



Memorandum Date: November 27, 2006
1st Reading: January 24, 2007
2nd Reading & Hearing: February 7, 2007

TO: Board of County Commissioners

DEPARTMENT: Public Works Dept./Land Management Division

PRESENTED BY: BILL VANVACTOR, COUNTY ADMINISTRATOR
KENT HOWE, PLANNING DIRECTOR

AGENDA ITEM TITLE: IN THE MATTER OF ADOPTING REVISIONS TO
LANE CODE 16.090 "DEFINITIONS", LANE CODE
16.244 "FLOODPLAIN COMBINING ZONE" AND
LANE CODE 10.271 "FLOODPLAIN COMBINING
ZONE."

I. MOTION

Move to adopt the proposed amendment.

II. AGENDA ITEM SUMMARY

The floodplain combining zone is being updated to allow Lane County to enroll in the Community Rating System. The National Flood Insurance Program's (NFIP) Community Rating System (CRS) is a voluntary incentive program that recognizes floodplain management activities that exceed the minimum NFIP requirements. Flood insurance premium rates are discounted to reflect the reduced flood risk.

The reality of Measure 37 has added an additional layer of consideration for all code amendments. However, the floodplain regulations are exempt from a Measure 37 claim for two reasons. First, they implement a federal program and according to the text of Measure 37, all federal regulations are exempt. Second, they are considered regulations that protect public health and safety, which are also exempt.

III. BACKGROUND/IMPLICATIONS OF ACTION

A. Board Action and Other History

This amendment was presented to the Lane County Planning Commission on April 4, 2006 and they requested a revision. On May 2, they recommended approval of the revised amendment. The revision added a sentence that clearly explained the criteria for building a crawlspace in the floodplain.

B. Policy Issues

There are two reasons for this amendment. First, FEMA has requested several changes to the existing floodplain ordinance. Without these changes, Lane County will not be able to continue participation in the flood insurance program. Second, these changes will allow Lane County to participate in the Community Rating System, which will reduce the flood insurance rates for policy holders in rural Lane County.

C. Board Goals

The public hearing will provide an opportunity for citizen participation in decision making, in conformance with the overall goals of the Lane County Strategic Plan.

D. Financial and/or Resource Considerations

This amendment will allow Lane County to participate in the Community Rating System (CRS), which will reduce the flood insurance rates for policy holders in rural Lane County.

E. Analysis

This amendment to LC 16.244 and LC 10.271 will allow Lane County to continue it's participation in the federal flood insurance program and allow Lane County to participate in the CRS which will also reduce the flood insurance rates for the policy holders in rural Lane County. Upon acceptance into the program, the rates will be reduced by 5%. After that, Lane County can decide what steps it wishes to take, if any, to further reduce the insurance rates. The rates can be reduced a maximum of 45%. The following website has additional information regarding the Community Rating System: <http://www.fema.gov/business/nfip/crs.shtm>. Lane County is not the only local government in Oregon that is participating in the CRS. The following cities and counties in Oregon are also participating:

Albany	Eugene	Rogue River
Ashland	Grants Pass	Roseburg
Bandon	Jackson County	Scappoose
Beaverton	Marion County	Scio
Benton County	Medford	Sheridan
Cannon Beach	Myrtle Creek	Stanfield
Central Point	Nehalem	Talent
Clackamas	Oregon City	Tillamook County
County	Polk County	
Corvallis	Portland	
Douglas County	Rockaway	

According to the letter from Denise Atkinson dated November 25, 2003, the

county has two issues to resolve before it can participate in the CRS program. The first is to amend the Lane Code as indicated in the letter. The second is to resolve the deficiencies in the floodplain permits for certain properties. As of December 21, 2005, the last deficient property was brought into compliance. Refer to the email from Thom Lanfear dated December 1, 2005.

Christine Valentine, the Floodplain/Natural Hazards Coordinator with DLCD, submitted comments on the floodplain amendment. Her comments have been included in the current draft.

For clarity, Lane Code Chapter 16 applies to areas outside the Urban Growth Boundaries. Lane Code Chapter 10 applies to areas inside Urban Growth Boundaries and outside city limits. Both Chapters are identical. For brevity, this staff report will refer to both Chapters as the Lane Code floodplain regulations.

Two parts from the United States Code are included as attachments to this report. This is to provide a reference for the requested changes from FEMA. The comments from Denise Atkinson reference several definitions and standards from the applicable US Code.

Summary of proposed changes

Chapter 16: Applicable to areas outside a UGB

The definitions in LC 16.090 that are specific to the floodplain ordinance have been included in LC 16.244. As a result, these definitions are now in two places in Chapter 16. Because this amendment is not a comprehensive review covering the entirety of Chapter 16, it is not prudent to remove any definitions from the general definitions section in LC 16.090, since it could have unanticipated consequences to other sections of Chapter 16. Because of this, the definitions that are specific to the floodplain ordinance have been copied into LC 16.244 instead of being removed from LC 16.090. In addition, three definitions are amended at the request of FEMA. At some point in the future, a comprehensive review of Chapter 16 will occur and these definitions may be removed from LC 16.090.

LC 16.244 has also been reformatted by placing the provisions of LC 16.244(7)-(8) in a table. These are provisions for development in the floodplain. They include specific requirements for elevation of structures, construction of septic systems, construction of roads and other provisions that lower the risk of flood damage. The only changes to the text are the changes requested by FEMA and the Lane County Planning Commission (LCPC). Otherwise, the text in the table is verbatim from the original code. The changes are identified in Table 1 as underlined text. These changes reflect the provisions in US Code, Parts 59 and 60. Refer to the letter and emails from Denise Atkinson. The LCPC requested the following addition to Table 1, Elevation of Residential Structures. "Crawlspace construction is outlined in FEMA Technical Bulletin 11-01 entitled Crawlspace Construction of Buildings located in Special Flood Hazard".

Chapter 10: Applicable to areas inside a UGB

LC 10.271 is amended to reflect the changes in LC 16.244. A section for

definitions has been added. It should be noted that LC 10.050 "Definitions" is not amended because it does not contain the terms "Flood or Flooding", "Regulatory Floodway", or "Substantial Improvement". These are the terms FEMA has requested be amended.

These terms as well as other definitions that are specific to the floodplain, are added to the floodplain ordinance in a new section (10.271-27 "Definitions") but not the general definitions section of LC 10.050. This is because adding definitions to LC 10.050 may cause unintended consequences to other sections of Chapter 10.

Like Chapter 16, the provisions for development in the floodplain have been moved into a table for clarity and ease of reference. The only changes to the text are the changes requested by FEMA or the Lane County Planning Commission. Otherwise, the text in the table is verbatim from the original code. The changes are identified in Table 1 as underlined text. The LCPC requested the following addition to Table 1, Elevation of Residential Structures. "Crawlspace construction is outlined in FEMA Technical Bulletin 11-01 entitled Crawlspace Construction of Buildings located in Special Flood Hazard".

Result of participation in the CRS

Once these changes are made, Lane County can request to participate in the CRS. Upon inclusion into the program, the floodplain insurance rates will drop by 5%. At that time, Lane County will undertake a public process to determine what further actions, if any, should be taken to further reduce the rates. The maximum reduction is 45%. Generally, the rates are lowered in 5% increments for actions that lower the flood risk. For example, the minimum elevation for a structure in the floodplain is 1 foot above the base flood elevation. If Lane County decides to raise the minimum elevation to something greater than 1 foot, the flood insurance rates could be lowered by an additional 5%. This is just one example of the multitude of actions Lane County could take to lower the flood hazard risk. However, the amendment before the Commission is required before Lane County can participate in the CRS. If this amendment is not adopted, Lane County can not participate in the program and the flood insurance rates for the citizens of rural Lane County will remain unchanged.

F. Alternatives/Options

The Board has these options:

- Adopt the amendment.
- Do not adopt the amendment.
- Revise the amendment.

V. TIMING/IMPLEMENTATION

The amendment does not contain an emergency clause and will become effective 30 days after adoption by the County Commissioners.

VI. RECOMMENDATION

Staff recommends the Board adopt the proposed amendment.

VII. FOLLOW-UP

A notice of the County Commissioner's action will be provided to DLCD.

VII. ATTACHMENTS

The entire record is not attached to the Board packet. The entire record is available in the Lane County Land Management Division. Only the most relevant portions are included in this packet, and are identified below:

1. Proposed amendment (text/ordinance to follow).
2. Record of testimony.
3. Email from Denise Atkinson dated February 17, 2006.
4. Email from Denise Atkinson dated February 14, 2006.
5. Email from Thom Lanfear dated December 15, 2005.
6. Email from Christine Valentine dated September 22, 2004.
7. Letter from Denise Atkinson dated November 25, 2003.
8. Lane Manual 11.020.
9. United States Code Title 44, Chap. I, Part 59.
10. United States Code Title 44, Chap. I, Part 60.

ATTACHMENT #1

Proposed amendment.

