.
- AA. “Recreational vehicle” means a "camper," "motor home," "travel trailer," as defined in ORS 801.180, 801.350, and 801.565 that is intended for temporary human occupancy and is equipped with plumbing, sinks, or toilet, and does not meet the definition of a mobile home in subsection (T) of this section.
- BB. Reinforced Pier. At a minimum, a “reinforced pier” must have a footing adequate to support the weight of the manufactured home under saturated soil conditions. Concrete blocks may be used if vertical steel reinforcing rods are placed in the hollows of the blocks and the hollows are filled with concrete or high strength mortar. Dry stacked concrete blocks do not constitute reinforced piers. When piers exceed 36 inches under “I” beams or 48 inches under floor systems they are required to be designed by an engineer licensed in Oregon.
- CC. “Special flood hazard area (SFHA)” means areas subject to inundation from a 100-year flood (identified on the FIRM by the letter “A”, e.g. A, AE, A1-A30, AO, AH, etc.).
- DD. “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 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 slabs 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 on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.

- EE. "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.
- FF. "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:
- (1) 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
 - (2) Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure."
- GG. "Watercourse" means a natural or artificial channel in which a flow of water occurs either continually or intermittently in identified floodplains.
- HH. "Water dependent" means a use or activity that can be carried out only on, in or adjacent to water areas because the use requires access to the water body for water related transportation, recreation, energy production or source of water. These uses include structures that to serve their purpose must be in or adjacent to water areas, such as bridges, culverts, and erosion and flood control structures.
- II. "Wet floodproofing" means a method of construction using building materials capable of withstanding direct and prolonged (72 hours) contact with floodwaters without sustaining significant damage (any damage requiring more than low-cost cosmetic repair, such as painting), consistent with FEMA Technical Bulletin 7-93.
- JJ.. "Zoning administrator" shall be the planning director or his designee.

16.19.100 GENERAL PROVISIONS. The following regulations apply to all unincorporated lands in identified floodplains as shown graphically on the zoning maps. The floodplain comprises those areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled the "Flood Insurance Study for Marion County and Unincorporated Areas" dated January 19, 2000, with accompanying Floodway and Flood Insurance Rate Maps, and amendments taking effect on August 15, 1979, August 19, 1987, September 30, 1993, December 19, 1995, June 19, 1997, and January 2, 2003. The floodplain also comprises areas identified and mapped by Marion County that were not studied by the Flood Insurance Study. The report and maps are incorporated in the overlay zone by this reference and are on file with the Marion County planning division. When base flood elevation data have not been provided, the zoning administrator shall have the authority to determine the location of the boundaries of the floodplain where there appears to be a conflict between a mapped boundary and the actual field conditions, provided a record is maintained of any such determination.

- A. Duties of the zoning administrator shall include, but not be limited to:
1. Review all development permits to determine that the permit requirements of this ordinance have been satisfied.

2. 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.
3. Review building permits where elevation data is not available either through the FIS or from another authoritative source, 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.
4. 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 MCC 16.19.140(J) are met.
5. 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 structures contain a basement.
6. For all new or substantially improved floodproofed structures:
 - a. Verify and record the actual elevation (in relation to mean sea level), and
 - b. Maintain the floodproofing certifications required in MCC 16.19.140(C).
7. Maintain for public inspection all records pertaining to the provisions of this title.

16.19.110 USES. Within a FP (Floodplain) overlay zone no uses, structures, recreational vehicles and premises shall be used or established except as provided in the applicable underlying zone and the provisions of this overlay zone. Except as provided herein all uses and floodplain development shall be subject to issuance of a conditional use permit (floodplain development permit) as provided in MCC 16.19.130.

