

**STAFF REPORT**  
**CITY OF LAKE OSWEGO**  
**PLANNING DIVISION**

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APPLICANT:

City of Lake Oswego

FILE NO:

LU 07-0085

PROPERTY OWNER:

City-Wide

STAFF:

Paul Espe, Associate Planner and Dennis Egner, AICP, Long Range Planning Manager

LEGAL DESCRIPTION:

City-Wide

DATE OF REPORT:

February 29, 2008

LOCATION:

City-Wide

DATE OF HEARING:

March 10, 2008

COMP. PLAN DESIGNATION:

N/A

ZONING DESIGNATION:

N/A

NEIGHBORHOOD ASSOCIATION:

All

REQUEST:

Zoning Map / Text Amendment to Articles 50.44 (Flood Management Area) and 50.02 (Definitions).

**I. APPLICANT'S REQUEST**

The City of Lake Oswego is the applicant. The City is proposing adoption of a new Flood Management Area Map and amendments to Community Development Code Articles 50.02 (Definitions) and 50.44 (Flood Management Area). The proposed code amendments are primarily in response to the specific changes that FEMA staff has requested to assure that City code is in compliance with the National Flood Insurance Program. These changes are necessary for properties in the City to remain eligible for flood insurance through the National Flood Insurance Program.

**II. APPLICABLE CRITERIA**

Section 50.75.010 of the Community Development Code sets forth the criteria for legislative decisions involving map and code text amendments. The section states:

*A legislative decision is generally a policy decision which is up to the discretion of the City Council, but shall:*

- 1. Comply with any applicable state law;*
- 2. Comply with any applicable Statewide Planning Goal or Administrative Rule adopted pursuant to ORS Chapter 197; and*
- 3. In the case of a legislative amendment to this Community Development Code, comply with any applicable provision of the Lake Oswego Comprehensive Plan.*

The applicable laws, goals, policies, and code requirements are listed below. Staff findings and conclusions are provided in Section V.

**A. City of Lake Oswego Comprehensive Plan**

- Goal 1: Citizen Involvement Policies 1, 2 & 5
- Goal 7: Natural Disasters And Hazards (Section 1 Flood Hazards) Policies 1, 2, 3, 4, 6 & 12

**B. State Wide Planning Goals**

- Goal 1: Citizen Involvement
- Goal 7: Natural Hazards

**C. City of Lake Oswego Community Development Code:**

- LOC 50.01.010 Purpose
- LOC 50.05.005 Zoning Districts
- LOC 50.05.010 Zoning Map
- LOC 50.79.030 Major Development
- LOC 50.77.007 Burden of Proof
- LOC 50.77.030 Application Procedures
- LOC 50.82.005-.020 Review of Major Development Applications and Appeals
- LOC 50.83.005-.040 Hearings before a Hearing Body
- LOC 50.75.005 Legislative Decision Defined
- LOC 50.75.010 Criteria for Legislative Decision
- LOC 50.75.015 Required Notice to DLCD
- LOC 50.79.020 Planning Commission Recommendation Required
- LOC 50.79.025 City Council Review and Decision

**D. Metro Urban Growth Management Functional Plan**

Title 3: Water Quality, Flood Management and Fish and Wildlife Conservation.

### **III. SUMMARY/ORGANIZATION**

This report addresses the amendment of the Flood Management Area Map and amendments to two separate sections of the Community Development Code:

- Article 50.02 (Definitions)
- Article 50.44 (Flood Management Area)

Staff's analysis of the proposed amendments consists of two parts:

- A summary of proposed map and code amendments, background information, and key issues.
- Specific findings and conclusions that show how the map and code amendments comply with all applicable Lake Oswego Comprehensive Plan Goals and Policies, State Wide Planning Goals, and Metro Functional Plan requirements.

### **IV. SUMMARY OF MAP AND CODE AMENDMENTS, BACKGROUND INFORMATION, AND KEY ISSUES**

#### **A. Map and Code Amendments**

The City is proposing amendments to the Flood Management Area Map and code text (LOC Articles 50.02 and 50.44) to implement a new Flood Insurance Study. The study resulted in revisions to the base flood elevations (the elevation of the 100-year flood) along the Tualatin River, Oswego Lake, and the Oswego Canal. The text changes respond to changes recommended by Kristen Meyers, Program Specialist with FEMA Region X so that the City will continue to comply with the National Flood Insurance Program requirements (See Exhibit F-2).

