



# Oregon

Theodore R. Kulongoski, Governor

## Department of Land Conservation and Development

635 Capitol Street, Suite 150

Salem, OR 97301-2540

(503) 373-0050

Fax (503) 378-5518

www.lcd.state.or.us

### AMENDED NOTICE OF ADOPTED AMENDMENT

September 7, 2007



TO: Subscribers to Notice of Adopted Plan  
or Land Use Regulation Amendments

FROM: Mara Ulloa, Plan Amendment Program Specialist

SUBJECT: City of Sisters Plan Amendment  
DLCD File Number 001-07

The Department of Land Conservation and Development (DLCD) received the attached notice of adoption. A copy of the adopted plan amendment is available for review at the DLCD office in Salem and the local government office.

Appeal Procedures\*

### DLCD ACKNOWLEDGMENT or DEADLINE TO APPEAL: September 19, 2007

This amendment was submitted to DLCD for review 45 days prior to adoption. Pursuant to ORS 197.830 (2)(b) only persons who participated in the local government proceedings leading to adoption of the amendment are eligible to appeal this decision to the Land Use Board of Appeals (LUBA).

If you wish to appeal, you must file a notice of intent to appeal with the Land Use Board of Appeals (LUBA) no later than 21 days from the date the decision was mailed to you by the local government. If you have questions, check with the local government to determine the appeal deadline. Copies of the notice of intent to appeal must be served upon the local government and others who received written notice of the final decision from the local government. The notice of intent to appeal must be served and filed in the form and manner prescribed by LUBA, (OAR Chapter 661, Division 10). Please call LUBA at 503-373-1265, if you have questions about appeal procedures.

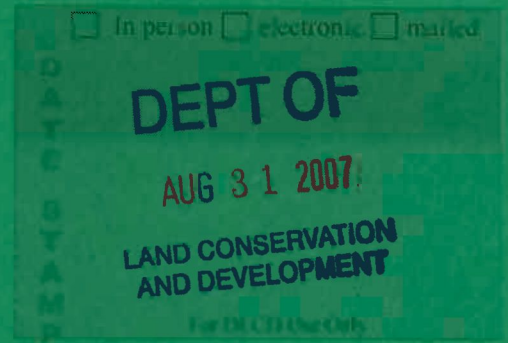
**\*NOTE: THE APPEAL DEADLINE IS BASED UPON THE DATE THE DECISION WAS MAILED BY LOCAL GOVERNMENT. A DECISION MAY HAVE BEEN MAILED TO YOU ON A DIFFERENT DATE THAN IT WAS MAILED TO DLCD. AS A RESULT YOUR APPEAL DEADLINE MAY BE EARLIER THAN THE ABOVE DATE SPECIFIED.**

Cc: Doug White, DLCD Community Services Specialist  
Christine Shirley, FEMA Specialist  
Amanda Punton, DLCD Natural Resource Specialist  
Mark Radabaugh, DLCD Regional Representative  
Susanna Julber, City of Sisters

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# Notice of Adoption

THIS FORM **MUST BE MAILED** TO DLCD  
**WITHIN 5 WORKING DAYS AFTER THE FINAL DECISION**  
PER ORS 197.610, OAR CHAPTER 660 - DIVISION 18



Jurisdiction: **City of Sisters**

Local file number: **CP07-01**

Date of Adoption: **8/23/2007**

Date Mailed: **8/29/2007**

Was a Notice of Proposed Amendment (Form 1) mailed to DLCD? **Yes** Date: 6/25/2007

Comprehensive Plan Text Amendment

Comprehensive Plan Map Amendment

Land Use Regulation Amendment

Zoning Map Amendment

New Land Use Regulation

Other:

Summarize the adopted amendment. Do not use technical terms. Do not write "See Attached".

Amendment of the Sisters Comprehensive Plan and Sisters Development Code, Chapter 2.6, Flood Plain (FP) District, in order to reference more current FEMA map numbers, incorporate additional standards for review of applications for properties within the Flood Plain District related to fish habitat enhancement and bank erosion control techniques, and update pursuant to DLCD Community Assistance visit.

Does the Adoption differ from proposal? No, no explanation is necessary

Plan Map Changed from:

to:

Zone Map Changed from:

to:

Location: **City of Sisters urban area, including Whychus Cree**

Acres Involved: **29**

Specify Density: Previous:

New:

Applicable statewide planning goals:

- |                                     |                                     |                          |                          |                                     |                                     |                                     |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
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| <b>1</b>                            | <b>2</b>                            | <b>3</b>                 | <b>4</b>                 | <b>5</b>                            | <b>6</b>                            | <b>7</b>                            | <b>8</b>                 | <b>9</b>                 | <b>10</b>                | <b>11</b>                | <b>12</b>                | <b>13</b>                | <b>14</b>                | <b>15</b>                | <b>16</b>                | <b>17</b>                | <b>18</b>                | <b>19</b>                |
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Was an Exception Adopted?  YES  NO

Did DLCD receive a Notice of Proposed Amendment...

45-days prior to first evidentiary hearing?

Yes  No

If no, do the statewide planning goals apply?

Yes  No

If no, did Emergency Circumstances require immediate adoption?

Yes  No

DLCD # 001-07 (16127)

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**DLCD file No.** \_\_\_\_\_

Please list all affected State or Federal Agencies, Local Governments or Special Districts:

FEMA, Upper Deschutes Watershed Council, Oregon Department of Fish and Wildlife, US Fish and Wildlife

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Local Contact: **Susanna Julber, AICP, Planner**

Phone: **(541) 549-6022** Extension: **220**

Address: **520 E Cascade Avenue**

Fax Number: **541-549-561**

City: **Sisters**

Zip: **97759-**

E-mail Address: **sjulber@ci.sisters.or.us**

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## **ADOPTION SUBMITTAL REQUIREMENTS**

This form **must be mailed** to DLCD **within 5 working days after the final decision**  
per ORS 197.610, OAR Chapter 660 - Division 18.

1. Send this Form and TWO Complete Copies (documents and maps) of the Adopted Amendment to:

**ATTENTION: PLAN AMENDMENT SPECIALIST  
DEPARTMENT OF LAND CONSERVATION AND DEVELOPMENT  
635 CAPITOL STREET NE, SUITE 150  
SALEM, OREGON 97301-2540**

2. Electronic Submittals: At least **one** hard copy must be sent by mail or in person, but you may also submit an electronic copy, by either email or FTP. You may connect to this address to FTP proposals and adoptions: **webserver.lcd.state.or.us**. To obtain our Username and password for FTP, call Mara Ulloa at 503-373-0050 extension 238, or by emailing **mara.ulloa@state.or.us**.
3. Please Note: Adopted materials must be sent to DLCD not later than **FIVE (5) working days** following the date of the final decision on the amendment.
4. Submittal of this Notice of Adoption must include the text of the amendment plus adopted findings and supplementary information.
5. The deadline to appeal will not be extended if you submit this notice of adoption within five working days of the final decision. Appeals to LUBA may be filed within **TWENTY-ONE (21) days** of the date, the Notice of Adoption is sent to DLCD.
6. In addition to sending the Notice of Adoption to DLCD, you must notify persons who participated in the local hearing and requested notice of the final decision.
7. **Need More Copies?** You can now access these forms online at **http://www.lcd.state.or.us/**. Please print on **8-1/2x11 green paper only**. You may also call the DLCD Office at (503) 373-0050; or Fax your request to: (503) 378-5518; or Email your request to **mara.ulloa@state.or.us** - ATTENTION: PLAN AMENDMENT SPECIALIST.