Lane Code 16

Lane Code 10

CHAPTER 16

Applicable to rural areas (outside an Urban Growth Boundary).

Version: November 17, 2006

Sections 16.244(7)(a)-(b) have been moved into a table called "*Table 1: Provisions for Flood Hazard Reduction*".

Within Table 1, double underlined text is new.

In 16.244(6) "Definitions":

- The underlined text is new to 16.244, but the same definitions can be found in 16.090. For example, the term "Base Flood" is found in 16.090, and will be added to 16.244(6).
- The double underlined text is new and is specific to LC 16.244. The double underlined text is not found in 16.090. For example, the term "Basement" is only in 16.244. It is not in 16.090.

Lane Code 16.090 Definitions

For the purpose of this chapter, certain abbreviations, terms, phrases, words and their derivatives shall be construed as specified in this chapter. Words used in the singular include the plural and the plural the singular. Words used in the masculine gender include the feminine and the feminine the masculine. Where terms are not defined, they shall have their ordinary accepted meanings within the context with which they are used. Webster's Third New International Dictionary of the English Language, Unabridged, Copyright 1981, Principal Copyright 1961, shall be considered as providing ordinary accepted meanings.

Flood or Flooding. A general ~~or~~and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters and/or the unusual and rapid accumulation and runoff of surface waters from any source.

Floodway, Regulatory. The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the waters of a base flood without cumulatively increasing the water surface elevation more than one foot.

Substantial Improvement. Any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either, (a) before the improvement or repair is started, or (b) if the structure has been damaged, and is being restored, before the damage occurred. For the purpose of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include either (1) any project or improvement of a structure to ~~comply~~correct with 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 ~~are solely~~ necessary to assure safe living conditions, or (2) any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

16.244 Floodplain Combining Zone (/FP-RCP).

(1) Purpose. It is the purpose of this section to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas. The provisions of this section are designed to:

- (a) Protect human life and health.
- (b) Minimize expenditure of public money and costly flood control projects.
- (c) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public.
- (d) Minimize prolonged business interruptions.
- (e) Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, and streets and bridges located in areas of special flood hazards.
- (f) Help maintain a stable tax base by providing for the sound use and development of areas as special flood hazard so as to minimize future flood blight areas.
- (g) Ensure that potential buyers are notified that property is in an area of special flood hazard.
- (h) Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

(2) Methods of Reducing Flood Losses. In order to accomplish its purpose, this section includes methods and provisions for:

- (a) 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.
- (b) Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
- (c) Controlling the alteration of natural floodplains, stream channels and natural protective barriers, which help accommodate or channel flood waters.
- (d) Controlling filling, grading, dredging and other development, which may increase flood damage.
- (e) Preventing or regulating the construction of flood barriers, which will unnaturally divert flood waters or which may increase flood hazards in other areas.

(3) Lands to Which This Section Applies. This section shall apply to all areas of flood hazard within Lane County, and overlay the regulations of the underlying zone.

(a) Areas of flood hazard for Lane County under the jurisdiction of the Rural Comprehensive Plan are identified by the Federal Insurance Administration in a scientific and engineering report entitled "THE FLOOD INSURANCE STUDY FOR LANE COUNTY, OREGON UNINCORPORATED AREAS", with accompanying Flood Insurance Rate Maps and Floodway Maps.

(b) Areas of flood hazard shall also include any land area designated by the Director as susceptible to inundation of water from any source where the above-referenced maps have not identified any special flood areas.

(c) Flood hazard areas shall be adopted by Board Order, made a part of Lane Manual (LM 11.020) and filed in the office of the Department. Such studies shall form the basis for the administration and implementation of this section.

(4) Warning and Disclaimer of Liability. The degree of flood protection required by this section is considered reasonable for regulatory purposes. Larger floods can and will occur on rare occasions. Flood heights may be increased by human-made or natural causes. This section 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 section shall not create liability on the part of Lane County, any officer or employee thereof, for any flood damages that result from reliance on this section or any administrative decision lawfully made hereunder.

(5) Development Subject to Director Approval. Approval shall be obtained before construction or development begins within any area of special flood hazard. Approval shall be required for all structures, manufactured homes, and "development" as this term is defined in LC 16.090 16.244(6). Application for approval shall be filed with the Department pursuant to LC 14.050.

(6) Definitions. Except as otherwise provided in LC 16.244, the definitions in LC 16.090 shall be used for LC 16.244.

Area of Special Flood Hazard. The land in the floodplain within a community subject to a one percent chance of flooding in any given year.

Base Flood. A flood that has a one percent chance of being equaled or exceeded in any given year.

Basement. Any area of a building having its floor subgrade (below ground level) on all sides.

Development. For the purposes of LC 16.244, development is defined in LC 16.090, and shall include dredging, paving, and drilling operations and the storage of equipment and materials.

Existing Manufactured Home Park or Subdivision. Existing manufactured home park or subdivision means a manufactured home park for which the construction of facilities for servicing the lot on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, either final site grading or the pouring of concrete pads and the construction of streets) are completed before December 18, 1985 the effective date of Lane County's conversion to the Regular Flood Insurance Program.

Expansion to an Existing Manufactured Home Park or Subdivision. 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, either final site grading or pouring of concrete pads, or the construction of streets).

Flood or Flooding. A general or temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters and/or the unusual and rapid accumulations and runoff of surface waters from any source.

Flood Elevation Determination. A determination by the Administrator of the water surface elevations of the base flood from the approved flood hazard studies.

Flood Hazard Boundary Map, (FHBM). An official map of the County furnished by the Federal Insurance Administration, labeled a Flood Hazard Boundary Map (FHBM) and delineating the boundaries of flood hazard areas.

Flood Insurance Rate Map (FIRM). 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.

Flood Insurance Study. The official report provided by the Federal Insurance Administrations that includes flood profiles and the water surface elevation of the base flood.

Floodplain. A physical geographic term describing any land area susceptible to being inundated by water from any source.

Floodplain Management. The operation of an overall program of corrective and preventative measures for reducing flood damage, including, but not limited to, emergency preparedness plans, flood control works and floodplain management regulations.

Floodplain Management Regulations. This Floodplain ordinance, together with building code requirements, health regulations and any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

Floodproofing. Any combination of structural and nonstructural additions, changes or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Floodway, Regulatory. The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the waters of a base flood without cumulatively increasing the water surface elevation.

Start of Construction. For the purposes of LC 16.244, the start of construction is defined in LC 16.090, and shall include 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.

Structure in a Flood Hazard Area. A walled and roofed building, a mobile home or a tank used in the storage of gas or liquid which is principally above ground.

Substantial Improvement. Any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either (a) before the improvement or repair is started, or (b) if the structure has been damaged, and is being restored, before the damage occurred. For the purpose of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include either (1) any project or improvement of a structure to ~~comply correct with~~ existing violations of 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 ~~are solely necessary~~ to assure safe living conditions, or (2) any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

(67) Designation of Administrator. The Director shall:

(a) Review all development applications to determine that the permit requirements of this section have been satisfied.

(b) Review all development applications 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 applications to determine if the proposed development is located in the floodway. If located in the floodway, assure that the encroachment provisions of LC 16.244(78)(ed) are met.

(d) When base flood elevation data has not been provided in the Flood Insurance Study for Lane County, Oregon unincorporated areas, the Director shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source in order to administer this section.

(e) Where base flood elevation data is provided through the Flood Insurance Study or required as in LC 16.244(67)(d), 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.

(f) For all new or substantially improved flood-proofed structures:

(i) Verify and record the actual elevation (in relation to mean sea level) to which the structure was flood proofed; and

(ii) Maintain the flood-proofing certifications required ~~in LC 16.244(7)(b)(ii)(cc)~~ for elevation of nonresidential construction in zones A1-10, AH and AE.

(g) Maintain for public inspection all records pertaining to the Provisions of this section.

(h) Notify adjacent communities and the ~~Division of State Lands~~ Department of Land Conservation and Development prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration ~~upon request~~.

(i) Require that a program of periodic inspection and maintenance be provided with the altered or relocated portion of said watercourse so that the flood carrying capacity of the watercourse is not diminished.

(j) Make interpretation, where needed, as to exact location of the boundaries of areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). A person contesting the location of the boundary may appeal the interpretation to the Hearings Official as provided in LC 14.500.

(78) Provisions for Flood Hazard Reduction. In all areas of flood hazard, the following standards are required:

~~_____~~ (a) Provisions applicable to Unnumbered A, A1-10, AH and AE zones:

~~_____~~ (a) Unnumbered "A" Zones, where base flood elevation data cannot be supplied:

~~_____~~ (i) Anchoring:

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

~~_____~~ (bb) All manufactured homes must likewise be anchored to prevent flotation, collapse or lateral movement, in accordance with the State of Oregon, Manufactured Dwelling Standard.

~~_____~~ (ii) Construction Materials and Methods.

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

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

(ee*iii*) 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.