#### **1. Flood Management Area Map Changes**

In 2002, the City of Lake Oswego partnered with Clean Water Services in Washington County to have a new flood study completed for Oswego Lake and the Oswego Canal. Clean Water Services was in the process of conducting a major study of the entire Tualatin Basin. The Lake Oswego portion of the study generated new flood maps that depict a rise in the level of the base flood along the Tualatin River, the Oswego Canal, and Oswego Lake. Around the lake, the base flood elevation increased by 2.5 feet over the current level (the new base flood level is at 103.5 feet NGVD 29<sup>1</sup>). On December 17, 2007, the new flood maps were approved by FEMA and the Flood Insurance Program. To remain eligible for the insurance program, the City must adopt the maps and regulate development in the area through our flood management area standards. FEMA has given the City a six-month window, until June 17, 2008, to adopt the maps and the related code.

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<sup>1</sup> NGVD-29 is the National Geologic Vertical Datums taken in 1929. This will differ from the NAVD 96 which is derived from modern data gathering techniques. The elevations in the new flood maps are reported as NAVD 96. The 100 year flood elevation of 103.5 (NGVD 29) is equivalent to the base flood elevation of 107 (NAVD 96) reported on the revised Flood Management Area Maps. For consistency, this report will use the NGVD-29 Datums. The adopted maps will have NAVD 96 Datums.

The new maps identify the area of “Special Flood Hazard.” This is the area determined to have a 1% chance of flooding in any given year and is more commonly known as the 100-year floodplain (it is also recognized as the area that is subject to the “base flood”). The area of Special Flood Hazard is identified in a report by FEMA, the Preliminary Flood Insurance Study (FIS) for Clackamas County, OR and Incorporated Cities, dated September 30, 2006. The report includes an updated digitized Flood Insurance Rate Map (DFIRM) which serves as a data source for the City’s Flood Management Area Map. The FIS and DFIRM are on file with the Engineering Division. Note: the City’s Flood Management Area Map also includes the area along the Willamette River that was inundated by flood waters during the flood of February 1996.

## **2. Flood Management Area Code Amendments**

The proposed code amendments are primarily intended to comply with FEMA’s regulations. Text amendments include minor modifications to sections that describe the Flood Management Area Map and the Development and Construction Standards. Additional rules have been added to address certification of nonresidential construction, waste disposal systems, recreational vehicles, manufactured homes, electrical systems, and the installation of HVAC facilities.

The Historic Flood Overflow Code section (LOC 50.44.025) is a new section that is not required for Flood Insurance Program compliance. Language in this section provides for the maintenance of flow capacities of flood waters exiting the lake during flood events. This new section restricts development on properties adjacent to the lake and below 103.5 feet (NGVD-29) in the vicinity of outflows. Two maps illustrating the location of these overflow corridors have been prepared for the administration of this code section. The maps are attached to the draft ordinance as Appendices 50.44-B and 50.44-C.

### **B. Background Information**

#### **1. 2003 Flood Management Area Code Amendments**

In 2003, the City significantly revised its flood hazard overlay zone. The revised overlay resulted in the flood management area which depicted the area identified as the 100-yr floodplain on the 1987 version of FEMA’s Flood Insurance Rate Maps and the areas that were inundated by the 1996 flood. The 2003 updates were intended to address specific areas of non-compliance with Metro’s Title 3 requirements. To develop the code changes, staff worked with the Floodplain Standards Work Group, a task force of citizens who were appointed by the City Council.