**ORDINANCE NO. 372**

**AN ORDINANCE OF THE CITY OF SISTERS, OREGON ADOPTING CHANGES TO THE CITY OF SISTERS COMPREHENSIVE PLAN (FLOOD PLAIN DISTRICT), AND DECLARING AN EMERGENCY**

**WHEREAS**, the applicant, City of Sisters, has applied for a Comprehensive Plan amendment (files CP 07-02) which seeks to amend the text of the Comprehensive Plan to create revised policies regulating the areas of special flood hazard within the City of Sisters as approximated by the existing Flood Plain District (FP District) on the City's Comprehensive Plan and Zoning Maps; and,

**WHEREAS**, the U.S. Department of Homeland Security's Federal Emergency Management Agency through the Oregon Department of Land Conservation and Development requires the city to adopt revised development codes to implement federal standards regulating areas of special flood hazard within the city; and

**WHEREAS**, the U.S. Department of Homeland Security and Federal Emergency Management Agency requires the city to adopt revised Flood Insurance Studies (FIS) and Flood Insurance Rate Maps (FIRM) that will become effective development codes to implement federal standards regulating areas of special flood hazard within the city;

**WHEREAS**, unless the city adopts the revised FIS and FIRM and revised development codes, the city shall not be eligible to participate in the National Flood Insurance Program (NFIP); and

**WHEREAS**, the city's participation in the NFIP allows residents to purchase flood insurance allowing residents to rebuild buildings in a cost effective manner in the event of a destructive flood; and

**WHEREAS**, making flood insurance available to the city's residents is a public good protecting local property values and enabling rebuilding of neighborhoods vital to the city;

**WHEREAS**, the City must revise policies in the Comprehensive Plan to implement new development code provisions regarding areas of special flood hazard; and

**WHEREAS**, the City Council held hearings August 23, 2007 on the proposed Comprehensive Plan amendment and determined that the amendment meets all applicable approval criteria;

**WHEREAS**, the name Squaw Creek has been changed to Whychus Creek by the U.S. Forest Service and the City shall make corresponding changes to the Comprehensive Plan;

**NOW, THEREFORE**, the City of Sisters ordains as follows:

ORDINANCE #372-- Sisters Comprehensive Plan Amendment

**SECTION 1.** The City Council of the City of Sisters finds that the provisions of the City Code and all applicable requirements have been met, including public notice. The Council finds that the Sisters Area Planning Commission has conducted public hearings and has submitted its recommendation to the Council. The Council finds that this Ordinance is based on the Planning Commission recommendation and any modifications made by the Council, as a result of the public hearing process.

**SECTION 2.** The Council finds and takes public notice that it is in receipt of all matters and information necessary to consider this Ordinance in an adequate manner, and that this Ordinance complies with the Statewide Planning Goals, and the standards for legislative adoption, as set forth in Chapter 197 of the Oregon Revised Statutes, the Sisters Municipal Code, the Sisters Urban Area Comprehensive Plan, and the Sisters Development Code.

**SECTION 3.** The Council finds that the adoption of this Ordinance is necessary based on findings in the Planning Commission Recommendation in the Development Code Amendment file CP07-01, and that the adoption of this Ordinance is also necessary for the benefit of the health, safety, and general welfare of the residents of the City of Sisters.

**SECTION 4.** The following Exhibits, attached and incorporated herein by reference, are hereby adopted as amendments to the "Sisters Comprehensive Plan".

- A. Exhibit A is the text that amends the Comprehensive Plan;

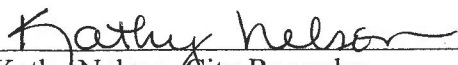
**SECTION 5.** Severability. If any section, subsection, sentence, clause or phrase of this Ordinance is for any reason held to be invalid or unconstitutional by any court of competent jurisdiction, such decisions shall not affect the validity of the remaining portions of this Ordinance.

**SECTION 6.** Emergency. This ordinance being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this ordinance takes effect on its passage.

PASSED by the Common Council of the City of Sisters this 23 day of August, 2007, and APPROVED by the Mayor of the City of Sisters.

  
\_\_\_\_\_  
Brad Boyd, Mayor

ATTEST:

  
\_\_\_\_\_  
Kathy Nelson, City Recorder

ORDINANCE #372- Sisters Comprehensive Plan Amendment

**ORDINANCE NO. 373**

**AN ORDINANCE OF THE CITY OF SISTERS, OREGON ADOPTING CHANGES TO THE CITY OF SISTERS DEVELOPMENT CODE (FLOOD PLAIN DISTRICT), AND DECLARING AN EMERGENCY**

**WHEREAS**, the applicant, City of Sisters, has applied for a Development Code amendment (files CP 07-01) which seeks to amend the text of the Development Code to create revised policies regulating the areas of special flood hazard within the City of Sisters as approximated by the existing Flood Plain District (FP District) on the City's Comprehensive Plan and Zoning Maps; and,

**WHEREAS**, the U.S. Department of Homeland Security's Federal Emergency Management Agency through the Oregon Department of Land Conservation and Development requires the city to adopt revised development codes to implement federal standards regulating areas of special flood hazard within the city; and

**WHEREAS**, the U.S. Department of Homeland Security and Federal Emergency Management Agency requires the city to adopt revised Flood Insurance Studies (FIS) and Flood Insurance Rate Maps (FIRM) that will become effective development codes to implement federal standards regulating areas of special flood hazard within the city;

**WHEREAS**, unless the city adopts the revised FIS and FIRM and revised development codes, the city shall not be eligible to participate in the National Flood Insurance Program (NFIP); and

**WHEREAS**, the city's participation in the NFIP allows residents to purchase flood insurance allowing residents to rebuild buildings in a cost effective manner in the event of a destructive flood; and

**WHEREAS**, making flood insurance available to the city's residents is a public good protecting local property values and enabling rebuilding of neighborhoods vital to the city;

**WHEREAS**, the City Council held hearings August 23, 2007 on the proposed Development Code amendment and determined that the amendment meets all applicable approval criteria;

**NOW, THEREFORE**, the City of Sisters ordains as follows:

**SECTION 1.** The City Council of the City of Sisters finds that the provisions of the City Code and all applicable requirements have been met, including public notice. The Council finds that the Sisters Area Planning Commission has conducted public hearings and has submitted its recommendation to the Council. The Council finds that this Ordinance is based on the Planning

Commission recommendation and any modifications made by the Council, as a result of the public hearing process.

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- A. Exhibit A is the text that amends the Development Code;

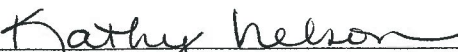
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PASSED by the Common Council of the City of Sisters this 23 day of August, 2007, and APPROVED by the Mayor of the City of Sisters.

  
\_\_\_\_\_  
Brad Boyd, Mayor

ATTEST:

  
\_\_\_\_\_  
Kathy Nelson, City Recorder

NOTE: Deletions of existing Comprehensive Plan text are shown as ~~striketrough~~ and additions are shown as **bold underline**.

## **Goal 7: Natural Disasters and Hazards**

### **7.1 GOAL**

*“To protect people and property from natural hazards.”*

### **7.2 BACKGROUND**

Natural disasters and hazards that threaten the City include forest fires, floods in ~~Squaw~~ **Whychus** ~~Creek~~, earthquakes, and volcanic activities. Other hazards include the spread of diseases from insects and animals and threats from other hazards shared by all cities.

