

**COLUMBIA COUNTY PLANNING COMMISSION
STAFF REPORT**

April 19, 2021

Text Amendment – Legislative Process – Floodplain Ordinance

HEARING DATE: May 3, 2021

FILE NUMBER: TA 20-03

APPLICANT/OWNER: Columbia County
Land Development Services
230 Strand Street
St. Helens, OR 9705

REQUEST: To amend the Columbia County Zoning Ordinance, (CCZO) Section 1100 Flood Hazard Overlay, to bring it into compliance with the National Flood Insurance Program (NFIP) requirements and Federal Emergency Management Agency (FEMA) guidelines, by adopting the 2019 Oregon Model Flood Hazard Ordinance produced by the Oregon Department of Land Conservation and Development (DLCD).

APPLICABLE CRITERIA:

<u>Columbia County Zoning Ordinance</u>	<u>Page Number</u>
Section 1606 Legislative Hearing	3
Section 1607 Consistency with the Comprehensive Plan	4
Section 1611 Notice of Legislative Hearing	5
<u>Oregon Revised Statute</u>	
ORS 197.610 DLCD Review	5
ORS 215.503 Measure 56 Notice (all affected property owners)	7
<u>Code of Federal Regulations (CFR)</u>	
CFR Title 44, Chapter 1, Part 60.1	9
<u>Columbia County Comprehensive Plan</u>	
Part 1 Administrative Procedures	11
Part XIX Natural Disasters and Hazards – Floodplain	12

BACKGROUND:

On September 19, 2019, the Natural Hazards Planner from the Oregon Department of Land Conservation and Development (DLCD), funded through a FEMA grant, conducted a Community Assistance Visit (CAV) to assess the Floodplain Management Program of Columbia County. The purpose of the visit was to discuss the County's participation in the National Flood Insurance Program (NFIP) and to ensure the community is managing their floodplains in compliance with the NFIP.

During the CAV, DLCD staff analyzed the floodplain development process in Columbia County and reviewed all of the permit forms and floodplain development applications, and elevation certificates for the last 5 years. Additionally, a thorough analysis was given to the Flood Hazard Ordinance 2010-6, contained within Section 1100 of the Columbia County Zoning Ordinance (CCZO).

Ultimately, it was found that Columbia County has been appropriately administering the floodplain management program, however, the floodplain ordinance in place since 2010 is no longer compliant with federal regulations and needs to be updated. In 2019, DLCD staff in coordination with FEMA, developed a new model floodplain ordinance that is compliant with federal regulations, State of Oregon land use law, and incorporates the 2014 changes to the State of Oregon building code and specialty codes that pertain to flood hazard areas. In order to remain within the National Flood Insurance Program, Columbia County is required to adopt a new floodplain development ordinance.

A summary of actions taken to date includes the original contact by DLCD Natural Hazards staff in September of 2019 and the Community Assistance Visit (CAV). The outcome of the CAV was the requirement for the County to adopt the Oregon Model Flood Hazard Ordinance.

After the CAV meeting, in October 2019, Columbia County Land Development Services (LDS) staff documented the Standard Operating Procedures for reviewing development within a Special Flood Hazard Area. Staff also started preliminary work in preparation for the ordinance adoption process. That work included a work session with the County Planning Commission on November 4, 2019 and a work session with the Columbia County Board of County Commissioners on November 13, 2019.

In December 2019, Staff drafted a modified version of the Oregon Model Floodplain Ordinance so that it was specific to Columbia County and available for citizen review. LDS also began planning community outreach and scheduled a number of public open house session throughout the County to talk about the proposed changes. Those public open house sessions were held on the following dates in the locations listed:

- Tuesday, February 11, 2020 Vernonia City Hall, 1001 Bridge St., Vernonia
- Wednesday, February 12, 2020 Clatskanie PUD, 495 E Col River Hwy, Clatskanie
- Tuesday, February 18, 2020 Rainier Transit Center, 207 B St., Rainier
- Tuesday, February 25, 2020 Port of Columbia County, 100 E St., City of Columbia City
- Wednesday, February 26, 2020 Scappoose Library, 52469 SE 2nd St., Scappoose

At each Open House session, in addition to a staff presentation and a Q&A period, copies of the proposed 2019 Model Flood Ordinance were provided free of charge for the public to review.

After the open houses, in March 2020, Staff began preparing to schedule the model flood ordinance for public hearing at the Planning Commission. Unfortunately, the corona virus changed the fundamental ways in which LDS conducted business and in late March the Governor and State Public Health Office prohibited public gatherings due to concerns with COVID 19.

In January 2021, LDS was contacted by DLCD Natural Hazards Staff and reminded the Oregon Model Flood Ordinance still needed to be adopted in order to finish up the 2019 CAV. Furthermore, in June 2021, DLCD must report to FEMA on the status of each jurisdictions 2019 CAV. Currently, Columbia County is listed as not complete.

It is the goal of Columbia County to stay in compliance with FEMA and the NFIP. The first public hearing on the adoption of the Oregon Model Flood Ordinance is scheduled for May 3, 2021, before the Columbia County Planning Commission. The Planning Commission will make a recommendation on the proposal, then it will immediately be scheduled for a public hearing with the Columbia County Board of County Commissioners.

FINDINGS:

This request is being processed under Section 1606 (Legislative hearing) and Section 1611 (Notice of Legislative Hearing) of the CCZO. The pertinent sections of the ordinance are reviewed as follows:

1606 Legislative Hearing:

Requests to amend the text of the Zoning Ordinance or to change a large area of the Zoning Map of Columbia County in order to bring it into compliance with the Comprehensive Plan are legislative hearings. Legislative hearings shall be conducted in accordance with the following procedures.

- .1 A legislative amendment to the Zoning Ordinance Text or Map may be initiated at the request of the Board of Commissioners, a majority of the Commission, or the Director, or any citizen of the County may petition the Commission for such a change.

Finding 1: At the request of DLCD, this legislative amendment to the CCZO to adopt the Oregon Model Flood Ordinance was initiated by the County Board of Commissioners. As such, staff this criterion is satisfied.

Continuing with the Columbia County Zoning Ordinance:

- .2 Notice of a Legislative Hearing shall be published at least twice, one week apart in newspapers of general circulation in Columbia County. The last of these notices shall be published no less than 10 calendar days prior to the Legislative

Hearing. The mailing of notice to individual property owners is not required but shall be done if ordered by the Board of Commissioners.

Finding 2: A hearing notice was published in the Columbia County Spotlight Newspaper on April 16, 2021 and on April 23, 2021. Additionally, another hearing notice was published in the Chronicle Newspaper on and April 14, 2021 and on April 21, 2021. Both of these notices in each newspaper were published more than 10 days prior to the Planning Commission hearing date of May 3, 2021. Notice and Referral to CPAC's, watershed councils, and affected Federal, State, and Local agencies was mailed on March 25, 2021.

Pursuant to ORS 215.503, Measure 56 Notice of the proposed zoning code text amendment was mailed on March 25, 2021 to property owners that had property located within a special flood hazard area. The Board of Commissioners public hearing on this matter has not been scheduled at this time, but notice will be published in accordance with this legislative notice criteria. Staff finds appropriate public notice meeting the required timelines for legislative hearings has been given; therefore, this criterion is satisfied.

Continuing with the Columbia County Zoning Ordinance:

- 1607 Consistency with the Comprehensive Plan: All amendments to the Zoning Ordinance Text and Map shall be consistent with the Comprehensive Plan Text and Maps.
- .1 The Commission shall hold a hearing to consider the proposed amendments and shall make a recommendation to the Board of Commissioners with regard to the proposed amendments. The Board of Commissioners shall hold at least one hearing to consider the proposed amendments. Both the Commission and the Board of Commissioners hearings will require notice in the manner outlined in Section 1611.

Finding 3: The Planning Commission will hold a public hearing on May, 3 2021 to consider the adoption of the Oregon Model Flood Ordinance and subsequent text amendments to CCZO Section 1100. The Planning Commission does not make the final decision on this matter, but rather makes a recommendation to the Board of Commissioners for the final decision. The Board of Commissioners public hearing on this matter has not been scheduled at this time, but notice will be published in accordance with the required legislative notice criteria. Staff finds there will be two public hearings on this matter, one before the Planning Commission and one before the Board of Commissioners. The Board of Commissioners is required to hold at least one public hearing, which they will; therefore, this criterion is satisfied.

Continuing with the Columbia County Zoning Ordinance:

1611 Notice of Legislative Hearing:

The notice of a legislative hearing shall contain the following items:

- .1 Date, time and place of the hearing;
- .2 A description of the area to be rezoned or the changes to the text;
- .3 Copies of the statement for the proposed changes are available in the Planning Department. These proposed changes may be amended at the public hearing;
- .4 Interested parties may appear and be heard;
- .5 Hearings will be held in accordance with the provisions of the Zoning Ordinance.

Finding 4: All of the above information was included in the Planning Commission Notice of Public Hearing published twice in the Columbia County Spotlight and the Chronicle newspapers. Reference Attachment 1. The Board of Commissioners public hearing on this matter has not been scheduled at this time, but notice will be published in accordance with this legislative notice criteria. Staff finds that the public hearing notice given for the scheduled Planning Commission public hearing includes all of the required language for legislative hearings under CCZO Section 1611; therefore, these criteria have been satisfied.

The following Oregon Revised Statutes are applicable to this post-acknowledgement zoning ordinance amendment:

ORS 197.610 Submission of proposed comprehensive plan or land use regulation changes to Department of Land Conservation and Development; rules.

- (1) Before a local government adopts a change, including additions and deletions, to an acknowledged comprehensive plan or a land use regulation, the local government shall submit the proposed change to the Director of the Department of Land Conservation and Development. The Land Conservation and Development Commission shall specify, by rule, the deadline for submitting proposed changes, but in all cases the proposed change must be submitted at least 20 days before the local government holds the first evidentiary hearing on adoption of the proposed change. The commission may not require a local government to submit the proposed change more than 35 days before the first evidentiary hearing.

- (2) If a local government determines that emergency circumstances beyond the control of the local government require expedited review, the local government shall submit the proposed changes as soon as practicable, but may submit the proposed changes after the applicable deadline.
- (3) Submission of the proposed change must include all of the following materials:
 - (a) The text of the proposed change to the comprehensive plan or land use regulation implementing the plan;
 - (b) If a comprehensive plan map or zoning map is created or altered by the proposed change, a copy of the map that is created or altered;
 - (c) A brief narrative summary of the proposed change and any supplemental information that the local government believes may be useful to inform the director or members of the public of the effect of the proposed change;
 - (d) The date set for the first evidentiary hearing;
 - (e) The form of notice or a draft of the notice to be provided under ORS 197.763, if applicable; and
 - (f) Any staff report on the proposed change or information describing when the staff report will be available, and how a copy of the staff report can be obtained.
- (4) The director shall cause notice of the proposed change to the acknowledged comprehensive plan or the land use regulation to be provided to:
 - (a) Persons that have requested notice of changes to the acknowledged comprehensive plan of the particular local government, using electronic mail, electronic bulletin board, electronic mailing list server or similar electronic method; and
 - (b) Persons that are generally interested in changes to acknowledged comprehensive plans, by posting notices periodically on a public website using the Internet or a similar electronic method.

Finding 5: Notice of the proposed post-acknowledgement zoning ordinance amendment was uploaded to the DLCD PAPA Online Submittal portal on March 13, 2020 and the first public hearing date was revised on March 22, 2021, reflecting the May 3, 2021 Planning Commission public hearing. Reference DLCD file number 002-03. The online submittal includes all of the required information describing the type of change, the text of the change, the date of the first public hearing and how a copy of the staff report can be obtained. This staff report will be uploaded to the online portal once complete, as well as added to the Columbia County LDS Planning webpage. Staff has also been in close communication about this project with DLCD representatives, Lisa Phipps and Celinda Adair. Staff finds that it has exceeded the minimum notice requirements to State agencies by providing notice more than 20 days prior to the first public hearing. These criteria have been met.

The following Oregon Revised Statutes are applicable to this post-acknowledgement zoning ordinance amendment:

NOTICE TO PROPERTY OWNERS (Required by Measure 56)

ORS 215.503 Legislative act by ordinance; mailed notice to individual property owners required by county for land use actions.

- (1) As used in this section, "owner" means the owner of the title to real property or the contract purchaser of real property, of record as shown on the last available complete tax assessment roll.
- (2) All legislative acts relating to comprehensive plans, land use planning or zoning adopted by the governing body of a county shall be by ordinance.
- (3) Except as provided in subsection (6) of this section and in addition to the notice required by ORS 215.060, at least 20 days but not more than 40 days before the date of the first hearing on an ordinance that proposes to amend an existing comprehensive plan or any element thereof or to adopt a new comprehensive plan, the governing body of a county shall cause a written individual notice of land use change to be mailed to each owner whose property would have to be rezoned in order to comply with the amended or new comprehensive plan if the ordinance becomes effective.
- (4) In addition to the notice required by ORS 215.223 (1), at least 20 days but not more than 40 days before the date of the first hearing on an ordinance that proposes to rezone property, the governing body of a county shall cause a written individual notice of land use change to be mailed to the owner of each lot or parcel of property that the ordinance proposes to rezone.
- (5) An additional individual notice of land use change required by subsection (3) or (4) of this section shall be approved by the governing body of the county and shall describe in detail how the proposed ordinance would affect the use of the property. The notice shall:

(a) Contain substantially the following language in boldfaced type across the top of the face page extending from the left margin to the right margin:

This is to notify you that (governing body of the county) has proposed a land use regulation that may affect the permissible uses of your property and other properties.

(b) Contain substantially the following language in the body of the notice:

On (date of public hearing), (governing body) will hold a public hearing regarding the adoption of Ordinance Number _____. The (governing body) has determined that adoption of this ordinance may affect the permissible uses of your property, and other properties in the affected zone, and may change the value of your property.

Ordinance Number _____ is available for inspection at the _____ County Courthouse located at _____. A copy of Ordinance Number _____ also is available for purchase at a cost of _____.

For additional information concerning Ordinance Number _____, you may call the (governing body) Planning Department at _____.

(6) At least 30 days prior to the adoption or amendment of a comprehensive plan or land use regulation by the governing body of a county pursuant to a requirement of periodic review of the comprehensive plan under ORS 197.628, 197.633 and 197.636, the governing body of the county shall cause a written individual notice of the land use change to be mailed to the owner of each lot or parcel that will be rezoned as a result of the adoption or enactment. The notice shall describe in detail how the ordinance or plan amendment may affect the use of the property. The notice also shall:

(a) Contain substantially the following language in boldfaced type across the top of the face page extending from the left margin to the right margin:

This is to notify you that (governing body of the county) has proposed a land use that may affect the permissible uses of your property and other properties.

(b) Contain substantially the following language in the body of the notice:

As a result of an order of the Land Conservation and Development Commission, (governing body) has proposed Ordinance Number _____. (Governing Body) has determined that the adoption of this ordinance may affect the permissible uses of your property, and other properties in the affected zone, and may change the value of your property.

Ordinance Number _____ will become effective on (date).

Ordinance Number _____ is available for inspection at the _____ County Courthouse located at _____. A copy of Ordinance Number _____ also is available for purchase at a cost of _____.

For additional information concerning Ordinance Number _____, you may call the (governing body) Planning Department at _____.

(7) Notice provided under this section may be included with the tax statement required under ORS 311.250.

(8) Notwithstanding subsection (7) of this section, the governing body of a county may provide notice of a hearing at any time provided notice is mailed by first class mail or bulk mail to all persons for whom notice is required under subsections (3) and (4) of this section.

(9) For purposes of this section, property is rezoned when the governing body of the county:

(a) Changes the base zoning classification of the property; or

(b) Adopts or amends an ordinance in a manner that limits or prohibits land uses previously allowed in the affected zone.

(10) The provisions of this section do not apply to legislative acts of the governing body of the county resulting from action of the Legislative Assembly or the Land Conservation and Development Commission for which notice is provided under ORS 197.047, or resulting from an order of a court of competent jurisdiction.

(11) The governing body of the county is not required to provide more than one notice under this section to a person who owns more than one lot or parcel affected by a change to the local comprehensive plan or land use regulation.

(12) The Department of Land Conservation and Development shall reimburse the governing body of a county for all usual and reasonable costs incurred to provide notice required under subsection (6) of this section.

Finding 6: LDS mailed Measure 56 notice to every property owner that had an identified Special Flood Hazard Area (SFHA) on their property as describe in Finding 2. The mailing list was generated from the County Geographic Information Service (GIS) map that includes the FEMA Flood Insurance Rate Map (FIRM) information on the floodplain layer. The mailed Measure 56 notice contained all of the required elements of a Measure 56 notice as required by this statute and clearly states it is for Adoption of the Oregon Model Flood Ordinance. The Measure 56 notice was mailed on March 25, 2021, which is at least 20 days but not more than 40 days before the date of the first public hearing on May 3, 2021. A copy of the notice is in the record and attached to this report. Reference Attachment 2. Staff finds these criteria are satisfied.

Review of the Code of Federal Regulations (CFR) for FEMA:

CFR Title 44 - Emergency Management and Assistance

Chapter 1 - Federal Emergency Management Agency (FEMA)

Part 60 – Criteria for Land Management and Use

§ 60.1 - Purpose of subpart.

(a) The Act provides that flood insurance shall not be sold or renewed under the program within a community, unless the community has adopted adequate flood plain management regulations consistent with Federal criteria. Responsibility for establishing such criteria is delegated to the Federal Insurance Administrator.

(b) This subpart sets forth the criteria developed in accordance with the Act by which the Federal Insurance Administrator will determine the adequacy of a community's flood plain management regulations. These regulations must be legally-enforceable, applied uniformly throughout the community to all privately and publicly owned land within flood-prone, mudslide (i.e., mudflow) or flood-related erosion areas, and the community must provide that the regulations take precedence over any less restrictive conflicting local laws, ordinances or codes. Except as otherwise provided in § 60.6, the adequacy of such regulations shall be determined on the basis of the standards set forth in § 60.3 for flood-prone areas, § 60.4 for mudslide areas and § 60.5 for flood-related erosion areas.

- (c) Nothing in this subpart shall be construed as modifying or replacing the general requirement that all eligible communities must take into account flood, mudslide (i.e., mudflow) and flood-related erosion hazards, to the extent that they are known, in all official actions relating to land management and use.
- (d) The criteria set forth in this subpart are minimum standards for the adoption of flood plain management regulations by flood-prone, mudslide (i.e., mudflow)-prone and flood-related erosion-prone communities. Any community may exceed the minimum criteria under this part by adopting more comprehensive flood plain management regulations utilizing the standards such as contained in subpart C of this part. In some instances, community officials may have access to information or knowledge of conditions that require, particularly for human safety, higher standards than the minimum criteria set forth in subpart A of this part. Therefore, any flood plain management regulations adopted by a State or a community which are more restrictive than the criteria set forth in this part are encouraged and shall take precedence.

Finding 7: Columbia County, Oregon is considered a riverine flood-prone community and is currently part of the National Flood Insurance Program (NFIP). In order to remain in the National Flood Insurance Program, the County must meet the minimum compliance flood plain management criteria found in §60.2 - §60.8. FEMA and the State of Oregon have developed the Oregon Model Flood Ordinance that meets the minimum compliance standards required by §60.2 - §60.8. By adopting the Oregon Model Flood Ordinance the County will remain in compliance with the NFIP, which then allows for flood insurance to be sold in the County, helps with insurance rates, and keeps the County eligible for flood disaster relief funds.

Review of the following Columbia County Comprehensive Plan Goal & Policies:

The Columbia County Comprehensive Plan has twenty one parts, each with a set of general Goals and implementing Policies. These Goals and Policies are implement by Ordinance and most specifically the CCZO. The Flood Hazard Overlay District of the CCZO is designed to reduce or avoid damages caused by flood, mudslide, or flood related erosion. By protecting the floodplain areas, the County also helps implement other parts of the Comprehensive Plan. More precisely, the Flood Hazard Overlay provides security for Housing (Part VI), stabilization for certain areas of the Economy (Part X), protection of Open Space and Natural Resources (Part XVI), protection of the provision of Recreational Needs (Part XVII), and protection of the Air, Land and Water (Part XVIII).

The most applicable portions of the Comprehensive Plan are Part I – Administrative Procedures for Zoning Text Amendments and Part XIX Natural Disasters – Floodplain, are reviewed below.

Columbia County Comprehensive Plan

Part I Administrative Procedures

Goals:

1. To assure the goals and policies of this plan are implemented.
2. To provide review and revision procedures which include provisions for participation by citizens and affected interest groups.
3. To provide an understandable framework for reviewing and revising this plan.

