W. 14. b.

SUPPLEMENTAL MATERIAL

Supplemental Memo Date:	February 2, 2007
1st Reading	January 24, 2007
2nd Reading	February 7, 2007
3rd Reading (proposed)	February 21, 2007

TO: Board of County Commissioners

DEPARTMENT: Public Works Dept./Land Management Division

PRESENTED BY: Keir Miller, Land Management Division

AGENDA ITEM TITLE: IN THE MATTER OF AMENDING CHAPTERS 10 AND 16 OF LANE CODE TO REVISE DEFINITIONS AND PROVISIONS FOR FLOOD HAZARD REDUCTION IN THE FLOODPLAIN COMBINING ZONES (LC 10.271-15, 10.271-25,10.271-27, 10.271-30, 10.271-35, 16.244)

In the course of reviewing the proposed amendments to the Floodplain Combining Zones of Lane Code 10.271 and 16.244, inadvertent omissions in the text of the finalized ordinance were discovered. Specifically, text proposed for inclusion in the definitions section of LC1.244 (6) and 10.271-27 were omitted. The complete attached ordinance has been revised to reflect these corrections.

In addition, amendments to general definitions section of Lane Code 16.090 are no longer being proposed. Modifications in flood terminology definitions will only occur within the definitions sections of Lane Code 16.244 and Lane Code 10.271.

Correcting these omissions may constitute a significant change to the ordinance as read on January 24. Staff recommends that the Board open the hearing and accept testimony but postpone taking final action on this item until February 21 to allow for the required 2 week public notice period between readings of the revised ordinance.

IN THE BOARD OF COUNTY COMMISSIONERS, LANE COUNTY, OREGON

ORDINANCE NO. 1-07

IN THE MATTER OF AMENDING CHAPTERS 10 AND 16 OF LANE CODE TO REVISE DEFINITIONS AND PROVISIONS FOR FLOOD HAZARD REDUCTION IN THE FLOODPLAIN COMBINING ZONES (LC 10.271-15, 10.271-25, 10.271-27, 10.271-30, 10.271-35, 16.244)

The Board of County Commissioners of Lane County ordains as follows:

Chapters 10 and 16 of Lane Code are hereby amended by deleting, substituting, and adding new sections as follows:

DELETE THESE SECTION(S)	INSERT THESE SECTION(S)
10.271-15 as located on page 10-681 a total of 1 page	10.271-15 as located on page 10-681 a total of 1 page
10.271-25 through 10.271-35 as located on pages 10-682 through 10-687 a total of 6 pages	10.271-25 through 10.271-35 as located on pages 10-682 through 10-690 a total of 9 pages
16.244 as located on pages 16-446 through 16-453 a total of 8 pages	16.244 as located on pages 16-446 through 16-455 a total of 10 pages

Said sections are attached hereto and incorporated herein by reference. The purpose of this substitution and addition is to revise definitions and provisions for flood hazard reduction in the Floodplain Combining Zones (LC 10.271-15, 10.271-25, 10.271-27, 10.271-30, 10.271-35, 16.244).

ENACTED this _____ day of _____ 2007.

_____
Chair, Lane County Board of Commissioners

_____
Recording Secretary for this Meeting of the Board

APPROVED AS TO FORM

Date 2-14-2007 Lane County

OFFICE OF LEGAL COUNSEL

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. *(Revised by Ordinance No. 3-91; Effective 5.17.91)*

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. *(Revised by Ordinance No. 3-91; Effective 5.17.91)*

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)

(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. *(Revised by Ordinance No. 3-91, Effective 5.17.91; 2-98, 4.8.98)*

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 10.271-27. 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 10.271-27, the definitions below 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 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 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 more than one foot.

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 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 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.

(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:

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

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

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

(2) 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.

(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 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.