#### **Floods**

The U.S. Army Corps of Engineers **first** completed a flood hazard inventory in August 1978 for the Squaw Creek channel that runs through the southern portion of the urban area. **As a point of clarification, the Army Corps of Engineers studies and subsequent flood mapping studies refer to the name Squaw Creek. The name was changed to Whychus Creek in 2006. When City findings, policies, or tasks are written in this plan the term Whychus Creek will be used, but the flood studies conducted by the Army Corps of Engineers and other federal agencies reference Squaw Creek.** Approximately 26 acres of land are within the 100-year flood plain along both sides of the ~~Whychus~~ **Whychus** ~~Creek~~ channel. The 500-year flood plain is along both sides of the ~~Whychus~~ **Whychus** ~~Creek~~ channel and includes a wider area than the 100-year flood plain.

**Numerous flood hazard studies have been conducted for Whychus Creek, beginning in 1978 and followed by studies in 1986, 1988, 1998 and most recently in 2007. In August of 2007 the City adopted an updated Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs) as required by the Department of Homeland Security’s Federal Emergency Management Agency (FEMA). These documents were adopted so the City could remain in the National Flood Insurance Program (NFIP), allowing residents of the city to obtain flood insurance.**



**In addition to flood risks associated with meteorological sources, a unique flood risk threatens the City of Sisters. This risk is summarized as follows based on a 1987 study conducted by the U.S. Geological Survey, Laenen, Scott, Costa and Orzol, called “Hydrologic Hazards Along Squaw Creek From A Hypothetical Failure Of The Glacial Moraine Impounding Carver Lake Near Sisters, Oregon” Open-File Report 87-41, Portland, Oregon. The source of this risk is the potential failure of a glacial moraine which impounds Carver Lake in the Three Sisters Wilderness upstream of the City. The Carver Lake glacial moraine is a naturally occurring yet unstable dam made of cobbles and silt, having steep slopes, and no vegetation. Carver Lake is large and deep with a depth of approximately 101 feet containing approximately 740 acre-ft. of water. The source of the hazard is a catastrophic breach of the glacial moraine due to seismic activity, ice or rock fall into the lake, or other events causing a rapid failure of the moraine dam and release of water down the Whychus Creek drainage into the City. The flood levels in the City are estimated to be above 500-year flood levels, and would inundate areas as far as three city blocks from the creek.**

**A summary of the risk is on page 1 of the abstract of U.S.G.S. study is provided below:**

**“A hydrologic hazard exists that could create a large-magnitude, but short-duration, flood in the Squaw Creek drainage and inundate areas in and around the community of Sisters, Oregon. Carver Lake, located at elevation 7,800 feet above sea level on the east slope of South Sister mountain, Oregon, could catastrophically empty. The probability of this lake-breakout flood is estimated to be approximately 1 to 5 percent for any given year. At the U.S. Geological Survey gage (14075000) on Squaw Creek between Carver Lake and Sisters, the magnitude of the breakout flood would be 10 times that of a 1-percent probability meteorological flood. In Sisters, the magnitude of the breakout flood would be about five times that of a 1-percent probability meteorological flood. Meteorological flood occurrences from precipitation and snowmelt are a separate and distinct statistical population from lake-breakout flood occurrences and are only used for comparison purposes.”**

~~The “bulge” or other volcanic activity and earthquakes also pose a threat by breaching Carver Lake, a glacial moraine that drains down Squaw Creek. Large amounts of debris falling into Carver Lake regardless of the cause, such as avalanche, volcanism, or earthquake, could breach the glacial dam and send a flood of water down Squaw Creek towards Sisters.~~ **According to Larry Chitwood, a local U.S. Forest Service Geologist, he Mr. Chitwood believes that there is a low likelihood the catastrophic event documented in the U.S.G.S. hydrologic hazards study this event will occur with enough size and force to threaten the City. There is a good chance that this type of event will happen, but the size of the event is likely to be small as the flood level predictions in the U.S.G.S. study are based on a worst-case scenario.**

**The hydrological characteristics of Whychus Creek lead to a stream channel that is active and dynamic. In the City, this dynamic nature is often observed as steam bank erosion. For example, City staff receives complaints about the threats to structures from stream bank erosion. In the urban reach of Whychus Creek, the stream is actively transporting material from the mountains downstream versus depositing fine sediments. The stream changes direction as a result of many factors including large storm events, fallen trees, human influences, fires removing streamside vegetation, boulders falling into the stream channel, and combinations of these factors. Stream bank erosion is a naturally occurring process common to this type of stream. Stream bank erosion is caused by factors such as loose and easily eroded soils of the Sisters area, high velocity flows during storm events, ice flows, and a lack of stream bank vegetation. Human activities such as adding rip rap or boulders also may alter the course and impacts of the stream. Noticeable results in the City are undercut stream banks and surface subsidence, a loss of property, and threat to structures. Stream bank erosion will continue based on the characteristics of Whychus Creek.**

### **Seismic Activity**

Recent earthquakes in Oregon remind us of our proximity to fault lines and volcanic mountains. The recent “bulge” on South Sister also reminds that the Three Sisters volcanoes are still active. According to Larry Chitwood, U.S. Forest Service Geologist, the Three Sisters are in a region where some form of volcanic activity takes place approximately every 1,000 years. For

example, Collier Cone and Belknap Crater were formed approximately 1,500 years ago. The “bulge” on South Sister may be a precursor to a future event that will likely be similar to past volcanic events, that is fairly benign activities such as the formation of a cinder cone, small lava flow, or an ash and pumice eruption. The hazard from these events should be considered low, and would most likely be preceded by earthquakes or other indicators of volcanic activity.

A sizable volcanic event occurring in the Three Sisters is not expected in the scope of this Plan, but if one occurs, it will pose a direct threat to Sisters. The reason is that Squaw Creek and its tributaries drain the east flanks of North, Middle and South Sister and the north flanks of Broken Top. The headwater streams join above a narrow valley that opens in to a broad, gently sloping debris fan occupied, in part, by the City of Sisters.

“The broad fan of Squaw Creek around Sisters is of particular concern with regard to potential lahar inundation (lahars are rapidly flowing mixtures of hot mud, ash and water) because Squaw Creek drains a large sector of the major volcanoes and the distance to Sisters is relatively short (about 30 kilometers or 20 miles). Typical flow velocities for lahars through terrain like that along Squaw Creek yield travel times to Sisters of as little as 30 minutes to one hour, depending on lahar size and point of origin.” *“Volcano Hazards in the Three Sisters Region, Oregon. Open File Report, 99-437. US Department of the Interior, US Geological Survey.*

Although not anticipated to happen within the life of this Comprehensive Plan, these events are so catastrophic in nature that their discussion is warranted. Also, the best way to prevent loss of life with regard to these and other hazards is to establish a public emergency notification system. With such a system, residents could be evacuated safely, regardless of the source of the hazard or threat.

In addition to the flood hazards, the City is also susceptible to forest fires and wind hazards. As stated in the 1979 City of Sisters Comprehensive Plan, “Fire struck the city a disastrous blow in 1923, destroying an entire block of businesses and houses between Elm and Fir, south of Cascade. Again in 1924, fire consumed buildings on both sides of Cascade from Fir to Spruce.” The Black Butte Ranch fire of 2002 and B and B Complex fires

are other recent reminders that fire is a threat to forested urban areas such as the City.