Policies:

5. Provide a framework by which the Comprehensive Plan may be reviewed, revised and amended. Amendments to the Comprehensive Plan and its implementing ordinance(s) shall be in accordance with the following procedures and guidelines:
 - A. Amendments may be initiated by the Board of Commissioners, the Planning Commission, the Planning Director or the owner(s) of the affected property.
 - B. A Citizen Planning Advisory Committee may, upon a majority vote of its members, formally request either the Board of Commissioners or the Planning Commission initiate an amendment.
 - C. Revisions or amendments will follow the same process as initial adoption - CPAC review, Planning Commission public hearing and recommendation, and Board hearing and adoption of revisions or amendments.
 - D. For quasi-judicial amendments, all property owners within two hundred and fifty (250) feet of the affected area shall be notified of the hearing date and the requested amendment at least ten (10) days prior to the first scheduled public hearing.
 - E. For legislative amendments, notice of the public hearing and a copy of the proposed amendment, will be mailed to all Citizen Planning Advisory Committees and interested parties at least ten (10) days prior to the first scheduled public hearing.

Finding 8: The proposed zoning ordinance text amendment was requested by the State of Oregon, DLCD. Planning Staff discussed the matter with the Columbia County Board of Commissioners at the November 13, 2019, Board work session. At this meeting, the Board initiated the CCZO text amendment and authorized staff to begin the process of adopting the Oregon Model Flood Ordinance so the County could remain in compliance with the NFIP. This project was not initiated by a CPAC and is not a quasi-judicial decision. Adoption of the

Oregon Model Flood Ordinance will follow the process for a legislative amendment with notice and opportunity to comment given to CPAC's, Measure 56 notice to the public, followed by a Planning Commission public hearing and recommendation and then a Board of Commissioners public hearing and adoption of amendment. Notice to CPAC's was more than 10 days before the first scheduled public hearing with the Planning Commission on May 3, 2021. Reference Findings 2-6 for specific details of the notice. Staff finds the process used for this legislative text amendment to the CCZO is consistent with Part 1 of the Comprehensive Plan. These criteria are satisfied.

Continuing with the Columbia County Comprehensive Plan:

Part XIX Natural Disasters and Hazards

Floodplain

Goal: Eliminate or reduce the economic and social costs created by flood-caused damages.

Policy: 1. Columbia County will participate in the National Flood Insurance Program administered by the Federal Emergency Management Agency (FEMA).

Finding 9: The DLCDC Natural Hazards Coordinator for the State of Oregon has found that the current Columbia County Floodplain Ordinance, CCZO Section 1100 Flood Hazard Overlay, is no longer in compliance with State and Federal guidelines required for participation in the National Flood Insurance Program administered by FEMA. It is the policy for Columbia County to participate in the NFIP. Adoption of the Oregon Model Flood Ordinance will bring the County into compliance with the NFIP, consistent with this policy. These criteria are satisfied.

COMMENTS:

County Building Official: "All new construction in flood zones will require to be designed to flood standards and require a BFE at application."

County Public Works Department: "No comments or concerns in the matter of this amendment."

County Surveyor: "No objection to its approval as submitted."

City of Scappoose: "No objection to its approval as submitted."

City of Columbia City: "No objection to its approval as submitted."

Webb Drainage District: “Our Board must meet to consider this, we will return comments to you by 4/12/21.”

Columbia River PUD: “No objection to its approval as submitted.”

Rural Fire Protection Districts: No Response.

CPAC’s: No Response.

Public Comments: None Received.

(No other comments received as of the date of this staff report, April 19, 2021).

CONCLUSION & DISCUSSION:

Work sessions with the Planning Commission (PC) on the Oregon Model Flood Ordinance were conducted on November 4, 2019 and on March 15, 2021. The first work session was a general overview of the project discussing why the County needs to adopt the Oregon Model Flood Ordinance and copies of the proposed text were given to the PC. The second work session was a more detailed discussion of the summary of changes describing the difference between the current flood ordinance and the proposed Oregon Model Flood Ordinance. Public outreach was conducted via public open house sessions in five different communities where copies of the Oregon Model Flood Ordinance text were provided to the public for free and there was opportunity to ask questions of staff. Measure 56 notice was mailed to all property owners within a special flood hazard designation. Notice of the public hearing was published in local newspapers and mailed notice was given to Federal, State and Local agencies. All notices given have been shown to meet the timelines required by State and Local law.

STAFF RECOMMENDATION:

Based upon the findings in this staff report, Staff recommends the Columbia County Planning Commission give the Board of Commissioners a recommendation of **APPROVAL**, adopting the proposed legislative text amendments to the CCZO, Section 1100 Flood Hazard Overlay, contained in File Number TA 20-03, which will implement the 2019 State of Oregon Model Flood Hazard Management Ordinance.

Attachments:

1. Published Notice of Legislative Hearing
2. Measure 56 Notice
3. Proposed Text Bold/Strikeout CCZO Section 1100
4. Proposed New CCZO Section 1100
5. Summary of Changes Oregon Model Flood Hazard Ordinance
6. Oregon Model Flood Hazard Ordinance for Columbia County

May 3, 2021 PC Meeting

COLUMBIA COUNTY
LAND DEVELOPMENT SERVICES
COURTHOUSE
230 STRAND
ST. HELENS, OREGON 97051
(503) 397-1501

Please publish the following legal notice in the April 14th or 16th edition

**NOTICE OF PUBLIC HEARING
Monday May 3, 2021**

On May 3, 2021 at 6:30 PM, the Columbia County Planning Commission will hold a public hearing to make a recommendation to the Board of Commissioners regarding adoption of Ordinance No. 2021-2, In the Matter of Amending the Columbia County Zoning Ordinance, Section 1100, Flood Hazard Overlay Zone, to Adopt the State of Oregon 2019 Model Flood Hazard Management Ordinance and Comply with the National Flood Insurance Program Regulations. During the COVID-19 global pandemic, the Columbia County Planning Commission will be holding their public hearing via virtual format. Please use the links below if you wish to participate in the public hearing through either the online platform or by telephone.

During the COVID-19 global pandemic, the Columbia County Planning Commission will be hosting their public hearing via online webinar. Please use the links below if you wish to participate in the public meeting.

From your computer, tablet or smartphone: <https://global.gotomeeting.com/join/512758765>
Dial in using your phone: United States (Toll Free): 1 866 899 4679 or
United States: +1 (571) 317-3116
Access Code: 512-758-765

SAID PUBLIC HEARING will be held before the Planning Commission on **Monday, May 3, 2021.**

If you have any questions or concerns regarding access to the meeting or need accommodation, please call the Land Development Services office at (503) 397-1501.

The criteria to be used in deciding the request will be found in some or all of the following documents and laws, as revised from time to time: Oregon Revised Statutes ORS 197.763; Oregon Administrative Rules; Columbia County Comprehensive Plan; Columbia County Zoning Ordinance. The specific criteria applicable to this request is listed and evaluated in the staff report.

A copy of the application, all documents and evidence relied upon by the applicant, and the staff report are available for inspection at no cost and will be provided at reasonable cost, at the Land Development Services office, at least 7 days prior to the Planning Commission hearing. Written comments on the issue can be submitted via email to Planning@columbiacountyor.gov or you can send comments via U.S. Mail to Columbia County, Department of Land Development Services, 230 Strand Street, St. Helens, OR 97051.

If additional documents or evidence are provided in support of the application, prior to or during the hearing, any party shall be entitled to a continuance of the hearing to allow review of the new evidence. If a participant requests a continuance before the conclusion of the evidentiary hearing, the record shall remain open for at least seven days after the hearing.

At each hearing, the applicant has the burden of presenting substantial evidence showing that the application meets all of the applicable criteria. Following presentation of the staff report, the applicant and other persons in favor of the application will be allowed to address the commission, explaining how the evidence submitted meets the applicable criteria. Following the applicant's presentation, any person in opposition to the application may present evidence and argument against the application. The applicant will then have the opportunity to rebut any evidence or arguments presented in opposition. After the presentation of evidence and arguments, the public hearing record will be either left open or closed by the Planning Commission.

The Commission will then make a tentative decision to be followed by approval of a written order and a statement of findings and conclusions supporting the decision, which will be mailed to all parties at a later date. The Commission may, at its discretion, continue the hearing from time to time at the request of the parties or on its own motion as necessary to afford substantial justice and comply with the law.

Additional information about this application may be obtained from the Planning Division of the Land Development Services Department, at (503) 397-1501 or you can go to the County website www.columbiacountyor.gov/departments/LandDevelopment/Planning.

April 14, 2021

THE PLANNING COMMISSION
Linda Hooper, Chairman

May 3, 2021 PC Meeting

COLUMBIA COUNTY
LAND DEVELOPMENT SERVICES
COURTHOUSE
230 STRAND
ST. HELENS, OREGON 97051
(503) 397-1501

Please publish the following legal notice in the April 21st or 23rd edition

NOTICE OF PUBLIC HEARING
Monday May 3, 2021

On May 3, 2021 at 6:30 PM, the Columbia County Planning Commission will hold a public hearing to make a recommendation to the Board of Commissioners regarding adoption of Ordinance No. 2021-2, In the Matter of Amending the Columbia County Zoning Ordinance, Section 1100, Flood Hazard Overlay Zone, to Adopt the State of Oregon 2019 Model Flood Hazard Management Ordinance and Comply with the National Flood Insurance Program Regulations. During the COVID-19 global pandemic, the Columbia County Planning Commission will be holding their public hearing via virtual format. Please use the links below if you wish to participate in the public hearing through either the online platform or by telephone.

During the COVID-19 global pandemic, the Columbia County Planning Commission will be hosting their public hearing via online webinar. Please use the links below if you wish to participate in the public meeting.

From your computer, tablet or smartphone: <https://global.gotomeeting.com/join/512758765>

Dial in using your phone: United States (Toll Free): [1 866 899 4679](tel:18668994679) or
United States: [+1 \(571\) 317-3116](tel:+15713173116)

Access Code: 512-758-765

SAID PUBLIC HEARING will be held before the Planning Commission on **Monday, May 3, 2021.**

If you have any questions or concerns regarding access to the meeting or need accommodation, please call the Land Development Services office at (503) 397-1501.

The criteria to be used in deciding the request will be found in some or all of the following documents and laws, as revised from time to time: Oregon Revised Statutes ORS 197.763; Oregon Administrative Rules; Columbia County Comprehensive Plan; Columbia County Zoning Ordinance. The specific criteria applicable to this request is listed and evaluated in the staff report.

A copy of the application, all documents and evidence relied upon by the applicant, and the staff report are available for inspection at no cost and will be provided at reasonable cost, at the Land Development Services office, at least 7 days prior to the Planning Commission hearing. Written comments on the issue can be submitted via email to Planning@columbiacountyor.gov or you can send comments via U.S. Mail to Columbia County, Department of Land Development Services, 230 Strand Street, St. Helens, OR 97051.

If additional documents or evidence are provided in support of the application, prior to or during the hearing, any party shall be entitled to a continuance of the hearing to allow review of the new evidence. If a participant requests a continuance before the conclusion of the evidentiary hearing, the record shall remain open for at least seven days after the hearing.

At each hearing, the applicant has the burden of presenting substantial evidence showing that the application meets all of the applicable criteria. Following presentation of the staff report, the applicant and other persons in favor of the application will be allowed to address the commission, explaining how the evidence submitted meets the applicable criteria. Following the applicant's presentation, any person in opposition to the application may present evidence and argument against the application. The applicant will then have the opportunity to rebut any evidence or arguments presented in opposition. After the presentation of evidence and arguments, the public hearing record will be either left open or closed by the Planning Commission.

The Commission will then make a tentative decision to be followed by approval of a written order and a statement of findings and conclusions supporting the decision, which will be mailed to all parties at a later date. The Commission may, at its discretion, continue the hearing from time to time at the request of the parties or on its own motion as necessary to afford substantial justice and comply with the law.

Additional information about this application may be obtained from the Planning Division of the Land Development Services Department, at (503) 397-1501 or you can go to the County website www.columbiacountyor.gov/departments/LandDevelopment/Planning.

April 21, 2021

THE PLANNING COMMISSION
Linda Hooper, Chairman

NOTICE OF LAND USE ACTION – Required by Measure 56

Attachment 2

Notice for Adoption of Oregon Model Flood Ordinance

This is to notify you that the Columbia County Board of Commissioners have proposed an amendment to a land use regulation that may affect the permissible uses of your property and other properties. Our records indicate you own land that has been identified as a Special Flood Hazard Area (SFHA) and will be affected by the proposed land use amendments that regulate activities within a floodplain. (Please note, the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) for Columbia County will not be amended with this proposal).

The Columbia County Board of Commissioners has initiated amendments to Section 1100 of the Columbia County Zoning Ordinance relating to the Flood Hazard Overlay for Columbia County. The proposed amendments will adopt the State of Oregon Model Flood Hazard Management Ordinance prepared by the State of Oregon Department of Land Conservation and Development (DLCD) and reviewed and approved by the Federal Emergency Management Agency (FEMA), Region X. Adoption of the ordinance language provided will ensure County compliance with the minimum standards for participation in the National Flood Insurance Program (NFIP). The model flood hazard ordinance includes standards and provisions that encourage sound floodplain management. The language is based on the minimum requirements of the NFIP found in the Code of Federal Regulations (CFR's), Oregon's statewide land use planning Goal 7 (Natural Disasters and Hazards), and the Oregon specialty codes.

Adoption of the proposed amendments may affect the permissible uses of your property, and other properties located within a Special Flood Hazard Area (SFHA), and this may change the value of your property or other properties located in the SFHA.

On May 3, 2021 at 6:30 PM, the Columbia County Planning Commission will hold a public hearing to make a recommendation to the Board of Commissioners regarding adoption of Ordinance No. 2021-2, In the Matter of Amending the Columbia County Zoning Ordinance, Section 1100, Flood Hazard Overlay Zone, to Adopt the State of Oregon 2019 Model Flood Hazard Management Ordinance and Comply with the National Flood Insurance Program Regulations. During the COVID-19 global pandemic, the Columbia County Planning Commission will be holding their public hearing via virtual format. Please use the links below if you wish to participate in the public hearing through either the online platform or by telephone.

From your computer, tablet or smartphone: <https://global.gotomeeting.com/join/512758765>

Dial in using your phone: United States (Toll Free): [1 866 899 4679](tel:18668994679) or

United States: [+1 \(571\) 317-3116](tel:+15713173116)

Access Code: 512-758-765

The proposed amendments are available for inspection in the Land Development Services Department (LDS) at the Columbia County Courthouse located at 230 Strand Street, St. Helens, Oregon. Please note, due to the COVID-19 global pandemic you must call 503-397-1501, Extension 1 to schedule an appointment prior to visiting the Courthouse. A copy of the proposed amendment may be purchased at the LDS office at a cost of \$0.25 per page. A copy of the proposed amendments can also be obtained by visiting our website at:

<https://www.columbiacountyor.gov/departments/landdevelopment/planning>

For additional information concerning these amendments proposed in Ordinance No. 2021-2, you may call the Columbia County Department of Land Development Services at (503) 397-1501, Extension 1 and ask to speak with Planning Manager, Matt Laird or LDS Director, Karen Schminke.

Bold/Strikeout

Section 1100

FLOOD HAZARD OVERLAY

FH

1101 Purpose: It is the purpose of this ordinance to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

- .1 To protect human life and health;
- .2 To minimize expenditure of public money and costly flood control projects;
- .3 To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- .4 To minimize prolonged business interruptions;
- .5 To minimize damage to public facilities and utilities such as water and gas mains; electric, telephone and sewer lines, streets, and bridges located in areas of special flood hazard;
- .6 To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
- .7 To ensure that potential buyers are notified that property is in an area of special flood hazard; ~~and,~~
- .8 To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions;
- .9 **To participate in and maintain eligibility for flood insurance and disaster relief.**

~~1102 Definitions:~~ *[Moved to new Section 1103 added]*

1102 Methods of Reducing Flood Losses: In order to accomplish its purposes, this ordinance includes methods and provisions for:

- .1 **Restricting or prohibiting development which is 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 development 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 may increase flood hazards in other areas.**
- 1102 1103 **Definitions: Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage.**
- .1 "APPEAL" means a request for a review of the interpretation of any provision of this ordinance or a request for a variance.**
 - .2 "AREA OF SHALLOW FLOODING" means a designated Zone AO, AH, AR/AO or AR/AH on a community's Flood Insurance Rate Map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.**
 - ~~.1~~ **.3 "AREA OF SPECIAL FLOOD OVERLAY" means the land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year. Designation on maps always includes the letters A or V.**
 - ~~.2~~ **.4 "BASE FLOOD" means the flood having a one percent chance of being equaled or exceeded in any given year. Also referred to as the "100-year flood." Designation on maps always includes the letters A or V.**
 - ~~.3~~ **.5 "BASE FLOOD EVELATION (BFE)" means the water surface elevation during the base flood in relation to a specified datum to which floodwater is anticipated to rise during the base flood. The base Flood Elevation is depicted on the FIRM to the nearest foot and in the FIS to the nearest 0.1 feet.**
 - ~~.6~~ **"BUILDING CODES" means the combined specialty codes**

Bold/Strikeout

~~adopted under ORS 446.062, 446.185, 447.020 (2), 455.020 (2), 455.496, 455.610, 455.680, 460.085, 460.360, 479.730 (1) or 480.545, but does not include regulations adopted by the State Fire Marshal pursuant to ORS chapter 476 or ORS 479.015 to 479.200 and 479.210 to 479.220. *{Add. Ordinance 2010-6, eff. 11.26.10.}* *[Deleted in its entirety]*~~

- ~~.4~~ .6 **"BASEMENT"** means the portion of a structure with **any area of the building having** its floor subgrade (below ground level) on all sides. *{Add. Ordinance 2010-6, eff. 11.26.10.}*
- ~~.5~~ .7 **"BELOW-GRADE CRAWL SPACE"** means an enclosed area below the base flood elevation in which the interior grade is not more than two feet below the lowest adjacent exterior grade and the height, measured from the interior grade of the crawlspace to the top of the crawlspace foundation, does not exceed 4 feet at any point. *{Add. Ordinance 2010-6, eff. 11.26.10.}*
- .8 **"BREAKAWAY WALL"** means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.
- .9 **"BUILDING"** See "Structure".
- .10 **"CRITICAL FACILITY"** means a facility for which even a slight chance of flooding might be too great. Critical facilities include, but are not limited to schools, nursing homes, hospitals, police, fire and emergency response installations, installations which produce, use or store hazardous materials or hazardous waste.
- ~~.7~~ .11 **"DEVELOPMENT"** means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials located within the area of special flood hazard. ~~located within the area of special flood hazard.~~ *{Amd by Ordinance No. 2008-3, eff. July 9, 2008.}*
- .12 **"ELEVATED BUILDING"** means for insurance purposes, a nonbasement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings or columns.

Bold/Strikeout

- ~~.8~~ .13 **"FLOOD OR "FLOODING"** means a general and temporary condition of partial or complete inundation of normally dry land areas from:
- ~~(a)~~ (1) The overflow of inland or tidal waters, and/or
 - ~~(b)~~ (2) The unusual and rapid accumulation of runoff of surface waters from any source.
 - (3) **Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in paragraph (a)(2) of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.**
- .14 **"FLOOD ELEVATION STUDY"** means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards.
- ~~.9~~ .15 **"FLOOD INSURANCE RATE MAP (FIRM)"** means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.
- ~~.16~~ ~~"PRIMARY ZONE" means the underlying zone upon which the Flood Hazard Overlay zone is superimposed. Deleted in its entirety.~~
- ~~.10~~ .16 **"FLOOD INSURANCE STUDY (FIS)"** See **"Flood Elevation Study"** means the official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Boundary Floodway Map, and the water surface elevation of the base flood.
- .17 **"FLOODPLAIN OR FLOOD PRONE AREA"** means any land area susceptible to being inundated by water from any source. See "flood or flooding."
- .18 **"FLOODPLAIN ADMINISTRATOR"** means the community official designated by title to administer and enforce the floodplain management regulations.
- .19 **"FLOODPLAIN MANAGEMENT"** means 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.