~~(iii) Utilities.~~

~~(aa) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.~~

~~(bb) New and replacement sanitary systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters; and~~

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

~~(iv) Subdivision Proposals.~~

~~(aa) All subdivision proposals shall be consistent with the need to minimize flood damage;~~

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

~~(cc) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and~~

~~(dd) 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 five acres (whichever is less).~~

(v**b**) Review of Building Permits. Where elevation data is not available either through the Flood Insurance Study or from another authoritative source, applications for building and manufactured home placement permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness shall include the use of historical data, high water marks, photographs of past flooding, etc., where available.

(vi) Elevation.

~~(aa) Residential Construction: new construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated two feet above grade.~~

~~(bb) Nonresidential Construction: new construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated two feet above grade; or, together with attendant utility and sanitary facilities, shall be flood-proofed to a level two feet above grade, so the structure is watertight with walls substantially impermeable to the passage of water.~~

~~_____ (cc) Manufactured Home Placement: All manufactured homes not in an existing manufactured home park shall have the lowest floor elevated two feet above grade.~~

~~_____ (dd) All manufactured homes within an existing manufactured home park shall be elevated such that the underside of the floor of the manufactured home is three feet above the finish grade.~~

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

~~_____ 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. The bottom of all openings shall be no higher than one foot above grade.~~

~~_____ Openings shall be located to allow unrestricted cross flow of floodwaters through the enclosed area from one side to the other.~~

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

~~_____ (viii) Roads. Adequate provisions shall be made for accessibility during a 100-year flood, so as to ensure ingress and egress for ordinary and emergency vehicles and services during potential future flooding.~~

~~_____ (b) Numbered Zones A1-30, AH, AE, AO. In all areas of special flood hazards where base flood elevation data has been provided as set forth in LC 16.244(3) or LC 16.244(6)(d), the following provisions are required:~~

~~_____ (i) Residential Construction.~~

~~_____ (aa) New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to one foot above base flood elevation.~~

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

~~_____ 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. The bottom of all openings shall be no higher than one foot above grade.~~

~~_____ Openings shall be located to allow unrestricted cross floor of floodwaters through the enclosed area from one side to the other.~~

~~_____ Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of flood waters.~~

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

~~_____ (aa) be flood-proofed to one foot above the base flood level, so the structure is watertight with walls substantially impermeable to the passage of water;~~

~~_____ (bb) have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;~~

~~_____ (cc) 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 certification shall be provided to the official as set forth in LC 16.244(6)(f)(ii). Nonresidential structures that are elevated, not flood-proofed, must meet the same standards for space below the lowest floor as described in LC 16.244(7)(b)(i) (bb).~~

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

~~_____ (iii) Manufactured Homes.~~

~~_____ (aa) All manufactured homes that are placed or substantially improved within Zones A1-30, AH and AE (i) on sites outside of a manufactured home park, (ii) on sites in a new manufactured home park, (iii) on sites in an expansion to an existing manufactured home park, or (iv) on sites within an existing manufactured home park and upon which manufactured homes have incurred substantial damage as the result of a flood, shall be elevated on a permanent foundation such that the underside of the floor of the manufactured home is elevated to a height of one foot above the base flood elevation.~~

~~_____ (bb) All manufactured homes to be placed or substantially improved on sites in an existing manufactured home park within Zones A1-30, AH or AE that are not subject to the provisions of paragraph 16.244(7)(b)(iii)(aa) above shall be elevated so that either (i) the underside of the floor of the manufactured home is one foot above the base flood level, or (ii) the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade.~~

~~_____ (cc) Recreational vehicles placed on sites within Zones A1-30, AH or AE shall (i) be on the site for fewer than 180 consecutive days and be fully licensed and ready for highway use, or (ii) shall satisfy the permit requirements of LC 16.244(5) and 16.244(7)(b)(iii)(aa) above. "Ready for highway use" means that the recreational vehicle 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.~~

~~_____ (iv) Foundations.~~

~~_____ (aa) Foundations for all new construction, substantial improvements, and manufactured homes that are not in an existing manufactured home park or existing manufactured home subdivision subject to 18 inches or more of flood water during a 100-year flood or located within a designated floodway shall be certified by an Oregon registered professional engineer or architect to meet the following minimum foundation requirements:~~

~~_____ concrete footings sized for 1000 psf soil pressure unless data to substantiate the use of higher values are submitted.~~

~~_____ footings extending below the frost line.~~

~~_____ reinforced concrete, reinforced masonry, or other suitably designed supporting systems to resist all vertical and lateral loads which may reasonably occur independently or combined.~~

~~_____ (bb) All manufactured homes subject to less than 18 inches of flood water during a 100-year flood shall be supported in accordance with the State of Oregon, Manufactured Dwelling Standard.~~

~~_____ (cc) All Manufactured homes located in an existing manufactured home park or existing manufactured home subdivision shall be supported in accordance with the State of Oregon, Manufactured Dwelling Standard.~~

~~_____ (v) Anchoring.~~

~~_____ (aa) All new construction and substantial improvements subject to less than 18 inches of flood water during a 100-year flood shall be anchored to prevent flotation or lateral movement.~~

~~_____ (bb) All manufactured homes subject to less than 18 inches of flood water during a 100-year flood shall be anchored in accordance with the State of Oregon, Manufactured Dwelling Standard.~~

~~_____ (cc) All new construction, substantial improvements and manufactured homes not in an existing manufactured home park or existing manufactured home subdivision subject to 18 inches or more of flood water during a 100-year flood or located within a designated floodway shall be anchored to prevent flotation or lateral movement which may reasonably occur independently or combined. Designs for meeting this requirement shall be certified by an Oregon registered engineer or architect.~~

~~_____ (dd) All manufactured homes in existing manufactured home parks and existing manufactured home subdivisions shall be anchored, in accordance with the State of Oregon, Manufactured Dwelling Standard.~~

~~_____ (vi) Construction Materials and Methods.~~

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

~~_____ (bb) All new construction and substantial improvements shall be constructed using approved methods and practices that minimize flood damage.~~

~~_____ (cc) 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.~~

~~_____ (vii) Utilities.~~

~~_____ (aa) All new replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system. Public water systems which utilize wells for a source(s) shall be constructed such that the top well elevation is at least one foot above the 100-year flood elevation.~~

~~_____ (bb) New and replacement sanitary systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharged from the systems into flood waters.~~

~~———— (viii) Roads.~~

~~———— (aa) Adequate provisions shall be made for accessibility during a 100-year flood, so as to ensure ingress and egress for ordinary and emergency vehicles and services during potential future flooding.~~

~~———— (bb) No road surface of any new street, road or access road shall be at an elevation less than one foot below the base flood height.~~

~~———— (ix) Subdivision and Partitioning Proposals.~~

~~———— (aa) All subdivision and partitioning proposals shall be consistent with the need to minimize flood damage.~~

~~———— (bb) All subdivision proposals shall have adequate drainage to reduce exposure to flood damage, including returning water.~~

~~———— (cc) 100-year flood elevation data shall be provided and shown on final partition maps and subdivision plats. Applicant must show the boundaries of the 100-year flood and floodway on the final subdivision plat.~~

~~———— (dd) A permanent monument shall be established and maintained on land partitioned or subdivided showing the elevation in feet above mean sea level. The location of such monument shall be shown on the final partition map or subdivision plat.~~

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

(c) Floodways. Located within areas of special flood hazard established in LC 16.244(3) are areas designated as floodways. 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:

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

(ii) Where base flood elevations have been provided but floodways have not, the cumulative effect of any proposed development, when 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.

(iii) If LC 16.244(78)(c)(i) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of LC 16.244(7)(b) for development in zones A1-30, AH and AE.

(iv) Subdivision and partitioning of land for residential purposes is prohibited if land is located entirely within the Floodway.

(d) Development in areas of special flood hazard shall also comply with the provisions in Table 1: Provisions for Flood Hazard Reduction.