### 7.3 FINDINGS

1. Whychus Creek (formerly Squaw Creek) travels through the City from south to north for approximately 0.8 miles. The Department of Homeland Security's Federal Emergency Management Agency (FEMA) has issued Flood Insurance Rate Maps (FIRMS) based on a Flood Insurance Study (FIS) identifying areas subject to 100-year, 500-year, and possible flooding due to Carver Lake Moraine Dam Failure. A portion of the Squaw Creek flood plain lies within the City.
2. ~~The Federal Emergency Management Agency (FEMA) relocated the 100-year flood plain boundaries (also known as the flood hazard area and floodway) in May 1990, previously designated by the Army Corps of Engineers.~~ Whychus Creek (called Squaw Creek by FEMA), poses a flood risk to the City of Sisters as documented most recently by the Flood Insurance Study and Flood Insurance Rate Maps to be adopted by the Federal Emergency and Management Agency on September 28, 2007, and the study titled "Hydrologic Hazards Along Squaw Creek From A Hypothetical Failure Of The Glacial Moraine Impounding Carver Lake Near Sisters, Oregon" Open-File Report 87-41, Portland, Oregon 1987, U.S. Geological Survey, by Laenen, Scott, Costa and Orzol.
3. Risks to life and property associated with meteorological flood occurrences from precipitation and snowmelt, the potential failure of the Carver Lake moraine dam, a meandering and active stream channel, and unstable soils require the City to take measures for flood plain management exceeding the minimum standards established by the National Flood Insurance Program. The NFIP is an insurance program, not a comprehensive flood plain management program.
4. The City shall continue to participate in the ~~currently participates in~~ the National Flood Insurance Program so residents of the City may benefit from having flood insurance in the event of a flood. ~~This is the official Flood Insurance Study for Deschutes County, Oregon and Incorporated Areas and is dated August 16, 1988 and revised June 8, 1998.~~

5. Portions of the City are contiguous with National Forest lands and are at risk from forest fires.
6. Sisters/Camp Sherman Rural Fire Protection District provides fire-protection and emergency services to the City.
7. A branch office of the Deschutes County Sheriff's Office provides law enforcement services to the City.
8. Emergency evacuation service is provided to the area by Airline located in Bend. There is currently a heliport pad available at the Sisters Eagle Air Airport.
9. Mutual aid arrangements are currently in force with all fire fighting agencies in Central Oregon.
10. There is no emergency power source available to City wells in the event of power loss. The City has two reservoirs that gravity feed the system with capacity for 10 days normal usage.
11. The City water lines are adequate for domestic water and fire protection with an upgrade completed in November 1994. All services are metered, encouraging conservation.
12. Of volcanic hazards, lahars pose the biggest sudden threat to people living in valleys that drain the Three Sisters, such as the City of Sisters. The best strategy for avoiding a lahar is to move to the highest possible ground. A safe height above river channels depends on many factors including size of the lahar, distance from the volcano, and shape of the valley. For areas beyond the proximal hazard zone, all but the largest lahars will probably rise less than 30 meters (100 feet) above river level.

#### **7.4 POLICIES**

1. The City shall regulate development in flood prone areas to protect life and property **in a manner consistent with the hydrologic characteristics of Whychus Creek and flood risks unique to the City.**

##### **Tasks –**

- a. **The City's Development Codes shall meet the minimum standards of the National Flood Insurance Program and incorporate the most recently Federal Emergency Management Agency -adopted Flood Insurance Rate Maps and Flood Insurance Rate Study.** Areas of special flood hazard

~~(flood plain) identified by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) shall be identified and their management incorporated into the Development Code.~~

- b. ~~A~~ The Flood Plain District shall **be established to** include all areas designated as “Flood Hazard Areas” by the **most recent** Flood Insurance Study for the incorporated area of the City of Sisters.
- c. No **new** structures shall be allowed in the 100-year flood plain identified by the **most recently adopted** Federal Emergency Management Agency Flood Insurance Rate Maps, **Flood Insurance Study, FIRM map, amendments to the FIRM map, or more accurate site specific information.** ~~unless approved by the Army Corps of Engineers, Oregon Department of Fish and Wildlife, and the City of Sisters.~~ **The Development Code shall establish standards requiring accurate documentation of the location of the 100-year flood plain prior to development and clearing. Absent more accurate information, the most recently adopted Flood Insurance Rate Maps shall be used to determine the location of the 100-year flood plain. The Development Code shall also provide for some economic use for existing parcels nearly entirely within the 100-year flood plain in a manner otherwise consistent with the Plan’s policies.**
- d. **The Development Code shall include development standards including but not limited to increased setbacks from Whychus Creek to reduce risks of erosion to structures.**
- e. **Fill in the 100-year flood plain reduces the carrying capacity of the flood plain and shall be limited whenever possible. The Development Code shall include standards for filling in the 100-year flood plain.** ~~should be allowed in the flood plain only to the extent that it is necessary to allow for utility facilities that cannot be located outside the flood plain and for stream bank stabilization.~~
- f. All uses which could have any effect upon hazards set forth in this document shall be conditional uses and subject to rigorous review to ensure that use of the flood plain is only a last resort to allow necessary facilities and some beneficial use of the pre-existing lots of record.

- g. No new parcels shall be created which would allow the construction of new dwelling units in the flood plain.
2. An emergency response program shall be developed to respond to natural or man caused disasters.

**Tasks -**

- a. The City shall work with appropriate agencies, including the Sisters– Camp Sherman Rural Fire Protection District to develop emergency management plans.
  - b. The City shall develop a strategy to educate the public about volcanic hazards, and develop an evacuation plan that includes responding to volcanic hazards.
  - c. The City shall explore the provision of a redundant emergency power source for the operation of City wells in the event a power outage occurs.
3. The city shall promote development of an ordinance requiring fire resistant building materials and landscaping for all new construction.
4. The City should cooperate with any countywide efforts to reduce the spread of West Nile Virus by mosquitoes.
5. During preliminary subdivision review, the planning staff, in coordination with the Sisters – Camp Sherman Rural Fire Protection District, shall indicate whether the developers’ plan has adequately provided for fire protection.

**Part IV**

Page 13:

“On his return trip, Wyeth paused at the head of Whychus Creek (formerly Squaw Creek) before reaching the Columbia in February of 1835.”

Page 14:

“Camp Polk was established in 1865 adjacent to Whychus Squaw-Creek, just three miles northeast of the City of Sisters.”

“Upon arriving at the site adjacent to Whychus Squaw-Creek, Captain LaFollette named the Camp Polk after his home country.

Page 17:

“Whychus Squaw Creek as it enters the Planning Area from the south becomes the most significant waterway in the area. It is joined by Indian Ford Creek at the southwestern base of McKinney Butte and continues eastward to its juncture with the Deschutes River in Lake Billy Chinook above Round Butte Dam. Whychus Squaw Creek is the source for irrigation waters delivered by the Squaw Three Creeks Irrigation District.”

**Goal 5**

Page 32:

“2. A.6. Whychus Squaw Creek Trail – 2.32 acres”

Page 32:

“2.B. Whychus Squaw Creek Flood Plain - 26 acres within the City limits”

Page 33:

“11. The City does not have a riparian enhancement plan to protect Whychus Squaw Creek.”