Flood zone	**Foundations and Anchoring**
Unnumbered "A"	(1) All new construction and substantial improvements shall be anchored to prevent flotation, collapse and lateral movement of the structure. (2) All manufactured homes must likewise be anchored to prevent flotation, collapse and lateral movement, in accordance with the State of Oregon Manufactured Dwelling Standard.
A1-30, AH, and AE.	(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 and lateral movement. (2) All manufactured homes subject to less than 18 inches of flood water during a 100-year flood shall be anchored and/or supported to prevent flotation, collapse and lateral movement, in accordance with the State of Oregon Manufactured Dwelling Standard. (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 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. (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. (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: (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. (6) 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.
Flood zone	**Utilities**
Unnumbered "A"	(1) All new or replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system. (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 (3) Individual sewerage facilities shall be located to avoid impairment to them or contamination from them during flooding.
A1-30, AH, and AE.	(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. (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. (3) Individual sewerage facilities shall be located to avoid impairment to them or contamination from them during flooding.
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	New construction and substantial improvement of any commercial,

"A"	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, together with attendant utility and sanitary facilities shall: (a) Be floodproofed to one foot above the base flood level, so the structure is watertight with walls substantially impermeable to the passage of water; (b) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; (c) Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice 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. (d) 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).
Flood zone	**Elevation: Manufactured Homes**
Unnumbered "A"	(1) 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. (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.
A1-30, AH, and AE.	(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. (2) 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.
Flood zone	**Elevation of Recreational Vehicles**
A1-30, AH, and AE.	Recreational vehicles 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.
Flood zone	**Enclosed areas**
Unnumbered "A"	Fully enclosed areas 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: (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. (b) Openings shall be located to allow unrestricted cross-flow of floodwaters through the enclosed area from one side to the other. (c) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
A1-30, AH, and AE.	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: (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. (b) Openings shall be located to allow unrestricted cross-flow of floodwaters through the enclosed area from one side to the other. (c) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
Flood zone	**Roads**
Unnumbered "A"	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.
A1-30, AH, and AE.	(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. (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.

Flood zone	Subdivisions and Partitions
Unnumbered "A"	(1) All subdivision proposals shall be consistent with the need to minimize flood damage; (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; (3) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and (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.
A1-30, AH, and AE.	(1) All subdivision and partitioning proposals shall be consistent with the need to minimize flood damage. (2) All subdivision proposals shall have adequate drainage to reduce exposure to flood damage, including returning water. (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. (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. (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.

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.

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 UNINCORPORATED AREAS", with accompanying Flood Insurance Rate 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 16.244(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 below 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 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 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 more than one foot.

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 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.

(7) 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(8)(d) 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(7)(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 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 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.

(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.

(8) 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:

(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 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.

(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.

(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(8)(c)(i) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions 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

Flood Zone	**Foundations and Anchoring**
Unnumbered A	(1) All new construction and substantial improvements shall be anchored to prevent flotation, collapse and lateral movement of the structure. (2) All manufactured homes must likewise be anchored to prevent flotation, collapse and lateral movement, in accordance with the State of Oregon, Manufactured Dwelling Standard.
A1-30, AH and AE	(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 and lateral movement. (2) All manufactured homes subject to less than 18 inches of flood water during a 100-year flood shall be anchored and/or supported to prevent flotation, collapse and lateral movement, in accordance with the State of Oregon, Manufactured Dwelling Standard. (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, 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. (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. (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: (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.

	(6) 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.
Flood Zone	**Utilities**
Unnumbered A	(1) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system. (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 (3) Individual sewerage facilities shall be located to avoid impairment to them or contamination from them during flooding.
A1-30, AH and AE	(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. (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. (3) Individual sewerage facilities shall be located to avoid impairment to them or contamination from them during flooding.
Flood Zone	**Elevation: Residential**
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**
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, together with attendant utility and sanitary

	facilities shall: (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; (b) have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; (c) be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural 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 as residential construction of fully enclosed areas below the lowest floor in zones A1-30, AH and AE. (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).
Flood Zone	**Elevation of Manufactured Homes**
Unnumbered A	(1) 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. (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.
A1-30, AH and AE	(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. (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.
Flood Zone	**Elevation of Recreational Vehicles**
A1-30, AH and AE	Recreational vehicles 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 the requirements for elevation of manufactured 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.
Flood Zone	**Enclosed Areas**
Unnumbered A	Fully enclosed areas 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: (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. (b) Openings shall be located to allow unrestricted cross-flow of floodwaters through the enclosed area from one side to the other. (c) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
A1-30, AH and AE	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: (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. (b) Openings shall be located to allow unrestricted cross-flow of floodwaters through the enclosed area from one side to the other. (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.
Flood Zone	**Roads**
Unnumbered A	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.