- .20** **"FLOODPLAIN MANAGEMENT REGULATIONS" means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as floodplain ordinance, grading ordinance, stormwater and erosion control ordinance) and other application of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.**
- .21** **"FLOOD PROOFING" means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate risk of flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents.**
- ~~.14~~ **.22** **"FLOODWAY" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than ~~one foot~~ a designated height. Also referred to as "Regulatory Floodway."**
- .23** **"FUNCTIONALLY DEPENDENT USE" means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, and does not include long term storage or related manufacturing facilities.**
- .24** **"HAZARDOUS MATERIAL" means the Oregon Department of Environmental Quality defines hazardous materials to include any of the following:**
- (1) Hazardous waste as defined in ORS 466.005;**
 - (2) Radioactive waste as defined in ORS 469.300, radioactive material identified by the Energy Facility Siting Council under ORS 469.605 and radioactive substances defined in ORS 453.005**

- (3) **Communicable disease agents as regulated by the Health Division under ORS Chapter 431 and 433.010 to 433.045 and 433.106 to 433.990;**
 - (4) **Hazardous substances designated by the United States Environmental Protection Agency (EPA) under section 311 of the Federal Water Pollution Control Act, P.L. 92-500, as amended;**
 - (5) **Substances listed by the United States EPA in section 40 of the Code of Federal Regulations, Part 302 – Table 302.4 (list of Hazardous Substances and Reportable Quantities) and amendments;**
 - (6) **Material regulated as a Chemical Agent under ORS 465.550;**
 - (7) **Material used as a weapon of mass destruction, or biological weapon;**
 - (8) **Pesticide residue;**
 - (9) **Dry cleaning solvent as defined by ORS 465.200(9).**
- .25 **“HIGHEST ADJACENT GRADE” means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.**
- ~~.12~~ .26 **“HISTORIC STRUCTURE” means any structure that is:**
- ~~(a)~~ (1) **Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;**
 - ~~(b)~~ (2) **Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;**

Bold/Strikeout

- ~~(c)~~ (3) Individually listed on a state inventory of historic places ~~and determined as eligible by~~ in states with historic preservation programs which have been approved by the Secretary of Interior; or
- ~~(d)~~ (4) Individually listed on a local inventory of historic places ~~and determined as eligible by~~ in communities with historic preservation programs that have been certified either:
 - ~~i.~~ a. By an approved state program as determined by the Secretary of the Interior, or;
 - ~~ii.~~ b. Directly by the Secretary of the Interior in states without approved programs.
{Add-Ordinance-2010-6, eff-11-26-10.}

.27 **“LETTER OF MAP CHANGE” means an official FEMA determination, by letter, to amend or revise effective Flood Insurance Rate Maps and Flood Insurance Studies. The following are categories of LOMCs:**

- (1) **“Conditional Letter of Map Amendment (CLOMA)”: A CLOMA is FEMA’s comment on a proposed structure or group of structures that would, upon construction, be located on existing natural ground above the base (1-percent-annual-chance) flood elevation on a portion of a legally defined parcel of land that is partially inundated by the base flood.**
- (2) **“Conditional Letter of Map Revisions (CLOMR)”: A CLOMR is FEMA’s comment on a proposed project that would, upon construction, affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the special flood hazard area.**
- (3) **“Conditional Letter of Map Revision based on Fill (CLOMR-F)”: A CLOMR-F is FEMA’s comment on a proposed project that would, upon construction, result in a modification of the special flood hazard area through the placement of fill outside the existing regulatory floodway.**
- (4) **“Letter of Map Amendment (LOMA)”: An official amendment, by letter, to the Flood Insurance Rate Maps (FIRMs) based on**

technical data showing that an existing structure, parcel of land or portion of a parcel of land that is naturally high ground, (i.e., has not been elevated by fill) above the base flood, that was inadvertently included in the special flood hazard area.

- (5) **“Letter of Map Revision (LOMR)”**: A LOMR is FEMA’s modification to an effective Flood Insurance Rate Map (FIRM), or Flood Boundary and Floodway Map (FBFM), or both. LOMRs are generally based on the implementation of physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the SFHA. The LMOR officially revises the FIRM or FBFM, and sometimes the Flood Insurance Study (FIS) report, and, when appropriate, includes a description of the modifications. The LOMR is generally accompanied by an annotated copy of the affected portions of the FIRM, FBFM, or FIS report.
- (6) **“Letter of Map Revision base on File (LOMR-F)”**: A LOMR-F is FEMA’s modification of the special flood hazard area shown on the Flood Insurance Rate Map (FIRM) based on the placement of fill outside the existing regulatory floodway.
- (7) **“PMR”**: A PMR is FEMA’s physical revision and republication of an effective Flood Insurance Rate Map (FIRM) or Flood Insurance Study (FIS) report. PMRs are generally based on physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective baes flood elevations, or the special flood hazard area.

~~13~~ .28 **“LOWEST FLOOR”** means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, ~~used~~ **usable** solely for parking of vehicles, building access, or storage, in an area other than a basement ~~area~~ **is not considered a structure’s building’s lowest floor, provided that the enclosed area is built and maintained in accordance with the applicable design requirements of the Building Code. [modified for clarity 2010] such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance. [modified for clarity 2010]** ~~—[Amd. Ordinance 2010-6, eff-11-26-10.]~~

- ~~.14~~ .29 **"MANUFACTURED HOME DWELLING"** means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when ~~connected~~ **attached** to the required utilities. For flood plain management purposes the term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles place on a site for greater than 180 consecutive days. For insurance purposes the term "manufactured home" does not include park trailers, travel trailers, and other similar vehicles. **The term "manufactured dwelling" does not include a "recreational vehicle" and is synonymous with "manufactured home".**
- .30 **"MANUFACTURED DWELLING PARK OR SUBDIVISION"** means a parcel (or contiguous parcels) of land divided into two or more manufactured dwelling lots for rent or sale.
- .31 **"MEAN SEA LEVEL"** means for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which Base Flood Elevations shown on a community's Flood Insurance Rate Map are referenced.
- ~~.15~~ .32 **"NEW CONSTRUCTION"** for floodplain management purposes, means structures for which the "start of construction" commenced on or after ~~August 23, 1977~~ **the effective date of a floodplain management regulation adopted by Columbia County** and includes any subsequent improvements to ~~the such~~ **such** structures. *[Amd. Ordinance 2010-6, eff. 11-26-10.]*
- ~~.17~~ .33 **"RECREATIONAL VEHICLE"** means a vehicle which is:
- (a) (1) Build on a single chassis;
 - (b) (2) 400 square feet or less when measured at the largest horizontal projection;
 - (c) (3) Designed to be self-propelled or permanently ~~towed~~ **towable** by a light duty truck; and
 - (d) (4) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.
[Add. Ordinance 2010-6, eff. 11-26-10.]
- .34 **"REGULATORY FLOODWAY"** See "Floodway".

- .35** **"SHEET FLOW AREA"** See **"Area of shallow flooding"**.
- ~~.18~~ **.36** **"START OF CONSTRUCTION"** Includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, **rehabilitation, addition**, placement, or other improvement was within 180 days from the date of the permit. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured **dwelling** on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building. *{Amd. Ordinance 2010-6, eff. 11-26-10.}*
- ~~.19~~ **.37** **"STRUCTURE" for floodplain management purposes**, means a walled and roofed building, including a gas or liquid storage tank that is principally above ground, **as well as a manufactured dwelling**.
- ~~.20~~ **.38** **"SUBSTANTIAL DAMAGE"** means damage of any origin sustained by a structure whereby the cost of restoring the structure to it's before damaged condition would equal or exceed 50 percent of the market value **of the structure** before the damage occurred. *{Amd. Ordinance 2010-6, eff. 11-26-10.}*
- ~~.21~~ **.39** **"SUBSTANTIAL IMPROVEMENT"** means reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. ~~The market value of the structure should be:~~
- ~~(a) The appraised real market value of the structure prior to the start of the initial repair or improvement, or~~
 - ~~(b) In the case of damage, the appraised real market value of the structure prior to the damage occurring. The term does not include either:~~

- ~~i. A project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications, which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or~~
- ~~ii. Alteration of an Historic Structure, provided that the alteration will not preclude the structure's continued designation as an Historic Structure.~~

~~{Add-Ordinance-2010-6, eff-11-26-10-}~~

The term does not, however, include either:

- A. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or**
- B. Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure."**

- .40 "VARIANCE" means a grant of relief by Columbia County from the terms of a flood plain management regulation.**
- ~~.22~~ **.41 "VIOLATION" means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance **required in this ordinance** is presumed to be in violation until such time as that documentation is provided.**
~~{Add-Ordinance-2010-6, eff-11-26-10-}~~
- .42 "WATER DEPENDENT" means a structure for commerce or industry which cannot exist in any other location and is dependent on the water by reason of intrinsic nature of its operations.**
- .43 "WATER SURFACE ELEVATION" means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, or other datum, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.**

Bold/Strikeout

~~1103~~ Application: *[Moved to new Section 1104 .1 added]*

~~.1~~ This zone shall apply to all areas of special flood hazards within the jurisdiction of Columbia County.

1104 GENERAL PROVISIONS: Basis for Special Flood Hazard Areas

.1 Lands to which this ordinance applies: This zone shall apply to all areas of special flood hazards within the jurisdiction of Columbia County.

~~.4~~ **.2 Basis for Establishing the Special Flood Hazard Areas**

A. The areas of special flood hazard areas identified by the Federal Insurance Administrator in a scientific and engineering report entitled "The Flood Insurance Study (FIS) for Columbia County, Oregon and Incorporated Areas, dated November 26, 2010, with accompanying Flood Insurance Rate Maps (FIRMs) is are hereby adopted by reference and declared to be a part of this ordinance. The Flood Insurance Study is FIS and FIRM panels are on file at Columbia County, Department of Land Development Services, office, County Courthouse, St. Helens, Oregon. 230 Strand Street, St. Helens, OR 97051, located in the Columbia County Courthouse Annex building. *[Amd. Ordinance 2010-6, eff. 11.26.10]*

.3 Coordination with State of Oregon Specialty Codes

A. Pursuant to the requirement established in ORS 455 that Columbia County administers and enforces the State of Oregon Specialty Codes, Columbia County does hereby acknowledge that the Oregon Specialty Codes contain certain provisions that apply to the design and construction of buildings and structures located in special flood hazard areas. Therefore, this ordinance is intended to be administered and enforced in conjunction with the Oregon Specialty Codes.

.4 Compliance and Penalties for Noncompliance:

A. Compliance: All development within special flood hazard areas is subject to the terms of this ordinance and required to comply with its provisions and all other applicable regulations.

B. Penalties for Noncompliance: No structure or land shall

hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations. Violations of the provisions of this ordinance by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a misdemeanor infraction subject to the penalties and citations found in the Columbia County Enforcement Ordinance with authority from Oregon Revised Statutes 153.005 to 153.064. Nothing contained herein shall prevent Columbia County from taking such other lawful action as is necessary to prevent or remedy any violation.

.5 Abrogation and Severability:

- A. **Abrogation: This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.**
- B. **Severability: This ordinance and the various parts thereof are hereby declared to be severable. If any section clause, sentence, or phrase of the Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way effect the validity of the remaining portions of this Ordinance.**

.6 Interpretation: In the Interpretation and application of this ordinance, all provisions shall be:

- A. **Considered as minimum requirements;**
- B. **Liberal construed in favor of the governing body; and**
- C. **Deemed neither to limit nor repeal any other powers granted under state statutes.**

.7 Warning and Disclaimer of Liability

- A. **Warning: The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations.**

Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This ordinance 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.

- B. Disclaimer of Liability: This ordinance shall not create liability on the part of Columbia County, any officer or employee thereof, or the Federal Insurance Administrator for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.**

~~1105~~ Development Permit *[Moved to new Section 1105.3 added]*

- ~~.1~~ A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 1104. The permit shall be for all structures allowed by the underlying zone, including manufactured homes, as set forth in the "Definitions", and for all development including fill and other activities, also set forth in the "Definitions". The following exceptions apply for the
- A. any temporary storage within any zoning district, and
- B. permanent storage connected with residential use located out of the floodway.
- [Amd Ordinance 2008-3, eff. 07.09.08.]*

~~1106~~ **1105** ADMINISTRATION:

- ~~.1~~ **Designation of the Floodplain Administrator:** The Columbia County Land Development Services Administrator ~~Director~~, ~~or~~ and their designee, is hereby appointed to administer, and implement, and enforce this ordinance by granting or denying development permits in accordance with its provisions. **The Floodplain Administrator may delegate authority to implement these provisions.**
- ~~.2~~ **Duties and Responsibilities of the Floodplain Administrator:** Duties of the floodplain administrator, or their designee, shall include, but not be limited to reviewing all development permits to determine:
- A. Permit Review**
- A. 1. That The permit requirements of this ordinance have been satisfied;

- ~~B.~~ 2. That all necessary permits have been obtained from those Federal, State, or local government agencies from which prior approval is required. **All other required local, state, and federal permits have been obtained and approved.**
- ~~G.~~ 3. If the proposed development is located in the floodway, assure that the encroachment provisions of Section 1110 are met. **Review all development permits to determine if the proposed development is located in a floodway. If located in the floodway assure that the floodway provisions of this ordinance in section 1106.2(D) are met; and**

 - 4. **Review all development permits to determine if the proposed development is located in an area where Base Flood Elevation (BFE) data is available either through the Flood Insurance Study (FIS) or from another authoritative source. If BFE data is not available then ensure compliance with the provisions of sections 1106.1(G); and**
 - 5. **Provide to building officials the Base Flood Elevation (BFE) applicable to any building requiring a floodplain development permit.**
 - 6. **Review all development permit applications to determine if the proposed development qualifies as a substantial improvement as defined in section 1103.**
 - 7. **Review all development permits to determine if the proposed development activity is a watercourse alteration. If a watercourse alteration is proposed, ensure compliance with the provisions in section 1106.1(A).**
 - 8. **Review all development permits to determine if the proposed development activity includes the placement of fill or excavation.**
- B. Information to be Obtained and Maintained: The following information shall be obtained and maintained and shall be made available for public inspection as needed:**

 - 1. **Obtain, record, and maintain the actual elevation (in**

relation to mean sea level) of the lowest floor (including basements) and all attendant utilities of all new or substantially improved structures where Base Flood Elevation (BFE) data is provided through the Flood Insurance Study (FIS), Flood Insurance Rate Map (FIRM), or obtained in accordance with section 1106.1(G).

- 2. Obtain and record the elevation (in relation to mean sea level) of the natural grade of the building site for a structure prior to the start of construction and the placement of any fill and ensure that the requirements of sections 1106.2(D) and 1105.2(A)(2) are adhered to.**
- 3. Upon placement of the lowest floor of a structure (including basement) but prior to further vertical construction, obtain documentation, prepared and sealed by a professional licensed surveyor or engineer, certifying the elevation (in relation to mean sea level) of the lowest floor (including basement).**
- 4. Where base flood elevation data are utilized, obtain As-built certification of the elevation (in relation to mean sea level) of the lowest floor (including basement) prepared and sealed by a professional licensed surveyor or engineer, prior to the final inspection.**
- 5. Maintain all Elevation Certificates (EC) submitted to Columbia County;**
- 6. Obtain, record, and maintain the elevation (in relation to mean sea level) to which the structure and all attendant utilities were floodproofed for all new or substantially improved floodproofed structures where allowed under this ordinance and where Base Flood Elevation (BFE) data is provided through the FIS, FIRM, or obtained in accordance with section 1106.1(G).**
- 7. Maintain all floodproofing certificates required under this ordinance;**
- 8. Record and maintain all variance actions, including justification for their issuance;**
- 9. Obtain and maintain all hydrologic and hydraulic**

analyses performed as required under section 1106.2(D).

10. Record and maintain all Substantial Improvement and Substantial Damage calculations and determinations as required under section 1105.2(D).
11. Maintain for public inspection all records pertaining to the provisions of this ordinance.

C. Requirement to Notify Other Entities and Submit New Technical Data

1. Community Boundary Alterations: The Floodplain Administrator shall notify the Federal Insurance Administrator in writing whenever the boundaries of the community have been modified by annexation or the community has otherwise assumed authority or no longer has authority to adopt and enforce floodplain management regulations for a particular area, to ensure that all Flood Hazard Boundary Maps (FHBM) and Flood Insurance Rate Maps (FIRM) accurately represent the community's boundaries. Include within such notification a copy of a map of the community suitable for reproduction, clearly delineating the new corporate limits or new area for which the community has assumed or relinquished floodplain management regulatory authority.

- 1106.6 A.
2. Watercourse Alterations: The Floodplain Administrator shall notify adjacent communities, and the Department of Land Conservation and Development, and other appropriate state and federal agencies, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration. This notification shall be provided by the applicant to the Federal Insurance Administration as a Letter of Map Revision (LOMR) along with either:
 - i. A proposed maintenance plan to assure the flood carrying capacity within the altered or relocated portion of the watercourse is maintained; or
 - ii. Certification by a registered professional engineer that the project has been designed to retain its

flood carrying capacity without periodic maintenance.

- iii. **The applicant shall be required to submit a Conditional Letter of Map Revision (CLOMR) when required under section 1105.2(C)(3). Ensure compliance with all applicable requirements in sections 1105.2(C)(3) and 1106.1(A).**

- 3. **Requirement to Submit New Technical Data: A community's base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, a community shall notify the Federal Insurance Administrator of the changes by submitting technical or scientific data in accordance with Section 44 of the Code of Federal Regulations (CFR), Sub-Section 65.3. The community may require the applicant to submit such data and review fees required for compliance with this section through the applicable FEMA Letter of Map Change (LOMC) process.**

The Floodplain Administrator shall require a Conditional Letter of Map Revision prior to the issuance of a floodplain development permit for:

- i. **Proposed floodway encroachments that increase the base flood elevation; and**
- ii. **Proposed development which increases the base flood elevation by more than one foot in areas where FEMA has provided base flood elevations but no floodway.**

An applicant shall Notify FEMA within six (6) months of project completion when an applicant has obtained a Conditional Letter of Map Revision (CLOMR) from FEMA. This notification to FEMA shall be provided as a Letter of Map Revision (LOMR).

The applicant shall be responsible for preparing all technical data to support CLOMR/LOMR applications

and paying any processing or application fees associated with the CLOMR/LOMR.

The Floodplain Administrator shall be under no obligation to sign the Community Acknowledgement Form, which is part of the CLOMR/LOMR application, until the applicant demonstrates that the project will or has met the requirements of this code and all applicable state and federal laws.

- D. Substantial Improvement and Substantial Damage Assessments and Determinations: Conduct Substantial Improvement (SI) (as defined in section 1103) reviews for all structural development proposal applications and maintain a record of SI calculations within permit files in accordance with section 1105.2(B). Conduct Substantial Damage (SD) (as defined in section 1103) assessments when structures are damaged due to a natural hazard event or other causes. Make SD determinations whenever structures within the special flood hazard area (as established in section 1104.2) are damaged to the extent that the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.**

~~.3 — [Moved to new Section 1106.1 G. added] — When base flood elevation data has not been provided in accordance with Section 1104, Basis for Special Flood Hazard Areas, the Administrator 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 Sections 1109 Specific Standards, and 1110 Floodways.~~

~~Where base flood elevation data is provided through the Flood Insurance Study or required as in Section 1106.3, the Administrator will obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basements and crawlspaces) of all new or substantially improved structures, and whether or not the structure contains a basement.~~

.3 Establishment of Development Permit:

- A. Floodplain Development Permit Required: A development**

permit shall be obtained before construction or development begins within any area horizontally within the special flood hazard area established in section 1104.2. The development permit shall be required for all structures, including manufactured dwellings, and for all other development, as defined in section 1103, including fill and other development activities.

- B. Application for Development Permit: Application for a development permit may be made on forms furnished by the Floodplain Administrator and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically the following information is required:**
- 1. In riverine flood zones, the proposed elevation (in relation to mean sea level), of the lowest floor (including basement) and all attendant utilities of all new and substantially improved structures; in accordance with the requirements of section 1105.2(B).**
 - 2. Proposed elevation in relation to mean sea level to which any non-residential structure will be floodproofed.**
 - 3. Certification by a registered professional engineer or architect licensed in the State of Oregon that the floodproofing methods proposed for any non-residential structure meet the floodproofing criteria for non-residential structures in section 1106.2(C)(3).**
 - 4. Description of the extent to which any watercourse will be altered or relocated.**
 - 5. Base Flood Elevation data for subdivision proposals or other development when required per sections 1105.2(A) and 1106.1(F).**
 - 6. Substantial improvement calculation for any improvement, addition, reconstruction, renovation, or rehabilitation of an existing structure.**
 - 7. The amount and location of any fill or excavation**

activities proposed.

- ~~.4~~ ~~[Moved to new Section 1105 .2 B. added] For all new or substantially improved floodproofed structures, the Administrator will:~~
- ~~A. Verify and record the actual elevation (in relation to mean sea level), and~~
 - ~~B. Maintain the floodproofing certifications required in Section 1109.2.A(3).~~
- .4 Variance Procedure: [Previously Section 1107 .3] The issuance of a variance is for floodplain management purposes only. Flood insurance premium rates are determined by federal statute according to actuarial risk and will not be modified by the granting of a variance.**
- A. Conditions for Variances:**
- 1. Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, in conformance with the provisions of sections 1105.3(A)(3) and (5), and 1105.3(B). As the lot size increases beyond one-half acre, the technical justification required for issuing a variance increases.**
 - 2. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.**
 - 3. Variances shall not be issued within any floodway if any increase in flood levels during the base flood discharge would result.**
 - 4. Variances shall only be issued upon:**
 - i. A showing of good and sufficient cause;**
 - ii. A determination that failure to grant the variance**

would result in exceptional hardship to the applicant;

- iii. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.

- 5. Variances may be issued by a community for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that the criteria of section 1105.3(A)(2) – (4) are met, and the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

B. Variance Notification:

- 1. Any applicant to whom a variance is granted shall be given written notice that the issuance of a variance to construct a structure below the Base Flood Elevation will result in increased premium rates for flood insurance and that such construction below the base flood elevation increases risks to life and property. Such notification and a record of all variance actions, including justification for their issuance shall be maintained in accordance with section 1105.2(B).

~~5~~ — *[Moved to new Section 1105 .2 B. added]* The Administrator will maintain for public inspection all records pertaining to the provisions of this ordinance.