Page 34:

“3.a. The City shall develop a riparian protection program for Whychus Squaw Creek consistent with State Planning Goal 5.”

Page 34:

“3. c. The Whychus Squaw Creek Flood Plain shall be managed according to Federal Emergency Management Agency (FEMA) regulations, as incorporated into the City of Sisters Development Code.”



**Goal 6**

Page 35:

“4. Whychus Squaw Creek flows can be erratic and the 100-year flood plain identified by the FP District is necessary to prevent possible losses to life and property. The portion of Whychus Squaw Creek within the UGB has reduced flow, 1.86 cubic feet per second, during the time water is withdrawn for irrigation purposes. There are local efforts to increase creek flows. “

Page 36:

“2.c. Whychus Squaw Creek shall be protected through the Development Code.”

Page 36:

“2.d. The City shall cooperate with the restoration of in-stream water flow rights to Whychus Squaw Creek.”

**Goal 8**

Page 42:

“Table 8.1: Park System Land Classification

Trails	2.32 Acres	<u>Whychus Squaw</u> Creek Trail”
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**Goal 12**

Page 75:

“2.e. A bridge over Whychus Squaw Creek north of OR 126 is needed.”

Proposed development code text is shown following the commentary and directions in text boxes below. The text formatting shown such as bold, underline, caps, etc. of the new development code text is also adopted. Deletions of existing development code text are shown as ~~strikethrough~~.

Commentary: The entire chapter 2.6 – Flood Plain (FP) District is being deleted and replaced with the new Chapter 2.6.

Directions: Pages 2.6.1 and 2.6.2 of the Sisters Development Code are deleted. The deleted text is shown below in ~~strikethrough~~.

**~~Chapter 2.6 – Flood Plain (FP) District~~**

~~2.6.100 – Purpose~~

~~2.6.110 – Permitted Uses~~

~~2.6.120 – Development Review~~

**~~2.6.100 Purpose~~**

~~**Purpose.** This zone is intended to identify those sections of the urban area subject to the hazards of 100 year periodic stream flooding as determined by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) #41017C0040-C and #41017C0105-C dated August 16, 1988, and to preclude future development or redevelopment that may suffer a loss of life or property in the subject area.~~

~~This does not include those sections of the urban area subject to the hazards of the Carver Lake moraine dam.~~

**~~2.6.110 Permitted Uses~~**

~~A. **Permitted Uses.** The land uses listed in Table 2.6.110.A are permitted in the Flood Plain District, subject to the provisions of this Chapter. Only land uses that are specifically listed in Table 2.6.110.A, and land uses that are approved as “similar” to those in Table 2.6.110, may be permitted. The land uses identified with a “CU” in Table 2.6.110.A require Conditional Use Permit approval prior to development or a change in use, in accordance with Chapter 4.4.~~

~~B. **Determination of Similar Land Use.** Similar use determinations shall be made in conformance with the procedures in Chapter 4.8 Interpretations.~~

<b>Table 2.6.110.A Land Use Types Permitted in the Flood Plain District</b>	
<b>Permitted Uses</b>	
1. Open space, excluding farming activities	

<p>that require ground breaking</p> <p>2. Parks</p> <p>3. Camping facilities, providing that waste disposal sites are not within the area subject to the hazards of 100-year periodic stream flooding</p> <p>4. Geothermal exploration and development, and developed energy appurtenances provided air, water, and noise pollution are mitigated.</p>	
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Conditional Uses (CU) are subject to Conditional Use permit standards in Section 4.4.

**2.6.120 Development Review**

- ~~A. **Development Standards.** Within the area subject to the hazards of 100-year periodic stream flooding no existing structure shall be enlarged, or structurally altered, nor shall the use be changed unless the change decreases intensity to the allowed uses of this zone.~~
- ~~B. **Permits Required.** No cut, fill, construction, or disturbance to the landscape within the Flood Plain District shall occur without permits Army Corps of Engineers, Department of Fish and Wildlife, and the City of Sisters.—~~

Commentary: The new Chapter 2.6 – Flood Plain (FP) District is below.

Directions: The following text would be the new Chapter 2.6.

<b>Chapter 2.6 Flood Plain District</b>	
<b>2.6.100</b>	<b>Purpose</b>
<b>2.6.110</b>	<b>General</b>
<b>2.6.120</b>	<b>Permitted Uses</b>
<b>2.6.130</b>	<b>Prohibited Uses</b>
<b>2.6.140</b>	<b>Review</b>
<b>2.6.150</b>	<b>Development Standards</b>
<b>2.6.160</b>	<b>Criteria of Approval</b>
<b>2.6.170</b>	<b>Conditions of Approval</b>
<b>2.6.180</b>	<b>Emergency Approval</b>
<b>2.6.190</b>	<b>Post-Flood Substantial Damage Procedures</b>
<b>2.6.200</b>	<b>Periodic Floodplain Inspections and Enforcement Actions</b>

**2.6.100 Purpose.**

- A. This zone intends to identify sections of the city subject to the hazards of 100 year periodic stream flooding as determined by the limits and extent of the Special Flood Hazard Area shown on Federal Emergency Management Agency (FEMA) Flood Insurance Map (FIRM) #41017C0245D, dated September 28, 2007 and associated Flood Insurance Study #19163CV000A, and any revision thereto, or more accurate studies, and to preclude future development or redevelopment that may suffer a loss of life or property in the subject area. Because the natural watercourse of waterways is dynamic and subject to change, the boundaries of the floodplain district may be revisited and adjusted, as necessary and warranted.
- B. **Warning and Disclaimer of Liability.** The degree of flood protection required by this Chapter in the areas designated by the studies referenced in 2.6.100.A. is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by human-made or natural causes. This Chapter does not imply that land outside the areas of special flood hazards or uses permitted within these areas will be free from flooding or flood damages. This Chapter shall not create liability on the part of the City, or any officer or employee of the City, for any flood damage that may result from reliance on this Chapter or any administrative decision lawfully made under this Chapter.
- C. It is the purpose of this Chapter to promote the public health, safety and general welfare, to maintain streams and floodplains in their natural state to the maximum extent possible so they reduce flood hazards, and to minimize public and private losses due to flood conditions in specific areas. The provisions of this Chapter are designed to:
  - 1. Protect human life and health.
  - 2. Minimize expenditure of public money on costly flood control projects.
  - 3. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public.
  - 4. Minimize 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 hazards.
  - 5. Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard to minimize future flood blight areas.
  - 6. Provide information to potential buyers of property in areas of special flood hazard.
  - 7. Minimize the threat to persons, property and urban water quality from flooding and inadequate or improper drainage resulting from uncontrolled development or redevelopment of land to include filling, grading, excavation, removal, earthwork construction including berms and dikes; stockpiling of materials; or other alterations.
  - 8. Ensure that flood loss reduction measures under the National Flood Insurance Program (NFIP) are consistent with retaining natural floodplain functions.
  - 9. Ensure no net loss of hydraulic and geomorphic functions of floodplains.

10. To balance the public interests with those of individual property owners in the designated areas.
  11. Allow the functions of the creek to continue, including erosion, deposition, and channel migration.
  12. To implement the policies of the City's Comprehensive Plan.
- D. In order to accomplish its purpose, this Chapter includes methods and provisions for:
1. Accurately determining the extent of areas of special flood hazard in the city and restricting uses in these areas.
  2. Restricting or prohibiting uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities.
  3. Requiring that uses vulnerable to floods, including facilities which serve these uses, be protected against flood damage at the time of initial construction or relocated and possibly relocating uses outside of the floodplain.
  4. Controlling the alteration of natural flood plains, stream channels and protective barriers, which help accommodate or channel flood waters.
  5. Controlling filling, grading, dredging and other development, which may increase flood damage.
  6. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters in such a way as to drastically impede channel migration, or which may increase special flood hazards in other areas.