A1-30, AH and AE	(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. (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.
Flood Zone	**Subdivisions and Partitions**
Unnumbered A	(1) All subdivision proposals shall be consistent with the need to minimize flood damage; (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; (3) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and (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).
A1-30, AH and AE	(1) All subdivision and partitioning proposals shall be consistent with the need to minimize flood damage. (2) All subdivision proposals shall have adequate drainage to reduce exposure to flood damage, including returning water. (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. (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. (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.

(9) 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.

(10) 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. *(Revised by Ordinance No. 7-87, Effective 6.17.87; 12-87, 8.13.87; 19-87, 10.14.87; 3-91, 5.17.91; 2-98, 4.8.98)*

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. *(Revised by Ordinance No. 3-91; Effective 5.17.91)*

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. *(Revised by Ordinance No. 3-91; Effective 5.17.91)*

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. *(Revised by Ordinance No. 3-91, Effective 5.17.91; 2-98, 4.8.98)*

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)*

~~**10.271-30 Designation of Administrator.**~~
~~**The Director shall:**~~**10.271-27 Definitions. Except as otherwise provided in LC 10.271-27, the definitions below 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 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 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 more than one foot.

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

~~(e) 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.~~

~~(e) 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)(e)(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.~~

~~(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).~~

~~(d) Subdivision and partitioning of land for residential purposes is prohibited if land is located entirely within the floodway.~~ *~~(Revised by Ordinance No. 3-91, Effective 5.17.91; 2-98, 4.8.98)~~*

~~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.~~ *~~(Revised by Ordinance No. 3-91, Effective 5.17.91)~~*

~~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.~~ *~~(Revised by Ordinance No. 3-91, Effective 5.17.91)~~*

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:

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

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

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

(2) 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.

(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 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.

Flood zone	Foundations and Anchoring
Unnumbered "A"	(1) All new construction and substantial improvements shall be anchored to prevent flotation, collapse and lateral movement of the structure. (2) All manufactured homes must likewise be anchored to prevent flotation, collapse and lateral movement, in accordance with the State of Oregon Manufactured Dwelling Standard.
A1-30, AH, and AE.	(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 and lateral movement. (2) All manufactured homes subject to less than 18 inches of flood water during a 100-year flood shall be anchored and/or supported to prevent flotation, collapse and lateral movement, in accordance with the State of Oregon Manufactured Dwelling Standard. (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 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. **(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.** **(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:** **(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.** **(6) 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.**
Flood zone	**Utilities**
Unnumbered "A"	**(1) All new or replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.** **(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** **(3) Individual sewerage facilities shall be located to avoid impairment to them or contamination from them during flooding.**
A1-30, AH, and AE.	**(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.** **(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.** **(3) Individual sewerage facilities shall be located to avoid impairment to them or contamination from them during flooding.**
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, together with attendant utility and sanitary facilities shall:** **(a) Be floodproofed to one foot above the base flood level, so the structure is watertight with walls substantially impermeable to the passage of water;** **(b) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;** **(c) Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice 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.** **(d) 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).**
Flood zone	**Elevation: Manufactured Homes**
Unnumbered "A"	**(1) 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.** **(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.**
A1-30, AH, and AE.	**(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. **(2) 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.**
Flood zone	**Elevation of Recreational Vehicles**
A1-30, AH, and AE.	**Recreational vehicles 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.**
Flood zone	**Enclosed areas**
Unnumbered "A"	**Fully enclosed areas 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:** **(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.** **(b) Openings shall be located to allow unrestricted cross-flow of floodwaters through the enclosed area from one side to the other.** **(c) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.**
A1-30, AH, and AE.	**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:** **(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.** **(b) Openings shall be located to allow unrestricted**

	cross-flow of floodwaters through the enclosed area from one side to the other. **(c) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.**
Flood zone	**Roads**
Unnumbered "A"	**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.**
A1-30, AH, and AE.	**(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.** **(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.**
Flood zone	**Subdivisions and Partitions**
Unnumbered "A"	**(1) All subdivision proposals shall be consistent with the need to minimize flood damage;** **(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;** **(3) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and** **(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.**
A1-30, AH, and AE.	**(1) All subdivision and partitioning proposals shall be consistent with the need to minimize flood damage.** **(2) All subdivision proposals shall have adequate drainage to reduce exposure to flood damage, including returning water.** **(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.** **(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.** **(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.**

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.