Table 1: Provisions for Flood Hazard Reduction

<u>Flood Zone</u>	<u>Foundations and Anchoring</u>
<u>Unnumbered A</u>	<p>(1) All new construction and substantial improvements shall be anchored to prevent flotation, collapse or and lateral movement of the structure.</p> <p>(2) All manufactured homes must likewise be anchored to prevent flotation, collapse or and lateral movement, in accordance with the State of Oregon, Manufactured Dwelling Standard.</p>
<u>A1-30, AH and AE</u>	<p>(1) All new construction and substantial improvements subject to less than 18 inches of flood water during a 100-year flood shall be anchored to prevent flotation, collapse or and lateral movement.</p> <p>(2) All manufactured homes subject to less than 18 inches of flood water during a 100-year flood shall be anchored <u>and/or supported to prevent flotation, collapse and lateral movement</u>, in accordance with the State of Oregon, Manufactured Dwelling Standard.</p> <p>(3) All new construction, substantial improvements and manufactured homes not in an existing manufactured home park or existing manufactured home subdivision subject to 18 inches or more of flood water during a 100-year flood or located within a designated floodway, shall be anchored to prevent flotation, collapse, or and lateral movement which may reasonably occur independently or combined. Designs for meeting this requirement shall be certified by an Oregon registered engineer or architect.</p> <p>(4) All manufactured homes in existing manufactured home parks and existing manufactured home subdivisions shall be anchored to prevent flotation, collapse, and lateral movement, in accordance with the State of Oregon, Manufactured Dwelling Standard.</p> <p>(5) Foundations for all new construction, substantial improvements, and manufactured homes that are not in an existing manufactured home park or existing manufactured home subdivision subject to 18 inches or more of flood water during a 100-year flood or located within a designated floodway, shall be certified by an Oregon registered professional engineer or architect to meet the following minimum foundation requirements:</p> <p>_____ (a)concrete footings sized for 1000 psf soil pressure unless data to substantiate the use of higher values are submitted.</p> <p>_____ (b)footings extending below the frost line.</p> <p>_____ (c)reinforced concrete, reinforced masonry, or other suitably designed supporting systems to resist all vertical and lateral loads which may reasonably occur independently or combined.</p> <p>(6) All manufactured homes subject to less than 18 inches of flood water during a 100 year flood shall be supported in accordance with the Sate of Oregon, manufactured Dwelling Standard. All Manufactured homes located in an existing manufactured home park or existing manufactured home subdivision shall be supported in accordance with the State of Oregon, Manufactured Dwelling Standard.</p>
<u>Flood Zone</u>	<u>Utilities</u>

<u>Unnumbered A</u>	<p>(1) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.</p> <p>(2) New and replacement sanitary systemspublic or community sewerage facilities shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters; and</p> <p>(3) On site waste disposal systems Individual sewerage facilities shall be located to avoid impairment to them or contamination from them during flooding.</p>
<u>A1-30, AH and AE</u>	<p>(1) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system. Public water systems which utilize wells for a source(s) shall be constructed such that the top well elevation is at least one foot above the 100-year flood elevation.</p> <p>(2) New and replacement public or community sewerage facilities sanitary systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.</p> <p>(3) Individual sewerage facilities shall be located to avoid impairment to them or contamination from them during flooding.</p>
<u>Flood Zone</u>	<u>Elevation: Residential</u>
<u>Unnumbered A</u>	New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated two feet above the highest adjacent grade. Crawlspace construction is outlined in FEMA Technical Bulletin 11-01 entitled "Crawlspace Construction of Buildings located in Special Flood Hazard".
<u>A1-30, AH and AE</u>	New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to one foot above base flood elevation. Crawlspace construction is outlined in FEMA Technical Bulletin 11-01 entitled "Crawlspace Construction of Buildings located in Special Flood Hazard".
<u>Flood Zone</u>	<u>Elevation: Nonresidential</u>
<u>Unnumbered A</u>	New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated two feet above grade; or, together with attendant utility and sanitary facilities, shall be flood-proofed to a level two feet above the highest adjacent grade, so the structure is watertight with walls substantially impermeable to the passage of water.
<u>A1-30, AH and AE</u>	<p>New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to a level at least one foot above the base flood elevation; or, together with attendant utility and sanitary facilities shall:</p> <p>_____ (a) be flood-proofed to one foot above the base flood level, so the structure is watertight with walls substantially impermeable to the passage of water;</p>

	<p><u>(b) have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;</u></p> <p><u>(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 certification shall be provided to the official as set forth in LC 16.244(7)(f)(ii). Nonresidential structures that are elevated, not flood-proofed, must meet the same standards for as residential construction of fully enclosed areas below the lowest floor in zones A1-30, AH and AE. space below the lowest floor as described in LC 16.244(7)(b)(i)(bb).</u></p> <p><u>(d) Applicants flood-proofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the flood-proofed level (e.g., a building constructed to the base flood level will be rated as one foot below that level).</u></p>
<u>Flood Zone</u>	<u>Elevation of Manufactured Homes</u>
<u>Unnumbered A</u>	<p><u>(1) Manufactured home placement: All manufactured homes not in an existing manufactured home park or subdivision shall have the lowest floor elevated two feet above the highest adjacent grade.</u></p> <p><u>(2) All manufactured homes within an existing manufactured home park or subdivision shall be elevated such that the underside of the floor of the manufactured home is three feet above the finish grade.</u></p>
<u>A1-30, AH and AE</u>	<p><u>(1) All manufactured homes that are placed or substantially improved within Zones A1-30, AH and AE, (i) on sites outside of a manufactured home park or subdivision, (ii) on sites in a new manufactured home park or subdivision, (iii) on sites in an expansion to an existing manufactured home park or subdivision, or (iv) on sites within an existing manufactured home park or subdivision and upon which manufactured homes have incurred substantial damage as the result of a flood, shall be elevated on a permanent foundation such that the underside of the floor of the manufactured home is elevated to a height of one foot above the base flood elevation.</u></p> <p><u>(2) All manufactured homes to be placed or substantially improved on sites in an existing manufactured home park that are not subject to the provisions of LC 16.244(8)(d), paragraph (1) "Elevation of Manufactured Homes in Flood Zone A1-30, AH and AE" shall be elevated so that either (i) the underside of the floor of the manufactured home is one foot above the base flood level, or (ii) the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade.</u></p>
<u>Flood Zone</u>	<u>Elevation of Recreational Vehicles</u>
<u>A1-30, AH and AE</u>	<u>Recreational vehicles placed on sites within Zones A1-30, AH or AE shall (i) be on the site for fewer than 180 consecutive days and be fully licensed and ready for highway use, or (ii) shall satisfy the permit requirements of LC 16.244(5) (7)(b)(iii)(aa) and the requirements for elevation of manufactured</u>

	<u>homes in zones A1-30, AH and AE and be anchored to prevent flotation, collapse, and lateral movement. "Ready for highway use" means that the recreational vehicle 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.</u>
Flood Zone	Enclosed Areas
<u>Unnumbered A</u>	<p><u>Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or must meet or exceed the following minimum criteria:</u></p> <p><u>(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. The bottom of all openings shall be no higher than one foot above grade.</u></p> <p><u>(b) Openings shall be located to allow unrestricted cross-flow of floodwaters through the enclosed area from one side to the other.</u></p> <p><u>(c) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.</u></p>
<u>A1-30, AH and AE</u>	<p><u>For residential construction, fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces in exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:</u></p> <p><u>(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. The bottom of all openings shall be no higher than one foot above grade.</u></p> <p><u>(b) Openings shall be located to allow unrestricted cross-floor of floodwaters through the enclosed area from one side to the other.</u></p> <p><u>(c) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of flood waters.</u></p>
Flood Zone	Roads
<u>Unnumbered A</u>	<u>Adequate provisions shall be made for accessibility during a 100-year flood, so as to ensure ingress and egress for ordinary and emergency vehicles and services during potential future flooding.</u>
<u>A1-30, AH and AE</u>	<u>(1) Adequate provisions shall be made for accessibility during a 100-year flood, so as to ensure ingress and egress for ordinary and emergency vehicles and services during potential future flooding.</u>

	<u>(2) No road surface of any new street, road or access road shall be at an elevation less than one foot below the base flood height.</u>
Flood Zone	<u>Subdivisions and Partitions</u>
<u>Unnumbered A</u>	<u>(1) All subdivision proposals shall be consistent with the need to minimize flood damage;</u> <u>(2) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;</u> <u>(3) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and</u> <u>(4) 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 five acres (whichever is less).</u>
<u>A1-30, AH and AE</u>	<u>(1) All subdivision and partitioning proposals shall be consistent with the need to minimize flood damage.</u> <u>(2) All subdivision proposals shall have adequate drainage to reduce exposure to flood damage, including returning water.</u> <u>(3) 100-year flood elevation data shall be provided and shown on final partition maps and subdivision plats. Applicant must show the boundaries of the 100-year flood and floodway on the final subdivision plat.</u> <u>(4) A permanent monument shall be established and maintained on land partitioned or subdivided showing the elevation in feet above mean sea level. The location of such monument shall be shown on the final partition map or subdivision plat.</u> <u>(5) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.</u>

(89) Emergency Permits. The Director may issue an emergency permit orally or in writing:

(a) If issued orally, a written permit shall follow within five days confirming the issuance and setting forth the conditions of operation.

(b) Emergency permits may be issued to protect existing shorelines or structures under immediate threat by flood or storm waters or for the prevention of channel changes that threaten immediate and significant loss of property.

(c) A representative of Lane County may inspect the project site to verify that an emergency condition exists and that the emergency action will not significantly impact water resources.

(d) Emergency permits shall be in effect for the time required to complete the authorized emergency action and shall not exceed 60 days.

(e) The emergency permit shall be circulated for public information within 10 days of issuance.

(f) The Director shall condition emergency permits to protect and conserve the waters of this County.

(9) Variance Procedures.