**2.6.110 General.**

- A. This Chapter shall apply to all areas of special flood hazard within the City of Sisters and its urbanizable areas. These regulations shall supplement the regulations of the underlying or applicable District. Where the regulations and permitted uses of an underlying district conflict with those of this zoning district, the more restrictive standards shall apply.
- B. The areas of special flood hazard for the City and its urbanizable areas under the jurisdiction of this Code are identified through the use of the most accurate source of information, as determined by the Planning Director, based on the following:
1. Those areas identified as the Special Flood Hazard Area shown on Federal Emergency Management Agency (FEMA) Flood Insurance Map (FIRM) #41017C0245D, dated September 28, 2007 and associated Flood Insurance Study #19163CV000A, and any revision thereto (i.e. Letters of Map Change), or
  2. Areas of special flood hazard designated by the City Manager or Designee, as susceptible to inundation of water from any source where the above-referenced maps have not identified any special flood areas; or
  3. Areas of special flood hazard not depicted on the Federal Emergency Management Agency (FEMA) Flood Insurance Map (FIRM) #41017C0245D, dated September 28, 2007 and associated Flood Insurance Study #19163CV000A, and any revision thereto, but shown to be within an area of special flood hazard by subsequent engineering, surveying, hydrologic, or other studies.

4. Areas found to be outside the area of special flood hazard are regulated by the underlying district and not this Chapter. Areas inside the areas of special flood hazard are regulated by this Chapter.
- C. The flood insurance studies set forth above are hereby adopted by City Ordinance and filed with the Planning Director. These studies, subsequent revisions, and additional engineering, surveying, hydrologic, or other studies denoting areas of special flood hazard shall form the basis for the administration and implementation of this Chapter. These studies are available for review at Sisters City Hall, 520 East Cascade Avenue, Sisters, Oregon.
- D. The following definitions apply to this Chapter and supersede conflicting definitions in the Development Code.
1. Area of special flood hazard – is the land in the flood plain within a community subject to a 1 percent or greater chance of flooding in any given year. The area may be designated as Zone A on the Flood Insurance Rate Maps. Zone A may be refined into Zones A, AO, AH, A1-30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO, or V1-30, VE, or V. For purposes of these regulations, the term “special flood hazard area” is synonymous in meaning with the phrase “area of special flood hazard”.
  2. Base flood – the flood having a one percent chance of being equaled or exceeded in any given year. Base flood is the same as the “100-year flood”.
  3. Basement – any area of the building having its floor subgrade (below ground level) on all sides.
  4. 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.
  5. Elevated building – a nonbasement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.
  6. Flood Insurance Rate Map (FIRM) – an official map of a community on which the Administrator has delineated both the special hazard areas and the risk premium zones applicable to the community.
  7. Flood plain – any land area susceptible to being inundated by water from any source.
  8. Floodway – see regulatory floodway.
  9. 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 CFR 60.3.
  10. Manufactured home – 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 home” does not include a “recreational vehicle”.

11. Recreational vehicle – means a vehicle which is built on a single chassis; 400 square feet or less when measured at the largest horizontal projection; designed to be self-propelled or permanently towable by a light duty truck; and designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.
12. Regulatory 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. This term is the same as “floodway”.
13. Structure – means a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home.
14. Squaw Creek – means the creek running through the City of Sisters, originating in the Three Sisters Wilderness and terminating in the Deschutes River above Lake Billy Chinook. Squaw Creek is the name used in the FEMA flood studies, but the name of the creek is now Whychus Creek.
15. Substantial damage – means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.
16. Substantial improvement – means any reconstruction, rehabilitation, addition, or other improvement of a structure (including structural elements, interior finishing elements like trim, utility service equipment, demolition, labor, overhead, and profit), 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 tem includes structures which have incurred substantial damage, regardless of the actual repair work performed. This term does not include either: 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 any alteration of a historic structure, provided that the alteration will not preclude the structure’s continued designation as a historic structure.
17. Whychus Creek – see Squaw Creek.

**2.6.120 Permitted Uses.**

A. The land uses listed in Table 2.6.120.A are permitted in the Flood Plain District and in areas of special flood hazard as designated in 2.6.110, subject to the provisions of this Chapter. Only land uses that are specifically listed in Table 2.6.120.A, and land uses that are approved as “similar” to those in Table 2.6.120.A., may be permitted. The land uses identified as “Conditional Uses” in Table 2.6.120.A require Conditional Use Permit approval prior to development or a change in use, in accordance with Chapter 4.4. Applications for development within the Floodplain District shall be on an appropriate form provided by the Sisters Planning Department, accompanied by the appropriate fee.

<b>Table 2.6.120.A</b>	
<b>Land Uses Permitted in the Flood Plain District</b>	
<b>Permitted Uses:</b>	<b>Conditional Uses:</b>
<p>A. Permitted uses below are allowed assuming fill is not added to the area of special flood hazard, and flood heights are not increased as a result of the permitted use:</p> <ol style="list-style-type: none"> <li>1. Open space, excluding farming activities that require ground breaking.</li> <li>2. Portions of a residential use that do not contain structures, such as lawn, garden or play areas.</li> <li>3. Existing camping facilities, providing that waste disposal sites are not within the area subject to the hazards of 100-year periodic stream flooding.</li> <li>4. Repair or remodel of an existing structure within its existing footprint, including buildings damaged by fire or other casualties.</li> <li>5. Removal of noxious weeds.</li> <li>6. Replacement of non-native vegetation with native vegetation.</li> <li>7. On-going activities such as lawn and garden maintenance.</li> <li>8. Removal of hazardous trees.</li> <li>9. Normal maintenance of existing public utilities and facilities.</li> </ol>	<ol style="list-style-type: none"> <li>1. Crossings by transportation facilities and utility lines.</li> <li>2. Parks, trails and pervious multi use paths.</li> <li>3. Water-dependent uses, such as fish enhancement projects.</li> <li>4. Restoration or enhancement of the stream bank, and bank stabilization projects.</li> <li>5. A new single-family dwelling elevated without placement of fill on existing lots with less than 2,000 sq. ft. of land outside the 100-year flood plain as determined by site specific engineering, surveying, and hydrologic studies.</li> <li>6. Expansion of existing dwellings in the 100-year flood plain.</li> <li>7. Land divisions. All new lots created in the Flood Plain District must result in a minimum of 2,000 sq. ft. of land area outside of the area of special flood hazard to serve as a building envelope.</li> </ol>

B. Similar use determinations shall be made in conformance with the procedures in Chapter 4.8 - Interpretations.



**2.6.130 Prohibited Uses.** The following uses and activities are prohibited within the Flood Plain District or special flood hazard area, except as allowed in Table 2.6.120.A.:

- A. New dwellings on existing lots within areas of special flood hazard where 2,000 sq. ft. of area outside the area of special flood hazard is available for building.
- B. New construction, including accessory buildings, is prohibited.
- C. Clear cutting, scraping with motorized equipment, removal of root systems, or removal of native vegetation on stream banks.
- D. Any encroachment during construction.
- E. New impervious surfaces.
- F. Removal of native vegetation on stream banks excluding trimming of no more than approximately 25% of the vegetation.
- G. New clearing, grading, filling, land-disturbing activity or other “development”, other than for the purpose of replacing non-native vegetation with native vegetation, and for other restoration work that may be approved by the local administrator.
- H. Septic tanks and drain fields, dumping of any materials, hazardous or sanitary waste landfills, and receiving areas for toxic or hazardous waste or other contaminants.
- I. Subdivision and partitioning of land for residential purposes is prohibited if land is located entirely within the Flood Plain District or area of special flood hazard. All new lots created in the Flood Plain District or area of special flood hazard must result in a minimum of 2,000 sq. ft. of land area outside of the area of special flood hazard to serve as a building envelope.
- J. Modification of the stream channel, except for where necessary for bank stabilization and/ or fish habitat enhancement projects.
- K. Developments that would result in a rise of flood heights in the FEMA regulatory floodplain.