#### **2. 2007 Flood Insurance Rate Map – Finalization Process**

In 2000, communities along the Tualatin River partnered with Washington County’s Clean Water Services to update flood maps for the Tualatin Basin. Lake Oswego joined the process in 2002. In June of 2003, the City held open houses to explain the purpose of the study and to go over preliminary maps and data with

property owners and residents. Over the next three years, the flood study underwent numerous technical revisions. Preliminary copies of the Flood Insurance Study (FIS) report and Flood Insurance Rate Maps (FIRM) became available on September 29, 2006. Clackamas County held an informational open house regarding the maps in January 2007. On May 17, 2007, the City Engineering Division held an open house to exhibit the new maps. Letters were mailed announcing the City open house to property owners that were within, or very close to the floodplains of Oswego Lake, Oswego Canal, the Willamette River and the Tualatin River. Following federal procedures, the proposed maps were published in the Lake Oswego Review on March 22, 2007 and March 29, 2007 and in the Federal Register at Part 67, Volume 72 Page 38541 on July 13, 2007. Affected residents were allowed a period of 90 days from the date of the second newspaper publication (March 29, 2007) to appeal the maps or study to FEMA. The City received official notice that the maps were final on December 17, 2007.

### **3. 2008 Map and Code Update Process**

To review the proposed map code amendments, staff met with the former members of the Floodplain Standards Workgroup on three occasions prior to the Planning Commission hearing. Comments from the former workgroup members helped to clarify and focus the draft code language. The members were generally opposed to the proposed code section addressing lake outflows (LOC 50.44.025) because it was not something that was being required by FEMA. They felt the section was too restrictive.

Staff sponsored an open house on February 28, 2008 to provide an opportunity for citizens to learn more about the map amendments and code changes. The open house provided background information on the Flood Management Area and an opportunity for residents to review the FEMA Flood Maps. Approximately 30 people attended the open house.

#### **C. Key Issues**

##### **1. Affect of the New Flood Management Area Map**

The revisions to the Flood Insurance Rate Map (FIRM) and the City's Flood Management Area Map will increase the base flood elevation level by 2.5 feet around the lake. Similar elevation increases will occur along the Oswego Canal and the Tualatin River. Flood levels were not changed along the Willamette River, Tryon Creek, Oswego Creek, and Springbrook Creek. The most significant impacts of the increase in base flood elevation include:

- For new residential construction and projects meeting the definition of substantial improvement, the floor level will need to be one foot higher than the base flood elevation. This does not mean that existing non-conforming buildings need to be immediately remodeled to raise the floor level, but when these buildings are remodeled and the work meets the substantial

improvement thresholds, the changes will need to comply with the new standards.

- More properties may need flood insurance. Federally backed home loans require flood insurance if the property is located within an area that could be subject to the base flood. Although the new maps result in a higher base flood elevation, the new maps make it much easier to see if a house or other structure is actually located with the floodplain. If a house is not within the floodplain, a property owner may file a letter of map amendment with FEMA. If accepted, the letter would then eliminate the need for flood insurance.

## **2. Historic Flood Overflow Area Map**

Staff has proposed adding a new section (LOC 50.44.025) to the Flood Management article of the code to help maintain the historic flow of flood water out of the lake. This section is not required for compliance with the National Flood Insurance Program but it is needed to avoid construction that would block the flow of flood water and cause water to be diverted onto other properties. Two maps have been included as appendices to the code to illustrate where the flood waters spilled over the lake and flowed toward the Willamette River. The Lakewood Bay Overflow Map (Appendix 50.44-B) shows the route of floodwaters exiting Lakewood Bay. The Oswego Lake Dam Overflow Map shows the route flood waters took exiting the Lake Outlet Dam (Appendix 50.44-C). These maps are intended for use in the administration of the new code section (LOC 50.44.025).

The new Historic Flood Overflow section ensures that flow capacities are maintained across applicable properties and that new development does not cause flood water to trespass onto other properties. Development standards are provided to prevent the impedance of flood waters from construction, fill, or grading activity in these areas.

In preparing these maps, staff considered an option that would have only applied to the properties that abut the lake (properties to the west of State Street and northwest of McVey Avenue). We rejected this option because it discounts the potential impacts from the street right-of-way and the properties to the east of State and McVey that are located within the area of special flood hazard. Fill or construction in these areas could have the effect of diverting flows onto other properties.

## **3. Reducing Flood Hazards**

Prior to the Planning Commission hearings, staff met with former members of the 2003 Floodplain Standards Work Group. Reducing the risk of flooding is an important issue to these individuals. Ideas that have been discussed include a dike or levy in the Foothills area and modifications to the Oswego Lake dam. A dike in the Foothills area would require the cooperation of the property owners in the area and the possible formation of a diking district by the Board of County Commissioners. If a diking district is formed, we may want to revise code language to exempt development in the area from certain flood management area standards.