~~6~~ — *[Moved to new Section as noted]* For alteration of water courses the Administrator shall:

A. *[Moved to new Section 1105.2 C. 2. added]* 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.

B. *[Moved to new Section 1106.1 A. added]* Require that maintenance is

~~provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.~~

1106 ADMINISTRATION PROVISIONS FOR FLOOD HAZARD REDUCTION:

~~1108~~ .1 **General Standards: In all special flood hazard areas, the following standards shall be adhered to:**

A. Alteration of Watercourses: Require that the flood carrying capacity within the altered or relocated portion of said watercourse is maintained. Require that maintenance is provided within the altered or relocated portion of said watercourse ~~so to ensure~~ that the flood carrying capacity is not diminished. **Require compliance with sections 1105.2(C)(2) and 1105.2(C)(3).**

~~1~~ **B. Anchoring:**

~~A.~~ **1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure **resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.****

~~B.~~ **2. ~~All manufactured homes must likewise be anchored to prevent flotation, collapse, or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over the top or frame ties to ground anchors (Reference FEMA's "Manufactured Home Installation in Flood Hazard Areas").~~ All manufactured dwellings shall be anchored per section 1106.2(C)(4).**

~~2~~ **C. Construction Materials and Methods:**

~~A.~~ **1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.**

~~B.~~ **2. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.**

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

~~3~~ D. Utilities and Equipment:

1. Water Supply, Sanitary Sewer, and On-Site Waste Disposal Systems:

- i. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
- ii. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters. ~~and,~~
- iii. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding consistent with the ~~administrative rules of the~~ Oregon Department of Environmental Quality.

2. Electrical, Mechanical, Plumbing, and Other Equipment: ~~Electrical, heating, ventilating, air-conditioning, plumbing, duct systems, and other equipment and service facilities shall be elevated at minimum 1-foot above the base flood level or shall be designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during conditions of flooding. In addition, electrical, heating, ventilating, air-conditioning, plumbing, duct systems, and other equipment and service facilities shall:~~

- i. **If replaced as part of a substantial improvement shall meet all the requirements of this section.**
- ii. **Not be mounted on or penetrate through breakaway walls.**

E. Tanks:

- 1. **Underground tanks shall be anchored to prevent flotation, collapse and lateral movement under conditions of the base flood.**
- 2. **Above-ground tanks shall be installed at minimum 1-foot above the base flood level or shall be anchored to prevent flotation, collapse, and lateral movement under conditions of the base flood.**
- 3. **When elevated on platforms, the platforms shall be cantilevered from or knee braced to the building or shall be supported on foundations that conform to the requirements of the State of Oregon Specialty Code.**

~~4~~ F. Subdivision and Partition Proposals and Other Proposed Developments:

- ~~A. All subdivision proposals shall be consistent with the need to minimize flood damage;~~
 - ~~B. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;~~
 - ~~C. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and,~~
 - ~~D. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed development which contain at least 50 lots or 5 acres (whichever is less).~~
- 1. **All new subdivision and partition proposals and other proposed new developments (including**

proposals for manufactured dwelling parks and planned unit developments), greater than 5 acres in size shall include within such proposals, Base Flood Elevation data.

- 2. All new subdivision and partition proposals and other proposed new developments (including proposals for manufactured dwelling parks and planned unit developments), shall:**
 - i. Be consistent with the need to minimize flood damage.**
 - ii. When possible, be designed to provide a building pad area on each lot or parcel that is outside of the SFHA.**
 - iii. Have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage.**
 - iv. Have adequate drainage provided to reduce exposure to flood hazards.**

~~.5 Building Permit Review [Deleted in its entirety]~~

~~A. Where elevation data is not available either through the Flood Insurance Study or from another authoritative source (Section 1106.3), Applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes uses of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two feet above grade in these zones may result in higher insurance rates.~~

- G. Use of Other Base Flood Data: When Base Flood Elevation data has not been provided in accordance with section 1104, 1104.2 Basis for Special Flood Hazard Areas, the Administrator **local floodplain administrator** 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 ~~Sections 1109 Specific Standards, and 1110 Floodways.~~ **section 1106. All new subdivision and partition proposals and other proposed new developments (including proposals for manufactured dwelling parks and planned unit developments) must meet the requirements of section 1106.1(F).**

~~Where base flood elevation data is provided through the Flood Insurance Study or required as in Section 1106.3, the Administrator will obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basements and crawlspaces) of all new or substantially improved structures, and whether or not the structure contains a basement.~~

Flood Elevations shall be determined for development proposals that are in any A zone that does not have an established base flood elevation. Development proposals located within a riverine unnumbered A Zone shall be reasonably safe from flooding; the test of reasonableness includes use of historical data, high water marks, FEMA provided Base Level Engineering data, and photographs of past flooding, etc... where available. Historical floods of record in Columbia County occurred in 1894, 1933, 1948, 1956, 1964, 1972, 1974, 1987, 1996, 2007, 2011, and 2017.

Structures in unnumbered A zones shall be elevated at minimum 1-foot above the historical high water mark or at least two feet above highest adjacent grade, whichever is higher.

H. Structures Located in Multiple or Partial Flood Zones: In coordination with the State Oregon Specialty Codes:

- 1. When a structure is located in multiple flood zones on the community's Flood Insurance Rate Maps (FIRM) the provisions for the more restrictive flood zone shall apply.**
- 2. When a structure is partially located in a special**

flood hazard area, the entire structure shall meet the requirements for new construction and substantial improvements.

- I. **Critical Facilities:** Construction of new critical facilities including but not limited to schools, hospitals, and fire stations, shall be, to the extent possible, located outside the limits of the special flood hazard area. Construction of new critical facilities shall be permissible within the SFHA only if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three (3) feet above Base Flood Elevation (BFE) or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility shall also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure toxic substances will not be displaced by or released into floodwaters. Reference Critical Facility definition in Section 1103.

~~1109~~ **Specific Standards**

~~In all areas of special flood hazards where base flood elevation data has been provided as set forth in Sections 1104 or 1106.3, the following provisions are required:~~

2. **Specific Standards for Riverine (Including All Non-Coastal) Flood Zones (A1-A30, AH, and AE):** These specific standards shall apply to all new construction and substantial improvements in addition to the General Standards contained in section 1106.1 of this ordinance.
 - A. **Flood Openings:** All new construction and substantial improvements with fully enclosed areas below the lowest floor (excluding basements) are subject to the following requirements. Enclosed areas below the Base Flood Elevation, including crawl spaces shall:
 1. Be designed to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters;
 2. Be used solely for parking, storage, or building access;

3. **Be certified by a registered professional engineer or architect or meet or exceed all of the following minimum criteria:**
 - i. **A minimum of two openings;**
 - ii. **The total net area of non-engineered openings shall be not less than one (1) square inch for each square foot of enclosed area, where the enclosed area is measured on the exterior of the enclosure walls,**
 - iii. **The bottom of all openings shall be no higher than one foot above grade.**
 - iv. **Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they shall allow the automatic flow of floodwater into and out of the enclosed areas and shall be accounted for in the determination of the net open area.**
 - v. **All additional higher standards for flood openings in the State of Oregon Residential Specialty Codes Section R322.2.2 shall be complied with when applicable.**

B. Garages:

1. **Attached garages may be constructed with the garage floor slab below the Base Flood Elevation (BFE) in riverine flood zones, if the following requirements are met:**
 - i. **If located within a floodway the proposed garage must comply with the requirements of section 1106.2(D).**
 - ii. **The floors are at or above grade on not less than one side;**
 - iii. **The garage is used solely for parking,**

building access, and/or storage;

- iv. The garage is constructed with flood openings in compliance with section 1106.2(A) to equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater.
- v. The portions of the garage constructed below the BFE are constructed with materials resistant to flood damage;
- vi. The garage is constructed in compliance with the standards in section 1106.1; and
- vii. The garage is constructed with electrical, and other service facilities located and installed so as to prevent water from entering or accumulating within the components during conditions of the base flood.

- 2. Detached garages must be constructed in compliance with the standards for appurtenant structures in section 1106.2(C)(6) or non-residential structures in section 1106.2(C)(3) depending on the square footage of the garage.

C. For Riverine (Non-Coastal) Special Flood Hazard Areas with Base Flood Elevations: In addition to the general standards listed in section 1106.1 the following specific standards shall apply in Riverine (non-coastal) special flood hazard areas with Base Flood Elevations (BFE): Zones A1-A30, AH, and AE.

- 1. Before Regulatory Floodway: In areas where a regulatory floodway has not been designated, no new construction, substantial improvement, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's Flood Insurance Rate Map (FIRM), unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated

development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

4109.1

2. Residential Construction:

A. i. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated at ~~to a~~ minimum of 1-foot above the Base Flood Elevation (BFE);

ii. Enclosed areas below the lowest floor shall comply with the flood opening requirements in section 1106.2(A).

~~B. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood waters. Designs for meeting this requirement must 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.~~

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

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

4109.2

3. Non-Residential Construction:

~~A. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to a minimum of one (1) foot above the base flood elevation; or, together with attendant utility and sanitary facilities, shall:~~

~~(1) be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;~~

~~(2) have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;~~

~~(3) be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in Section 1106.5.~~

~~(4) Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in 1109.1.B.~~

~~(5) 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).~~

i. New construction and substantial improvement of any commercial, industrial, or other non-residential structure shall:

a. Have the lowest floor, including basement elevated at minimum 1-foot above the Base Flood Elevation

(BFE); Or,

- b. Together with attendant utility and sanitary facilities, be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;**
 - c. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.**
 - d. 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 section based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the Floodplain Administrator as set forth section 1105.2(B).**
- ii. Non-residential structures that are elevated, not floodproofed, shall comply with the standards for enclosed areas below the lowest floor in section 1106.2(A).**
 - iii. Applicants floodproofing non-residential buildings shall be notified that flood insurance premiums will be based on rates that are one (1) foot below the floodproofed level (e.g. a building floodproofed to the base flood level will be rated as one (1) foot below.**
 - iv. Applicants floodproofing non-residential buildings shall supply a maintenance plan for the entire structure to include but not limited to: exterior envelop of structure; all**

penetrations to the exterior of the structure; all shields, gates, barriers, or components designed to provide floodproofing protection to the structure; all seals or gaskets for shields, gates, barriers, or components; and, the location of all shields, gates, barriers, and components, as well as all associated hardware, and any materials or specialized tools necessary to seal the structure.

- v. **Applicants floodproofing non-residential buildings shall supply an Emergency Action Plan (EAP) for the installation and sealing of the structure prior to a flooding event that clearly identifies what triggers the EAP and who is responsible for enacting the EAP.**

~~1109.3~~

.4 Manufactured Dwellings:

~~A. All manufactured homes to be placed or substantially improved within zones A1-30, AH, and AE shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is a minimum of one foot above the base flood elevation and be securely anchored to an adequately anchored foundation system in accordance with the provisions of subsection 1108.1.B.~~

- i. **New or substantially improved manufactured dwellings supported on solid foundation walls shall be constructed with flood openings that comply with section 1106.2(1);**
- ii. **The bottom of the longitudinal chassis frame beam shall be at minimum 1-foot above Base Flood Elevation(BFE);**
- iii. **New or substantially improved manufactured dwellings shall be anchored**

to prevent flotation, collapse, and lateral movement during the base flood. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (Reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques), and;

- iv. Electrical crossover connections shall be a minimum of twelve (12) inches above Base Flood Elevation (BFE).**

1109.4

.5

Recreational Vehicles: Recreational vehicles placed on sites are required to either:

- i. Be on the site for fewer than 180 consecutive days, and**
- ii. Be fully licensed and ready for highway use, on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or**
- iii. Meet the requirements of ~~3(A) above and the elevation and~~ **section 1106.2(C)(4), including the anchoring and elevation requirements for manufactured homes dwellings.****

.6

Appurtenant (Accessory) Structures: Relief from elevation or floodproofing requirements for residential and non-residential structures in Riverine (Non-Coastal) flood zones may be granted for appurtenant structures that meet the following requirements:

- i. Appurtenant structures located partially or entirely within the floodway must comply with requirements for development within a floodway found in section 1106.2(D).**
- ii. Appurtenant structures must only be used for parking, access, and/or storage and**

shall not be used for human habitation;

- iii. In compliance with State of Oregon Specialty Codes, appurtenant structures on properties that are zoned residential are limited to one-story structures less than 200 square feet, or 400 square feet if the property is greater than two (2) acres in area and the proposed appurtenant structure will be located a minimum of 20 feet from all property lines. Appurtenant structures on properties that are zoned as non-residential are limited in size to 120 square feet.
- iv. The portions of the appurtenant structure located below the Base Flood Elevation must be built using flood resistant materials;
- v. The appurtenant structure must be adequately anchored to prevent flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the base flood.
- vi. The appurtenant structure must be designed and constructed to equalize hydrostatic flood forces on exterior walls and comply with the requirements for flood openings in section 1106.2(A);
- vii. Appurtenant structures shall be located and constructed to have low damage potential;
- viii. Appurtenant structures shall not be used to store toxic material, oil, or gasoline, or any priority persistent pollutant identified by the Oregon Department of Environmental Quality unless confined in a tank installed in compliance with section 1106.1(E).

- ix. **Appurtenant structures shall be constructed with electrical, mechanical, and other service facilities located and installed so as to prevent water from entering or accumulating within the components during conditions of the base flood.**

7. **Below-Grade Crawl Spaces:**

- i. **The building must be designed and adequately anchored to resist flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. Hydrostatic loads and the effects of buoyancy can usually be addressed through the required flood openings stated in Section 1106.2(A). Because of hydrodynamic loads, crawlspace construction is not allowed in areas with flood velocities greater than five (5) feet per second unless the design is reviewed by a qualified design professional, such as a registered architect or professional engineer. Other types of foundations are recommended for these areas.**
- ii. **The crawlspace is an enclosed area below the Base Flood Elevation (BFE) and, as such, must have openings that equalize hydrostatic pressures by allowing the automatic entry and exit of floodwaters. The bottom of each flood vent opening can be no more than one (1) foot above the lowest adjacent exterior grade.**
- iii. **Portions of the building below the BFE must be constructed with materials resistant to flood damage. This includes not only the foundation walls of the crawlspace used to elevate the building, but also any joists, insulation, or other materials that extend below the BFE. The recommended construction practice is to elevate the**

bottom of joists and all insulation above BFE.

- iv. Any building utility systems within the crawlspace must be elevated above BFE or designed so that floodwaters cannot enter or accumulate within the system components during flood conditions. Ductwork, in particular, must either be placed above the BFE or sealed from floodwaters.**
- v. The interior grade of a crawlspace below the BFE must not be more than two (2) feet below the lowest adjacent exterior grade.**
- vi. The height of the below-grade crawlspace, measured from the interior grade of the crawlspace to the top of the crawlspace foundation wall must not exceed four (4) feet at any point. The height limitation is the maximum allowable unsupported wall height according to the engineering analyses and building code requirements for flood hazard areas.**
- vii. There must be an adequate drainage system that removes floodwaters from the interior area of the crawlspace. The enclosed area should be drained within a reasonable time after a flood event. The type of drainage system will vary because of the site gradient and other drainage characteristics, such as soil types. Possible options include natural drainage through porous, well-drained soils and drainage systems such as perforated pipes, drainage tiles or gravel or crushed stone drainage by gravity or mechanical means.**
- viii. The velocity of floodwaters at the site shall not exceed five (5) feet per second for any crawlspace. For velocities in excess of five (5) feet per second, other foundation types**

should be used.

4410 D. Floodways:

~~4~~ Located within ~~areas of the~~ special flood hazard areas established in section 1104.2 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of the floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

A. 1. Prohibit encroachments, including fill, new construction, substantial improvements, and other development ~~unless certification by a registered professional engineer or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge within the adopted regulatory floodway unless:~~

- i. **Certification by a registered professional civil engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment shall not result in any increase in flood levels within the community during the occurrence of the base flood discharge; Or,**
- ii. **A community may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that a Conditional Letter of Map Revision (CLOMR) is applied for and approved by the Federal Insurance Administrator, and the requirements for such revision as established under Volume 44 of the Code of Federal Regulations, section 65.12 are fulfilled.**
- iii. **If an encroachment proposal resulting in an increase in Base Flood Elevation meets the following criteria:**
 - a. **Is for the purpose of fish**

enhancement,

- b. **Does not involve the placement of any structures (as defined in section 2.0) within the floodway,**
- c. **Has a feasibility analysis completed documenting that fish enhancement will be achieved through the proposed project,**
- d. **Has a maintenance plan in place to ensure that the stream carrying capacity is not impacted by the fish enhancement project,**
- e. **Has approval by the National Marine Fisheries Service, the State of Oregon Department of Fish and Wildlife, or the equivalent federal or state agency, and**
- f. **Has evidence to support that no existing structures will be negatively impacted by the proposed activity;**

Then an approved CLOMR may not be required prior to approval of a floodplain permit

- 1. **B. If the requirements of section 1110.1A-1106.2(D)(1) ~~is~~ are satisfied, all new construction, and substantial improvements, and other development shall comply with all other applicable flood hazard reduction provisions of sections 1108 through 1114 1106.**

- 4444 **E. Standards for Shallow Flooding Areas (AO Zones):**
~~4~~ **Shallow flooding areas appear on FIRMs as AO zones with depth designations or as AH zones with Base Flood Elevations. For AO zones the base flood depths in these zones range from one (1) to three (3) feet above ground where a clearly defined channel does not exist, or where the path of flooding is**

unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. ~~In these areas, the following provisions apply:~~

A. ~~New construction and substantial improvements of residential structures within AO zones shall have the lowest floor (including basement) elevated or floodproofed to at least one foot above the depth number specified on the FIRM, or at least 3 feet above highest adjacent grade when no depth number is specified.~~

B. ~~New construction and substantial improvements of nonresidential structures within AO zones shall either:~~

~~(1) have the lowest floor (including basement) elevated 2 feet above the highest adjacent grade of the building site, to or above the depth number specified on the FIRM (at least two feet if no depth number is specified); or~~

~~(2) together with attendant utility and sanitary facilities, be completely flood proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect as in Section 1109.2.A(3).~~

C. ~~Require adequate drainage paths around structures on slopes to guide flood waters around and away from proposed structures.~~

For both AO and AH zones, adequate drainage paths are required around structures on slopes to guide floodwaters around and away from proposed structures.

1. **Standards for AH Zones: Development within AH Zones must comply with the standards in sections 1106.1, 1106.2, and 1106.2(E)(1).**
2. **Standards for AO Zones: In AO zones, the following provisions apply in addition to the requirements in sections 1106.1 and 1106.2(E)(1):**
 - i. **New construction and substantial improvement of residential structures and manufactured dwellings within AO zones shall have the lowest floor, including basement, elevated at minimum 1-foot above the highest grade adjacent to the building, or at minimum 1-foot above the Base Flood Elevation depth number specified on the Flood Insurance Rate Maps (FIRM), whichever is higher, or at least three (3) feet above highest adjacent grade if no depth number is specified. For manufactured dwellings the lowest floor is considered to be the bottom of the longitudinal chassis frame beam.**
 - ii. **New construction and substantial improvements of non-residential structures within AO zones shall either:**
 - a. **Have the lowest floor (including basement) elevated at minimum 1-foot above the highest grade adjacent to the building, or at minimum 1-foot above the Base Flood Elevation depth number specified on the Flood Insurance Rate Maps (FIRM), whichever is higher, or at least two (2) feet above highest adjacent grade if no depth number is specified; or**
 - b. **Together with attendant utility and sanitary facilities, be completely floodproofed to at minimum 1-foot**

above the highest grade adjacent to the building or at minimum 1-foot above the Base Flood Elevation depth number specified on the Flood Insurance Rate Maps (FIRM), whichever is higher, or a minimum of two (2) feet above the highest adjacent grade if no depth number is specified, so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect as stated in section 1106.2(C)(3)(i)(d).

- iii. Recreational vehicles placed on sites within AO Zones on the community's Flood Insurance Rate Maps (FIRM) shall either:**
 - a. Be on the site for fewer than 180 consecutive days, and**
 - b. Be fully licensed and ready for highway use, on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or**
 - c. Meet the elevation requirements of section 1106.2(E)(2)(i), and the anchoring and other requirements for manufactured dwellings of section 1106.2(C)(4).**

- iv. In AO zones, new and substantially improved appurtenant structures must comply with the standards in section**

1106.2(C)(6).