**2.6.140 Review.**

- A. Development proposals within the Flood Plain District shall be reviewed under Type II procedure. Development approval within the Flood Plain District shall be obtained before construction or development begins within any area of special flood hazard as established by 2.6.110 of this Chapter. Approval shall be required for all structures, stream bank erosion control or enhancement projects, and development.
- B. Review Procedures. The Director shall administer this Chapter in consultation with the Building Official and the Public Works Director. They shall
  - 1. Review all development applications to determine that the application requirements of this Chapter have been satisfied.
  - 2. When base flood elevation data has not been provided by the Federal Emergency Management Agency (FEMA) Flood Insurance Map (FIRM) #41017C0245D, dated September 28, 2007 and associated Flood Insurance Study #19163CV000A, and any revision thereto, the City Engineer shall obtain, review and utilize any base flood elevation data and floodway data available from a Federal, State or other source in order to administer this Chapter.

3. Where base flood elevation data is provided through the Flood Insurance Study or as specified in 2.6.110, obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement.
  4. Maintain for public inspection all records pertaining to the provisions of this Section.
  5. Notify adjacent communities and the Division of State Lands prior to any alteration or relocation of a watercourse, and submit evidence of this notification to the Federal Emergency Management Agency.
  6. Require that a program of periodic inspection and maintenance be provided with the altered or relocated portion of a watercourse so that the flood carrying capacity of the watercourse is not diminished.
  7. Make interpretation, where needed, as to exact location of the boundaries of areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions).
- C. Floodplain development applications shall include the following information and be processed as follows:
1. A topographic survey is required for all lots or parcels subject to the land use permit. The survey in relation to mean sea level shall be established and stamped by a licensed surveyor or engineer depicting the 100-year flood plain in relation to site topography, structures, and proposed developments. Calculations used to determine the 100-year flood plain shall be provided.
    - a. If the 100-year flood plain on the subject lots or parcels is different than the 100-year flood plain depicted on the City's adopted FIRM maps, the applicant shall receive a Letter of Map Amendment (meets and bounds LOMA or equivalent) from FEMA prior to the city approving development. Applications shall be considered incomplete until the city receives evidence a LOMA has been obtained.
  2. A site plan drawn to scale showing the nature, location and dimensions and elevation referenced to mean sea level of the area in question, including existing and proposed structures and/or expansions, fill and removal, areas proposed for enhancement, storage of materials and drainage facilities. A cross section drawn to scale is also required, illustrating depths and proposed materials. This site plan shall include, at a minimum, existing and proposed site contours in relation to the base flood elevation, existing and proposed structures, drainage facilities, and an explanation of how anticipated erosion will be dealt with during and after construction of the use.
  3. A letter of review from appropriate State and Federal agencies that the proposal has been reviewed by the agency. Agencies include, but are not limited to, the Division of State Lands, U.S. Army Corps of Engineers, Oregon Department of Fish and Wildlife.
  4. A narrative describing why it is necessary to conduct the proposed use in the Flood Plain District.
  5. The elevation of the lowest floor and of any basement floor for any dwelling unit or structure;
  6. The elevation to which the structure is to be flood proofed, if applicable;

7. A description of the extent to which any watercourse will be altered or relocated as a result of proposed development and an explanation of how the flood carrying capacity within the altered or relocated portion of any watercourse will be maintained.
8. Certification by a registered professional engineer or architect that the flood proofing methods for any structure meet the flood proofing criteria established by the Federal Emergency Management Agency and within this Chapter.
9. Other elements or information requested by the Planning Director or designee, which will assist in the evaluation of the proposed development and conformance with the applicable criteria.

**2.6.150 Development Standards.** The following standards apply to all development and land divisions within the Flood Plain District or area of special flood hazard in the City and its urbanizable areas.

- A. In all areas of special flood hazard within the City and its urbanizable area as determined in 2.6.110. where base flood elevation data has been provided, the following provisions apply to all new and reconstructed structures:
  1. Setbacks.
    - a. The purpose of setback requirements is to not encroach upon Whychus Creek and to protect structures from erosion and flooding while also allowing an economic use of the land.
    - b. The setback standards herein are to be used in combination with setback standards of the underlying district, with the more restrictive setbacks superseding the less restrictive setbacks.
    - c. All portions of new structures shall be sited within a distance of 1/2 the depth of the lot, away from the area of special flood hazard, measuring from the lot line opposite of the area of special flood hazard. The depth of the lot shall be determined by averaging the side lot lines. For example, if a lot is 150 ft. deep, all new structures shall be within 75 ft. of the lot line opposite to Whychus Creek. Setback standards of the underlying district apply in addition to this general setback standard.
    - d. Existing dwellings may be expanded, but not towards Whychus Creek. Existing setbacks from dwellings to Whychus Creek shall not be decreased as a result of expansions.
    - e. These setback requirements seek to decrease risks to structures from erosion and flooding. Where the literal application of the setback standards conflict with the purposes of this Chapter, a Class C Variance may be used to allow placement of new structures to achieve this Chapter's purposes.
  2. Elevating.
    - a. All new residential structures must be elevated so that the lowest floor (including a basement) is elevated to one foot above the Base Flood Elevation.