Modifications to the Oswego Lake dam could result in a lower base flood elevation around the lake and the elimination of the need for the proposed Historic Flood

Overflow areas. Staff recommends that following the current update process, the Planning Commission hold a follow-up workshop on projects and ideas to reduce flood hazards.

#### **4. Revisions to LOC Article 50.02 (Definitions)**

This article is proposed to be revised to better comply with FEMA regulations. These terms are related to Article 50.44, but are found in the “Definitions” section of the code. Summaries of the substantive code changes are listed below:

##### Definitions (LOC 50.02.005)

- a. Areas of Special Flood Hazards: This is a new definition that refers to the FEMA definition. In short, it is the land in the floodplain subject to a one percent or greater chance of flooding in any given year.
- b. Flood Insurance Rate Map: “FEMA Map” changed to “Flood Insurance Rate Map (FIRM).”
- c. Recreational Vehicle: The existing definition was amended to include the provision that recreational vehicles, may not be used as a permanent dwelling, but may be used as a temporary living quarters.
- d. Start of Construction: This definition clarifies actual date of when construction is started for “substantial improvements.”
- e. Structure: This definition has been modified to include a gas or liquid storage tank.

#### **5. Revisions to LOC Article 50.44 (Flood Management Area)**

Summaries of the substantive code changes are listed below:

- a. Applicability / Building Permit Review (LOC 50.44.005).  
This section has been revised to make it clear that the new Flood Insurance Rate Map (FIRM) and Flood Insurance Study are part of the City’s Flood Management Area and are subject to the requirements of Article 50.44.
- b. Development Review (LOC 50.44.020(5)).  
This code language was added to require that a development applicant provide alternative flood data in areas where base flood elevation has not been provided by the FIRM (“A” zones). These areas include the upper portion of Springbrook Creek, Tryon Creek, and the portion of Oswego Creek below the Oswego Lake dam and above the floodplain of the Willamette River.
- c. Development Review (LOC 50.44.020(6)).  
This code language provides authority to require alternative base flood data for building permit applications in “A” zones. Building permit applications are reviewed to assure proposed construction will be reasonably safe from flooding. The finished floor of any building must be

elevated at least two feet above the highest adjacent grade in the “A” zone. “Highest Adjacent Grade” is also defined in this section.

- d. Encroachment within Floodway (LOC 50.44.024(5)).  
This proposed language restricts and provides specific standards for development (including fill) in potential floodways where a formal floodway designation is absent (the upper portion of Springbrook Creek, Tryon Creek, and the portion of Oswego Creek below the Oswego Lake dam and above the floodplain of the Willamette River). Development is allowed only if it will not increase the base flood elevation more than one foot when combined with other anticipated development.
- e. Historic Flood Overflow (LOC 50.44.025).  
This is a new code section that is being proposed by the City in order to provide additional protective measures in areas where water exited the lake during the 1996 flood event. This section would restrict development on properties within the area of special flood hazard, adjacent to the lake and below 103.5 feet (NGVD-29) in the vicinity of outflows.
- f. Flood Management Area Development Standards (LOC 50.44.030).  
Additional text was added that requires:
  - (2)(e)(ii)(3). Certification of nonresidential construction by a registered professional engineer or architect.
  - (2)(e)(ii)(4). Non residential structures that are elevated rather than being flood proofed must be designed so that the enclosed areas below the first floor allow the entry and exit of flood water.
  - (2)(f)(iv). Onsite waste disposal systems shall avoid impairment or contamination during flooding.
  - (2)(j). Recreational vehicles that are placed on sites are required to be fully licensed and ready for highway use and attached to the site by a quick disconnect system.
- g. Standards for Construction (LOC 50.44.036). Additional text was added that requires:
  - (1)(a). Manufactured homes shall be installed using methods that minimize flood damage.
  - (2)(c). Electrical and HVAC facilities shall be elevated or located to prevent flood waters from entering or accumulating within components.