- v. **In AO zones, new and substantially improved appurtenant structures must comply with the standards in section 1106.2(C)(6).**

~~1107~~ Interpretation, Appeals and Variances *[Moved to new Section 1105 added]*

- ~~.1~~ The Administrator shall make interpretations where needed, as to exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions).
- ~~.2~~ The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation. Such appeals shall be granted consistent with the standards of Section 60.6 of the rules and regulations of the National Flood Insurance Program (44 CFR 59-76).
- ~~.3~~ Variances to the standards of flood hazard areas shall be administered according to Section 1504 of this Ordinance and shall be granted consistent with the standards of Section 60.6 of the Rules and Regulations of the National Flood Insurance Program (44 CFR 59-76).
[Amd. Ordinance 2010-6 eff. 11.26.10]

1108 General Standards *[Moved to new Section 1106.1 added]*

- ~~.1~~ Anchoring
- A. All new construction and substantial improvement shall be anchored to prevent flotation, collapse, or lateral movement of the
- B. All manufactured homes must likewise be anchored to prevent flotation, collapse, or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (Reference FEMA's "Manufactured Home Installation in Flood Hazard Areas").
- ~~.2~~ Construction Materials and Methods

Bold/Strikeout

- ~~A. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood~~
- ~~B. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood~~
- ~~C. Electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of~~

~~.3 Utilities~~

- ~~A. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;~~
- ~~B. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters; and,~~
- ~~C. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding consistent with the administrative rules of the Oregon Department of Environmental Quality. [Amd. Ordinance 2010-6, eff. 11.26.10.]~~

~~.4 Subdivision Proposals:~~

- ~~A. All subdivision proposals shall be consistent with the need to minimize flood damage;~~
- ~~B. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;~~
- ~~C. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and,~~
- ~~D. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres (whichever is less).~~

~~.5 Building Permit Review~~

~~A. Where elevation data is not available either through the Flood Insurance Study or from another authoritative source (Section 1106.3), Applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes uses of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two feet above grade in these zones may result in higher insurance rates.~~

~~1109 Specific Standards~~ *[Moved to new Section 1106.2 added]*

~~In all areas of special flood hazards where base flood elevation data has been provided as set forth in Sections 1104 or 1106.3, the following provisions are required:~~

~~1 Residential Construction~~

~~A. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to a minimum of one (1) foot above the base flood elevation. *[Amd. Ordinance 2010-6, eff. 11.26.10.]*~~

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

- ~~(1) 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.~~
- ~~(2) The bottom of all openings shall be no higher than one foot above grade.~~
- ~~(3) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of flood waters.~~

~~2 Nonresidential Construction~~

~~A. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to a minimum of one (1) foot above the base flood elevation; or, together with attendant utility and sanitary facilities, shall:~~

~~(1) be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;~~

~~(2) have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;~~

~~(3) be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in Section 1106.5.~~

~~(4) Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in 1109.1.B.~~

~~(5) 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).
[Amd Ordinance 2008-3, eff 07.0908].~~

~~3 Manufactured Homes~~

~~A. All manufactured homes to be placed or substantially improved within zones A1-30, AH, and AE shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is a minimum of one foot above the base flood elevation and be securely anchored to an adequately anchored foundation system in accordance with the provisions of subsection 1108.1.B.~~

Bold/Strikeout

~~.4 Recreational Vehicles~~

~~Recreational vehicles placed on sites are required to either:~~

- ~~(i) Be on the site for fewer than 180 consecutive days~~
- ~~(ii) Be fully licensed and ready for highway use, on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or~~
- ~~(iii) Meet the requirements of 3(A) above and the elevation and anchoring requirements for manufactured homes.
[Add Ordinance 2010-6, eff. 11.26.10.]~~

~~4110 Floodways~~ [Moved to new Section 1106.2 D. added]

~~.1 Located within areas of special flood hazard established in Section 1104 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 or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.~~
- ~~B. If Section 1110.1A is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Sections 1108 through 1111.~~

~~4111 Standards for Shallow Flooding Areas (AO Zones)~~ [Moved to new Section 1106.2 E. added]

~~.1 Shallow flooding areas appear on FIRM's as AO zones with depth designations. The base flood depths in these zones range from 1 to 3 feet where a clearly defined channel does not exist, or where the path of flooding is unpredictable and where~~

Bold/Strikeout

~~velocity flow may be evident. Such flooding is usually characterized as sheet flow. In these areas, the following provisions apply:~~

~~A. New construction and substantial improvements of residential structures within AO zones shall have the lowest floor (including basement) elevated or floodproofed to at least one foot above the depth number specified on the FIRM, or at least 3 feet above highest adjacent grade when no depth number is specified. [Amd. Ordinance 2010-6, eff. 11.26.10.]~~

~~B. New construction and substantial improvements of nonresidential structures within AO zones shall either:~~

~~(1) have the lowest floor (including basement) elevated 2 feet above the highest adjacent grade of the building site, to or above the depth number specified on the FIRM (at least two feet if no depth number is specified); or~~

~~(2) together with attendant utility and sanitary facilities, be completely flood proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect as in Section 1109.2.A(3).~~

~~[Amd. Ordinance 2010-6, eff. 11.26.10.]~~

~~C. Require adequate drainage paths around structures on slopes to guide flood waters around and away from proposed structures.~~

~~1112 Standards for Areas Where Elevations are Determined (AE Zones) [Deleted in its entirety]~~

~~In areas within Zones A1-30 and AE on the community FIRM with a Base Flood Elevation but where no regulatory floodway has been designated, new construction, substantial improvements, or other development (including fill) shall be prohibited, unless it is demonstrated that the~~

Bold/Strikeout

~~cumulative effect of the proposed development, when combined with all other and anticipated development, will not increase the water elevation of the base flood more than one foot at any point within the community.~~

Proposed Text

Section 1100**FLOOD HAZARD OVERLAY****FH**

1101 Purpose: It is the purpose of this ordinance to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

- .1 To protect human life and health;
- .2 To minimize expenditure of public money and costly flood control projects;
- .3 To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- .4 To minimize prolonged business interruptions;
- .5 To minimize damage to public facilities and utilities such as water and gas mains; electric, telephone and sewer lines, streets, and bridges located in areas of special flood hazard;
- .6 To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
- .7 To ensure that potential buyers are notified that property is in an area of special flood hazard;
- .8 To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions;
- .9 To participate in and maintain eligibility for flood insurance and disaster relief.

1102 Methods of Reducing Flood Losses: In order to accomplish its purposes, this ordinance includes methods and provisions for:

- .1 Restricting or prohibiting development which is 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 development vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the

Proposed Text

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 may increase flood hazards in other areas.

1103 Definitions: Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage.

- .1 "APPEAL" means a request for a review of the interpretation of any provision of this ordinance or a request for a variance.
- .2 "AREA OF SHALLOW FLOODING" means a designated Zone AO, AH, AR/AO or AR/AH on a community's Flood Insurance Rate Map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.
- .3 "AREA OF SPECIAL FLOOD OVERLAY" means the land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year. Designation on maps always includes the letters A or V.
- .4 "BASE FLOOD" means the flood having a one percent chance of being equaled or exceeded in any given year. Also referred to as the "100-year flood." Designation on maps always includes the letters A or V.
- .5 "BASE FLOOD EVELATION" means the elevation to which floodwater is anticipated to rise during the base flood.
- .6 "BASEMENT" means any area of the building having its floor subgrade (below ground level) on all sides.

- .7 "BELOW-GRADE CRAWL SPACE" means an enclosed area below the base flood elevation in which the interior grade is not more than two feet below the lowest adjacent exterior grade and the height, measured from the interior grade of the crawlspace to the top of the crawlspace foundation, does not exceed 4 feet at any point.
- .8 "BREAKAWAY WALL" means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.
- .9 "BUILDING" See "Structure".
- .10 "CRITICAL FACILITY" means a facility for which even a slight chance of flooding might be too great. Critical facilities include, but are not limited to schools, nursing homes, hospitals, police, fire and emergency response installations, installations which produce, use or store hazardous materials or hazardous waste.
- .11 "DEVELOPMENT" means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations located within the area of special flood hazard.
- .12 "ELEVATED BUILDING" means for insurance purposes, a nonbasement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings or columns.
- .13 "FLOOD OR "FLOODING" means a general and temporary condition of partial or complete inundation of normally dry land areas from:
- (1) The overflow of inland or tidal waters, and/or
 - (2) The unusual and rapid accumulation of runoff of surface waters from any source.
 - (3) Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in paragraph (a)(2) of this definition and are akin to a river of liquid and flowing mud on the surfaces

of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.

- .14 **"FLOOD ELEVATION STUDY"** means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards.
- .15 **"FLOOD INSURANCE RATE MAP (FIRM)"** means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.
- .16 **"FLOOD INSURANCE STUDY (FIS)"** See "Flood Elevation Study"
- .17 **"FLOODPLAIN OR FLOOD PRONE AREA"** means any land area susceptible to being inundated by water from any source. See "flood or flooding."
- .18 **"FLOODPLAIN ADMINISTRATOR"** means the community official designated by title to administer and enforce the floodplain management regulations.
- .19 **"FLOODPLAIN MANAGEMENT"** means 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.
- .20 **"FLOODPLAIN MANAGEMENT REGULATIONS"** means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as floodplain ordinance, grading ordinance, stormwater and erosion control ordinance) and other application of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.
- .21 **"FLOOD PROOFING"** means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate risk of flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents.

Proposed Text

- .22 **"FLOODWAY"** means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Also referred to as "Regulatory Floodway."
- .23 **"FUNCTIONALLY DEPENDENT USE"** means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, and does not include long term storage or related manufacturing facilities.
- .24 **"HAZARDOUS MATERIAL"** means the Oregon Department of Environmental Quality defines hazardous materials to include any of the following:
- (1) Hazardous waste as defined in ORS 466.005;
 - (2) Radioactive waste as defined in ORS 469.300, radioactive material identified by the Energy Facility Siting Council under ORS 469.605 and radioactive substances defined in ORS 453.005
 - (3) Communicable disease agents as regulated by the Health Division under ORS Chapter 431 and 433.010 to 433.045 and 433.106 to 433.990;
 - (4) Hazardous substances designated by the United States Environmental Protection Agency (EPA) under section 311 of the Federal Water Pollution Control Act, P.L. 92-500, as amended;
 - (5) Substances listed by the United States EPA in section 40 of the Code of Federal Regulations, Part 302 – Table 302.4 (list of Hazardous Substances and Reportable Quantities) and amendments;
 - (6) Material regulated as a Chemical Agent under ORS 465.550;

- (7) Material used as a weapon of mass destruction, or biological weapon;
 - (8) Pesticide residue;
 - (9) Dry cleaning solvent as defined by ORS 465.200(9).
- .25 **"HIGHEST ADJACENT GRADE"** means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.
- .26 **"HISTORIC STRUCTURE"** means any structure that is:
- (1) Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
 - (2) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
 - (3) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or
 - (4) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
 - a. By an approved state program as determined by the Secretary of the Interior or
 - b. Directly by the Secretary of the Interior in states without approved programs.
- .27 **"LETTER OF MAP CHANGE"** means an official FEMA determination, by letter, to amend or revise effective Flood

Insurance Rate Maps and Flood Insurance Studies. The following are categories of LOMCs:

- (1) "Conditional Letter of Map Amendment (CLOMA)": A CLOMA is FEMA's comment on a proposed structure or group of structures that would, upon construction, be located on existing natural ground above the base (1-percent-annual-chance) flood elevation on a portion of a legally defined parcel of land that is partially inundated by the base flood.
- (2) "Conditional Letter of Map Revisions (CLOMR)": A CLOMR is FEMA's comment on a proposed project that would, upon construction, affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the special flood hazard area.
- (3) "Conditional Letter of Map Revision based on Fill (CLOMR-F)": A CLOMR-F is FEMA's comment on a proposed project that would, upon construction, result in a modification of the special flood hazard area through the placement of fill outside the existing regulatory floodway.
- (4) "Letter of Map Amendment (LOMA)": An official amendment, by letter, to the Flood Insurance Rate Maps (FIRMs) based on technical data showing that an existing structure, parcel of land or portion of a parcel of land that is naturally high ground, (i.e., has not been elevated by fill) above the base flood, that was inadvertently included in the special flood hazard area.
- (5) "Letter of Map Revision (LOMR)": A LOMR is FEMA's modification to an effective Flood Insurance Rate Map (FIRM), or Flood Boundary and Floodway Map (FBFM), or both. LOMRs are generally based on the implementation of physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the SFHA. The LOMR officially

revises the FIRM or FBFM, and sometimes the Flood Insurance Study (FIS) report, and, when appropriate, includes a description of the modifications. The LOMR is generally accompanied by an annotated copy of the affected portions of the FIRM, FBFM, or FIS report.

- (6) "Letter of Map Revision base on Fille (LOMR-F)": A LOMR-F is FEMA's modification of the special flood hazard area shown on the Flood Insurance Rate Map (FIRM) based on the placement of fill outside the existing regulatory floodway.
- (7) "PMR": A PMR is FEMA's physical revision and republication of an effective Flood Insurance Rate Map (FIRM) or Flood Insurance Study (FIS) report. PMRs are generally based on physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective baes flood elevations, or the special flood hazard area.
- .28 "LOWEST FLOOR" means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance.
- .29 "MANUFACTURED DWELLING" means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured dwelling" does not include a "recreational vehicle" and is synonymous with "manufactured home".
- .30 "MANUFACTURED DWELLING PARK OR SUBDIVISION" means a parcel (or contiguous parcels) of land divided into two or more manufactured dwelling lots for rent or sale.
- .31 "MEAN SEA LEVEL" means for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which Base Flood Elevations shown on a community's Flood Insurance Rate Map are referenced.

- .32 **"NEW CONSTRUCTION"** for floodplain management purposes, means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by Columbia County and includes any subsequent improvements to such structures.
- .33 **"RECREATIONAL VEHICLE"** means a vehicle which is:
- (1) Build on a single chassis;
 - (2) 400 square feet or less when measured at the largest horizontal projection;
 - (3) Designed to be self-propelled or permanently towable by a light duty truck; and
 - (4) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.
- .34 **"REGULATORY FLOODWAY"** See "Floodway".
- .35 **"SHEET FLOW AREA"** See "Area of shallow flooding".
- .36 **"START OF CONSTRUCTION"** Includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days from the date of the permit. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured dwelling on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of

- construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.
- .37 **"STRUCTURE"** for floodplain management purposes, means a walled and roofed building, including a gas or liquid storage tank that is principally above ground, as well as a manufactured dwelling.
- .38 **"SUBSTANTIAL DAMAGE"** means damage of any origin sustained by a structure whereby the cost of restoring the structure to it's before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.
- .39 **"SUBSTANTIAL IMPROVEMENT"** means reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:
- A. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or
 - B. Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure."
- .40 **"VARIANCE"** means a grant of relief by Columbia County from the terms of a flood plain management regulation.
- .41 **"VIOLATION"** means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this ordinance is presumed to be in violation until such time as that documentation is provided.
- .42 **"WATER DEPENDENT"** means a structure for commerce or

industry which cannot exist in any other location and is dependent on the water by reason of intrinsic nature of its operations.

- .43 “WATER SURFACE ELEVATION” means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, or other datum, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

1104 GENERAL PROVISIONS:

- .1 Lands to which this ordinance applies: This zone shall apply to all areas of special flood hazards within the jurisdiction of Columbia County.
- .2 Basis for Establishing the Special Flood Hazard Areas
- A. The special flood hazard areas identified by the Federal Insurance Administrator in a scientific and engineering report entitled “The Flood Insurance Study (FIS) for Columbia County, Oregon and Incorporated Areas, dated November 26, 2010, with accompanying Flood Insurance Rate Maps (FIRMs) are hereby adopted by reference and declared to be a part of this ordinance. The FIS and FIRM panels are on file at Columbia County, Department of Land Development Services, 230 Strand Street, St. Helens, OR 97051, located in the Columbia County Courthouse Annex building.
- .3 Coordination with State of Oregon Specialty Codes
- A. Pursuant to the requirement established in ORS 455 that Columbia County administers and enforces the State of Oregon Specialty Codes, Columbia County does hereby acknowledge that the Oregon Specialty Codes contain certain provisions that apply to the design and construction of buildings and structures located in special flood hazard areas. Therefore, this ordinance is intended to be administered and enforced in conjunction with the Oregon Specialty Codes.
- .4 Compliance and Penalties for Noncompliance:
- A. Compliance: All development within special flood hazard areas is subject to the terms of this ordinance and required

to comply with its provisions and all other applicable regulations.

- B. Penalties for Noncompliance: No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations. Violations of the provisions of this ordinance by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a misdemeanor infraction subject to the penalties and citations found in the Columbia County Enforcement Ordinance with authority from Oregon Revised Statutes 153.005 to 153.064. Nothing contained herein shall prevent Columbia County from taking such other lawful action as is necessary to prevent or remedy any violation.

.5 Abrogation and Severability:

- A. Abrogation: This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.
- B. Severability: This ordinance and the various parts thereof are hereby declared to be severable. If any section clause, sentence, or phrase of the Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way effect the validity of the remaining portions of this Ordinance.

.6 Interpretation: In the interpretation and application of this ordinance, all provisions shall be:

- A. Considered as minimum requirements;
- B. Liberally construed in favor of the governing body; and
- C. Deemed neither to limit nor repeal any other powers granted under state statutes.

.7 Warning and Disclaimer of Liability

- A. Warning: The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This ordinance 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.
- B. Disclaimer of Liability: This ordinance shall not create liability on the part of Columbia County, any officer or employee thereof, or the Federal Insurance Administrator for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

1105 ADMINISTRATION:

- .1 Designation of the Floodplain Administrator: The Columbia County Land Development Services Director, and their designee, is hereby appointed to administer, implement, and enforce this ordinance by granting or denying development permits in accordance with its provisions. The Floodplain Administrator may delegate authority to implement these provisions.
- .2 Duties and Responsibilities of the Floodplain Administrator: Duties of the floodplain administrator, or their designee, shall include, but not be limited to:
 - A. Permit Review
 - 1. The permit requirements of this ordinance have been satisfied;
 - 2. All other required local, state, and federal permits have been obtained and approved.
 - 3. Review all development permits to determine if the proposed development is located in a floodway. If located in the floodway assure that the floodway provisions of this ordinance in section 1106.2(D) are met; and

4. Review all development permits to determine if the proposed development is located in an area where Base Flood Elevation (BFE) data is available either through the Flood Insurance Study (FIS) or from another authoritative source. If BFE data is not available then ensure compliance with the provisions of sections 1106.1(G); and
 5. Provide to building officials the Base Flood Elevation (BFE) applicable to any building requiring a floodplain development permit.
 6. Review all development permit applications to determine if the proposed development qualifies as a substantial improvement as defined in section 1103.
 7. Review all development permits to determine if the proposed development activity is a watercourse alteration. If a watercourse alteration is proposed, ensure compliance with the provisions in section 1106.1(A).
 8. Review all development permits to determine if the proposed development activity includes the placement of fill or excavation.
- B. Information to be Obtained and Maintained: The following information shall be obtained and maintained and shall be made available for public inspection as needed:
1. Obtain, record, and maintain the actual elevation (in relation to mean sea level) of the lowest floor (including basements) and all attendant utilities of all new or substantially improved structures where Base Flood Elevation (BFE) data is provided through the Flood Insurance Study (FIS), Flood Insurance Rate Map (FIRM), or obtained in accordance with section 1106.1(G).
 2. Obtain and record the elevation (in relation to mean sea level) of the natural grade of the building site for a structure prior to the start of construction and the placement of any fill and ensure that the requirements of sections 1106.2(D) and 1105.2(A)(2) are adhered

to.

3. Upon placement of the lowest floor of a structure (including basement) but prior to further vertical construction, obtain documentation, prepared and sealed by a professional licensed surveyor or engineer, certifying the elevation (in relation to mean sea level) of the lowest floor (including basement).
4. Where base flood elevation data are utilized, obtain As-built certification of the elevation (in relation to mean sea level) of the lowest floor (including basement) prepared and sealed by a professional licensed surveyor or engineer, prior to the final inspection.
5. Maintain all Elevation Certificates (EC) submitted to Columbia County;
6. Obtain, record, and maintain the elevation (in relation to mean sea level) to which the structure and all attendant utilities were floodproofed for all new or substantially improved floodproofed structures where allowed under this ordinance and where Base Flood Elevation (BFE) data is provided through the FIS, FIRM, or obtained in accordance with section 1106.1(G).
7. Maintain all floodproofing certificates required under this ordinance;
8. Record and maintain all variance actions, including justification for their issuance;
9. Obtain and maintain all hydrologic and hydraulic analyses performed as required under section 1106.2(D).
10. Record and maintain all Substantial Improvement and Substantial Damage calculations and determinations as required under section 1105.2(D).
11. Maintain for public inspection all records pertaining to the provisions of this ordinance.

- C. Requirement to Notify Other Entities and Submit New Technical Data
1. Community Boundary Alterations: The Floodplain Administrator shall notify the Federal Insurance Administrator in writing whenever the boundaries of the community have been modified by annexation or the community has otherwise assumed authority or no longer has authority to adopt and enforce floodplain management regulations for a particular area, to ensure that all Flood Hazard Boundary Maps (FHBM) and Flood Insurance Rate Maps (FIRM) accurately represent the community's boundaries. Include within such notification a copy of a map of the community suitable for reproduction, clearly delineating the new corporate limits or new area for which the community has assumed or relinquished floodplain management regulatory authority.
 2. Watercourse Alterations: adjacent communities, the Department of Land Conservation and Development, and other appropriate state and federal agencies, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration. This notification shall be provided by the applicant to the Federal Insurance Administration as a Letter of Map Revision (LOMR) along with either:
 - i. A proposed maintenance plan to assure the flood carrying capacity within the altered or relocated portion of the watercourse is maintained; or
 - ii. Certification by a registered professional engineer that the project has been designed to retain its flood carrying capacity without periodic maintenance.
 - iii. The applicant shall be required to submit a Conditional Letter of Map Revision (CLOMR) when required under section 1105.2(C)(3). Ensure compliance with all applicable

requirements in sections 1105.2(C)(3) and 1106.1(A).