- A. The following uses are exempt from the regulations of this overlay zone:
 1. Signs, markers, aids, etc., placed by a public agency to serve the public.
 2. Streets, driveways, parking lots and other open space use areas where no alteration of topography will occur.
 3. Minor repairs or alterations to existing structures provided the alterations do not increase the size or intensify the use of the structure, and do not constitute "substantial improvement" as defined in Section MCC 16.19.010(CC).
 4. Customary dredging associated with channel maintenance consistent with applicable State or Federal law. This exemption does not apply to the dredged materials placed within a floodplain.
 5. Placement of utility facilities necessary to serve established and permitted uses within floodplain areas, such as telephone poles. This exemption does not apply to buildings, substations, or other types of utility facilities development in the floodplain.
 6. Flagpoles.
 7. Except in a floodway, open wire fencing (no more than one horizontal strand per foot of height) and open rail fencing (rails occupy less than 10% of the fence area and posts are spaced no closer than 8 feet apart).
 8. Accessory structures smaller than 50 square feet in size that do not require a building permit.
- B. Prior to obtaining a building permit for any residential, commercial or industrial structure within an area identified by FEMA or Marion County as being within a 500 year floodplain the applicant shall comply with the requirement in MCC 16.19.130(C).
- C. New dwellings and manufactured homes, and replacement dwellings that are not being replaced in the same location as the original dwelling, are prohibited in the floodplain if there is an area on the subject property that is

located outside of the floodplain where the dwelling can be placed. An exception to this prohibition may be granted if a floodplain development permit, and variance meeting the criteria in MCC 16.19.170 are obtained.

- D. Prior to any mining, dredging, filling, grading, paving or excavation within the 500 year floodplain area as shown on the Marion County zoning maps, a floodplain development permit shall be obtained.
- E. Siting of new critical facilities are prohibited within the floodway and 100 and 500 year floodplains. An exception to this prohibition may be granted for development in the 500 year floodplain if a floodplain development permit and a variance meeting the criteria in MCC 16.19.170 are obtained. This prohibition does not apply to water dependent uses.

16.19.130 CONDITIONAL USE PROCEDURES AND REQUIREMENTS.

- A. Except as provided in MCC 16.19.110 a conditional use permit (floodplain development permit) shall be obtained before construction or development begins within the floodplain overlay zone. The conditional use permit shall include conditions ensuring that the flood protection standards in MCC 16.19.140 are met.
- B. When base flood elevation data and floodway data have not been provided in accordance with MCC 16.19.100, the applicant, with the assistance of the zoning administrator, shall obtain and reasonably utilize any base flood elevation data or evidence available from a Federal, State or other source in order to determine compliance with the flood protection standards. If data are insufficient, the zoning administrator may require that the applicant provide data derived by standard engineering methods.
- C. Prior to obtaining a building permit the owner shall be required to sign and record in the deed records for the county a declaratory statement binding the landowner, and the landowner's successors in interest acknowledging that the property and the approved development are located in a floodplain.
- D. Prior to obtaining a building permit, commencing development or placing fill in the floodplain the applicant shall submit a certification from a registered civil engineer demonstrating that a development or fill will not result in an increase in floodplain area on other properties and will not result in an increase in erosive velocity of the stream that may cause channel scouring or reduce slope stability downstream of the development or fill.
- E. The applicant shall provide an elevation certificate signed by a licensed surveyor or civil engineer certifying that the actual elevations of all new or substantially improved manufactured homes, dwellings and structures meets the requirements of MCC 16.19.140(A), (B) and (C) where applicable, as follows:
 - 1. Prior to construction (based on construction drawings), and
 - 2. Once the floor elevation can be determined (based on the building under construction), and
 - 3. Prior to occupancy (based on finished construction).

Unless requested by FEMA, elevation certificates shall not be required for the following uses:

- 1. Water dependent uses, such as boat ramps, docks, wells and well covers.
 - 2. Improvements resulting from cut or fill operations, such as berms, bank improvements, ponds and dams.
 - 3. Small scale facilities necessary to serve other uses, such as kiosks and open picnic shelters.
 - 4. Grading, such as for roadways, even where alteration of topography occurs.
- F. A highway ready recreation vehicle may be located on a lot or parcel without a dwelling in a floodplain or floodway only during the non-flood season (June 1st through September 30th), subject to the requirements in MCC 16.26.410.
- G. In addition to other information required in a conditional use application, the application shall include:

1. Land elevation in mean sea level data at development site and topographic characteristics of the site.
2. Base flood level expressed in mean sea level data on the site, if available.
3. Plot plan showing property location, floodplain and floodway boundaries where applicable, boundaries and the location and floor elevations of existing and proposed development, or the location of grading or filling where ground surface modifications are to be undertaken.
4. Any additional statements and maps providing information demonstrating existing or historical flooding conditions or characteristics which may aid in determining compliance with the flood protection standards of this overlay zone.