- b. Fill is not to be used to elevate structures as it reduces the flood carrying capacity of the flood plain.
- 3. Flood proofing.
  - a. All new non-residential structures and improvements to non-residential structures must be elevated so the lowest floor is one foot above the Base Flood Elevation.
- 4. Construction materials and methods.
  - a. Structures shall meet the following requirements and City's adopted building codes as they pertain to flood-resistant construction, with the more restrictive provisions applying.
  - b. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
  - c. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
  - d. 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.
  - e. Foundations. Foundations for all substantial improvements and manufactured homes subject to 18 inches or less of flood water during a 100 year flood shall be as specified in the City's Building Safety Codes. Foundations for substantial improvements and manufactured homes not in a mobile home park or subdivision subject to 18 inches or more of flood water during a 100 year flood or located within a designated floodway shall be certified by an engineer to meet the following foundation requirements:
    - i. Concrete footings sized for 1,000 p.s.f. soil pressure unless data to substantiate the use of higher values are submitted.
    - ii. Footings shall extend not less than 18 inches below the undisturbed natural grade or engineered fill and in no case less than the frost line depth.
    - iii. Reinforced concrete, reinforced masonry, or other suitably designed supporting systems to resist all vertical and lateral loads which may reasonably occur independently or combined.
  - f. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement shall either be certified by an engineer or architect or shall meet or exceed the following minimum criteria:
    - i. A minimum of two openings of equal size 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 shall be located to allow unrestricted cross-flow of flood-waters through the enclosed area from one side to the other.
  - iv. Openings may be equipped with screens, louvers, or other coverings or devices if certified by an engineer or architect, provided that they permit the automatic entry and exit of flood-waters.
  - v. Be certified by an engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this Chapter based on their development and/or review of the structural design, specifications and plans. The certifications shall be provided to the Building Official prior to approval of the foundation.
- g. Nonresidential structures that are elevated, not flood-proofed, shall meet the same standards for space below the lowest floor as specified in this Chapter.
- i. Elevating is not to be achieved by adding or building on fill.
- h. Anchoring. All substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.
- i. Applicants flood-proofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the flood-proofed level (e.g., a building constructed to the base flood level will be rated as one foot below that level).
5. 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 systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharge from the system into flood waters.
  - c. Existing on-site waste disposal systems shall be maintained located to avoid impairment to them or contamination from them during flooding.
6. Substantial damage and substantial improvement.
- a. Any residential structure that has been substantially damaged from any cause, or will be substantially improved shall have the lowest floor, including basement, elevated to one foot above the base flood elevation and meet the requirements of this section.
  - b. Elevating is not to be achieved by adding or building on fill.
7. Manufactured Homes.
- a. All manufactured homes that are substantially improved within the special flood hazard area as determined in 2.6.110.B or that have incurred substantial damage

as the result of flood shall be elevated to a permanent foundation such that the lowest floor of the manufactured home is elevated to a height of one foot above the base flood elevation.

- a. Elevating is not to be achieved by adding or building on fill.
- b. All manufactured homes to be substantially improved on sites in an existing manufactured home park or subdivision within the special flood hazard area as determined in 2.6.110. that are not subject to the provisions of Subsection "a" above shall be elevated so that:
  - i. The lowest floor of the manufactured home is 1 ft. above the base flood elevation, or
  - ii. The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade.
  - iii. Elevating is not to be achieved by adding or building on fill.
- c. Anchoring. All manufacture homes must 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.

8. Recreational vehicles.

- a. Recreational vehicles which are located within the special flood hazard area as determined in 2.6.110. shall:
  - i. Be on the site for fewer than 180 consecutive days, or
  - ii. Be fully licensed and ready for highway use, or
  - iii. Elevated and anchored, and
  - iv. Satisfy the review procedure of 2.6.140 of this Chapter.

B. Regulatory floodway.

1. Development shall not encroach upon the FEMA regulatory floodway unless certification by a registered professional engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels during the occurrence of the base flood discharge.

C. Conditional Use Permits.

1. A conditional use permit in a Flood Plain District or area of special flood hazard shall not be approved unless all standards established by the Federal Emergency Management Agency and this Chapter have been met.
2. A conditional use permit shall be based upon findings which relate to the property and existing and proposed structure(s) or development(s). They shall not pertain to the property owner, inhabitants, economic or financial circumstances.

D. Subdivision and partition proposals, for properties not entirely within the Flood Plain District or area of special flood hazard shall have:

1. All new lots created result in a minimum of 2,000 sq. ft. of land area outside of the special flood hazard area to serve as building envelopes.

2. Measures to minimize flood damage.
3. Public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.
4. Adequate drainage provided to reduce exposure to flood damage.
5. Measures to prevent erosion and where applicable, stream bank enhancement methods are incorporated into the subdivision design.

**2.6.160 Criteria of Approval.**

- A. An application for development permit in the Flood Plain District or area of special flood hazard shall not be approved unless all standards established by this Chapter are addressed and findings are made by the Planning Director that each of the standards and criteria are satisfied. All proposals shall be evaluated according to the following criteria of approval:
1. The proposal does not reduce the effective base flood storage volume of the floodplain. Grading or any other activity which would reduce the effective storage volume shall be mitigated by creating compensatory storage on the site or off the site if legal arrangements can be made to assure that the effective compensatory storage volume will be preserved over time.
  2. The proposal minimizes threats to persons, property, and the natural flood carrying function of the area of special flood hazard.
  3. The proposal does not cause a net loss of hydraulic and geomorphic functions of the area of special flood hazard and associated waterways.
  4. The proposal will not have the effect of increasing special flood hazards in other areas.
  5. Stream bank erosion control and stream bank stabilization measures shall utilize the basic design guidelines and principles referenced in the report *Stream Bank Stabilization – Engineering Floodplain Report, City of Sisters, Whychus Creek,, Deschutes County, Oregon, July 2007*, by PBS&J.

**2.6.170 Conditions of Approval.** The Director or designee, upon review of the Flood Plain Review application, may require conditions of approval, including:

- A. Mitigation and/ or restoration, necessary to assure that the action will not degrade the area of special flood hazard's functions.
- B. Development of a plan for stream bank protection by a registered engineer or professional skilled in bio-engineering or stream bank enhancement.
- C. Consultation and review of plans by agencies including but not limited to such as the Oregon Department of Fish and Wildlife, Oregon Division of State Lands, U.S. Army Corps of Engineers, and Upper Deschutes Watershed Council.

**2.6.180 Emergency Approval.** In the case of an emergency, the Director may issue development approval in writing.

- A. Emergency approval may be issued to protect existing stream bank or structures under immediate threat by flood or storm waters or for the prevention of channel changes that threaten immediate and significant loss of property.
- B. A representative of the City may inspect the project site to verify that an emergency condition exists and that the emergency action will not adversely impact water resources.
- C. Emergency approval shall be in effect for the time required to complete the authorized emergency action and shall not exceed 60 days.

**2.6.190 Post-Flood Substantial Damage Procedures.**

- A. Building inspectors from the City shall make post-flood inspections immediately after a flood event to determine damage to structures by the flooding.
- B. A list of damaged structures, which are not in compliance with the provisions of this Chapter, shall be reported to FEMA and the Oregon Department of Land Conservation and Development.
- C. The City shall notify affected property owners prior to submitting the damage report to FEMA.

**2.6.200 Periodic Floodplain Inspections and Enforcement Actions**

- A. City staff or its representatives shall make periodic inspections of floodplain areas both within the city limits and outside the city limits, but within the City’s urban services area to establish that any activity involving the fill and/or removal of materials within the floodplain is being performed in compliance with an approved development permit. The staff shall prepare a field report listing non-complying conditions to be delivered to the Director. Upon receipt of the report, the Director shall proceed with enforcement actions including, but not limited to: the issuance of a Stop Work Order; the issuance of a citation; and the commencement of civil legal proceedings.

Commentary: Additions and alterations of Chapter 4.1 – Types of Applications and Review Procedures are also required to implement the changes in Chapter 2.6. Staff is suggesting neighbors be notified of development actions in the flood plain to allow for public review and comment. Making Flood Plain Development Permits a Type II decision facilitates public comment and review as opposed to their current Type I application review status.

Directions: Chapter 4.1, Table 4.1.2 Summary of Development Decisions/Permit by Type of Decision-making Procedure, shall be edited by retaining the text in normal font, deleting text in strikethrough, and adding text in bold.

Action	Decision Type	Applicable Regulations
Flood Plain Development Permit	<del>Type I</del> <b>Type II</b>	Building code, ( <del>requires Sensitive Land development permit first</del> ), Chapters 2.6 and 4.4 as applicable