3. **Requirement to Submit New Technical Data:** A community's base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, a community shall notify the Federal Insurance Administrator of the changes by submitting technical or scientific data in accordance with Section 44 of the Code of Federal Regulations (CFR), Sub-Section 65.3. The community may require the applicant to submit such data and review fees required for compliance with this section through the applicable FEMA Letter of Map Change (LOMC) process.

The Floodplain Administrator shall require a Conditional Letter of Map Revision prior to the issuance of a floodplain development permit for:

- i. Proposed floodway encroachments that increase the base flood elevation; and
- ii. Proposed development which increases the base flood elevation by more than one foot in areas where FEMA has provided base flood elevations but no floodway.

An applicant shall Notify FEMA within six (6) months of project completion when an applicant has obtained a Conditional Letter of Map Revision (CLOMR) from FEMA. This notification to FEMA shall be provided as a Letter of Map Revision (LOMR).

The applicant shall be responsible for preparing all technical data to support CLOMR/LOMR applications and paying any processing or application fees associated with the CLOMR/LOMR.

The Floodplain Administrator shall be under no obligation to sign the Community Acknowledgement Form, which is part of the CLOMR/LOMR application,

until the applicant demonstrates that the project will or has met the requirements of this code and all applicable state and federal laws.

- D. Substantial Improvement and Substantial Damage Assessments and Determinations: Conduct Substantial Improvement (SI) (as defined in section 1103) reviews for all structural development proposal applications and maintain a record of SI calculations within permit files in accordance with section 1105.2(B). Conduct Substantial Damage (SD) (as defined in section 1103) assessments when structures are damaged due to a natural hazard event or other causes. Make SD determinations whenever structures within the special flood hazard area (as established in section 1104.2) are damaged to the extent that the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

3. Establishment of Development Permit:

- A. Floodplain Development Permit Required: A development permit shall be obtained before construction or development begins within any area horizontally within the special flood hazard area established in section 1104.2. The development permit shall be required for all structures, including manufactured dwellings, and for all other development, as defined in section 1103, including fill and other development activities.
- B. Application for Development Permit: Application for a development permit may be made on forms furnished by the Floodplain Administrator and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically the following information is required:
1. In riverine flood zones, the proposed elevation (in relation to mean sea level), of the lowest floor (including basement) and all attendant utilities of all new and substantially improved structures; in accordance with the requirements of section

1105.2(B).

2. Proposed elevation in relation to mean sea level to which any non-residential structure will be floodproofed.
 3. Certification by a registered professional engineer or architect licensed in the State of Oregon that the floodproofing methods proposed for any non-residential structure meet the floodproofing criteria for non-residential structures in section 1106.2(C)(3).
 4. Description of the extent to which any watercourse will be altered or relocated.
 5. Base Flood Elevation data for subdivision proposals or other development when required per sections 1105.2(A) and 1106.1(F).
 6. Substantial improvement calculation for any improvement, addition, reconstruction, renovation, or rehabilitation of an existing structure.
 7. The amount and location of any fill or excavation activities proposed.
- .4 Variance Procedure: The issuance of a variance is for floodplain management purposes only. Flood insurance premium rates are determined by federal statute according to actuarial risk and will not be modified by the granting of a variance.
- A. Conditions for Variances:
1. Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, in conformance with the provisions of sections 1105.3(A)(3) and (5), and 1105.3(B). As the lot size increases beyond one-half acre, the technical justification required for issuing a variance increases.
 2. Variances shall only be issued upon a determination

that the variance is the minimum necessary, considering the flood hazard, to afford relief.

3. Variances shall not be issued within any floodway if any increase in flood levels during the base flood discharge would result.
4. Variances shall only be issued upon:
 - i. A showing of good and sufficient cause;
 - ii. A determination that failure to grant the variance would result in exceptional hardship to the applicant;
 - iii. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.
5. Variances may be issued by a community for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that the criteria of section 1105.3(A)(2) – (4) are met, and the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

B. Variance Notification:

1. Any applicant to whom a variance is granted shall be given written notice that the issuance of a variance to construct a structure below the Base Flood Elevation will result in increased premium rates for flood insurance and that such construction below the base flood elevation increases risks to life and property. Such notification and a record of all variance actions, including justification for their issuance shall be maintained in accordance with section 1105.2(B).

1106 PROVISIONS FOR FLOOD HAZARD REDUCTION:

- .1 General Standards: In all special flood hazard areas, the following standards shall be adhered to:
 - A. Alteration of Watercourses: Require that the flood carrying capacity within the altered or relocated portion of said watercourse is maintained. Require that maintenance is provided within the altered or relocated portion of said watercourse to ensure that the flood carrying capacity is not diminished. Require compliance with sections 1105.2(C)(2) and 1105.2(C)(3).
 - B. Anchoring:
 1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
 2. All manufactured dwellings shall be anchored per section 1106.2(C)(4).
 - C. Construction Materials and Methods:
 1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
 2. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
 - D. Utilities and Equipment:
 1. Water Supply, Sanitary Sewer, and On-Site Waste Disposal Systems:
 - i. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.

- ii. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.
 - iii. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding consistent with the Oregon Department of Environmental Quality.
2. Electrical, Mechanical, Plumbing, and Other Equipment: Electrical, heating, ventilating, air-conditioning, plumbing, duct systems, and other equipment and service facilities shall be elevated at minimum 1-foot above the base flood level or shall be designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during conditions of flooding. In addition, electrical, heating, ventilating, air-conditioning, plumbing, duct systems, and other equipment and service facilities shall:
- i. If replaced as part of a substantial improvement shall meet all the requirements of this section.
 - ii. Not be mounted on or penetrate through breakaway walls.

E. Tanks:

- 1. Underground tanks shall be anchored to prevent flotation, collapse and lateral movement under conditions of the base flood.
- 2. Above-ground tanks shall be installed at minimum 1-foot above the base flood level or shall be anchored to prevent flotation, collapse, and lateral movement under conditions of the base flood.
- 3. When elevated on platforms, the platforms shall be

cantilevered from or knee braced to the building or shall be supported on foundations that conform to the requirements of the State of Oregon Specialty Code.

F. Subdivision and Partition Proposals and Other Proposed Developments:

1. All new subdivision and partition proposals and other proposed new developments (including proposals for manufactured dwelling parks and planned unit developments), greater than 5 acres in size shall include within such proposals, Base Flood Elevation data.
2. All new subdivision and partition proposals and other proposed new developments (including proposals for manufactured dwelling parks and planned unit developments), shall:
 - i. Be consistent with the need to minimize flood damage.
 - ii. When possible, be designed to provide a building pad area on each lot or parcel that is outside of the SFHA.
 - iii. Have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage.
 - iv. Have adequate drainage provided to reduce exposure to flood hazards.

G. Use of Other Base Flood Data: When Base Flood Elevation data has not been provided in accordance with section 1104.2 the local floodplain administrator shall obtain, review, and reasonably utilize any Base Flood Elevation data available from a federal, state, or other source, in order to administer section 1106. All new subdivision and partition proposals and other proposed new developments (including proposals for manufactured dwelling parks and planned unit developments) must meet the requirements of section 1106.1(F).

Flood Elevations shall be determined for development proposals that are in any A zone that does not have an established base flood elevation. Development proposals located within a riverine unnumbered A Zone shall be reasonably safe from flooding; the test of reasonableness includes use of historical data, high water marks, FEMA provided Base Level Engineering data, and photographs of past flooding, etc... where available. Historical floods of record in Columbia County occurred in 1894, 1933, 1948, 1956, 1964, 1972, 1974, 1987, 1996, 2007, 2011, and 2017.

Structures in unnumbered A zones shall be elevated at minimum 1-foot above the historical high water mark or at least two feet above highest adjacent grade, whichever is higher.

- H. Structures Located in Multiple or Partial Flood Zones: In coordination with the State Oregon Specialty Codes:
 - 1. When a structure is located in multiple flood zones on the community's Flood Insurance Rate Maps (FIRM) the provisions for the more restrictive flood zone shall apply.
 - 2. When a structure is partially located in a special flood hazard area, the entire structure shall meet the requirements for new construction and substantial improvements.

- I. Critical Facilities: Construction of new critical facilities including but not limited to schools, hospitals, and fire stations, shall be, to the extent possible, located outside the limits of the special flood hazard area. Construction of new critical facilities shall be permissible within the SFHA only if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three (3) feet above Base Flood Elevation (BFE) or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility shall also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure toxic substances will not be displaced by or released into floodwaters. Reference Critical Facility definition in Section 1103.

2. Specific Standards for Riverine (Including All Non-Coastal) Flood Zones (A1-A30, AH, and AE): These specific standards shall apply to all new construction and substantial improvements in addition to the General Standards contained in section 1106.1 of this ordinance.
 - A. Flood Openings: All new construction and substantial improvements with fully enclosed areas below the lowest floor (excluding basements) are subject to the following requirements. Enclosed areas below the Base Flood Elevation, including crawl spaces shall:
 1. Be designed to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters;
 2. Be used solely for parking, storage, or building access;
 3. Be certified by a registered professional engineer or architect or meet or exceed all of the following minimum criteria:
 - i. A minimum of two openings;
 - ii. The total net area of non-engineered openings shall be not less than one (1) square inch for each square foot of enclosed area, where the enclosed area is measured on the exterior of the enclosure walls,
 - iii. The bottom of all openings shall be no higher than one foot above grade.
 - iv. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they shall allow the automatic flow of floodwater into and out of the enclosed areas and shall be accounted for in the determination of the net open area.
 - v. All additional higher standards for flood openings in the State of Oregon Residential

Specialty Codes Section R322.2.2 shall be complied with when applicable.

B. Garages:

1. Attached garages may be constructed with the garage floor slab below the Base Flood Elevation (BFE) in riverine flood zones, if the following requirements are met:
 - i. If located within a floodway the proposed garage must comply with the requirements of section 1106.2(D).
 - ii. The floors are at or above grade on not less than one side;
 - iii. The garage is used solely for parking, building access, and/or storage;
 - iv. The garage is constructed with flood openings in compliance with section 1106.2(A) to equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater.
 - v. The portions of the garage constructed below the BFE are constructed with materials resistant to flood damage;
 - vi. The garage is constructed in compliance with the standards in section 1106.1; and
 - vii. The garage is constructed with electrical, and other service facilities located and installed so as to prevent water from entering or accumulating within the components during conditions of the base flood.
2. Detached garages must be constructed in compliance with the standards for appurtenant structures in section 1106.2(C)(6) or non-residential structures in section 1106.2(C)(3) depending on the square footage of the garage.

- C. For Riverine (Non-Coastal) Special Flood Hazard Areas with Base Flood Elevations: In addition to the general standards listed in section 1106.1 the following specific standards shall apply in Riverine (non-coastal) special flood hazard areas with Base Flood Elevations (BFE): Zones A1-A30, AH, and AE.
1. Before Regulatory Floodway: In areas where a regulatory floodway has not been designated, no new construction, substantial improvement, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's Flood Insurance Rate Map (FIRM), unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.
 2. Residential Construction:
 - i. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated at minimum 1-foot above the Base Flood Elevation (BFE);
 - ii. Enclosed areas below the lowest floor shall comply with the flood opening requirements in section 1106.2(A).
 3. Non-Residential Construction:
 - i. New construction and substantial improvement of any commercial, industrial, or other non-residential structure shall:
 - a. Have the lowest floor, including basement elevated at minimum 1-foot above the Base Flood Elevation (BFE);
Or,
 - b. Together with attendant utility and

sanitary facilities, be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;

- c. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
 - d. 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 section based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the Floodplain Administrator as set forth section 1105.2(B).
- ii. Non-residential structures that are elevated, not floodproofed, shall comply with the standards for enclosed areas below the lowest floor in section 1106.2(A).
 - iii. Applicants floodproofing non-residential buildings shall be notified that flood insurance premiums will be based on rates that are one (1) foot below the floodproofed level (e.g. a building floodproofed to the base flood level will be rated as one (1) foot below).
 - iv. Applicants floodproofing non-residential buildings shall supply a maintenance plan for the entire structure to include but not limited to: exterior envelop of structure; all penetrations to the exterior of the structure; all shields, gates, barriers, or components designed to provide floodproofing protection to the structure; all seals or gaskets for shields, gates, barriers, or components; and, the location of all shields, gates, barriers, and components, as well as all

associated hardware, and any materials or specialized tools necessary to seal the structure.

- v. Applicants floodproofing non-residential buildings shall supply an Emergency Action Plan (EAP) for the installation and sealing of the structure prior to a flooding event that clearly identifies what triggers the EAP and who is responsible for enacting the EAP.

4. Manufactured Dwellings:

- i. New or substantially improved manufactured dwellings supported on solid foundation walls shall be constructed with flood openings that comply with section 1106.2(1);
- ii. The bottom of the longitudinal chassis frame beam shall be at minimum 1-foot above Base Flood Elevation(BFE);
- iii. New or substantially improved manufactured dwellings shall be anchored to prevent flotation, collapse, and lateral movement during the base flood. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (Reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques), and;
- iv. Electrical crossover connections shall be a minimum of twelve (12) inches above Base Flood Elevation (BFE).

5. Recreational Vehicles: Recreational vehicles placed on sites are required to:

- i. Be on the site for fewer than 180 consecutive days, and
- ii. Be fully licensed and ready for highway use, on its wheels or jacking system, is attached to the

site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or

- iii. Meet the requirements of section 1106.2(C)(4), including the anchoring and elevation requirements for manufactured dwellings.

6. **Appurtenant (Accessory) Structures: Relief from elevation or floodproofing requirements for residential and non-residential structures in Riverine (Non-Coastal) flood zones may be granted for appurtenant structures that meet the following requirements:**

- i. Appurtenant structures located partially or entirely within the floodway must comply with requirements for development within a floodway found in section 1106.2(D).
- ii. Appurtenant structures must only be used for parking, access, and/or storage and shall not be used for human habitation;
- iii. In compliance with State of Oregon Specialty Codes, appurtenant structures on properties that are zoned residential are limited to one-story structures less than 200 square feet, or 400 square feet if the property is greater than two (2) acres in area and the proposed appurtenant structure will be located a minimum of 20 feet from all property lines. Appurtenant structures on properties that are zoned as non-residential are limited in size to 120 square feet.
- iv. The portions of the appurtenant structure located below the Base Flood Elevation must be built using flood resistant materials;
- v. The appurtenant structure must be adequately anchored to prevent flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of

the base flood.

- vi. The appurtenant structure must be designed and constructed to equalize hydrostatic flood forces on exterior walls and comply with the requirements for flood openings in section 1106.2(A);
- vii. Appurtenant structures shall be located and constructed to have low damage potential;
- viii. Appurtenant structures shall not be used to store toxic material, oil, or gasoline, or any priority persistent pollutant identified by the Oregon Department of Environmental Quality unless confined in a tank installed in compliance with section 1106.1(E).
- ix. Appurtenant structures shall be constructed with electrical, mechanical, and other service facilities located and installed so as to prevent water from entering or accumulating within the components during conditions of the base flood.

7. Below-Grade Crawl Spaces:

- i. The building must be designed and adequately anchored to resist flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. Hydrostatic loads and the effects of buoyancy can usually be addressed through the required flood openings stated in Section 1106.2(A). Because of hydrodynamic loads, crawlspace construction is not allowed in areas with flood velocities greater than five (5) feet per second unless the design is reviewed by a qualified design professional, such as a registered architect or professional engineer. Other types of foundations are recommended for these areas.
- ii. The crawlspace is an enclosed area below the

Base Flood Elevation (BFE) and, as such, must have openings that equalize hydrostatic pressures by allowing the automatic entry and exit of floodwaters. The bottom of each flood vent opening can be no more than one (1) foot above the lowest adjacent exterior grade.

- iii. Portions of the building below the BFE must be constructed with materials resistant to flood damage. This includes not only the foundation walls of the crawlspace used to elevate the building, but also any joists, insulation, or other materials that extend below the BFE. The recommended construction practice is to elevate the bottom of joists and all insulation above BFE.
- iv. Any building utility systems within the crawlspace must be elevated above BFE or designed so that floodwaters cannot enter or accumulate within the system components during flood conditions. Ductwork, in particular, must either be placed above the BFE or sealed from floodwaters.
- v. The interior grade of a crawlspace below the BFE must not be more than two (2) feet below the lowest adjacent exterior grade.
- vi. The height of the below-grade crawlspace, measured from the interior grade of the crawlspace to the top of the crawlspace foundation wall must not exceed four (4) feet at any point. The height limitation is the maximum allowable unsupported wall height according to the engineering analyses and building code requirements for flood hazard areas.
- vii. There must be an adequate drainage system that removes floodwaters from the interior area of the crawlspace. The enclosed area should be drained within a reasonable time after a flood event. The type of drainage system will

vary because of the site gradient and other drainage characteristics, such as soil types. Possible options include natural drainage through porous, well-drained soils and drainage systems such as perforated pipes, drainage tiles or gravel or crushed stone drainage by gravity or mechanical means.

- viii. The velocity of floodwaters at the site shall not exceed five (5) feet per second for any crawlspace. For velocities in excess of five (5) feet per second, other foundation types should be used.

D. Floodways: Located within the special flood hazard areas established in section 1104.2 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of the floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

- 1. Prohibit encroachments, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway unless:
 - i. Certification by a registered professional civil engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment shall not result in any increase in flood levels within the community during the occurrence of the base flood discharge; Or,
 - ii. A community may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that a Conditional Letter of Map Revision (CLOMR) is applied for and approved by the Federal Insurance Administrator, and the requirements for such revision as established under Volume 44 of the Code of

Federal Regulations, section 65.12 are fulfilled.

- iii. If an encroachment proposal resulting in an increase in Base Flood Elevation meets the following criteria:
 - a. Is for the purpose of fish enhancement,
 - b. Does not involve the placement of any structures (as defined in section 2.0) within the floodway,
 - c. Has a feasibility analysis completed documenting that fish enhancement will be achieved through the proposed project,
 - d. Has a maintenance plan in place to ensure that the stream carrying capacity is no impacted by the fish enhancement project,
 - e. Has approval by the National Marine Fisheries Service, the State of Oregon Department of Fish and Wildlife, or the equivalent federal or state agency, and
 - f. Has evidence to support that no existing structures will be negatively impacted by the proposed activity;

Then an approved CLOMR may not be required prior to approval of a floodplain permit

- 2. If the requirements of section 1106.2(D)(1) are satisfied, all new construction, substantial improvements, and other development shall comply with all other applicable flood hazard reduction provisions of section 1106.

- E. Standards for Shallow Flooding Areas: Shallow flooding areas appear on FIRMs as AO zones with depth designations or as AH zones with Base Flood Elevations. For AO zones the base flood depths range from one (1) to

three (3) feet above ground where a clearly defined channel does not exist, or where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow.

For both AO and AH zones, adequate drainage paths are required around structures on slopes to guide floodwaters around and away from proposed structures.

1. Standards for AH Zones: Development within AH Zones must comply with the standards in sections 1106.1, 1106.2, and 1106.2(E)(1).
2. Standards for AO Zones: In AO zones, the following provisions apply in addition to the requirements in sections 1106.1 and 1106.2(E)(1):
 - i. New construction and substantial improvement of residential structures and manufactured dwellings within AO zones shall have the lowest floor, including basement, elevated at minimum 1-foot above the highest grade adjacent to the building, or at minimum 1-foot above the Base Flood Elevation depth number specified on the Flood Insurance Rate Maps (FIRM), whichever is higher, or at least three (3) feet above highest adjacent grade if no depth number is specified. For manufactured dwellings the lowest floor is considered to be the bottom of the longitudinal chassis frame beam.
 - ii. New construction and substantial improvements of non-residential structures within AO zones shall either:
 - a. Have the lowest floor (including basement) elevated at minimum 1-foot above the highest grade adjacent to the building, or at minimum 1-foot above the Base Flood Elevation depth number specified on the Flood Insurance Rate Maps (FIRM), whichever is higher, or at least two (2) feet above highest adjacent

Proposed Text

- iv. In AO zones, new and substantially improved appurtenant structures must comply with the standards in section 1106.2(C)(6).
- v. In AO zones, new and substantially improved appurtenant structures must comply with the standards in section 1106.2(C)(6).

Summary of Changes from the 2014 version to the 2019 Version of the Oregon Model Flood Hazard Ordinance:

The 2019 version of the Oregon Model Flood Hazard Ordinance (to be referred to herein as the “2019 model ordinance”), varies from the previous version in its reorganization of some sections and subsections, as well as the modification of content to include new sections and revisions to existing sections.