16.19.140 FLOOD PROTECTION STANDARDS. In all areas of identified floodplain, the following requirements apply:

A. Dwellings, Manufactured Homes and Related Accessory Structures. New residential construction, substantial improvement of any residential structures, location of a manufactured home on a lot or in a manufactured home park or park expansion approved after adoption of this title shall:

1. Dwellings shall have the top of the lowest floor, including basement, elevated on a permanent foundation to two feet above base flood elevation and the bottom of the lowest floor constructed a minimum of one foot above the base flood elevation. Where the base flood elevation is not available, the top of the lowest floor, including basement shall be elevated on a permanent foundation to two feet above the highest adjacent natural grade (within five feet) of the building site and the bottom of the lowest floor elevated to one foot above the highest adjacent natural grade (within five feet) of the building site; and
2. Manufactured homes shall have the finished floor, including basement, elevated on a permanent foundation to two feet above base flood elevation. Where the base flood elevation is not available, the finished floor, including basement shall be elevated on a permanent foundation to two feet above the highest adjacent natural grade (within five feet) of the building site; and
3. Manufactured homes shall be anchored in accordance with subsection (D) of this section; and
4. No new dwellings or manufactured home shall be placed in a floodway. An exception to this prohibition may be granted if a floodplain development permit and variance consistent with MCC16.19.160 are obtained.
5. 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 comply with the following standards:
 - a. 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.
 - b. The bottom of all openings shall be no higher than one foot above grade.
 - c. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
6. Construction where the crawl space is below-grade on all sides may be used. Designs for meeting these requirements must either be certified by a registered professional engineer or architect, or must meet the following standards, consistent with FEMA Technical Bulletin 11-01 for crawl space construction:
 - a. 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.

- b. The bottom of all openings shall be no higher than one foot above grade.
- c. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
- d. Interior grade of the crawl space shall not exceed two (2) feet below the lowest adjacent exterior grade.
- e. The height of the crawl space when measured from the interior grade of the crawl space (at any point on grade) to the bottom of the lowest horizontal structural member of the lowest floor shall not exceed four (4) feet.
- f. An adequate drainage system that removes floodwaters from the interior area of the crawl space shall be provided.
- g. Below-grade crawlspace construction in accordance with the requirements listed above will not be considered basements for flood insurance purposes. However, below grade-crawlspace construction in the special flood hazard area is not the recommended construction method because of the increased likelihood of problems with foundation damage, water accumulation, moisture damage, and drainage. Applicants shall be advised that buildings constructed with below-grade crawlspaces will have higher flood insurance premiums than buildings that have the preferred crawlspace construction (the interior grade of the crawlspace is at or above the adjacent exterior grade).

7. A garage attached to a residential structure, constructed with the garage floor slab below the base flood elevation, may be constructed to wet floodproofing standards provided that:

- a. The garage shall meet the standards for openings in subsection (A)(5) of this section; and
- b. The garage shall be constructed with unfinished materials acceptable for wet floodproofing to two feet above the base flood elevation or, where no BFE has been established, to two feet above the highest adjacent grade.

8. A detached residential accessory structure may be constructed to wet floodproofing standards provided that:

- a. The accessory structure shall be located on a property with a dwelling;
- b. The accessory structure shall be limited to vehicle parking and limited storage (no workshops, offices, recreation rooms, etc);
- c. The accessory structure shall be constructed with unfinished materials acceptable for wet floodproofing to two feet above the base flood elevation or, where no BFE has been established, to two feet above the highest adjacent grade;
- d. The accessory structure shall not be used for human habitation;
- e. The accessory structure shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
- f. The accessory structure shall meet the standards for openings in subsection (A)(5) of this section and,
- g. The accessory structure shall meet the criteria for a variance in MCC 16.19.070.