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 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 below 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 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 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 more than one foot.

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 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.

~~(6)~~(7) 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)~~**16.244(8)(d)** 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(6)(d),~~**16.244(7)(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.

~~(7)~~**(8)** Provisions for Flood Hazard Reduction. In all areas of flood hazard, the following standards are required:

(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.~~**Provisions applicable to Unnumbered A, A1-10, AH and AE zones:**

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

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

~~(cc) Electrical,~~**(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~~**(c) Floodways. Located within** 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),~~**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 ~~are required:~~**apply:**

~~(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~~**(i) Prohibit encroachments, including fill,** 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~~**improvements and other development unless certification by a** registered professional engineer ~~or architect to meet the following minimum foundation requirements:~~ **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 —**

~~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.~~**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(8)(c)(i) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions 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

Flood Zone	Foundations and Anchoring
~~flood or located within a designated floodway shall be anchored to prevent flotation or~~	
Unnumbered A	**(1) All new construction and substantial improvements shall be anchored to prevent flotation, collapse and lateral movement of the structure.** **(2) All manufactured homes must likewise be anchored to prevent flotation, collapse and lateral movement, in accordance with the State of Oregon, Manufactured Dwelling Standard.**

~~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.~~

~~(e) 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.~~

~~(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(7)(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).~~

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

~~(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.~~ ~~*(Revised by Ordinance No. 7-87, Effective 6.17.87; 12-87, 8.13.87; 19-87, 10.14.87; 3-91, 5.17.91; 2-98, 4.8.98)*~~

A1-30, AH and AE	**(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 and lateral movement. **(2) All manufactured homes subject to less than 18 inches of flood water during a 100-year flood shall be anchored and/or supported to prevent flotation, collapse and lateral movement, in accordance with the State of Oregon, Manufactured Dwelling Standard.** **(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, 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.** **(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.** **(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:** **(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.** **(6) 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.**
Flood Zone	**Utilities**
Unnumbered A	**(1) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.** **(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** **(3) Individual sewerage facilities shall be located to avoid impairment to them or contamination from them during flooding.**
A1-30, AH and AE	**(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. **(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.** **(3) Individual sewerage facilities shall be located to avoid impairment to them or contamination from them during flooding.**
Flood Zone	**Elevation: Residential**
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**
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, together with attendant utility and sanitary facilities shall:** **(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;** **(b) have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;** **(c) be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural 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 as residential construction of fully enclosed areas below the lowest floor in zones A1-30, AH and**

	AE. **(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).**
Flood Zone	**Elevation of Manufactured Homes**
Unnumbered A	**(1) 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.** **(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.**
A1-30, AH and AE	**(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.** **(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.**
Flood Zone	**Elevation of Recreational Vehicles**
A1-30, AH and AE	**Recreational vehicles 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 the requirements for elevation of manufactured 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.**
Flood Zone	**Enclosed Areas**
Unnumbered A	**Fully enclosed areas 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: **(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.** **(b) Openings shall be located to allow unrestricted cross-flow of floodwaters through the enclosed area from one side to the other.** **(c) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.**
A1-30, AH and AE	**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:** **(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.** **(b) Openings shall be located to allow unrestricted cross-flow of floodwaters through the enclosed area from one side to the other.** **(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.**
Flood Zone	**Roads**
Unnumbered A	**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.**
A1-30, AH and AE	**(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.** **(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.**
Flood Zone	**Subdivisions and Partitions**
Unnumbered A	**(1) All subdivision proposals shall be consistent with the need to minimize flood damage;** **(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;** **(3) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and** **(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).**

A1-30, AH and AE	**(1) All subdivision and partitioning proposals shall be consistent with the need to minimize flood damage.** **(2) All subdivision proposals shall have adequate drainage to reduce exposure to flood damage, including returning water.** **(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.** **(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.** **(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.**

(9) 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.

(10) 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. ***(Revised by Ordinance No. 7-87, Effective 6.17.87; 12-87, 8.13.87; 19-87, 10.14.87; 3-91, 5.17.91; 2-98, 4.8.98)***