In general, the content was revised to more closely match (verbatim) the language in the sections of Code of Federal Regulations (CFR), which contain the minimum requirements for the National Flood Insurance Program (NFIP). The content was also revised to incorporate relevant standards in the State of Oregon’s Specialty Codes, and updates to those standards that have changed in the last 5 – 10 years. A breakdown of the primary changes found in the 2019 model ordinance is provided below:

1. Some definitions have been added, removed, or reworded to match the CFR definitions verbatim, as required by FEMA. There are additional optional and recommended definitions provided in Appendix A.
2. The 2019 model ordinance notes the requirement for coordination with State of Oregon Specialty Codes (section 3.3) and incorporates relevant requirements (higher standards) from the Specialty Codes to ensure alignment between the model flood ordinance language and the building code language. For example, the 2019 model ordinance:
 - a. Directly addresses “Garages” (section 5.2.2) and “Tanks” (section 5.1.5) by incorporating the relevant NFIP and State of Oregon Specialty Code requirements into the ordinance language.
 - b. Incorporates the Specialty Codes additional standards for flood openings in residential structures that require a building permit (section 5.2.1).
3. The floodplain development permit and permit review requirements have been expanded in the 2019 model ordinance (sections 4.3.2 and 4.2.1) to more accurately capture all of the information a community Floodplain Administrator is required to obtain and review to ensure a floodplain development proposal complies with the standards of the 2019 model ordinance (minimum NFIP and state standards).
4. The 2019 model ordinance expands the requirements for “Information to be Obtained and Maintained” (section 4.2.2). To reflect the NFIP minimum requirements and Oregon Specialty Code Requirements.

5. The 2019 model ordinance also has a new section, **4.2.3.1**, “Community Boundary Alterations”, that reflects the NFIP minimum requirement for communities to notify FEMA when their boundaries change (i.e. when annexations occur).
6. The 2019 model ordinance clearly indicates that floodplain managers have a duty to conduct Substantial Improvement (SI) assessments and Substantial Damage (SD) determinations in a new section **4.2.4**. Both SI and SD are defined in section **2.0**. SI review is required for all structural development proposals and other development activities associated with or attached to a structure. This section is designed to help ensure that each floodplain development file includes SI calculations whenever appropriate, as well as the floodplain administrator’s determination of whether the proposed development activity qualifies as SI. SD review is required whenever structures have been damaged due to natural or other events (i.e. house fire). Please refer FEMA Publication 758: *Substantial Improvement/Substantial Damage Desk Reference*, available for download at: <https://www.fema.gov/media-library/assets/documents/18562> for additional details regarding SI and SD.
7. There is a change to the “Variance Conditions” section in the 2019 model ordinance. Per FEMA guidance, the variance condition related to historic structures has been removed. For more details, including an explanation of the reasons for this change, please see the note in Appendix B, for section **4.4.1**.
8. In the 2019 model ordinance, subdivisions and other development proposals (including manufactured dwelling parks and subdivisions) have been addressed directly in the new section **5.1.6**, and the language reflects the requirements minimum NFIP requirements in 44 CFR 60.3(a)(4), and 60.3(b)(3).
9. Section **5.1.7**, “Use of Other Base Flood Data” has been moved out of the administration section and the language has been updated to reflect the minimum state and NFIP standards.
10. Section **5.1.8**, “Structures Located in Multiple or Partial Flood Zones”, has been added to reflect how the NFIP and State of Oregon Specialty Codes address structures that fall within multiple flood zones or are partially within one or more flood zones.
11. Section **5.2**, which addresses the specific standards for riverine flood zones has been re-organized slightly, but it is still broken down by the type of FEMA Flood Insurance Rate Map (FIRM) flood zone and the level of detail or information available. It has also been amended to add the following sections at the beginning:

- a. **Section 5.2.1, "Flood Openings,"** which covers the NFIP minimum requirements and additional Oregon Specialty Code requirements for residential structures requiring a building permit.

- b. **Section 5.2.2, "Garages,"** addresses the specific requirements for attached and detached garages under the NFIP minimum standards and Oregon Specialty Code requirements.

DRAFT
Columbia County
Flood Hazard Management Ordinance

January 9, 2020

1.0 STATUTORY AUTHORITY, FINDINGS OF FACT, PURPOSE, AND METHODS

1.1 STATUTORY AUTHORIZATION

The State of Oregon has in **ORS 203.035 (COUNTIES)** delegated the responsibility to local governmental units to adopt floodplain management regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the **County of Columbia** does ordain as follows:

1.2 FINDINGS OF FACT

- A. The flood hazard areas of **Columbia County** are subject to periodic inundation which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
- B. These flood losses may be caused by the cumulative effect of obstructions in special flood hazard areas which increase flood heights and velocities, and when inadequately anchored, cause damage in other areas. Uses that are inadequately floodproofed, elevated, or otherwise protected from flood damage also contribute to flood loss.

1.3 STATEMENT OF PURPOSE

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

- A. Protect human life and health;
- B. Minimize expenditure of public money for 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 special flood hazard areas;
- F. Help maintain a stable tax base by providing for the sound use and development of flood hazard areas so as to minimize blight areas caused by flooding;
- G. Notify potential buyers that the property is in a special flood hazard area
- H. Notify those who occupy special flood hazard areas that they assume responsibility for their actions
- I. Participate in and maintain eligibility for flood insurance and disaster relief.

1.4 METHODS OF REDUCING FLOOD LOSSES

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

- A. Restricting or prohibiting development which is 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 development 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 may increase flood hazards in other areas.

2.0 DEFINITIONS

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage.

Appeal: A request for a review of the interpretation of any provision of this ordinance or a request for a variance.

Area of shallow flooding: A designated Zone AO, AH, AR/AO or AR/AH on a community's Flood Insurance Rate Map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Area of special flood hazard: The land in the floodplain within a community subject to a 1 percent or greater chance of flooding in any given year. It is shown on the Flood Insurance Rate Map (FIRM) as Zone A, AO, AH, A1-30, AE, A99, AR. "Special flood hazard area" is synonymous in meaning and definition with the phrase "area of special flood hazard".

Base flood: The flood having a one percent chance of being equaled or exceeded in any given year.

Base flood elevation (BFE): The elevation to which floodwater is anticipated to rise during the base flood.

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

Below-grade crawl space: Means an enclosed area below the base flood elevation in which the interior grade is not more than two feet below the lowest adjacent exterior grade and the height, measured from the interior grade of the crawlspace to the top of the crawlspace foundation, does not exceed 4 feet at any point.

Breakaway wall: A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

Building: See "Structure."

Critical facility: Means a facility for which even a slight chance of flooding might be too great. Critical facilities include, but are not limited to schools, nursing homes, hospitals, police, fire and emergency response installations, installations which produce, use or store hazardous materials or hazardous waste.

Development: Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

Elevated building: Means for insurance purposes, a nonbasement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings or columns.

Flood or Flooding:

- (a) A general and temporary condition of partial or complete inundation of normally dry land areas from:
 - (1) The overflow of inland or tidal waters.
 - (2) The unusual and rapid accumulation or runoff of surface waters from any source.
 - (3) Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in paragraph (a)(2) of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.

- (b) The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in paragraph (a)(1) of this definition.

Flood elevation study: An examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards.

Flood Insurance Rate Map (FIRM): The official map of a community, on which the Federal Insurance Administrator has delineated both the special hazard areas and the risk premium zones applicable to the community. A FIRM that has been made available digitally is called a Digital Flood Insurance Rate Map (DFIRM).

Flood Insurance Study (FIS): See “Flood elevation study”.

Floodplain or flood prone area: Any land area susceptible to being inundated by water from any source. See “flood or flooding.”

Floodplain Administrator: The community official designated by title to administer and enforce the floodplain management regulations.

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: Zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as floodplain ordinance, grading ordinance, stormwater and erosion control ordinance) and other application of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

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

Floodway: The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Also referred to as "Regulatory Floodway."

Functionally dependent use: A use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, and does not include long term storage or related manufacturing facilities.

Hazardous material: The Oregon Department of Environmental Quality defines hazardous materials to include any of the following:

- (a) Hazardous waste as defined in ORS 466.005;
- (b) Radioactive waste as defined in ORS 469.300, radioactive material identified by the Energy Facility Siting Council under ORS 469.605 and radioactive substances defined in ORS 453.005
- (c) Communicable disease agents as regulated by the Health Division under ORS Chapter 431 and 433.010 to 433.045 and 433.106 to 433.990;

- (d) Hazardous substances designated by the United States Environmental Protection Agency (EPA) under section 311 of the Federal Water Pollution Control Act, P.L. 92-500, as amended;
- (e) Substances listed by the United States EPA in section 40 of the Code of Federal Regulations, Part 302 – Table 302.4 (list of Hazardous Substances and Reportable Quantities) and amendments;
- (f) Material regulated as a Chemical Agent under ORS 465.550;
- (g) Material used as a weapon of mass destruction, or biological weapon;
- (h) Pesticide residue;
- (i) Dry cleaning solvent as defined by ORS 465.200(9).

Highest adjacent grade: The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Historic structure: Any structure that is:

1. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
3. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or
4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
 - a. By an approved state program as determined by the Secretary of the Interior or
 - b. Directly by the Secretary of the Interior in states without approved programs.

Letter of Map Change (LOMC): Means an official FEMA determination, by letter, to amend or revise effective Flood Insurance Rate Maps and Flood Insurance Studies. The following are categories of LOMCs:

- (a) **Conditional Letter of Map Amendment (CLOMA):** A CLOMA is FEMA’s comment on a proposed structure or group of structures that would, upon construction, be located on existing natural ground above the base (1-percent-annual-chance) flood elevation on a portion of a legally defined parcel of land that is partially inundated by the base flood.

- (b) **Conditional Letter of Map Revision (CLOMR)**: A CLOMR is FEMA’s comment on a proposed project that would, upon construction, affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the special flood hazard area.
- (c) **Conditional Letter of Map Revision based on Fill (CLOMR-F)**: A CLOMR-F is FEMA’s comment on a proposed project that would, upon construction, result in a modification of the special flood hazard area through the placement of fill outside the existing regulatory floodway.
- (d) **Letter of Map Amendment (LOMA)**: An official amendment, by letter, to the Flood Insurance Rate Maps (FIRMs) based on technical data showing that an existing structure, parcel of land or portion of a parcel of land that is naturally high ground, (i.e., has not been elevated by fill) above the base flood, that was inadvertently included in the special flood hazard area.
- (e) **Letter of Map Revision (LOMR)**: A LOMR is FEMA’s modification to an effective Flood Insurance Rate Map (FIRM), or Flood Boundary and Floodway Map (FBFM), or both. LOMRs are generally based on the implementation of physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the SFHA. The LOMR officially revises the FIRM or FBFM, and sometimes the Flood Insurance Study (FIS) report, and, when appropriate, includes a description of the modifications. The LOMR is generally accompanied by an annotated copy of the affected portions of the FIRM, FBFM, or FIS report.
- (f) **Letter of Map Revision based on Fill (LOMR-F)**: A LOMR-F is FEMA’s modification of the special flood hazard area shown on the Flood Insurance Rate Map (FIRM) based on the placement of fill outside the existing regulatory floodway.
- (g) **PMR**: A PMR is FEMA’s physical revision and republication of an effective Flood Insurance Rate Map (FIRM) or Flood Insurance Study (FIS) report. PMRs are generally based on physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the special flood hazard area.

Lowest floor: The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance.

Manufactured dwelling: A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured dwelling" does not include a "recreational vehicle" and is synonymous with "manufactured home".

Manufactured dwelling park or subdivision: A parcel (or contiguous parcels) of land divided into two or more manufactured dwelling lots for rent or sale.

Mean sea level: For purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which Base Flood Elevations shown on a community's Flood Insurance Rate Map are referenced.

New construction: For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by **Columbia County** and includes any subsequent improvements to such structures.

Recreational vehicle: A vehicle which is:

1. Built on a single chassis;
2. 400 square feet or less when measured at the largest horizontal projection;
3. Designed to be self-propelled or permanently towable by a light duty truck; and
4. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

Regulatory floodway: See "Floodway".

Sheet flow area: See "Area of shallow flooding".

Special flood hazard area: See "Area of special flood hazard" for this definition.

Start of construction: Includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days from the date of the permit. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured dwelling on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure: For floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured dwelling.

Substantial damage: Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial improvement: Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

1. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or
2. Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure."

Variance: A grant of relief by Columbia County from the terms of a flood plain management regulation.

Violation: The failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this ordinance is presumed to be in violation until such time as that documentation is provided.

Water dependent: Means a structure for commerce or industry which cannot exist in any other location and is dependent on the water by reason of intrinsic nature of its operations.

Water surface elevation: The height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, or other datum, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

3.0 GENERAL PROVISIONS

3.1 LANDS TO WHICH THIS ORDINANCE APPLIES

This ordinance shall apply to all special flood hazard areas within the jurisdiction of **Columbia County**.

3.2 BASIS FOR ESTABLISHING THE SPECIAL FLOOD HAZARD AREAS

The special flood hazard areas identified by the Federal Insurance Administrator in a scientific and engineering report entitled "The Flood Insurance Study (FIS) for **Columbia County, Oregon and Incorporated Areas**, dated November 26, 2010, with accompanying Flood Insurance Rate Maps (FIRMs) are hereby adopted by reference and declared to be a part of this ordinance. The FIS and FIRM panels are on file at **Columbia County, Department of Land Development Services, 230 Strand Street, St. Helens, OR 97051, located in the Columbia County Courthouse Annex building.**

3.3 COORDINATION WITH STATE OF OREGON SPECIALTY CODES

Pursuant to the requirement established in ORS 455 that **Columbia County** administers and enforces the State of Oregon Specialty Codes, **Columbia County** does hereby acknowledge that the Oregon Specialty Codes contain certain provisions that apply to the design and construction of buildings and structures located in special flood hazard areas. Therefore, this ordinance is intended to be administered and enforced in conjunction with the Oregon Specialty Codes.

3.4 COMPLIANCE AND PENALTIES FOR NONCOMPLIANCE

3.4.1 COMPLIANCE

All development within special flood hazard areas is subject to the terms of this ordinance and required to comply with its provisions and all other applicable regulations.

3.4.2 PENALTIES FOR NONCOMPLIANCE

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations. Violations of the provisions of this ordinance by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a **misdemeanor infraction subject to the penalties and citations found in the Columbia County Enforcement Ordinance with authority from Oregon Revised Statutes 153.005 to 153.064.** Nothing contained herein shall prevent **Columbia County** from taking such other lawful action as is necessary to prevent or remedy any violation.

3.5 ABROGATION AND SEVERABILITY

3.5.1 ABROGATION

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

3.5.2 SEVERABILITY

This ordinance and the various parts thereof are hereby declared to be severable. If any section clause, sentence, or phrase of the Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way effect the validity of the remaining portions of this Ordinance.

3.6 INTERPRETATION

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

- A. Considered as minimum requirements;
- B. Liberally construed in favor of the governing body; and
- C. Deemed neither to limit nor repeal any other powers granted under state statutes.

3.7 WARNING AND DISCLAIMER OF LIABILITY

3.7.1 WARNING

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This ordinance 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.

3.7.2 DISCLAIMER OF LIABILITY

This ordinance shall not create liability on the part of **Columbia County**, any officer or employee thereof, or the Federal Insurance Administrator for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

4.0 ADMINISTRATION

4.1 DESIGNATION OF THE FLOODPLAIN ADMINISTRATOR

The Columbia County Planning Manager, and their designee, is hereby appointed to administer, implement, and enforce this ordinance by granting or denying development permits in accordance with its provisions. The Floodplain Administrator may delegate authority to implement these provisions.

4.2 DUTIES AND RESPONSIBILITIES OF THE FLOODPLAIN ADMINISTRATOR

Duties of the floodplain administrator, or their designee, shall include, but not be limited to:

4.2.1 PERMIT REVIEW

Review all development permits to determine that:

- A. The permit requirements of this ordinance have been satisfied;
- B. All other required local, state, and federal permits have been obtained and approved.
- C. Review all development permits to determine if the proposed development is located in a floodway. If located in the floodway assure that the floodway provisions of this ordinance in section 5.2.4 are met; and
- D. Review all development permits to determine if the proposed development is located in an area where Base Flood Elevation (BFE) data is available either through the Flood Insurance Study (FIS) or from another authoritative source. If BFE data is not available then ensure compliance with the provisions of sections 5.1.7; and
- E. Provide to building officials the Base Flood Elevation (BFE) applicable to any building requiring a floodplain development permit.
- F. Review all development permit applications to determine if the proposed development qualifies as a substantial improvement as defined in section 2.0.
- G. Review all development permits to determine if the proposed development activity is a watercourse alteration. If a watercourse alteration is proposed, ensure compliance with the provisions in section 5.1.1.
- H. Review all development permits to determine if the proposed development activity includes the placement of fill or excavation.

4.2.2 INFORMATION TO BE OBTAINED AND MAINTAINED

The following information shall be obtained and maintained and shall be made available for public inspection as needed:

- A. Obtain, record, and maintain the actual elevation (in relation to mean sea level) of the lowest floor (including basements) and all attendant utilities of all new or substantially improved structures where Base Flood Elevation (BFE) data is

provided through the Flood Insurance Study (FIS), Flood Insurance Rate Map (FIRM), or obtained in accordance with section 5.1.7.

- B. Obtain and record the elevation (in relation to mean sea level) of the natural grade of the building site for a structure prior to the start of construction and the placement of any fill and ensure that the requirements of sections 5.2.4 and 4.2.1(B) are adhered to.
- C. Upon placement of the lowest floor of a structure (including basement) but prior to further vertical construction, obtain documentation, prepared and sealed by a professional licensed surveyor or engineer, certifying the elevation (in relation to mean sea level) of the lowest floor (including basement).
- D. Where base flood elevation data are utilized, obtain As-built certification of the elevation (in relation to mean sea level) of the lowest floor (including basement) prepared and sealed by a professional licensed surveyor or engineer, prior to the final inspection.
- E. Maintain all Elevation Certificates (EC) submitted to **Columbia County**;
- F. Obtain, record, and maintain the elevation (in relation to mean sea level) to which the structure and all attendant utilities were floodproofed for all new or substantially improved floodproofed structures where allowed under this ordinance and where Base Flood Elevation (BFE) data is provided through the FIS, FIRM, or obtained in accordance with section 5.1.7.
- G. Maintain all floodproofing certificates required under this ordinance;
- H. Record and maintain all variance actions, including justification for their issuance;
- I. Obtain and maintain all hydrologic and hydraulic analyses performed as required under section 5.2.4.
- J. Record and maintain all Substantial Improvement and Substantial Damage calculations and determinations as required under section 4.2.4.
- K. Maintain for public inspection all records pertaining to the provisions of this ordinance.

4.2.3 REQUIREMENT TO NOTIFY OTHER ENTITIES AND SUBMIT NEW TECHNICAL DATA

4.2.3.1 COMMUNITY BOUNDARY ALTERATIONS

The Floodplain Administrator shall notify the Federal Insurance Administrator in writing whenever the boundaries of the community have been modified by annexation or the community has otherwise assumed authority or no longer has authority to adopt and enforce floodplain management regulations for a particular area, to ensure that all Flood Hazard Boundary Maps (FHBM) and Flood Insurance Rate Maps (FIRM) accurately represent the community's boundaries. Include within such notification a copy of a map of the community suitable for reproduction, clearly delineating the new corporate limits or new area for which the community has assumed or relinquished floodplain management regulatory authority.

4.2.3.2 WATERCOURSE ALTERATIONS

Notify adjacent communities, the Department of Land Conservation and Development, and other appropriate state and federal agencies, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration. This notification shall be provided by the applicant to the Federal Insurance Administration as a Letter of Map Revision (LOMR) along with either:

- A. A proposed maintenance plan to assure the flood carrying capacity within the altered or relocated portion of the watercourse is maintained; or
- B. Certification by a registered professional engineer that the project has been designed to retain its flood carrying capacity without periodic maintenance.

The applicant shall be required to submit a Conditional Letter of Map Revision (CLOMR) when required under section 4.2.3.3. Ensure compliance with all applicable requirements in sections 4.2.3.3 and 5.1.1.

4.2.3.3 REQUIREMENT TO SUBMIT NEW TECHNICAL DATA

A community's base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, a community shall notify the Federal Insurance Administrator of the changes by submitting technical or scientific data in accordance with Section 44 of the Code of Federal

Regulations (CFR), Sub-Section 65.3. The community may require the applicant to submit such data and review fees required for compliance with this section through the applicable FEMA Letter of Map Change (LOMC) process.

The Floodplain Administrator shall require a Conditional Letter of Map Revision prior to the issuance of a floodplain development permit for:

- A. Proposed floodway encroachments that increase the base flood elevation; and
- B. Proposed development which increases the base flood elevation by more than one foot in areas where FEMA has provided base flood elevations but no floodway.

An applicant shall Notify FEMA within six (6) months of project completion when an applicant has obtained a Conditional Letter of Map Revision (CLOMR) from FEMA. This notification to FEMA shall be provided as a Letter of Map Revision (LOMR).