(a) Scope. Variance to a requirement standard or procedure of this section, with respect to the provisions for flood hazard reduction, may be approved by the Director if an application is submitted, reviewed and approved pursuant to the criteria for approving variances in LC 16.256, and the application complies with the additional criteria listed below.

(i) Variances may be issued for the reconsideration, rehabilitation or restoration of structures listed on the National Register of Historic Places of the State Inventory of Historic Places, without regard to the procedures set forth in the remainder of this subsection.

(ii) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

(b) Conditions. Reasonable conditions may be established in connection with a variance as deemed necessary to secure the purpose and requirements of this section. In cases where a variance is granted to allow residential construction with a lowest floor elevation below the required minimum elevation, or nonresidential flood-proofing below the required minimum elevation, the applicant shall record a deed covenant, that the cost of flood insurance will be commensurable with the increased risk resulting from the reduced floor elevation of flood-proofing.

CHAPTER 10

Applicable to areas outside city limits but inside an Urban Growth Boundary.

Version November 17, 2006

Legislative format.

Section 10.271-35 has been moved into a table called "*Table 1: Provisions for Flood Hazard Reduction*".

Within Table 1, underlined text has been reformatted in the table. Double underlined text is new.

FLOODPLAIN COMBINING DISTRICT (FP)

10.271-05 Purpose.

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

- (1) Protect human life and health.
- (2) Minimize expenditure of public money and costly flood control projects.
- (3) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public.
- (4) Minimize prolonged business interruptions.
- (5) Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, and streets and bridges located in area of special flood hazards.
- (6) 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) Ensure that potential buyers are notified that property is in an area of special flood hazard.
- (8) Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

10.271-10 Methods of Reducing Flood Losses.

In order to accomplish its purpose, this section 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 floodplains, stream channels and natural protective barriers, which help accommodate or 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 waters or which may increase flood hazards in other areas.

10.271-15 Lands to Which This Section Applies.

This section shall apply to all areas of flood hazard within Lane County, and overlay the regulations of the underlying zone.

(1) Areas of flood hazard for Lane County are identified by the Federal Insurance Administration in a scientific and engineering report entitled "THE FLOOD INSURANCE STUDY FOR LANE COUNTY, OREGON, UNINCORPORATED AREAS," with accompanying Flood Insurance Rate Maps (FIRM) and Floodway Maps.

(2) Areas of flood hazard shall also include any land areas designated by the Director as susceptible to inundation of water from any source where the above referenced maps have not identified any special flood areas.

(3) Flood hazard areas shall be adopted by Board Order, made a part of Lane Manual (LM 11.020) and filed in the office of the Department. Such studies shall form the basis for the administration and implementation of this section.

10.271-20 Warning and Disclaimer of Liability.

The degree of flood protection required by this section is considered reasonable for regulatory purposes. Larger floods can and will occur on rare occasions. Flood heights may be increased by human-made or natural causes. This section 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 section shall not create liability on the part of Lane County, any officer or employee thereof, for any flood damages that result from reliance on this section or any administrative decision lawfully made hereunder. (Revised by Ordinance No. 3-91, Effective 5.17.91)

10.271-25 Development Subject to Director Approval.

Approval shall be obtained before construction or development begins within any area of special flood hazard. Approval shall be required for all structures, manufactured homes, recreational vehicles as provided for by this section, and "development" as defined in LC 10.020-10.271-27. Application for approval shall be filed with the Department pursuant to LC 14.050. (Revised by Ordinance No. 3-91, Effective 5.17.91)

10.271-27 Definitions. Except as otherwise provided in LC 10.271-26, the definitions in LC 10.020 shall be used for LC 10.271.

Area of Special Flood Hazard. The land in the floodplain within a community subject to a one percent chance of flooding in any given year.

Base Flood. A flood that has a one percent chance of being equaled or exceeded in any given year.

Basement. Any area of a building having its floor subgrade (below ground level) on all sides.

Development. For the purposes of LC 10.271-27, development is defined in LC 10.020, and shall include dredging, paving, and drilling operations and the storage of equipment and materials.

Existing Manufactured Home Park or Subdivision. Existing manufactured home park or subdivision means a manufactured home park for which the construction of facilities for servicing the lot on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, either final site grading or the pouring of concrete pads and the construction of streets) are completed before December 18, 1985 the effective date of Lane County's conversion to the Regular Flood Insurance Program.

Expansion to an Existing Manufactured Home Park or Subdivision. 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, either final site grading or pouring of concrete pads, or the construction of streets).

Flood or Flooding. A general or temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters and/or the unusual and rapid accumulations and runoff of surface waters from any source.

Flood Elevation Determination. A determination by the Administrator of the water surface elevations of the base flood from the approved flood hazard studies.

Flood Hazard Boundary Map, (FHBM). An official map of the County furnished by the Federal Insurance Administration, labeled a Flood Hazard Boundary Map (FHBM) and delineating the boundaries of flood hazard areas.

Flood Insurance Rate Map (FIRM). 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.

Flood Insurance Study. The official report provided by the Federal Insurance Administrations that includes flood profiles and the water surface elevation of the base flood.

Floodplain. A physical geographic term describing any land area susceptible to being inundated by water from any source.

Floodplain Management. The operation of an overall program of corrective and preventative measures for reducing flood damage, including, but not limited to, emergency preparedness plans, flood control works and floodplain management regulations.

Floodplain Management Regulations. This Floodplain ordinance, together with building code requirements, health regulations and any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

Floodproofing. Any combination of structural and nonstructural additions, changes or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Floodway, Regulatory. The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the waters of a base flood without cumulatively increasing the water surface elevation.

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 slab or footings, the installation of piles, the construction of columns, or any work beyond the state of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways., nor does it include excavation for a basement, footings, piers or foundation, or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For the purposes of LC 10.271, the start of construction shall include 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.

Structure in a Flood Hazard Area. A walled and roofed building, a mobile home or a tank used in the storage of gas or liquid which is principally above ground.

Substantial Improvement. Any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either (a) before the improvement or repair is started, or (b) if the structure has been damaged, and is being restored, before the damage occurred. For the purpose of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include either (1) any project or 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 structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

10.271-30 Designation of Administrator.

The Director shall:

- (1) Review all development applications to determine that the permit requirements of this section have been satisfied.
- (2) Review all development applications 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 all development applications to determine if the proposed development is located in the floodway; and if in the floodway, assure that the encroachment provisions of this section are satisfied.
- (4) When base flood elevation data has not been provided in the Flood Insurance Study for Lane County, Oregon, unincorporated areas, the Director shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source in order to administer this section.
- (5) Where base flood elevation data is provided through the Flood Insurance Study or required by this section, obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement.
- (6) For all new or substantially improved flood-proofed structures:
 - (a) Verify and record the actual elevation (mean sea level) to which the structure was flood-proofed; and
 - (b) Maintain the flood-proofing certifications required ~~by LC 10.271-35(2)(b)(iii) for~~ nonresidential development in zones A1-30, AH and AE.
- (7) Maintain for public inspection all records pertaining to the provisions of this section.
- (8) Notify adjacent communities and the ~~Division of State Lands~~ Department of Land Conservation and Development; prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration ~~upon request.~~

(9) Require that a program of periodic inspection and maintenance be provided with the altered or relocated portion of said watercourse so that the flood carrying capacity of the watercourse is not diminished.

(10) Make interpretation, where needed, as to exact location of the boundaries of areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and the actual field conditions). A person contesting the location of the boundary may appeal the interpretation to the hearings official as provided in LC 14.500.

10.271-35 Provisions for Flood Hazard Reduction.

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

(1) Provisions applicable to unnumbered A, A1-30, AH and AE zones:

~~(1) Unnumbered "A" Zones, where base flood elevation cannot be supplied.~~

~~(a) Anchoring.~~

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

~~(ii) All manufactured homes must likewise be anchored to prevent flotation, collapse or lateral movement, in accordance with the State of Oregon Manufactured Dwelling Standard.~~

~~(b) Construction Materials and Methods.~~

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

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

~~(iiic) 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 with the components during conditions of flooding.~~

~~(c) Utilities.~~

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

~~(ii) New and replacement sanitary systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters; and~~

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

~~(d) Subdivision Proposals.~~

~~(i) All subdivision proposals shall be consistent with the need to minimize flood damage;~~

- ~~(ii) All subdivision proposals shall have public utilities and facilities such as gas, electrical and water systems located and constructed to minimize flood damage;~~
- ~~(iii) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and~~
- ~~(iv) Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposal and other proposed developments which contain at least 50 lots or five acres, whichever is less.~~

(e2) Review of Building Permits. Where elevation data is not available either through the Flood Insurance Study or from another authoritative source, applications for building and manufactured home placement permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness shall include the use of historical data, high water marks, photographs of past flooding, etc., where available.