B. **Manufactured Homes in Existing Manufactured Home Parks.** The standards in subsection (A) of this section shall apply to location of a manufactured home in a vacant space in a manufactured home park existing prior to adoption of this title.

C. **Nonresidential development**

- 1. New construction and substantial improvement of any commercial, industrial or other nonresidential structures shall either have the lowest floor, including basement, elevated to two feet above the level of the base flood elevation. Where the base flood elevation is not available, the lowest floor, including basement shall be elevated to two feet above the highest adjacent natural grade (within five feet) of the

building site; or together with attendant utility and sanitary facilities, shall:

- a. Be floodproofed to an elevation of two feet above base flood elevation or, where base flood elevation has not been established two feet above the highest adjacent grade, so that 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 standards in this subsection and subsection (E) of this section are satisfied. This certificate shall include the specific elevation (in relation to mean sea level) to which such structures are floodproofed.
 - d. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in subsection (A)(5) of this section.
 - e. Applicants floodproofing nonresidential buildings shall be notified by the zoning administrator that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g. a building constructed to the base flood level will be rated as one foot below that level).
2. New construction of any commercial, industrial or other nonresidential structures are prohibited in the floodway. An exception to this prohibition may be granted if a floodplain development permit and variance consistent with MCC 16.19.160 are obtained. This prohibition does not apply to water dependent uses.
 3. An agricultural structure may be constructed to wet floodproofing standards provided that:
 - a. The structure shall be used solely for agricultural purposes, for which the use is exclusively in conjunction with the production, harvesting, storage, drying, or raising of agricultural commodities, the raising of livestock, and the storage of farm machinery and equipment;
 - b. The structure shall be constructed with unfinished materials acceptable for wet floodproofing to two feet above the base flood elevation or, where no BFE has been established, to two feet above the highest adjacent grade;
 - c. The structure shall not be used for human habitation;
 - d. The structure shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
 - e. The structure shall meet the standards for openings in subsection (A)(5) of this section; and,
 - f. The structure shall meet the criteria for a variance in MCC 17.178.090.

D. Anchoring.

1. All new construction and substantial improvements shall be anchored to prevent floatation, collapse or lateral movement of the structure.
2. All manufactured homes must likewise be anchored to prevent flotation, collapse or lateral movements, 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. Anchoring methods shall be consistent with the standards contained in Section 308 (Flood Resistance) contained in the Oregon Manufactured Dwelling Standards Manual per ORS 446.062.

E. Construction Materials and Methods

1. All new construction and substantial improvements below base flood level shall be constructed with materials and utility equipment resistant to flood damage, and the design and methods of construction are in accord with accepted standards of practice based on an engineer's or architect's review of the plans and specifications.

2. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damages.

F. Utilities.

1. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system as approved by the State Health Division.
2. New and replacement sanitary sewage systems including on-site waste disposal systems shall be designed and located to minimize flood water contamination consistent with the requirements of the Oregon State Department of Environmental Quality.
3. Electrical, heating, ventilation, plumbing, and air-conditioning equipment shall be elevated to one-foot above the level of the base flood elevation. Where the base flood elevation is not available, the electrical, heating, ventilation, plumbing and air-condition equipment shall be elevated to one foot above the highest adjacent natural grade (within five feet) of the building site.

G. Developments, Generally. Residential developments involving more than one single-family dwelling, including subdivisions, manufactured home parks, multiple-family dwellings and planned developments including development regulated under subsections (A) and (C) of this section shall meet the following requirements:

1. Be designed to minimize flood damage.
2. Have public utilities and facilities such as sewer, gas electrical and water systems located and constructed to minimize flood damage.
3. Have adequate drainage provided to reduce exposure to flood damage.
4. Base flood elevation data shall be provided by the developer. In cases where no base flood elevation is available analysis by standard engineering methods will be required.