The applicant shall be responsible for preparing all technical data to support CLOMR/LOMR applications and paying any processing or application fees associated with the CLOMR/LOMR.

The Floodplain Administrator shall be under no obligation to sign the Community Acknowledgement Form, which is part of the CLOMR/LOMR application, until the applicant demonstrates that the project will or has met the requirements of this code and all applicable state and federal laws.

4.2.4 SUBSTANTIAL IMPROVEMENT AND SUBSTANTIAL DAMAGE ASSESSMENTS AND DETERMINATIONS

Conduct Substantial Improvement (SI) (as defined in section 2.0) reviews for all structural development proposal applications and maintain a record of SI calculations within permit files in accordance with section 4.2.2. Conduct Substantial Damage (SD) (as defined in section 2.0) assessments when structures are damaged due to a natural hazard event or other causes. Make SD determinations whenever structures within the special flood hazard area (as established in section 3.2) are damaged to the extent that the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

4.3 ESTABLISHMENT OF DEVELOPMENT PERMIT

4.3.1 FLOODPLAIN DEVELOPMENT PERMIT REQUIRED

A development permit shall be obtained before construction or development begins within any area horizontally within the special flood hazard area established in section 3.2. The development permit shall be required for all structures, including manufactured dwellings, and for all other development, as defined in section 2.0, including fill and other development activities.

4.3.2 APPLICATION FOR DEVELOPMENT PERMIT

Application for a development permit may be made on forms furnished by the Floodplain Administrator and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically the following information is required:

- A. In riverine flood zones, the proposed elevation (in relation to mean sea level), of the lowest floor (including basement) and all attendant utilities of all new and substantially improved structures; in accordance with the requirements of section 4.2.2.
- B. Proposed elevation in relation to mean sea level to which any non-residential structure will be floodproofed.
- C. Certification by a registered professional engineer or architect licensed in the State of Oregon that the floodproofing methods proposed for any non-residential structure meet the floodproofing criteria for non-residential structures in section 5.2.3.3.
- D. Description of the extent to which any watercourse will be altered or relocated.
- E. Base Flood Elevation data for subdivision proposals or other development when required per sections 4.2.1 and 5.1.6.
- F. Substantial improvement calculation for any improvement, addition, reconstruction, renovation, or rehabilitation of an existing structure.
- G. The amount and location of any fill or excavation activities proposed.

4.4 VARIANCE PROCEDURE

The issuance of a variance is for floodplain management purposes only. Flood insurance premium rates are determined by federal statute according to actuarial risk and will not be modified by the granting of a variance.

4.4.1 CONDITIONS FOR VARIANCES

- A. Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, in conformance with the provisions of sections **4.4.1 (C) and (E), and 4.4.2**. As the lot size increases beyond one-half acre, the technical justification required for issuing a variance increases.
- B. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- C. Variances shall not be issued within any floodway if any increase in flood levels during the base flood discharge would result.
- D. Variances shall only be issued upon:
 - 1. A showing of good and sufficient cause;
 - 2. A determination that failure to grant the variance would result in exceptional hardship to the applicant;
 - 3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.
- E. Variances may be issued by a community for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that the criteria of section **4.4.1 (B) – (D)** are met, and the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

4.4.2 VARIANCE NOTIFICATION

- A. Any applicant to whom a variance is granted shall be given written notice that the issuance of a variance to construct a structure below the Base Flood Elevation will result in increased premium rates for flood insurance and that such construction below the base flood elevation increases risks to life and property. Such notification and a record of all variance actions, including justification for their issuance shall be maintained in accordance with section 4.2.2.

5.0 PROVISIONS FOR FLOOD HAZARD REDUCTION

5.1 GENERAL STANDARDS

In all special flood hazard areas, the following standards shall be adhered to:

5.1.1 ALTERATION OF WATERCOURSES

Require that the flood carrying capacity within the altered or relocated portion of said watercourse is maintained. Require that maintenance is provided within the altered or relocated portion of said watercourse to ensure that the flood carrying capacity is not diminished. Require compliance with sections 4.2.3.2 and 4.2.3.3.

5.1.2 ANCHORING

- A. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
- B. All manufactured dwellings shall be anchored per section 5.2.3.4.

5.1.3 CONSTRUCTION MATERIALS AND METHODS

- A. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- B. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.

5.1.4 UTILITIES AND EQUIPMENT

5.1.4.1 WATER SUPPLY, SANITARY SEWER, AND ON-SITE WASTE DISPOSAL SYSTEMS

- A. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
- B. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.
- C. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding consistent with the Oregon Department of Environmental Quality.

5.1.4.2 ELECTRICAL, MECHANICAL, PLUMBING, AND OTHER EQUIPMENT

Electrical, heating, ventilating, air-conditioning, plumbing, duct systems, and other equipment and service facilities shall be elevated at **minimum 1-foot** above the base flood level or shall be designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during conditions of flooding. In addition, electrical, heating, ventilating, air-conditioning, plumbing, duct systems, and other equipment and service facilities shall:

- A. If replaced as part of a substantial improvement shall meet all the requirements of this section.
- B. Not be mounted on or penetrate through breakaway walls.

5.1.5 TANKS

- A. Underground tanks shall be anchored to prevent flotation, collapse and lateral movement under conditions of the base flood.
- B. Above-ground tanks shall be installed at **minimum 1-foot** above the base flood level or shall be anchored to prevent flotation, collapse, and lateral movement under conditions of the base flood.

- C. **When elevated on platforms, the platforms shall be cantilevered from or knee braced to the building or shall be supported on foundations that conform to the requirements of the State of Oregon Specialty Code.**

5.1.6 SUBDIVISION & PARTITION PROPOSALS & OTHER PROPOSED DEVELOPMENTS

- A. All new subdivision **and partition** proposals and other proposed new developments (including proposals for manufactured dwelling parks **and planned unit developments**), greater than 5 acres in size shall include within such proposals, Base Flood Elevation data.
- B. All new subdivision **and partition** proposals and other proposed new developments (including proposals for manufactured dwelling parks **and planned unit developments**), shall:
 - 1. Be consistent with the need to minimize flood damage.
 - 2. **When possible, be designed to provide a building pad area on each lot or parcel that is outside of the SFHA.**
 - 3. Have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage.
 - 4. Have adequate drainage provided to reduce exposure to flood hazards.

5.1.7 USE OF OTHER BASE FLOOD DATA

When Base Flood Elevation data has not been provided in accordance with section 3.2 the local floodplain administrator shall obtain, review, and reasonably utilize any Base Flood Elevation data available from a federal, state, or other source, in order to administer section 5.0. All new subdivision **and partition** proposals and other proposed new developments (including proposals for manufactured dwelling parks **and planned unit developments**) must meet the requirements of section 5.1.6.

Base Flood Elevations shall be determined for development proposals that are in any A zone that does not have an established base flood elevation. Development proposals located within a riverine unnumbered A Zone shall be reasonably safe from flooding; the test of reasonableness includes use of historical data, high water marks, FEMA provided Base Level Engineering data, and photographs of past flooding, etc... where available. **Historical floods of record in Columbia County**

occurred in 1894, 1933, 1948, 1956, 1964, 1972, 1974, 1987, 1996, 2007, 2011, and 2017.

Structures in unnumbered A zones shall be elevated at minimum 1-foot above the historical high water mark or at least two feet above highest adjacent grade, whichever is higher.

5.1.8 STRUCTURES LOCATED IN MULTIPLE OR PARTIAL FLOOD ZONES

In coordination with the State of Oregon Specialty Codes:

- A. When a structure is located in multiple flood zones on the community's Flood Insurance Rate Maps (FIRM) the provisions for the more restrictive flood zone shall apply.
- B. When a structure is partially located in a special flood hazard area, the entire structure shall meet the requirements for new construction and substantial improvements.

5.1.9 CRITICAL FACILITIES

Construction of new critical facilities including but not limited to schools, hospitals, and fire stations, shall be, to the extent possible, located outside the limits of the special flood hazard area. Construction of new critical facilities shall be permissible within the SFHA only if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three (3) feet above Base Flood Elevation (BFE) or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility shall also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure toxic substances will not be displaced by or released into floodwaters. Reference Critical Facility definition in Section 2.0.

5.2 SPECIFIC STANDARDS FOR RIVERINE (INCLUDING ALL NON-COASTAL) FLOOD ZONES

These specific standards shall apply to all new construction and substantial improvements in addition to the General Standards contained in section 5.1 of this ordinance.

5.2.1 FLOOD OPENINGS

All new construction and substantial improvements with fully enclosed areas below the lowest floor (excluding basements) are subject to the following requirements. Enclosed areas below the Base Flood Elevation, including crawl spaces shall:

- A. Be designed to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters;
- B. Be used solely for parking, storage, or building access;
- C. Be certified by a registered professional engineer or architect or meet or exceed all of the following minimum criteria:
 - 1. A minimum of two openings,
 - 2. The total net area of non-engineered openings shall be not less than one (1) square inch for each square foot of enclosed area, where the enclosed area is measured on the exterior of the enclosure walls,
 - 3. The bottom of all openings shall be no higher than one foot above grade.
 - 4. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they shall allow the automatic flow of floodwater into and out of the enclosed areas and shall be accounted for in the determination of the net open area.
 - 5. All additional higher standards for flood openings in the State of Oregon Residential Specialty Codes Section R322.2.2 shall be complied with when applicable.

5.2.2 GARAGES

- A. Attached garages may be constructed with the garage floor slab below the Base Flood Elevation (BFE) in riverine flood zones, if the following requirements are met:
1. If located within a floodway the proposed garage must comply with the requirements of section **5.2.4**.
 2. The floors are at or above grade on not less than one side;
 3. The garage is used solely for parking, building access, and/or storage;
 4. The garage is constructed with flood openings in compliance with section **5.2.1** to equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater.
 5. The portions of the garage constructed below the BFE are constructed with materials resistant to flood damage;
 6. The garage is constructed in compliance with the standards in section **5.1**; and
 7. The garage is constructed with electrical, and other service facilities located and installed so as to prevent water from entering or accumulating within the components during conditions of the base flood.
- B. Detached garages must be constructed in compliance with the standards for appurtenant structures in section **5.2.3.6** or non-residential structures in section **5.2.3.3** depending on the square footage of the garage.

5.2.3 FOR RIVERINE (NON-COASTAL) SPECIAL FLOOD HAZARD AREAS WITH BASE FLOOD ELEVATIONS

In addition to the general standards listed in section **5.1** the following specific standards shall apply in Riverine (non-coastal) special flood hazard areas with Base Flood Elevations (BFE): Zones A1-A30, AH, and AE.

5.2.3.1 BEFORE REGULATORY FLOODWAY

In areas where a regulatory floodway has not been designated, no new construction, substantial improvement, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's Flood Insurance Rate Map (FIRM), unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

5.2.3.2 RESIDENTIAL CONSTRUCTION

- A. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated at **minimum 1-foot** above the Base Flood Elevation (BFE);
- B. Enclosed areas below the lowest floor shall comply with the flood opening requirements in section 5.2.1.

5.2.3.3 NON-RESIDENTIAL CONSTRUCTION

- A. New construction and substantial improvement of any commercial, industrial, or other non-residential structure shall:
 - 1. Have the lowest floor, including basement elevated at **minimum 1-foot** above the Base Flood Elevation (BFE); Or,
 - 2. Together with attendant utility and sanitary facilities, be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
 - 3. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
 - 4. 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 section based on their development and/or review of the structural design,

specifications and plans. Such certifications shall be provided to the Floodplain Administrator as set forth section 4.2.2.

- B. Non-residential structures that are elevated, not floodproofed, shall comply with the standards for enclosed areas below the lowest floor in section 5.2.1.
- C. Applicants floodproofing non-residential buildings shall be notified that flood insurance premiums will be based on rates that are one (1) foot below the floodproofed level (e.g. a building floodproofed to the base flood level will be rated as one (1) foot below.
- D. Applicants floodproofing non-residential buildings shall supply a maintenance plan for the entire structure to include but not limited to: exterior envelop of structure; all penetrations to the exterior of the structure; all shields, gates, barriers, or components designed to provide floodproofing protection to the structure; all seals or gaskets for shields, gates, barriers, or components; and, the location of all shields, gates, barriers, and components, as well as all associated hardware, and any materials or specialized tools necessary to seal the structure.
- E. Applicants floodproofing non-residential buildings shall supply an Emergency Action Plan (EAP) for the installation and sealing of the structure prior to a flooding event that clearly identifies what triggers the EAP and who is responsible for enacting the EAP.

5.2.3.4 MANUFACTURED DWELLINGS

- A. New or substantially improved manufactured dwellings supported on solid foundation walls shall be constructed with flood openings that comply with section 5.2.1;
- B. The bottom of the longitudinal chassis frame beam shall be at **minimum 1-foot** above Base Flood Elevation(BFE);
- C. New or substantially improved manufactured dwellings shall be anchored to prevent flotation, collapse, and lateral movement during the base flood. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (Reference FEMA's

“Manufactured Home Installation in Flood Hazard Areas” guidebook for additional techniques), and;

- D. Electrical crossover connections shall be a minimum of twelve (12) inches above Base Flood Elevation (BFE).

5.2.3.5 RECREATIONAL VEHICLES

Recreational vehicles placed on sites are required to:

- A. Be on the site for fewer than 180 consecutive days, and
- B. Be fully licensed and ready for highway use, on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or
- C. Meet the requirements of section 5.2.3.4, including the anchoring and elevation requirements for manufactured dwellings.

5.2.3.6 APPURTENANT (ACCESSORY) STRUCTURES

Relief from elevation or floodproofing requirements for residential and non-residential structures in Riverine (Non-Coastal) flood zones may be granted for appurtenant structures that meet the following requirements:

- A. Appurtenant structures located partially or entirely within the floodway must comply with requirements for development within a floodway found in section 5.2.4.
- B. Appurtenant structures must only be used for parking, access, and/or storage and shall not be used for human habitation;
- C. In compliance with State of Oregon Specialty Codes, appurtenant structures on properties that are zoned residential are limited to one-story structures less than 200 square feet, or 400 square feet if the property is greater than two (2) acres in area and the proposed appurtenant structure will be located a minimum of 20 feet from all property lines. Appurtenant structures on properties that are zoned as non-residential are limited in size to 120 square feet.

- D. The portions of the appurtenant structure located below the Base Flood Elevation must be built using flood resistant materials;
- E. The appurtenant structure must be adequately anchored to prevent flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the base flood.
- F. The appurtenant structure must be designed and constructed to equalize hydrostatic flood forces on exterior walls and comply with the requirements for flood openings in section 5.2.1;
- G. Appurtenant structures shall be located and constructed to have low damage potential;
- H. Appurtenant structures shall not be used to store toxic material, oil, or gasoline, or any priority persistent pollutant identified by the Oregon Department of Environmental Quality unless confined in a tank installed in compliance with section 5.1.5.
- I. Appurtenant structures shall be constructed with electrical, mechanical, and other service facilities located and installed so as to prevent water from entering or accumulating within the components during conditions of the base flood.

5.2.3.7 BELOW-GRADE CRAWL SPACES

- A. The building must be designed and adequately anchored to resist flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. Hydrostatic loads and the effects of buoyancy can usually be addressed through the required flood openings stated in **Section 5.2.1**. Because of hydrodynamic loads, crawlspace construction is not allowed in areas with flood velocities greater than five (5) feet per second unless the design is reviewed by a qualified design professional, such as a registered architect or professional engineer. Other types of foundations are recommended for these areas.

- B. The crawlspace is an enclosed area below the Base Flood Elevation (BFE) and, as such, must have openings that equalize hydrostatic pressures by allowing the automatic entry and exit of floodwaters. The bottom of each flood vent opening can be no more than one (1) foot above the lowest adjacent exterior grade.
- C. Portions of the building below the BFE must be constructed with materials resistant to flood damage. This includes not only the foundation walls of the crawlspace used to elevate the building, but also any joists, insulation, or other materials that extend below the BFE. The recommended construction practice is to elevate the bottom of joists and all insulation above BFE.
- D. Any building utility systems within the crawlspace must be elevated above BFE or designed so that floodwaters cannot enter or accumulate within the system components during flood conditions. Ductwork, in particular, must either be placed above the BFE or sealed from floodwaters.
- E. The interior grade of a crawlspace below the BFE must not be more than two (2) feet below the lowest adjacent exterior grade.
- F. The height of the below-grade crawlspace, measured from the interior grade of the crawlspace to the top of the crawlspace foundation wall must not exceed four (4) feet at any point. The height limitation is the maximum allowable unsupported wall height according to the engineering analyses and building code requirements for flood hazard areas.
- G. There must be an adequate drainage system that removes floodwaters from the interior area of the crawlspace. The enclosed area should be drained within a reasonable time after a flood event. The type of drainage system will vary because of the site gradient and other drainage characteristics, such as soil types. Possible options include natural drainage through porous, well-drained soils and drainage systems such as perforated pipes, drainage tiles or gravel or crushed stone drainage by gravity or mechanical means.
- H. The velocity of floodwaters at the site shall not exceed five (5) feet per second for any crawlspace. For velocities in excess of five (5) feet per second, other foundation types should be used.

5.2.4 FLOODWAYS

Located within the special flood hazard areas established in section 3.2 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of the floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

- A. Prohibit encroachments, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway unless:
1. Certification by a registered professional civil engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment shall not result in any increase in flood levels within the community during the occurrence of the base flood discharge; Or,
 2. A community may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that a Conditional Letter of Map Revision (CLOMR) is applied for and approved by the Federal Insurance Administrator, and the requirements for such revision as established under Volume 44 of the Code of Federal Regulations, section 65.12 are fulfilled.
 3. If an encroachment proposal resulting in an increase in Base Flood Elevation meets the following criteria:
 - i. Is for the purpose of fish enhancement,
 - ii. Does not involve the placement of any structures (as defined in section 2.0) within the floodway,
 - iii. Has a feasibility analysis completed documenting that fish enhancement will be achieved through the proposed project,
 - iv. Has a maintenance plan in place to ensure that the stream carrying capacity is no impacted by the fish enhancement project,
 - v. Has approval by the National Marine Fisheries Service, the State of Oregon Department of Fish and Wildlife, or the equivalent federal or state agency, and
 - vi. Has evidence to support that no existing structures will be negatively impacted by the proposed activity;

Then an approved CLOMR may not be required prior to approval of a floodplain permit.

- B. If the requirements of section 5.2.4 (A) are satisfied, all new construction, substantial improvements, and other development shall comply with all other applicable flood hazard reduction provisions of section 5.0.

5.2.5 STANDARDS FOR SHALLOW FLOODING AREAS

Shallow flooding areas appear on FIRMs as AO zones with depth designations or as AH zones with Base Flood Elevations. For AO zones the base flood depths range from one (1) to three (3) feet above ground where a clearly defined channel does not exist, or where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow.

For both AO and AH zones, adequate drainage paths are required around structures on slopes to guide floodwaters around and away from proposed structures.

5.2.5.1 STANDARDS FOR AH ZONES

Development within AH Zones must comply with the standards in sections 5.1, 5.2, and 5.2.5(A).

5.2.5.2 STANDARDS FOR AO ZONES

In AO zones, the following provisions apply in addition to the requirements in sections 5.1 and 5.2.5 (A):

- A. New construction and substantial improvement of residential structures and manufactured dwellings within AO zones shall have the lowest floor, including basement, elevated **at minimum 1-foot** above the highest grade adjacent to the building, or **at minimum 1-foot** above the Base Flood Elevation depth number specified on the Flood Insurance Rate Maps (FIRM), **whichever is higher, or at least three (3) feet above highest adjacent grade if no depth number is specified.** For manufactured dwellings the lowest floor is considered to be the bottom of the longitudinal chassis frame beam.

- B. New construction and substantial improvements of non-residential structures within AO zones shall either:
1. Have the lowest floor (including basement) elevated at **minimum 1-foot** above the highest grade adjacent to the building, or at **minimum 1-foot** above the Base Flood Elevation depth number specified on the Flood Insurance Rate Maps (FIRM), **whichever is higher, or at least two (2) feet above highest adjacent grade if no depth number is specified**; or
 2. Together with attendant utility and sanitary facilities, be completely floodproofed to **at minimum 1-foot above the highest grade adjacent to the building or at minimum 1-foot** above the Base Flood Elevation depth number specified on the Flood Insurance Rate Maps (FIRM), **whichever is higher**, or a minimum of two (2) feet above the highest adjacent grade if no depth number is specified, so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect as stated in section **5.2.3.3(A)(4)**.
- C. Recreational vehicles placed on sites within AO Zones on the community's Flood Insurance Rate Maps (FIRM) shall either:
1. Be on the site for fewer than 180 consecutive days, and
 2. Be fully licensed and ready for highway use, on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or
 3. Meet the elevation requirements of section **5.2.5.2(A)**, and the anchoring and other requirements for manufactured dwellings of section **5.2.3.4**.
- D. In AO zones, new and substantially improved appurtenant structures must comply with the standards in section **5.2.3.6**.
- E. In AO zones, enclosed areas beneath elevated structures shall comply with the requirements in section **5.2.1**.