~~(f) Elevation:~~

- ~~(i) Residential Construction: new construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated two feet above grade.~~
- ~~(ii) Nonresidential Construction: new construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated two feet above grade; or, together with attendant utility and sanitary facilities, shall be flood proofed to a level two feet above grade, so the structure is watertight with walls substantially impermeable to the passage of water.~~
- ~~(iii) Manufactured Home Placement: all manufactured homes not in an existing manufactured home park shall have the lowest floor elevated two feet above grade.~~
- ~~(iv) All manufactured homes within an existing manufactured home park shall be elevated such that the underside of the floor of the manufactured home is three feet above the finish grade.~~

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

- ~~(i) A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade.~~
- ~~(ii) Openings shall be located to allow unrestricted cross flow of floodwaters through the enclosed area from one side to the other.~~

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

~~(h) Roads. Adequate provisions shall be made for accessibility during a 100-year flood, so as to ensure ingress and egress for ordinary and emergency vehicles and services during potential future flooding.~~

~~(2) Numbered Zones A1-30, AH, AE, AO. In all areas of special flood hazards where base flood elevation data has been provided as set forth in LC 10.271-15 or 10.271-30(4) the following provisions are required:~~

~~(a) Residential Construction:~~

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

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

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

~~(bb) Openings shall be located to allow unrestricted cross flow of floodwaters through the enclosed area from one side to the other.~~

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

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

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

~~(ii) Have structural components capable of resisting hydrostatic and hydrodynamics loads and effects of buoyancy;~~

~~(iii) Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice based on their development and/or review of the structural design, specifications and plans. Such certification shall be provided to the official as set forth in LC 10.271-30(6)(b). Nonresidential structures that are elevated, not~~

~~floodproofed, must meet the same standards for space below the lowest floor as described in LC 10.271-35(2)(a).~~

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

~~(c) Manufactured Homes:~~

~~(i) All manufactured homes that are placed or substantially improved within Zones A1-30, AH and AE (i) on sites outside of a manufactured home park, (ii) on sites in a new manufactured home park, (iii) on sites in an expansion to an existing manufactured home park, or (iv) on sites within an existing manufactured home park and upon which manufactured homes have incurred substantial damage as the result of a flood, shall be elevated on a permanent foundation such that the underside of the floor of the manufactured home is elevated to a height of one foot above the base flood elevation.~~

~~(ii) All manufactured homes to be placed or substantially improved on sites in an existing manufactured home park within Zones A1-30, AH or AE that are not subject to the provisions of paragraph 10.271-35(2)(c)(i) above shall be elevated so that either (i) the underside of the floor of the manufactured home is one foot above the base flood level, or (ii) the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade.~~

~~(iii) Recreational vehicles placed on sites within Zones A1-30, AH or AE shall (i) be on the site for fewer than 180 consecutive days and be fully licensed and ready for highway use, or (ii) shall satisfy the permit requirements of LC 10.271-25 above. "Ready for highway use" means that the recreational vehicle 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.~~

~~(d) Foundations:~~

~~(i) Foundations for all new construction, substantial improvements, and manufactured homes that are not in an existing manufactured home park or existing manufactured home subdivision subject to 18 inches or more of flood water during a 100-year flood or located within a designated floodway shall be certified by an Oregon registered professional engineer or architect to meet the following minimum requirements:~~

~~(aa) Concrete footings sized for 100 psf soil pressure unless data to substantiate the use of higher values are submitted.~~

~~(bb) Footings extending below the frost line.~~

~~(cc) Reinforced concrete, reinforced masonry, or other suitably designed supporting systems to resist all vertical and lateral loads which may reasonably occur independently or combined.~~

~~(ii) All manufactured homes subject to less than 18 inches of flood water during a 100-year flood shall be supported in accordance with the State of Oregon Manufactured Dwelling Standard.~~

~~(iii) All manufactured homes located in an existing manufactured home park or existing manufactured home subdivision shall be supported in accordance with the State of Oregon Manufactured Dwelling Standard.~~

~~(e) Anchoring:~~

~~(i) All new construction and substantial improvement subject to less than 18 inches of flood water during a 100-year flood shall be anchored to prevent flotation or lateral movement.~~

~~(ii) All new construction and substantial improvement subject to less than 18 inches of flood water during a 100-year flood shall be anchored in accordance with the State of Oregon Manufactured Dwelling Standard.~~

~~(iii) All new construction, substantial improvements and manufactured homes not in an existing manufactured home park or existing manufactured home subdivision subject to 18 inches or more of flood water during a 100-year flood or located within a designated floodway shall be anchored to prevent flotation or lateral movement which may reasonably occur independently or combined. Designs for meeting this requirement shall be certified by an Oregon registered engineer or architect.~~

~~(iv) All manufactured homes in existing manufactured home parks and existing manufactured home subdivisions shall be anchored in accordance with the State of Oregon Manufactured Dwelling Standard.~~

~~(f) Construction Materials and Methods:~~

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

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

~~(iii) 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.~~

~~(g) Utilities:~~

~~(i) All new replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system. Public water systems which utilize wells for a source(s) shall be constructed such that the top well elevation is at least one foot above the 100-year flood elevation.~~

~~(ii) New and replacement sanitary systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharged from the systems into flood waters.~~

~~(h) Roads:~~

~~(i) Adequate provisions shall be made for accessibility during a 100-year flood, so as to ensure ingress and egress for ordinary and emergency vehicles and services during potential future flooding.~~

~~(ii) No road surface of any new street, road or access road shall be at an elevation less than one foot below the base flood height.~~

~~(i) Subdivision and Partitioning Proposals.~~

~~(i) All subdivision and partitioning proposals shall be consistent with the need to minimize flood damage.~~

~~(ii) All subdivision proposals shall have adequate drainage to reduce exposure to flood damage, including returning water.~~

~~(iii) 100-year flood elevation data shall be provided and shown on final partition maps and subdivision plats. Applicant must show the boundaries of the 100-year flood and floodway on the final subdivision plat.~~

~~(iv) A permanent monument shall be established and maintained on land partitioned or subdivided showing the elevation in feet above mean sea level. The location of such monument shall be shown on the final partition map or subdivision plat.~~

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

(3) Floodways. Located within areas of special flood hazard established in LC 10.271-15 are areas designated as floodways. 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 is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge. This evidence shall utilize hydrologic and hydraulic analyses performed in accordance with standard engineering practices.

(b) Where base flood elevations have been provided but floodways have not, the cumulative effect of any proposed development, when 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.

(c) If LC 10.271-35(3)(a) is satisfied, all new construction and substantial improvements shall comply with all applicable provisions of LC 10.271-35(2) for development in zones A1-30, AE and AH.

(d) Subdivision and partitioning of land for residential purposes is prohibited if land is located entirely within the floodway.

(4) Development in areas of special flood hazard shall also comply with the provisions in Table 1: Provisions for Flood Hazard Reduction.

Table 1: Provisions for Flood Hazard Reduction.

<u>Flood zone</u>	<u>Foundations and Anchoring</u>
<u>Unnumbered "A"</u>	<p>(1) All new construction and substantial improvements shall be anchored to prevent flotation, collapse or <u>and</u> lateral movement of the structure.</p> <p>(2) All manufactured homes must likewise be anchored to prevent flotation, collapse or <u>and</u> lateral movement, in accordance with the State of Oregon Manufactured Dwelling Standard.</p>
<u>A1-30, AH, and AE.</u>	<p>(1) All new construction and substantial improvement subject to less than 18 inches of flood water during a 100-year flood shall be anchored to prevent flotation, collapse or <u>and</u> lateral movement.</p> <p>(2) All manufactured homes subject to less than 18 inches of flood water during a 100-year flood shall be anchored <u>and/or supported to prevent flotation, collapse and lateral movement</u>, in accordance with the State of Oregon Manufactured Dwelling Standard.</p> <p>(3) All new construction, substantial improvements and manufactured homes not in an existing manufactured home park or existing manufactured home subdivision subject to 18 inches or more of flood water during a 100-year flood or located within a designated floodway shall be anchored to prevent flotation, collapse and lateral movement which may reasonably occur independently or combined. Designs for meeting this requirement shall be certified by an Oregon registered engineer or architect.</p> <p>(4) All manufactured homes in existing manufactured home parks and existing manufactured home subdivisions shall be anchored to prevent flotation, collapse, or <u>and</u> lateral movement, in accordance with the State of Oregon Manufactured Dwelling Standard.</p> <p>(5) Foundations for all new construction, substantial improvements, and manufactured homes that are not in an existing manufactured home park or existing manufactured home subdivision subject to 18 inches or more of flood water during a 100-year flood or located within a designated floodway shall be certified by an Oregon registered professional engineer or architect to meet the following minimum requirements:</p> <ul style="list-style-type: none"> (a) Concrete footings sized for 1000 psf soil pressure unless data to substantiate the use of higher values are submitted. (b) Footings extending below the frost line. (c) Reinforced concrete, reinforced masonry, or other suitably designed supporting systems to resist all vertical and lateral loads which may reasonably occur independently or combined. <p>(6) All manufactured homes subject to less than 18 inches of flood water during a 100-year flood shall be supported in accordance with the State of Oregon,</p>