H. Storage of Materials and Equipment. Materials that are buoyant, flammable, obnoxious, toxic or otherwise injurious to persons or property, if transported by floodwaters, are prohibited. Storage of materials and equipment not having these characteristics is permissible only if the materials and equipment have low-damage potential and are anchored or are readily removable from the area within the time available after forecasting and warning.

I. Alteration of Watercourses. When considering a conditional use permit to allow alteration or modification of a watercourse the following shall apply:

1. Adjacent communities, the Oregon Division of State Lands and the Department of Land Conservation and Development, and other affected agencies, shall be notified prior to any alteration or relocation of a watercourse and evidence of such notification shall be submitted to the Federal Insurance Administration.
2. Maintenance shall be provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.

J. Floodways. Located within areas of floodplain established in MCC 16.19.100 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 shall apply in addition to the requirement in subsection (I) of this section.

1. Prohibit encroachments, including fill, new construction, substantial improvements and other development unless a certified technical evaluation is provided by a registered professional engineer or architect demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge. This evaluation may be submitted to the Federal Emergency Management Agency for technical review.

2. If subsection (J)(1) of this section is satisfied all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this section.
3. The area below the lowest floor shall remain open and unenclosed to allow the unrestricted flow of floodwaters beneath the structure.

K. 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 within AO zones shall have the lowest floor (including basement) elevated above the highest adjacent grade (within five feet) of the building site, to two feet above the depth number specified on the FIRM or three feet if no depth number is specified.
2. New construction and substantial improvements of non-residential structures within AO zones shall either:
 - a. Have the lowest floor (including basement) elevated above the highest adjacent grade (within five feet) of the building site, to two feet above the depth number specified on the FIRM or three feet if no depth number is specified); or
 - b. Together with attendant utility and sanitary facilities, be completely floodproofed 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 subsection (E) of this section.
3. Require adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.

16.19.150 GENERALIZED FLOODPLAIN AREAS. Where elevation data is generalized, such as the unnumbered A zones on the FIRM, conditional use permits shall include a review and determination that proposed construction will be reasonably safe from flooding and meet the flood protection standards. In determining whether the proposed floodplain development is reasonably safe, applicable criteria shall include, among other things, the use of historical data, high water marks, photographs of past flooding, or data (e.g. an engineering study or soil and landscape analysis) may be submitted by qualified professionals that demonstrate the site is not in a floodplain. In such cases, a letter of map amendment may be required by the zoning administrator.

16.19.160 VARIANCES.

- A. A variance may be issued as part of the conditional use process for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, in conformance with the criteria in MCC 16.19.170.
- B. Marion County shall notify the applicant in writing over the signature of the zoning administrator that:
 1. The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as \$25.00 for \$100.00 of insurance coverage; and
 2. Such construction below the base flood level increases risk to life and property. Such notification shall be maintained with a record of all variance actions as required in subsection (C) of this section.

C. Marion County shall:

1. Maintain a record of all variance actions, including justification for their issuance; and
2. Report such variances issued in its biennial report submitted to the NFIP Administrator.

16.19.170 VARIANCE CRITERIA. The following criteria shall be used to review variance applications.

A. Variances shall only be issued upon a showing that:

1. There is a good and sufficient cause;
2. That failure to grant the variance would result in exceptional hardship to the applicant;
3. That the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws;
4. The variance is the minimum necessary, considering the flood hazard, to afford relief;
5. The variance will be consistent with the intent and purpose of the provision being varied;
6. There has not been a previous land use action approved on the basis that variances would not be allowed; and
7. The new construction or substantial improvement is not within any designated regulatory floodway, or if located in a floodway, no increase in base flood discharge will result.

16.19.180 WARNING AND DISCLAIMER OF LIABILITY. The degree of flood protection required by this overlay zone is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on occasion. Flood heights may be increased by man-made or natural causes. This zone does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This zone will not create liability on the part of Marion County, any officer or employee thereof or the Federal Insurance Administration for any flood damages that result from reliance on this chapter or any decision lawfully made hereunder.