**V. FINDINGS AND CONCLUSIONS: COMPLIANCE WITH APPLICABLE CRITERIA**

**A. City Of Lake Oswego Comprehensive Plan Policies**

**GOAL 1: CITIZEN INVOLVEMENT**

**Land Use Policies 1, 2 & 5**

- 1. Provide opportunities for citizen participation in preparing and revising local land use plans and ordinances.**
- 2. Provide citizen involvement opportunities that are appropriate to the scale of a given planning effort. Large area plans, affecting a large portion of community residents and groups require citizen involvement opportunities of a broader scope than that required for more limited land use decisions.**
- 5. Seek citizen input through service organizations, interest groups and individuals, as well as through neighborhood organizations.**

**Findings:** This Goal insures the opportunity for citizens to be involved in all phases of the planning process. The City's acknowledged Comprehensive Plan and Community Development Code contain all the necessary requirements for a citizen involvement program which clearly define the procedures by which the general public will be notified in the on-going land use planning process and enables citizens to comprehend the issues and become involved in decision making. All required notification measures and opportunities for input are specified in these documents and were provided during this process.

The City held open houses regarding the Flood Insurance Rate Map updates in June, 2003 and on May 17, 2007. An open house was held on and February 28, 2008 to provide an opportunity for citizens to learn more about the map amendments and code changes. The open house provided background information on the Flood Management Area code amendments and an opportunity for residents to review the new FEMA floodplain maps. Staff met with the former members of the Floodplain Standards Workgroup three times prior to the Planning Commission hearing to discuss the proposed map and code amendments. This work group was originally involved with the 2003 Flood Management Area changes required by Title 3 of Metro's Functional Plan.

Citizens and neighborhood groups will have opportunities to participate in the review of the proposed amendments during the City's public hearing processes.

**Conclusion:** The amendments are consistent with the above policies.

## **GOAL 7: AREAS SUBJECT TO NATURAL DISASTERS AND HAZARDS**

**Relevant policies include Policies 2, 3, 4, 7 and 9**

- Policy 2. Limit new development in the FEMA-regulated floodway, including filling and removal of earth, to the following uses provided there is no increase in base-year flood levels.**
- a. Public and private open space and recreational uses;**
  - b. Water-dependent structures such as docks, piers, bridges, and floating marina's; and**
  - c. Public facilities including unpaved roads and private access ways.**

**Findings:** The City is proposing the addition of a new code section (LOC 50.44.025 Historic Flood Overflow) that addresses the areas where water exited the lake during the 1996 flood. This will provide protective measures to preserve outflow capacity in these areas and will help to prevent any additional damage from the impedance of flow or trespass of flood waters on other properties. By preserving outflow capacity, new development in the Historic Flood Overflow areas will avoid any increase in base flood levels consistent with Policy 2 above.

**Conclusion:** The amendments comply with the Goal 7, Policy 2.

- Policy 3. Review development proposals, including public facilities, filling and grading, within areas subject to flooding to ensure:**
- a. Conformance with FEMA and other regulatory agencies;**
  - b. Reasonable protection of public facilities;**
  - c. The flow, velocity and elevation of flood waters are not changed so as to endanger other property;**
  - d. Natural systems such as fish and wildlife habitat, vegetation, wetlands and stream corridors are protected; and,**
  - e. Other problems associated with flooding such as ponding, poor drainage, high water tables and unstable soils are addressed.**

**Findings:** The City is modifying its Flood Management Area Map to include new information generated by an update to the Flood Insurance Rate Map and the related Flood Insurance Study. The City is amending the Flood Management Area (Article 50.44) in response to specific changes that FEMA staff has requested. These map and code changes are needed in order to remain in compliance with the National Flood Insurance Program. In addition, Statewide Planning Goal 7 requires that local governments participate in the Flood Insurance Program administered under FEMA.

**Conclusion:** The amendments comply with the Goal 7, Policy 3.

**Policy 4. Protect, restore and maintain the natural systems of floodplains including riparian vegetation, wooded areas, wetlands and fish and wildlife habitat.**

**Findings:** The new Flood Insurance Rate Map expands the floodway and the floodplain in the vicinity of Bryant Woods Park and Canal Acres Natural Area. By including more floodplain and floodway in these natural area parks, the City can better implement Policy 4.

**Conclusion:** The amendments comply with the Goal 7, Policy 4.

**Policy 7. Prohibit the storage of hazardous substances within the floodplain.**

**Findings:** Current code language allows limited storage of hazardous materials within the floodplain when those materials are needed for recreational boat or marina use and the materials are anchored and kept in a watertight container. New language clarifies that materials for lake maintenance are also allowed under the same conditions.