	<u>Manufacture Dwelling Standard</u> located in an existing manufactured home park or existing manufactured home subdivision shall be supported in accordance with the State of Oregon Manufactured Dwelling Standard.
Flood zone	Utilities
Unnumbered "A"	<p>(1) All new or replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.</p> <p>(2) New and replacement public or community sewerage facilities shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters; and</p> <p>(3) Individual sewerage facilities shall be located to avoid impairment to them or contamination from them during flooding.</p>
A1-30, AH, and AE.	<p>(1) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system. Public water systems which utilize wells for a source(s) shall be constructed such that the top well elevation is at least one foot above the 100-year flood elevation.</p> <p>(2) New and replacement public or community sewerage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.</p> <p>(3) Individual sewerage facilities shall be located to avoid impairment to them or contamination from them during flooding.</p>
Flood zone	Elevation: Residential construction
Unnumbered "A"	New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated two feet above the highest adjacent grade. Crawlspace construction is outlined in FEMA Technical Bulletin 11-01 entitled "Crawlspace Construction of Buildings located in Special Flood Hazard".
A1-30, AH, and AE.	New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to one foot above base flood elevation. Crawlspace construction is outlined in FEMA Technical Bulletin 11-01 entitled "Crawlspace Construction of Buildings located in Special Flood Hazard".
Flood zone	Elevation: Nonresidential construction
Unnumbered "A"	New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated two feet above grade; or, together with attendant utility and sanitary facilities, shall be flood-proofed to a level two feet above the highest adjacent grade, so the structure is watertight with walls substantially impermeable to the passage of water.
A1-30, AH, and AE.	New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to a level at least one foot above the base flood elevation; or,

	<p>together with attendant utility and sanitary facilities shall:</p> <p>(a) <u>Be floodproofed to one foot above the base flood level, so the structure is watertight with walls substantially impermeable to the passage of water;</u></p> <p>(b) <u>Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;</u></p> <p>(c) <u>Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice based on their development and/or review of the structural design, specifications and plans. Such certification shall be provided to the official as set forth in LC 10.271-30(6)(b). Nonresidential structures that are elevated, not floodproofed, must meet the same standards as residential construction of fully enclosed areas below the lowest floor in zones A1-30, AH and AE.</u></p> <p>(d) <u>Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g., a building constructed to the base flood level will be rated as one foot below that level).</u></p>
Flood zone	Elevation: Manufactured Homes
<u>Unnumbered "A"</u>	<p>(1) <u>All manufactured homes not in an existing manufactured home park or subdivision shall have the lowest floor elevated two feet above the highest adjacent grade.</u></p> <p>(2) <u>All manufactured homes within an existing manufactured home park or subdivision shall be elevated such that the underside of the floor of the manufactured home is three feet above the finish grade.</u></p>
<u>A1-30, AH, and AE.</u>	<p>(1) <u>All manufactured homes that are placed or substantially improved within Zones A1-30, AH and AE (i) on sites outside of a manufactured home park or subdivision, (ii) on sites in a new manufactured home park or subdivision, (iii) on sites in an expansion to an existing manufactured home park or subdivision, or (iv) on sites within an existing manufactured home park or subdivision and upon which manufactured homes have incurred substantial damage as the result of a flood, shall be elevated on a permanent foundation such that the underside of the floor of the manufactured home is elevated to a height of one foot above the base flood elevation.</u></p> <p>(2) <u>All manufactured homes to be placed or substantially improved on sites in an existing manufactured home park within Zones A1-30, AH or AE that are not subject to the provisions of LC 10.271-35(4), paragraph (1) "Elevation: Manufactured Homes in Flood zones A1-20, AH and AE" shall be elevated so that either (i) the underside of the floor of the manufactured home is one foot above the base flood level , or (ii) the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade.</u></p>

<u>Flood zone</u>	<u>Elevation of Recreational Vehicles</u>
<u>A1-30, AH, and AE.</u>	<u>Recreational vehicles placed on sites within zones A1-30, AH or AE shall (i) be on the site for fewer than 180 consecutive days and be fully licensed and ready for highway use, or (ii) shall satisfy the permit requirements of LC 10.271-25 and be anchored to prevent flotation, collapse, and lateral movement. "Ready for highway use" means that the recreational vehicle 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.</u>
<u>Flood zone</u>	<u>Enclosed areas</u>
<u>Unnumbered "A"</u>	<p><u>Fully enclosed areas that are subject to flooding are prohibited, or below the lowest floor shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or must meet or exceed the following minimum criteria:</u></p> <ul style="list-style-type: none"> <u>(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. The bottom of all openings shall be no higher than one foot above grade.</u> <u>(b) Openings shall be located to allow unrestricted cross-flow of floodwaters through the enclosed area from one side to the other.</u> <u>(c) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.</u>
<u>A1-30, AH, and AE.</u>	<p><u>For residential construction, fully enclosed areas below the lowest floor shall be designed to automatically equalize hydrostatic flood forces in exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:</u></p> <ul style="list-style-type: none"> <u>(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. The bottom of all openings shall be no higher than one foot above grade.</u> <u>(b) Openings shall be located to allow unrestricted cross-flow of floodwaters through the enclosed area from one side to the other.</u> <u>(c) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.</u>
<u>Flood zone</u>	<u>Roads</u>
<u>Unnumbered "A"</u>	<u>Adequate provisions shall be made for accessibility during a 100-year flood, so as to ensure ingress and egress for ordinary and emergency vehicles and services during potential future flooding.</u>

<u>A1-30, AH, and AE.</u>	<p><u>(1) Adequate provisions shall be made for accessibility during a 100-year flood, so as to ensure ingress and egress for ordinary and emergency vehicles and services during potential future flooding.</u></p> <p><u>(2) No road surface of any new street, road or access road shall be at an elevation less than one foot below the base flood height.</u></p>
Flood zone	<u>Subdivisions and Partitions</u>
<u>Unnumbered "A"</u>	<p><u>(1) All subdivision proposals shall be consistent with the need to minimize flood damage;</u></p> <p><u>(2) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;</u></p> <p><u>(3) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and</u></p> <p><u>(4) Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposal and other proposed developments which contain at least 50 lots or five acres, whichever is less.</u></p>
<u>A1-30, AH, and AE.</u>	<p><u>(1) All subdivision and partitioning proposals shall be consistent with the need to minimize flood damage.</u></p> <p><u>(2) All subdivision proposals shall have adequate drainage to reduce exposure to flood damage, including returning water.</u></p> <p><u>(3) 100-year flood elevation data shall be provided and shown on final partition maps and subdivision plats. Applicant must show the boundaries of the 100-year flood and floodway on the final subdivision plat.</u></p> <p><u>(4) A permanent monument shall be established and maintained on land partitioned or subdivided showing the elevation in feet above mean sea level. The location of such monument shall be shown on the final partition map or subdivision plat.</u></p> <p><u>(5) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.</u></p>

10.271-40 Emergency Permits.

The Director may issue an emergency permit orally or in writing:

- (1) If issued orally, a written permit shall follow within five days confirming the issuance and setting forth the conditions of operation.
- (2) Emergency permits may be issued to protect existing shorelines or structures under immediate threat by flood or storm waters or for the prevention of channel changes that threaten immediate and significant loss of property.

- (3) A representative of Lane County may inspect the project site to verify that an emergency condition exists and that the emergency action will not significantly impact water resources.
- (4) Emergency permits shall be in effect for the time required to complete the authorized emergency action and shall not exceed 60 days.
- (5) The emergency permit shall be circulated for public information within 10 days of issuance.
- (6) The Director shall condition emergency permits to protect and conserve the waters of this County.

10.271-45 Variance Procedures.

(1) Scope. Variance to a requirement standard or procedure of this section, with respect to the provisions for flood hazard reduction, may be approved by the Director if an application is submitted, reviewed and approved pursuant to the criteria for approving variances in LC 10.330, and the application complies with the additional criteria listed below.

(a) Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places of the State Inventory of Historic Places, without regard to the procedures set forth in the remainder of this subsection.

(b) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

(2) Conditions. Reasonable conditions may be established in connection with a variance as deemed necessary to secure the purpose and requirements of this section. In cases where a variance is granted to allow residential construction with a lowest floor elevation below the required minimum elevation, or nonresidential flood-proofing below the required minimum elevation, the applicant shall record a deed covenant, that the costs of flood insurance will be commensurable with the increased risk resulting from the reduced floor elevation of flood-proofing.

ATTACHMENT #2

Record of testimony.