**Conclusion:** The amendments comply with the Goal 7, Policy 7.

**Policy 9. Protect, restore and maintain watercourses within the floodplain.**

**Findings:** The proposed code amendments continue to protect the watercourses within the floodplain. The proposed Historic Flood Overflow provisions implement Policy 9 by maintaining historic flows and preventing flows from being inadvertently diverted to other properties.

**Conclusion:** The amendments comply with the Goal 7, Policy 9.

**B. Consistency With The Metro Urban Growth Management Functional Plan**

Title 3 of the Metro Urban Growth Functional Plan addresses water quality and flood hazards. The City of Lake Oswego amended its floodplain standards in 2003 to comply with Metro Title 3 requirements. The new map and amendments do not make any changes that would take the City out of compliance with Title 3. The proposed code amendments were sent to Metro staff for review. No comments were received.

**Conclusion:** The proposed map and code changes are consistent with Title 3 of Metro’s Urban Growth Functional Plan.

**C. Consistency with Statewide Planning Goals**

**Goal 1 - Citizen Involvement**

**Findings:** Please refer to findings under City of Lake Oswego Comprehensive Plan, Goal 1 – Citizen Involvement, Policies 1, 2 & 5.

**Conclusion:** Adequate opportunities for citizen involvement are being made available, consistent with the requirements of Statewide Goal 1.

**Goal 7 - Areas Subject to Natural Disasters and Hazards**

This goal requires jurisdictions “to protect life and property from natural disasters and hazards.” It requires communities to use “appropriate safeguards” in known areas of natural disasters and hazards. The adoption of a revised flood Management Area Map and code amendments to comply with the Federal Emergency Management Agency regulations is consistent with this Goal.

**Conclusion:** The amendments are consistent with Statewide Planning Goal 7.

**D. Lake Oswego Community Development Code Procedural Requirements**

LOC 50.01.010	Purpose
LOC 50.05.005	Zoning Districts
LOC 50.05.010	Zoning Map
LOC 50.79.030	Major Development
LOC 50.77.007	Burden of Proof
LOC 50.77.030	Application Procedures
LOC 50.82.005-.020	Review of Major Development Applications and Appeals
LOC 50.83	Hearings before a Hearing Body
LOC 50.75.005	Legislative Decision Defined
LOC 50.75.010	Criteria for Legislative Decision
LOC 50.75.015	Required Notice to DLCD
LOC 50.79.020	Planning Commission Recommendation Required
LOC 50.79.025	City Council Review and Decision

**Findings:** The application has been submitted, noticed and reviewed in accordance with the City of Lake Oswego Community Development Code requirements. Approval of this application will result in revisions to the Flood Management Area Map and code amendments to Articles 50.02 (Definitions) and 50.44 (Flood Management Area).

**Conclusion:** The record indicates that the application complies with all of the above applicable procedural requirements.

## **VI. CONCLUSION/RECOMMENDATION**

This proposal complies with all applicable Community Development Code criteria, the City's Comprehensive Plan, Metro's Urban Growth Management Functional Plan and Statewide Goals and Policies. Staff recommends that the Planning Commission recommend approval of LU 07-0085 to the City Council. Staff also recommends that following the current update process, the Planning Commission hold a workshop on projects and ideas to reduce flood hazards in the community.

## **VII. EXHIBITS**

- A. Notice of Appeal** [No current exhibits reserved for hearing use]
- B. Findings and Conclusions** [No current exhibits; reserved for hearing use]
- C. Minutes** [No Current Exhibits; reserved for hearing use]
- D. Staff Reports** [No Current Exhibits reserved for hearing use]
- E. Graphics** [No Current Exhibits reserved for hearing use]
- F. Written Materials**
  - F-1 Draft Ordinance 2507 Adopting a new Flood Management Area Map and amending Articles 50.02 (Definitions) and 50.44 (Floodway Management Area).
  - F-2 E-mail and attachment from Kristen Meyers, FEMA Region X.
- G. Letters**
  - G-1 Neither for Nor Against (None)
  - G-2 In Favor (None)
  - G-3 Opposed (None)