Public Comments for:

Floodplain Amendment

Item/Date	Name	Mailing address	City	Telephone	email	Notes
Letter. Nov 25, 2003	Denise Atkinson	FEMA, Region X Mitigation Division 130 228 th , Street SW	Bothell, WA 98021	(425)487-4677	Denise.Atkinson@dhs.gov	Comments included in amendment.
Email. 22-Sep-04	Christine Valentine, floodplain/natural hazards coordinator	DLCD	Salem	503-373-0050 x250	christine.valentine@state.or.us	Comments included in amendment.
Email. Dec 15, 2005	Denise Atkinson	FEMA				Comments included in amendment.
Email. Feb. 14, 2006	Denise Atkinson	FEMA				Comments included in amendment.
Email. Feb. 17, 2006	Denise Atkinson	FEMA				Comments included in amendment.
Email. May 2, 2006.	Nena Lovinger	40093 Little Fall Creek Rd.	Fall Creek, OR 97438		HOPSBRAIN@aol.com	Comments refer to LC 16.253.

ATTACHMENT #3

**Email from Denise Atkinson dated February 17,
2006.**

HOPKINS Steve P

From: Atkinson, Denise [Denise.Atkinson@dhs.gov]
Sent: Friday, February 17, 2006 12:03 PM
To: HOPKINS Steve P
Cc: LANFEAR Thom; Christine VALENTINE
Subject: Lane County Ordinance and Definitions Review

Hello Steve,

Have you had a chance to review the comments I sent you regarding updating the Lane Code 16.244 "Floodplain Combining Zone"?

In reviewing the definitions I have some comments.

1. Below are some definitions that are in Lane Code 16.090 that should be updated (the updates are in red):

Area of Special Flood Hazard. . . .

Flood or Flooding. A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters and/or the unusual and rapid accumulation and runoff of surface waters from any source.

Floodway, Regulatory. The channel of a river . . . increasing the water surface elevation more than one foot.

"Start of Construction," after the last sentence add "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."

Substantial Improvement. Any repair, reconstruction . . . (1) any project or 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. Also FEMA does not allow "basements" in the special flood hazard areas. You might want to add the Basement definition for clarity (see below).

Basement. Any area of a building having its floor subgrade (below ground level) on all sides.

NOTE: We build structures with crawl spaces in the Northwest. By FEMA's definition, a crawl space is considered a basement (because it is below grade on all sides) and basements in a Special Flood Hazard area are not allowed. HOWEVER, because it is common practice in the Northwest to construct crawlspaces with the interior floor 2 feet below grade, FEMA has developed a Technical Bulletin 11-01 entitled "Crawlspace Construction for Buildings located in Special Flood Hazard Areas" (<http://www.fema.gov/fima/techbul.shtm>) for this type of construction. If Lane County allows crawlspaces in Special Flood Hazard Areas, then it should be stated in the Lane County Ordinance and any crawlspace construction is required to meet the conditions in the technical bulletin. Crawlspaces built in compliance with the Technical Bulletin will not be considered "basements." IF you allow

crawlspaces, then you are required to can add the crawlspace requirements in your ordinance. Just a note: There is an additional charge on flood insurance policies for structures built with crawl spaces.

3. Below are definitions that you may want to add in the definitions:

Flood Insurance Rate Map (FIRM). 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.

Flood Insurance Study. The official report provided by the Federal Insurance Administration that includes flood profiles and the water surface elevation of the base flood.

If you have any questions, please let me know.

Denise

Denise Atkinson
FEMA Region X, Mitigation Division
130 228th St SW
Bothell, WA 98021
(425) 487-4677
(425) 487-4613 (fax)

ATTACHMENT #4

Email from Denise Atkinson dated February 14, 2006.

HOPKINS Steve P

From: Atkinson, Denise [Denise.Atkinson@dhs.gov]
Sent: Tuesday, February 14, 2006 6:08 PM
To: HOPKINS Steve P
Cc: Christine VALENTINE
Subject: RE: Lane County Floodplain regulations

Hi Steve,

Thanks for a copy of the proposed revision to the floodplain regulations. As you can see, I have added additional updates and have put in parenthesis what section in the 44 Federal Code of Regulations that requires the revision. Please give me a call after reviewing the ordinance, so I can go over it with you.

Thanks,
Denise

Denise Atkinson
FEMA Region X, Mitigation Division
(425) 487-4677

From: HOPKINS Steve P [mailto:Steve.HOPKINS@co.lane.or.us]
Sent: Wednesday, February 08, 2006 12:46 PM
To: Atkinson, Denise
Subject: FW: Lane County Floodplain regulations

-----Original Message-----

From: HOPKINS Steve P
Sent: Tuesday, February 07, 2006 12:05 PM
To: 'Christine.Valentine@state.or.us'
Subject: Lane County Floodplain regulations

Christine,

After some delay, Lane County will begin the process to revise our floodplain regulations to allow us to participate in the CRS. The proposed changes are attached. I have scheduled this for review by the Lane County Planning Commission on April 4. If you would like to submit comments and have them included in the packet to the Planning Commission, I must receive them by March 23. any comments received after that date will be included as part of the packet that will be presented to the Board of County Commissioners in early June.

I have also attached my response to your letter dated September 22, 2004. Let me know if you have any questions.

<<Attachment 1.doc>> <<Attachment 6.doc>>

Steve Hopkins, AICP
Planner
Lane County Land Management
682-3159

03/08/2006

DRAFT #1

FLOODPLAIN AMENDMENT

VERSION: FEB 2, 2006

**IN THE MATTER OF ADOPTING REVISIONS TO LANE CODE 16.244 "FLOODPLAIN
COMBINING ZONE".**

Atkinson revisions

**FLOODPLAIN COMBINING ZONE (/FP-RCP)
RURAL COMPREHENSIVE PLAN**

16.244 Floodplain Combining Zone (/FP-RCP).

(1) Purpose. It is the purpose of this section to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas. The provisions of this section are designed to:

- (a) Protect human life and health.
- (b) Minimize expenditure of public money and costly flood control projects.
- (c) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public.
- (d) Minimize prolonged business interruptions.
- (e) Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, and streets and bridges located in areas of special flood hazards.
- (f) Help maintain a stable tax base by providing for the sound use and development of areas as special flood hazard so as to minimize future flood blight areas.
- (g) Ensure that potential buyers are notified that property is in an area of special flood hazard.
- (h) Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

(2) Methods of Reducing Flood Losses. In order to accomplish its purpose, this section includes methods and provisions for:

- (a) 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.
- (b) Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
- (c) Controlling the alteration of natural floodplains, stream channels and natural protective barriers, which help accommodate or channel flood waters.
- (d) Controlling filling, grading, dredging and other development, which may increase flood damage.
- (e) Preventing or regulating the construction of flood barriers, which will unnaturally divert flood waters or which may increase flood hazards in other areas.

(3) Lands to Which This Section Applies. This section shall apply to all areas of flood hazard within Lane County, and overlay the regulations of the underlying zone.

(a) Areas of flood hazard for Lane County under the jurisdiction of the Rural Comprehensive Plan are identified by the Federal Insurance Administration in a scientific and engineering report entitled "THE FLOOD INSURANCE STUDY FOR LANE COUNTY, OREGON AND UNINCORPORATED AREAS", dated June 2, 1999, * with accompanying Flood Insurance Rate Maps and Floodway Maps.

**if you do not want to put in the date of the current maps, you may want to put in the words "as amended" or "as revised" that way if the maps are updated, you do not have to update your ordinance. If you don't want to use the "as amended" or "as revised", then "June 2, 1999" is REQUIRED to be put in.*

(b) Areas of flood hazard shall also include any land area designated by the Director as susceptible to inundation of water from any source where the above-referenced maps have not identified any special flood areas.

(c) Flood hazard areas shall be adopted by Board Order, made a part of Lane Manual (LM 11.020) and filed in the office of the Department. Such studies shall form the basis for the administration and implementation of this section.

(4) Warning and Disclaimer of Liability. The degree of flood protection required by this section is considered reasonable for regulatory purposes. Larger floods can and will occur on rare occasions. Flood heights may be increased by human-made or natural causes. This section 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 section shall not create liability on the part of Lane County, any officer or employee thereof, for any flood damages that result from reliance on this section or any administrative decision lawfully made hereunder.

(5) Development Subject to Director Approval. Approval shall be obtained before construction or development begins within any area of special flood hazard. Approval shall be required for all structures, manufactured homes, and "development" as this term is defined in LC 16.090. For purposes of LC 16.244, "development" shall also include dredging, paving, and drilling operations and the storage of equipment and materials. Application for approval shall be filed with the Department pursuant to LC 14.050.

(6) Designation of Administrator. The Director shall:

(a) Review all development applications to determine that the permit requirements of this section have been satisfied.

(b) Review all development applications 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 applications to determine if the proposed development is located in the floodway. If located in the floodway, assure that the encroachment provisions of LC 16.244(7)(c) are met.

(d) When base flood elevation data has not been provided in the Flood Insurance Study for Lane County, Oregon ~~and unincorporated areas~~ Areas, the Director shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source in order to administer this section.

(e) Where base flood elevation data is provided through the Flood Insurance Study or required as in LC 16.244(6)(d), 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.

(f) For all new or substantially improved flood-proofed structures: