



**CITY OF EDGEWOOD
COUNCIL STUDY SESSION AGENDA**

Tuesday, November 17, 2020 – 7:00 PM ♦ City Hall – 2224 104th Avenue East ♦ Edgewood, WA

1. CALL TO ORDER

Roll Call, Pledge of Allegiance

2. COUNCIL BUSINESS

A. Discussion - Development Review

B. Discussion – Equity, Diversity and Inclusion (Trainings, Planning, etc.)

C. Discussion – Ordinance – Flood Hazard Areas

D. Discussion – Ordinance – Comprehensive Plan Annual Updates

E. Discussion – Ordinance – Construction Work Hours

F. Discussion – Ordinance – Notice of Application requirements

G. Discussion – Preliminary 2021 Budget Draft

H. Discussion – LID Refinance

I. Discussion – Resolution – Region 5 All Hazard Mitigation Plan – 2020-2025 Edition

J. Discussion - Proposal from Pierce Transit

K. Discussion - Facility Usage

3. OTHER COUNCIL ITEMS

4. ADJOURN

Study Sessions are meetings for Council to review upcoming and pertinent business of the City, no action is taken by the City Council. Study Sessions are open to the public, but public input is reserved for the regular Council meetings



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion - Development Review	Agenda Item #: 2.A
	For Agenda of: 11/17/2020
	Prepared by: James Tumelson
Attachments (list): 1. Study Session 11.17 Numbers 2. Building Express Permit 3. Building Fast Track Permit 4. Building Review Timelines	
Approval of Materials: James Tumelson Rachel Pitzel 11/12/2020 Dave Gray 11/12/2020 Daryl Eidinger 11/12/2020	Expenditure Required: N/A Amount Budgeted: N/A Timeline: 11/17/2020 SS Discussion and Review

Summary Statement:

The City's Community & Economic Development (CED) Department is entrusted by City Council, Edgewood citizens, and the State of Washington to provide growth management and development review, neighborhood preservation and revitalization, property inspection and maintenance, and other programs and business development services necessary to ensure the healthy, safety, and quality of life of Edgewood residents. To carry out these responsibilities, CED staff members perform numerous customer interactions, code interpretations, permitting functions, project reviews, on-site inspections, and multiple other functions. James Tumelson will be presenting the Development Review this month.

Additionally, James will be presenting permitting qualifiers (Express, FastTrack and Regular) Permits and expectation of the timing on subsequent reviews.

Item History:

Development Review occurs on the 2nd Study Session of each month

Recommended Action:

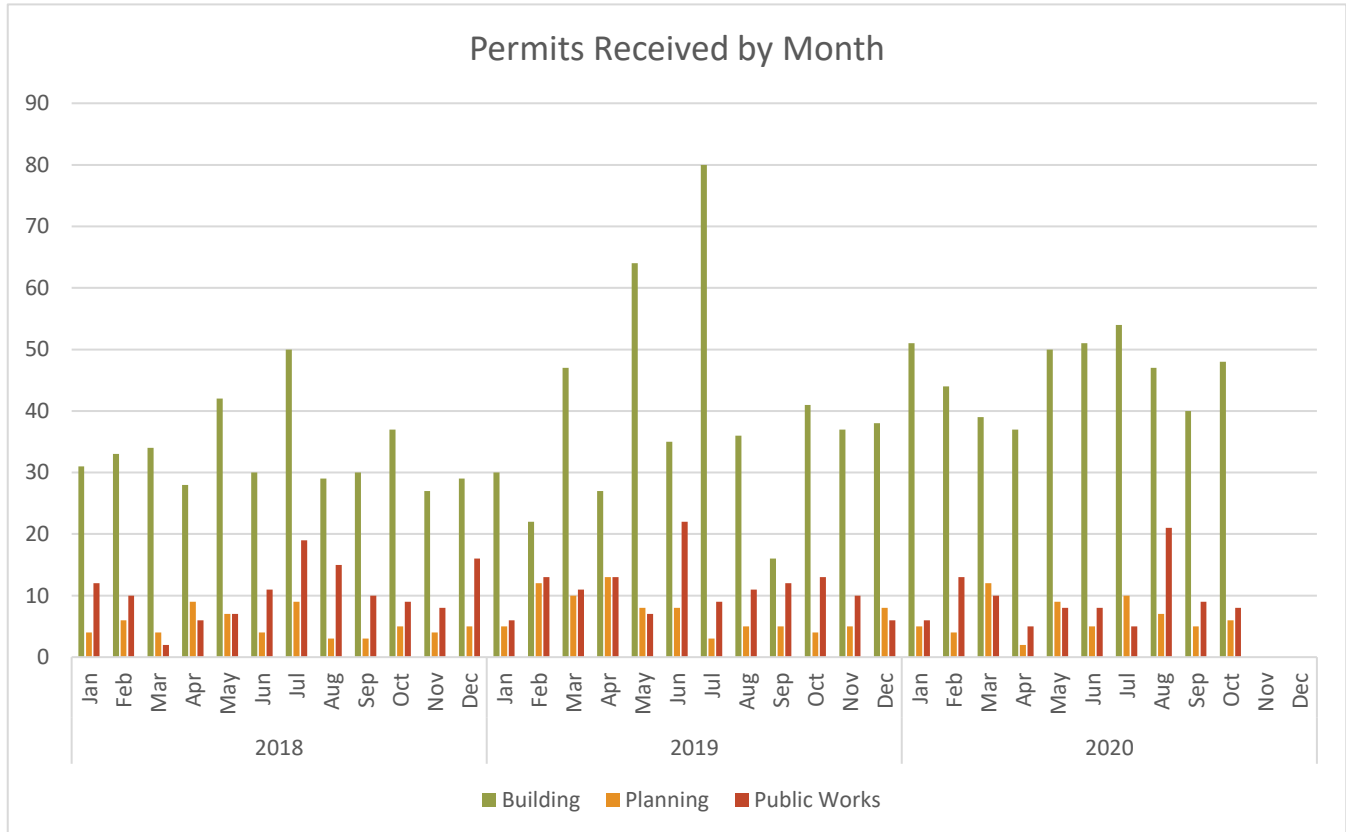
Hold a discussion on Development Review

Fiscal Note/Consideration:

N/A

Oct 2020

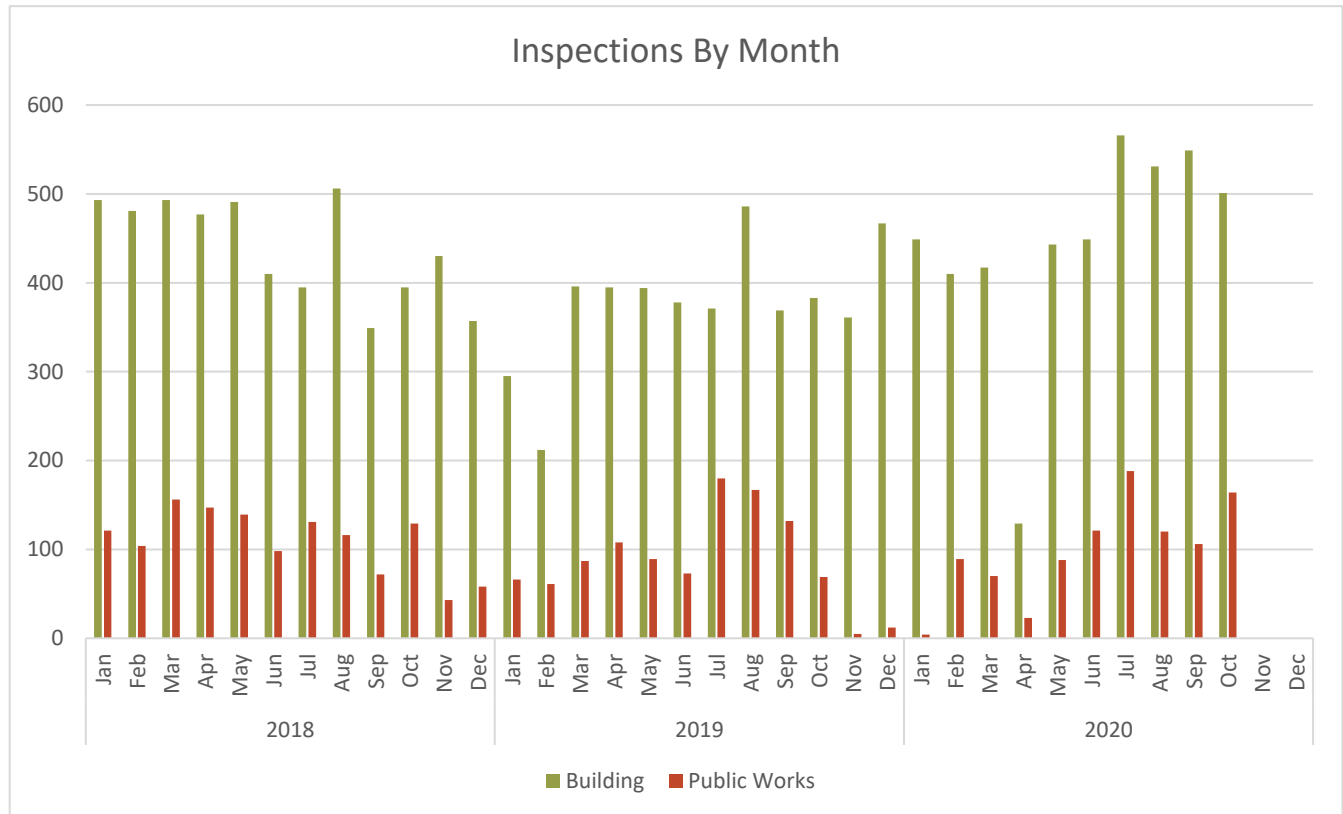
City of Edgewood Monthly Development Report



Permits	Building		Planning		Public Works	
	Received	Issued	Received	Issued	Received	Issued
Oct 2020	48	48	6	1	8	11
Oct 2019	41	55	4	5	13	14
Oct 2018	37	27	5	1	9	9
Average 2020	46	34	7	3	9	8
Average 2019	39	38	7	6	11	10
Average 2018	33	32	5	2	10	7
YTD 2020	461	341	65	31	93	82
YTD 2019	398	388	73	59	117	108
YTD 2018	344	331	54	16	101	68
	Building		Planning		Public Works	
	Month	Received	Month	Received	Month	Received
Highest Month 2020	Jul	54	Mar	12	Aug	21
Highest Month 2019	Jul	80	Apr	13	Jun	22
Highest Month 2018	Jul	50	Apr	9	Jul	19

Oct 2020

City of Edgewood Monthly Development Report



<i>Inspections</i>	Building		Public Works	
Oct 2020	501		164	
Oct 2019	383		69	
Oct 2018	395		129	
Average 2020	444		97	
Average 2019	376		87	
Average 2018	440		110	
YTD 2020	4444		973	
YTD 2019	3679		1032	
YTD 2018	4490		1213	
	Building		Public Works	
	Month	Insp.	Month	Insp.
Highest Month 2020	Jul	566	Jul	188
Highest Month 2019	Aug	486	Jul	180
Highest Month 2018	Aug	506	Mar	156



CITY OF EDGEWOOD EXPRESS PERMITS

Express Permitting is for projects that can be reviewed and turned around in a relatively short period of time (approximately 1 week, depending on workload and staffing).

Items that may disqualify the project from Express Permitting:

Complex structural alterations

Complex means of egress plan

Change of use or occupancy

Relationship to a pending permit or a building under construction

Exterior work on a building in the TC, MUR, BP, C or I zones.

Location within **50** feet of a regulated slope or an area containing soft compressible soils

Location within **300** feet of a wetland or stream

Here are some examples of what may qualify for express permitting:

Interior Only Tenant Improvements

- Area of work is 2,500 square feet or less and prepared by a designer or architect
- The proposed work does not affect the structural system of the building
- The proposed work does not include a change of use
- No tenant separation walls are constructed or removed
- The proposed work occurs on only one level or one story

Residential Decks

- Refer to mybuildingpermit.com's [Basic Decks Tip Sheet #5](#) for standard deck requirements.
- New deck space is located on only one level or one story
- See the Single Family Building Permit Checklist to prepare a complete permit application package.

Roof Mounted Mechanical Units

- Method of screening is clearly identified
- Mechanical units are 4' or less above maximum height limit
- All rooftop appurtenances and screening is clearly demonstrated
- See our online forms library to obtain a Mechanical Permit Checklist to prepare a complete permit application package.

Single Family Alterations, Additions and Repairs

- Addition is no more than 500 square feet
- Alterations occur in no more than 50% of existing square footage
- Addition is only one level or one story
- Addition does not contain heated space
- Significant trees are not impacted by construction
- The existing roof line is not modified
- The proposed work involves only minor structural modifications, if any
- See our online forms library to obtain the applicable checklist to prepare a complete permit application package.

For further information, please contact the City of Edgewood 253-952-3299

Permit Applications are accepted online through <https://ci-edgewood-wa.smartgovcommunity.com/Public/Home>



CITY OF EDGEWOOD FAST TRACK PERMITS

Fast Track Permitting is for projects that can be reviewed and turned around in approximately 2 weeks.

Items that may disqualify the project from Fast Track Permitting:

Complex structural alterations

Relationship to a pending permit or a building under construction

Exterior work on a building in the TC, MUR, BP C, or I zones

If located within **50** feet of a regulated slope or an area containing soft compressible soils, only SEPA exempt projects may qualify for Fast Track Permitting.

If located within **300** feet of a wetland or stream or in a high landslide area, only repair and maintenance projects may qualify for Fast Track Permitting.

If located within a moderate landslide area or seismic hazard area, a geotechnical report may be required.

Here are some examples of what may qualify for fast track permitting:

Interior Only Tenant Improvements (that don't qualify for Express Permitting)

- Area of work is 5,000 square feet or less
- The proposed work involves only minor structural modifications, if any
- Tenant separation walls may be constructed or removed
- The proposed work occurs on only one level or one story
- See our online forms library to obtain the applicable checklist to prepare a complete permit application package.

Residential Decks (that don't qualify for Express Permitting)

- Refer to mybuildingpermit.com's [Basic Decks Tip Sheet #5](#) for standard deck requirements
- Deck may be more than one level or one story
- See the Single Family Building Permit Checklist to prepare a complete permit application package.

Roof Mounted Mechanical Units (that don't qualify for Express Permitting)

- See the Mechanical Permit Checklist to prepare a complete permit application package.

Outdoor Single Family Residence Swimming Pools

- See the Single Family Building Permit Checklist to prepare a complete permit application package.

Rockeries

- Not used as retaining structures
- 8' or less in height
- In compliance with [Pierce County Rock Wall Detail](#)
- See our online forms library to obtain the applicable checklist to prepare a complete permit application package.

Retaining Walls

- No shoring required
- 8' or less in height (4' in front yards)
- See our online forms library to obtain the applicable checklist to prepare a complete permit application package.

Single Family Alterations & Additions (that don't qualify for Express Permitting)

- Addition is no more than 50% of existing square footage
- The addition may be more than one level or one story
- See our online forms library to obtain the applicable checklist to prepare a complete permit application package.

For further information, please contact the City of Edgewood 253-952-3299

Permit Applications are accepted online through <https://ci-edgewood-wa.smartgovcommunity.com/Public/Home>

Time to Review

Type		Size	Time to Review		
			First submittal	Pre Revision	Post Revision*
Single Family	New home		5 weeks	<i>2 weeks</i>	<i>2 weeks</i>
	Add/Alt	> 500 sq. ft.	5 weeks	<i>2 weeks</i>	<i>2 weeks</i>
		Fast Track	10 work days	<i>5 work days</i>	<i>5 work days</i>
		Express	3 work days	<i>3 work days</i>	<i>3 work days</i>
SF in MR/MUR zoning	New		10 weeks	<i>3 weeks</i>	<i>2 weeks</i>
	Add/Alt		5 weeks	<i>2 weeks</i>	<i>2 weeks</i>
Multi-Family	New Multi-Family		10 weeks	<i>3 weeks</i>	<i>3 weeks or large rev. ck w/ plan reviewers</i>
	Add/Alt	> 4 hrs > 500 sq. ft.	5 weeks	<i>2 weeks</i>	<i>2 weeks</i>
		Fast Track	10 work days	<i>5 work days</i>	<i>5 work days</i>
		Express	3 work days	<i>3 work days</i>	<i>3 work days</i>
Commercial	New Mixed Use		10 weeks	<i>3 weeks or large rev. ck w/ plan reviewers</i>	<i>3 weeks or large rev. ck w/ plan reviewers</i>
	Institutional		10 weeks	<i>3 weeks or large rev. ck w/ plan reviewers</i>	<i>3 weeks or large rev. ck w/ plan reviewers</i>
	Shell		10 weeks	<i>3 weeks or large rev. ck w/ plan reviewers</i>	<i>3 weeks or large rev. ck w/ plan reviewers</i>
	TI	Not F/T or Express	5 weeks	<i>2 weeks</i>	<i>2 weeks or large rev. ck w/ plan reviewers</i>
		Fast Track TI	10 work days	<i>5 work days</i>	<i>5 work days</i>
		Express TI	3 work days	<i>3 work days</i>	<i>3 work days</i>
	Addition	Not F/T or Express	5 weeks	<i>2 weeks</i>	<i>2 weeks or large rev. ck w/ plan reviewers</i>
		Fast Track	10 work days	<i>5 work days</i>	<i>5 work days</i>
		Express	3 work days	<i>3 work days</i>	<i>3 work days</i>
Detention Vault			4 weeks	<i>2 weeks</i>	<i>2 weeks</i>
Demolition - independent permit			15 work days	<i>5 work days</i>	<i>5 work days</i>
Signs			10 work days	<i>5 work days</i>	<i>5 work days</i>
Cell Site, Communication Facility	New or Add/Alt		4 weeks	<i>2 weeks</i>	<i>2 weeks</i>



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – Equity, Diversity and Inclusion (Trainings, Planning, etc.)	Agenda Item #: 2.B
	For Agenda of: 11/17/2020
	Prepared by: Daryl Eiding
Attachments (list):	
Approval of Materials: Daryl Eiding Rachel Pitzel 11/10/2020	Expenditure Required:
	Amount Budgeted:
	Timeline: Topic to be added to all future Study Sessions (see item history below)

Summary Statement:

City Council is committed to creating a stronger and more inclusive community and believe that equity, diversity and inclusion is essential for our present and our future.

Item History:

Council has asked that this topic be a discussion item at all future study sessions for the foreseeable future. Council has discussed Equity, Diversity and Inclusion trainings and planning at the following meetings:

09/01/2020 Study Session
 09/15/2020 Study Session
 09/29/2020 Study Session
 10/06/2020 Study Session
 10/20/2020 Study Session
 11/03/2020 Study Session

Recommended Action:

N/A

Fiscal Note/Consideration:

N/A



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – Ordinance – Flood Hazard Areas	Agenda Item #: 2.C
	For Agenda of: 11/17/2020
	Prepared by: Jeremy Metzler
Attachments (list): 1. 1 - WA Model Ordinance 2019_12092019 2. 2 - Existing EMC 14.80 3. 3 - Flood Code Update PC Recommendation- FINAL 4. 4 - DRAFT Ordinance 20-0xxx	
Approval of Materials: Jeremy Metzler Rachel Pitzel 11/12/2020 Dave Gray 11/12/2020 Daryl Eidinger 11/12/2020	Expenditure Required: N/A Amount Budgeted: N/A Timeline: 11/17/2020 SS 11/24/2020 RCM (PH) 12/01/2020 SS 12/08/2020 RCM

Summary Statement:

The City of Edgewood's Flood Hazard Areas code was last substantially updated in 2017, adopting the latest Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs) for Pierce County. Some additional minor updates were made with the adoption of the latest Critical Areas Ordinance in July 2018. On December 9, 2019, a new model flood damage prevention ordinance was released by FEMA and the Washington State Department of Ecology (attached). Also attached is a copy of Edgewood Municipal Code (EMC) 14.80 as currently adopted, for reference.

While an update to EMC 14.80 has not been mandated at this time, staff finds it prudent to revise Edgewood's current ordinance to: 1) be consistent with the new model and comply with legal requirements reflected therein, 2) retain local provisions that are more restrictive than the State's new model ordinance, and 3) take the opportunity to remove any outdated and irrelevant references or provisions. Attached herewith is a draft ordinance with proposed amendments to EMC. To aid the Council in their review of the model ordinance and proposed code changes, staff offers the following summary by section of the model ordinance:

- 1.1, 1.2, 3.8 – Language included in draft ordinance
- 1.3 – Updated language in EMC 14.80.010
- 1.4 – Added new section EMC 14.80.013
- 2.0 – Updated definitions in EMC 14.80.030 and 14.20.010
- 3.1 – Already covered by EMC 14.10.040
- 3.2 – Updated language in EMC 14.80.020

- 3.3 & 3.4 – Added new section EMC 14.80.075
- 3.5 – Added new section EMC 14.80.011
- 3.6 – Added new section EMC 14.80.012
- 3.7 – Updated language in EMC 14.80.050(A)(12), now 14.80.050(A)(8)
- 4.1 – Added new section EMC 14.80.045
- 4.2 – Added new section EMC 14.80.014
- 4.3 – Added new section EMC 14.80.015
- 5.1 – Revised EMC 14.80.060(A) to follow model ordinance format, adding existing subsection (3) as subsection (6)
- 5.2 – Revised EMC 14.80.060(B) to follow model ordinance format, consolidated subsections (B) and (C) into (B) and/or (D) as appropriate (see below)
- 5.3 – Revised EMC 14.80.060(C) to follow model ordinance
- 5.4 – Added new section EMC 14.80.060(D), including provisions from existing subsection (B) as appropriate
- 5.5 – Added new section EMC 14.80.060(E)
- 5.6 – Added new section EMC 14.80.060(F), minor edit to remain at least as restrictive as existing code
- 5.7 – Added new section EMC 14.80.060(G)
- 6.0, etc. – Revised EMC 14.80.070
- Appendix A and B – Not applicable to Edgewood (AO and V zones)

As discussed in July with the Planning Commission, the threshold applied to the “zero rise analysis” under 14.80.050(E) is more restrictive under the model ordinance (Zero vs. 0.01-foot). After further review and consultation with Ecology, staff understands this is meant to address those projects proposing work within the special flood hazard area. For projects that are outside of, but tributary to, a special flood hazard area, staff has included clarifying language allowing the existing EMC provision of 0.01-foot rise in the special flood hazard area.

Finally, the proposed ordinance contains some housekeeping edits to EMC, removing Channel Migration Zones (CMZs) and some other non-applicable provisions that were apparent carry-overs from the Pierce County Code in the original ordinance. Staff can confirm these code modifications have been reviewed and accepted by Ecology, sent to FEMA to concurrence, and notice of the proposed changes has been sent to Commerce.

Item History:

07/13/2020 Planning Commission
 10/29/2020 SEPA DNS
 10/12/2020 Planning Commission
 11/09/2020 Planning Commission PH

Recommended Action:

Hold a discussion and provide staff guidance regarding Discussion – Ordinance – Flood Hazard Areas.

Fiscal Note/Consideration:

N/A

**NATIONAL FLOOD INSURANCE PROGRAM
FLOOD DAMAGE PREVENTION ORDINANCE
WASHINGTON MODEL (REVISED 12/09/2019)**

Close to 300 towns, cities, counties, and tribes within the State of Washington participate in the National Flood Insurance Program (NFIP). As a condition of participation in the NFIP, communities are required to adopt and enforce a flood hazard reduction ordinance that meets the minimum requirements of the NFIP; however, there are occasionally additional requirements identified by state law that are more restrictive. In these cases, the Federal Emergency Management Agency (FEMA) will require that communities meet those standards as well.

This model identifies the basic requirements and cross references them to appropriate Code of Federal Regulations (CFR), Revised Code of Washington (RCW), or Washington Administrative Code (WAC) requirements. It also encourages community officials to consider the direct insurance implications of certain building standards that, if adopted, can reduce (or increase) annual flood insurance premiums for local citizens. This ordinance, as developed by FEMA and the Washington Department of Ecology, supersedes previous versions and includes all the minimum standards required as a condition of participation in the NFIP. It will be used by FEMA and state staff as the basis for providing technical assistance and compliance reviews during the Community Assistance Contact (CAC) and Community Assistance Visit (CAV) process to ensure federal and state law are met.

The model identifies the basic minimum federal and state regulation requirements that must be contained in local flood regulations, as well as suggestions for stronger measures, but notes these measures are *recommended*, not required. Additionally, it outlines several specific floodplain development practices and regulations that can reduce insurance premium. Adopting this model flood hazard reduction ordinance verbatim can ensure compliance with FEMA; however, *it should be emphasized that its adoption is not a mandatory requirement per NFIP regulation*. Some sections of this document are included for clarity and are not required by federal or state law. For instance, as indicated in SECTION 1: STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE AND OBJECTIVES, it is not mandatory to adopt this entire section, but by doing so, it will make your community's ordinance more legally enforceable.

Certain commentary is highlighted in the model ordinance. The highlighted commentary does not need to be included in the local ordinances.

Please note: Section 1612.4 of the 2015 International Building Code (IBC) and Section 1612.2 of the 2018 International Building Code incorporate the design and construction standards of ASCE 24 published by the American Society of Civil Engineers. ASCE 24-14 tables 1-1, 2-1, 4-1, and 6-1 contain specific building elevation requirements which

exceed minimum NFIP standards.

Please Note: RCW 86.16.190 requires that:

Local governments that have adopted floodplain management regulations pursuant to this chapter shall include provisions that allow for the establishment of livestock flood sanctuary areas at a convenient location within a farming unit that contains domestic livestock. Local governments may limit the size and configuration of the livestock flood sanctuary areas, but such limitation shall provide adequate space for the expected number of livestock on the farming unit and shall be at an adequate elevation to protect livestock. Modification to floodplain management regulations required pursuant to this section shall be within the minimum federal requirements necessary to maintain coverage under the national flood insurance program.

While state law requires that local governments make provision for critter pads, it is extremely important to note that RCW 86.16.190 does not relax NFIP standards, including the no rise standard in floodways, in any way.

This document may also serve as a foundation upon which communities can craft their own additional measures. The ordinance can be modified to accommodate local standards, provided they are not less restrictive than the minimum standards identified in this model. Areas on the model that exceed those minimum standards are clearly marked. The model ordinance is in a modular format.

Appendix A: Ordinance Standards for Communities with Shallow Flooding Identified as AO zones on Flood Insurance Rate Maps (FIRMs). These standards are mandatory in communities that have mapped AO zones.

Appendix B: Ordinance Standards for Communities with Coastal Flooding Identified as V zones on Flood Insurance Rate Maps (FIRMs). These standards are mandatory in communities that have mapped V or VE zones.

NOTE: A community may wish to use a numbering system that differs from this model ordinance. In such cases, special care should be taken to correctly identify internal code citations within the Flood Damage Prevention Ordinance.

Section 1.0 - Statutory Authorization, Findings of Fact, Purpose, and Objectives *(Not mandatory to adopt section 1.0)*

1.1 Statutory Authorization

The Legislature of the State of Washington has delegated the responsibility to local communities to adopt floodplain management regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the **{Decision Making Body}** of **{Community Name}**, does ordain as follows:

1.2 Findings of Fact

The flood hazard areas of {Community Name} are subject to periodic inundation, which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.

These flood losses may be caused by the cumulative effect of obstructions in areas of special flood hazards that increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately floodproofed, elevated, or otherwise protected from flood damage also contribute to the flood loss.

1.3 Statement of Purpose

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

- 1) Protect human life and health;
- 2) Minimize expenditure of public money for costly flood control projects;
- 3) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- 4) Minimize prolonged business interruptions;
- 5) Minimize damage to public facilities and utilities, such as water and gas mains; electric, telephone, and sewer lines; and streets and bridges located in flood hazard areas;
- 6) Help maintain a stable tax base by providing for the sound use and development

of flood hazard areas so as to minimize blight areas caused by flooding;

- 7) Notify potential buyers that the property is in a Special Flood Hazard Area;
- 8) Notify those who occupy flood hazard areas that they assume responsibility for their actions; and
- 9) Participate in and maintain eligibility for flood insurance and disaster relief.

1.4 Methods of Reducing Flood Losses

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

- 1) Restricting or prohibiting development that is dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
- 2) Requiring that development vulnerable to floods be protected against flood damage at the time of initial construction;
- 3) Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
- 4) Controlling filling, grading, dredging, and other development, which may increase flood damage; and
- 5) Preventing or regulating the construction of flood barriers that unnaturally divert floodwaters or may increase flood hazards in other areas.

Section 2.0 – Definitions *(44 CFR 59.1, not mandatory to adopt all definitions as shown. However, definitions needed for implementation of NFIP standards in a specific community can be required in the community's Flood Damage Prevention Ordinance.)*

Terms with 1 asterisk trigger a specific minimum requirement and must be adopted. Unless specifically defined below, terms or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance the most reasonable application.

***Alteration of watercourse:** Any action that will change the location of the channel occupied by water within the banks of any portion of a riverine waterbody.

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

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

***Area of special flood hazard:** The land in the floodplain within a community subject to a 1 percent or greater chance of flooding in any given year. It is shown on the Flood Insurance Rate Map (FIRM) as zone A, AO, AH, A1-30, AE, A99, AR (V, VO, V1-30, VE). "Special flood hazard area" is synonymous in meaning with the phrase "area of special flood hazard".

ASCE 24: The most recently published version of ASCE 24, Flood Resistant Design and Construction, published by the American Society of Civil Engineers.

***Base flood:** The flood having a 1% chance of being equaled or exceeded in any given year (also referred to as the "100-year flood").

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

***Basement:** Any area of the building having its floor sub-grade (below ground level) on all sides.

Building: See "Structure."

Building Code: The currently effective versions of the International Building Code and the International Residential Code adopted by the State of Washington Building Code Council.

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

Coastal High Hazard Area: An area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The area is designated on the FIRM as zone V1-30, VE or V.

Critical Facility: A facility for which even a slight chance of flooding might be too great. Critical facilities include (but are not limited to) schools, nursing homes, hospitals, police,

fire and emergency response installations, and installations which produce, use, or store hazardous materials or hazardous waste.

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

Elevation Certificate: An administrative tool of the National Flood Insurance Program (NFIP) that can be used to provide elevation information, to determine the proper insurance premium rate, and to support a request for a Letter of Map Amendment (LOMA) or Letter of Map Revision based on fill (LOMR-F).

Elevated Building: For insurance purposes, a non-basement building that has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns.

Essential Facility: This term has the same meaning as “Essential Facility” defined in ASCE 24. Table 1-1 in ASCE 24-14 further identifies building occupancies that are essential facilities.

Existing Manufactured Home Park or Subdivision: A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by the community.

Expansion to an Existing Manufactured Home Park or Subdivision: The preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

Farmhouse: A single-family dwelling located on a farm site where resulting agricultural products are not produced for the primary consumption or use by the occupants and the farm owner.

***Flood or Flooding:**

- 1) A general and temporary condition of partial or complete inundation of normally dry land areas from:
 - a) The overflow of inland or tidal waters.

- b) The unusual and rapid accumulation or runoff of surface waters from any source.
 - c) Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in paragraph (1)(b) of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.
- 2) The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in paragraph (1)(a) of this definition.

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

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

***Floodplain or flood-prone area:** Any land area susceptible to being inundated by water from any source. See "Flood or flooding."

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

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

***Flood proofing:** Any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate risk of flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents. Flood proofed structures are those that have the structural integrity and design to be impervious to floodwater below the Base Flood Elevation.

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

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

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

***Historic structure:** Any structure that is:

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

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

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.”

Manufactured Home Park or Subdivision: A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

***Mean Sea Level:** For purposes of the National Flood Insurance Program, the vertical datum to which Base Flood Elevations shown on a community's Flood Insurance Rate Map are referenced.

New construction: For the purposes of determining insurance rates, structures for which the “start of construction” commenced on or after the effective date of an initial Flood Insurance Rate Map or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, “new construction” means structures for which the “start of construction” commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

One-hundred-year flood or 100-year flood: See “Base flood.”

New Manufactured Home Park or Subdivision: A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of adopted floodplain management regulations adopted by the community.

Reasonably Safe from Flooding: Development that is designed and built to be safe from flooding based on consideration of current flood elevation studies, historical data, high water marks and other reliable data known to the community. In unnumbered A zones where flood elevation information is not available and cannot be obtained by practicable means, reasonably safe from flooding means that the lowest floor is at least two feet above the Highest Adjacent Grade.

***Recreational Vehicle: A vehicle,**

- 1) Built on a single chassis;
- 2) 400 square feet or less when measured at the largest horizontal projection;
- 3) Designed to be self-propelled or permanently towable by a light duty truck; and

- 4) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

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

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

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

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

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

***Variance:** A grant of relief by a community from the terms of a floodplain management regulation.

Water surface elevation: The height, in relation to the vertical datum utilized in the applicable flood insurance study of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

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

Section 3.0 – General Provisions

3.1 Lands to Which This Ordinance Applies (44 CFR 59.22(a))

This ordinance shall apply to all special flood hazard areas within the boundaries of {Community Name}.

3.2 Basis for Establishing the Areas of Special Flood Hazard

The special flood hazard areas identified by the Federal Insurance Administrator in a scientific and engineering report entitled “The Flood Insurance Study (FIS) for {exact title of study}” dated {date}, and any revisions thereto, with accompanying Flood Insurance Rate Maps (FIRMs) dated {date}, and any revisions thereto, are hereby adopted by reference and declared to be a part of this ordinance. The FIS and the FIRM are on file at {community address}.

The best available information for flood hazard area identification as outlined in Section 4.3-2 shall be the basis for regulation until a new FIRM is issued that incorporates data utilized under Section 4.3-2.

Note: *In some communities, the phrase “and any revisions thereto” is not considered legally binding and should not be adopted.*

3.3 Compliance

All development within special flood hazard areas is subject to the terms of this ordinance and other applicable regulations.

3.4 Penalties For Noncompliance

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations. Violations of the provisions of this ordinance by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions), shall constitute a misdemeanor. Any person who violates this

ordinance or fails to comply with any of its requirements shall upon conviction thereof be fined not more than _____ or imprisoned for not more than ___ days, or both, for each violation, and in addition shall pay all costs and expenses involved in the case. Nothing herein contained shall prevent the _____ from taking such other lawful action as is necessary to prevent or remedy any violation.

3.5 Abrogation and Greater Restrictions

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

3.6 Interpretation (Not mandatory)

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

- 1) Considered as minimum requirements;
- 2) Liberally construed in favor of the governing body; and,
- 3) Deemed neither to limit nor repeal any other powers granted under state statutes.

3.7 Warning And Disclaimer of Liability (Not mandatory)

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of {Community Name}, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

3.8 Severability

This ordinance and the various parts thereof are hereby declared to be severable. Should any Section of this ordinance be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the ordinance as a whole, or any portion thereof other than the Section so declared to be unconstitutional or invalid.

Section 4.0 – Administration

4.1 Establishment of Development Permit

4.1-1 Development Permit Required (44 CFR 60.3(b)(1))

A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 3.2. The permit shall be for all structures including manufactured homes, as set forth in the “Definitions,” and for all development including fill and other activities, also as set forth in the “Definitions.”

4.1-2 Application for Development Permit

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

- 1) Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures recorded on a current elevation certificate with Section B completed by the Floodplain Administrator.
- 2) Elevation in relation to mean sea level to which any structure has been floodproofed;
- 3) Where a structure is to be floodproofed, certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet floodproofing criteria in Section 5.2-2;
- 4) Description of the extent to which a watercourse will be altered or relocated as a result of proposed development;
- 5) Where a structure is proposed in a V, V1-30, or VE zone, a V-zone design certificate;
- 6) Where development is proposed in a floodway, an engineering analysis indication no rise of the Base Flood Elevation, and
- 7) Any other such information that may be reasonably required by the Floodplain Administrator in order to review the application.

Note: The format of section 4.1-2 is not mandatory but the elevation information in subsection 1 and the information in subsections 2 through 7 is mandatory. Elevation Certificates are not mandatory outside of Community Rating System communities but highly recommended.

4.2 Designation of the Floodplain Administrator (44 CFR 59.22(b)(1))

The {**job title of the appropriate administrative official**} is hereby appointed to administer, implement, and enforce this ordinance by granting or denying development permits in accordance with its provisions. The Floodplain Administrator may delegate authority to implement these provisions.

4.3 Duties & Responsibilities of the Floodplain Administrator

Duties of the (*Floodplain Administrator*) shall include, but not be limited to:

4.3-1 Permit Review

Review all development permits to determine that:

- 1) The permit requirements of this ordinance have been satisfied;
- 2) All other required state and federal permits have been obtained;
- 3) The site is reasonably safe from flooding;
- 4) The proposed development is not located in the floodway. If located in the floodway, assure the encroachment provisions of Section 5.4-1 are met;
- 5) Notify FEMA when annexations occur in the Special Flood Hazard Area.

4.3-2 Use of Other Base Flood Data (In A and V Zones) (44 CFR 60.3(b)(4))

When base flood elevation data has not been provided (in A or V zones) in accordance with Section 3.2, BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD, the Floodplain Administrator shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state, or other source, in order to administer Sections 5.2, SPECIFIC STANDARDS, and 5.4 FLOODWAYS.

4.3-3 Information to be Obtained and Maintained (*The following language is required and should be adopted verbatim per 44 CFR*)

- 1) Where base flood elevation data is provided through the FIS, FIRM, or required as in Section 4.3-2, obtain and maintain a record of the actual (as-built) 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. *(44 CFR 60.3(b)(5)(i) and (iii))*
- 2) Obtain and maintain documentation of the elevation of the bottom of the lowest horizontal structural member in V or VE zones. *(44 CFR 60.3(e)(2)(i) and (ii))*
- 3) For all new or substantially improved floodproofed nonresidential structures where base flood elevation data is provided through the FIS, FIRM, or as required in Section 4.3-2:
 - a) Obtain and maintain a record of the elevation (in relation to mean sea level) to which the structure was floodproofed. *(44 CFR 60.3(b)(5)(ii))*
 - b) Maintain the floodproofing certifications required in Section 4.1-2(3). *(44 CFR 60.3(b)(5)(iii))*
- 4) Certification required by Section 5.4.1 {or the numbering system used by the community} (floodway encroachments). *(44 CFR 60.3(d)(3))*
- 5) Records of all variance actions, including justification for their issuance. *(44 CFR 60.6(a)(6))*
- 6) Improvement and damage calculations.
- 7) Maintain for public inspection all records pertaining to the provisions of this ordinance. *(44 CFR 60.3(b)(5)(iii))*

4.3-4 Alteration of Watercourse

Whenever a watercourse is to be altered or relocated:

- 1) Notify adjacent communities and the Department of Ecology prior to such alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administrator through appropriate notification means. *(44 CFR 60.3(b)(6))*
- 2) Assure that the flood carrying capacity of the altered or relocated portion of said watercourse is maintained. *(44 CFR 60.3(b)(7))*

4.3-5 Interpretation of FIRM Boundaries *(This section is not required, but if the Local Administrators are performing this task on a regular basis, it should be adopted.)*

Make interpretations where needed, as to exact location of the boundaries of the areas of special flood hazards (e.g. where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation. Such appeals shall be granted consistent with the standards of Section 60.6 of the Rules and Regulations of the NFIP (44 CFR 59-76).

4.3-6 Review of Building Permits *(44 CFR 60.3(a)(3))*

Where elevation data is not available either through the FIS, FIRM, or from another authoritative source (Section 4.3-2), applications for floodplain development shall be reviewed to assure that proposed construction will be *reasonably safe from flooding*. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available.

(Failure to elevate habitable buildings at least two feet above the highest adjacent grade in these zones may result in higher insurance rates.)

4.3-7 Changes to Special Flood Hazard Area

- 1) If a project will alter the BFE or boundaries of the SFHA, then the project proponent shall provide the community with engineering documentation and analysis regarding the proposed change. If the change to the BFE or boundaries of the SFHA would normally require a Letter of Map Change, then the project proponent shall initiate, and receive approval of, a Conditional Letter of Map Revision (CLOMR) prior to approval of the development permit. The project shall be constructed in a manner consistent with the approved CLOMR.
- 2) If a CLOMR application is made, then the project proponent shall also supply the full CLOMR documentation package to the Floodplain Administrator to be attached to the floodplain development permit, including all required property owner notifications.

Section 5.0 – Provisions for Flood Hazard Reduction

5.1 General Standards *(Section 5.0 is required)*

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

5.1-1 Anchoring *(44 CFR 60.3(a) and (b))*

- 1) All new construction and substantial improvements, including those related to manufactured homes, shall be anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads including the effects of buoyancy. (44 CFR 60.3(a)(3)(i))
- 2) All manufactured homes shall 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. (44 CFR 60.3(b)(8)). For more detailed information, refer to guidebook, FEMA-85, "Manufactured Home Installation in Flood Hazard Areas."

5.1-2 Construction Materials and Methods *(44 CFR 60.3(a)(3)(ii-iv))*

- 1) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- 2) All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
- 3) 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.

5.1-3 Storage of Materials and Equipment

- 1) The storage or processing of materials that could be injurious to human, animal, or plant life if released due to damage from flooding is prohibited in special flood hazard areas **(recommended)**.
- 2) Storage of other material or equipment may be allowed if not subject to damage by floods and if firmly anchored to prevent flotation, or if readily removable from the area within the time available after flood warning.

5.1-4 Utilities (44 CFR 60.3(a)(5) and (6))

- 1) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems;
- 2) Water wells shall be located on high ground that is not in the floodway (WAC 173-160-171);
- 3) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;
- 4) Onsite waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

5.1-5 Subdivision Proposals and Development (44 CFR 60.3(a)(4) and (b)(3))

All subdivisions, as well as new development shall:

- 1) Be consistent with the need to minimize flood damage;
- 2) Have public utilities and facilities, such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage;
- 3) Have adequate drainage provided to reduce exposure to flood damage.
- 4) Where subdivision proposals and other proposed developments contain greater than 50 lots or 5 acres (whichever is the lesser) base flood elevation data shall be included as part of the application.

5.2 Specific Standards (44 CFR 60.3(c)(1))

In all areas of special flood hazards where base flood elevation data has been provided as set forth in Section 3.2, BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD, or Section 4.3-2, USE OF OTHER BASE FLOOD DATA. The following provisions are required:

5.2-1 Residential Construction (44 CFR 60.3(c)(2)(5))

- 1) In AE and A1-30 zones or other A zoned areas where the BFE has been determined or can be reasonably obtained, new construction and substantial improvement of any residential structure shall have the lowest

floor, including basement, elevated one foot or more above the BFE. Mechanical equipment and utilities shall be waterproof or elevated least one foot above the BFE.

- 2) New construction and substantial improvement of any residential structure in an AO zone shall meet the requirements in Appendix A.
- 3) New construction and substantial improvement of any residential structure in an Unnumbered A zone for which a BFE is not available and cannot be reasonably obtained shall be reasonably safe from flooding, but in all cases the lowest floor shall be at least two feet above the Highest Adjacent Grade.
- 4) New construction and substantial improvement of any residential structure in a V, V1-30, or VE zone shall meet the requirements in Appendix B.
- 5) 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 must meet or exceed the following minimum criteria:
 - a) Have a minimum of two openings with a total net area of not less than one square inch for every square foot of enclosed area subject to flooding.
 - b) The bottom of all openings shall be no higher than one foot above grade.
 - c) Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwater.
 - d) A garage attached to a residential structure, constructed with the garage floor slab below the BFE, must be designed to allow for the automatic entry and exit of flood waters.

Alternatively, a registered engineer or architect may design and certify engineered openings.

5.2-2 Nonresidential Construction (44 CFR 60.3(c)(3) and (4))

New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall meet the requirements of subsection 1 or 2, below.

1) New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall meet all of the following requirements:

a) In AE and A1-30 zones or other A zoned areas where the BFE has been determined or can be reasonably obtained:

New construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall have the lowest floor, including basement, elevated one foot or more above the BFE, or elevated as required by ASCE 24, whichever is greater. Mechanical equipment and utilities shall be waterproofed or elevated least one foot above the BFE, or as required by ASCE 24, whichever is greater.

b) If located in an AO zone, the structure shall meet the requirements in Appendix A.

c) If located in an Unnumbered A zone for which a BFE is not available and cannot be reasonably obtained, the structure shall be reasonably safe from flooding, but in all cases the lowest floor shall be at least two feet above the Highest Adjacent Grade.

d) If located in a V, V1-30, or VE zone, the structure shall meet the requirements in Appendix B.

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

i) Have a minimum of two openings with a total net area of not less than one square inch for every square foot of enclosed area subject to flooding.

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

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

iv) A garage attached to a residential structure, constructed with the garage floor slab below the BFE, must be designed to allow for the automatic entry and exit of flood waters.

Alternatively, a registered engineer or architect may design and certify engineered openings.

- 2) If the requirements of subsection 1 are not met, then new construction and substantial improvement of any commercial, industrial or other nonresidential structure shall meet all of the following requirements:
 - a) Be dry floodproofed so that below one foot or more above the base flood level the structure is watertight with walls substantially impermeable to the passage of water or dry floodproofed to the elevation required by ASCE 24, whichever is greater;
 - b) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;
 - c) Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in Section 4.3-3(2);
 - d) Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in 5.2-1(5);

Note: Applicants who are floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g. a building floodproofed to the base flood level will be rated as one foot below). Floodproofing the building an additional foot will reduce insurance premiums significantly.

5.2-3 Manufactured Homes (44 CFR 60.3(c)(6)(12))

- 1) All manufactured homes to be placed or substantially improved on sites shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated one foot or more above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.
(If the above phrase is applied to all manufactured homes in the floodplain, then the remaining verbiage is not necessary to adopt.)
This applies to manufactured homes:

- a) Outside of a manufactured home park or subdivision,
 - b) In a new manufactured home park or subdivision,
 - c) In an expansion to an existing manufactured home park or subdivision, or
 - d) In an existing manufactured home park or subdivision on a site which a manufactured home has incurred “substantial damage” as the result of a flood; and
- 2) Manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision that are not subject to the above manufactured home provisions be elevated so that either:
- a) The lowest floor of the manufactured home is elevated one foot or more above the base flood elevation, or
 - b) 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 and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

5.2-4 Recreational Vehicles (44 CFR 60.3(c)(14))

- 1) Recreational vehicles placed on sites are required to either:
- 2) Be on the site for fewer than 180 consecutive days, or
- 3) Be fully licensed and ready for highway use, on wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or

Meet the requirements of 5.2-3 above.

5.2-5 Enclosed Area Below the Lowest Floor

If buildings or manufactured homes are constructed or substantially improved with fully enclosed areas below the lowest floor, the areas shall be used solely for parking of vehicles, building access, or storage.

5.2-6 Appurtenant Structures (Detached Garages & Small Storage Structures)

For A Zones (A, AE, A1-30, AH, AO):

- 1) Appurtenant structures used solely for parking of vehicles or limited storage may be constructed such that the floor is below the BFE, provided the structure is designed and constructed in accordance with the following requirements:
 - a) Use of the appurtenant structure must be limited to parking of vehicles or limited storage;
 - b) The portions of the appurtenant structure located below the BFE must be built using flood resistant materials;
 - c) The appurtenant structure must be adequately anchored to prevent flotation, collapse, and lateral movement;
 - d) Any machinery or equipment servicing the appurtenant structure must be elevated or floodproofed to or above the BFE;
 - e) The appurtenant structure must comply with floodway encroachment provisions in Section 5.4-1;
 - f) The appurtenant structure must be designed to allow for the automatic entry and exit of flood waters in accordance with Section 5.2-1(5).
 - g) The structure shall have low damage potential,
 - h) If the structure is converted to another use, it must be brought into full compliance with the standards governing such use, and
 - i) The structure shall not be used for human habitation.
- 2) Detached garages, storage structures, and other appurtenant structures not meeting the above standards must be constructed in accordance with all applicable standards in Section 5.2-1.
- 3) Upon completion of the structure, certification that the requirements of this section have been satisfied shall be provided to the Floodplain Administrator for verification.

5.3 AE and A1-30 Zones with Base Flood Elevations but No Floodways (44 CFR 60.3(c)(10))

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

5.4 Floodways *(Note the more restrictive language for floodway development per RCW 86.16)*

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

5.4-1 No Rise Standard

Prohibit encroachments, including fill, new construction, substantial improvements, and other development, 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. (44 CFR 60.3(d)(3))

5.4-2 Residential Construction in Floodways

Construction or reconstruction of residential structures is prohibited within designated floodways, except for (i) repairs, reconstruction, or improvements to a structure that do not increase the ground floor area; and (ii) repairs, reconstruction, or improvements to a structure, the cost of which does not exceed 50 percent of the market value of the structure either, (A) before the repair or reconstruction is started, or (B) if the structure has been damaged, and is being restored, before the damage occurred. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications that have been identified by the local code enforcement official and that are the minimum necessary to assure safe living conditions, or to structures identified as historic places, may be excluded in the 50 percent.

1) Replacement of Farmhouses in Floodway

Repairs, reconstruction, replacement, or improvements to existing farmhouse structures located in designated floodways and that are located on lands designated as agricultural lands of long-term commercial significance under RCW 36.70A.170 may be permitted subject to the following:

- a) The new farmhouse is a replacement for an existing farmhouse on the same farm site;
- b) There is no potential building site for a replacement farmhouse on the same farm outside the designated floodway;
- c) Repairs, reconstruction, or improvements to a farmhouse shall not increase the total square footage of encroachment of the existing farmhouse;
- d) A replacement farmhouse shall not exceed the total square footage of encroachment of the farmhouse it is replacing;
- e) A farmhouse being replaced shall be removed, in its entirety, including foundation, from the floodway within ninety days after occupancy of a new farmhouse;
- f) For substantial improvements and replacement farmhouses, the elevation of the lowest floor of the improvement and farmhouse respectively, including basement, is a minimum of one foot higher than the BFE;
- g) New and replacement water supply systems are designed to eliminate or minimize infiltration of flood waters into the system;
- h) New and replacement sanitary sewerage systems are designed and located to eliminate or minimize infiltration of flood water into the system and discharge from the system into the flood waters; and
- i) All other utilities and connections to public utilities are designed, constructed, and located to eliminate or minimize flood damage.

2) Substantially Damaged Residences in Floodway

- a) For all substantially damaged residential structures, other than farmhouses, located in a designated floodway, the Floodplain Administrator may make a written request that the Department of Ecology assess the risk of harm to life and property posed by the specific conditions of the floodway. Based on analysis of depth, velocity, flood-related erosion, channel migration, debris load potential, and flood warning capability, the Department of Ecology may exercise best professional judgment in recommending to the local permitting authority repair, replacement, or relocation of a substantially damaged structure consistent with WAC 173-158-076. The property owner shall be responsible for submitting to the local government and the Department of Ecology any information

necessary to complete the assessment. Without a favorable recommendation from the department for the repair or replacement of a substantially damaged residential structure located in the regulatory floodway, no repair or replacement is allowed per WAC 173-158-070(1).

- b) Before the repair, replacement, or reconstruction is started, all requirements of the NFIP, the state requirements adopted pursuant to 86.16 RCW, and all applicable local regulations must be satisfied. In addition, the following conditions must be met:
 - i) There is no potential safe building location for the replacement residential structure on the same property outside the regulatory floodway.
 - ii) A replacement residential structure is a residential structure built as a substitute for a legally existing residential structure of equivalent use and size.
 - iii) Repairs, reconstruction, or replacement of a residential structure shall not increase the total square footage of floodway encroachment.
 - iv) The elevation of the lowest floor of the substantially damaged or replacement residential structure is a minimum of one foot higher than the BFE.
 - v) New and replacement water supply systems are designed to eliminate or minimize infiltration of flood water into the system.
 - vi) New and replacement sanitary sewerage systems are designed and located to eliminate or minimize infiltration of flood water into the system and discharge from the system into the flood waters.
 - vii) All other utilities and connections to public utilities are designed, constructed, and located to eliminate or minimize flood damage.

5.4-3 All Other Building Standards Apply in the Floodway

If Section 5.4-1 is satisfied or construction is allowed pursuant to section 5.4-2, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Section 5.0, Provisions For Flood Hazard Reduction.

5.5 General Requirements for Other Development *(Optional Provision)*

All development, including manmade changes to improved or unimproved real estate for which specific provisions are not specified in this ordinance or the state building codes with adopted amendments and any {community name} amendments, shall:

- 1) Be located and constructed to minimize flood damage;
- 2) Meet the encroachment limitations of this ordinance if located in a regulatory floodway;
- 3) Be anchored to prevent flotation, collapse, or lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of the design flood;
- 4) Be constructed of flood damage-resistant materials;
- 5) Meet the flood opening requirements of Section 5.2-1(5), and
- 6) Have mechanical, plumbing, and electrical systems above the design flood elevation or meet the requirements of ASCE 24, except that minimum electric service required to address life safety and electric code requirements is permitted below the design flood elevation provided it conforms to the provisions of the electrical part of building code for wet locations.

5.6 Critical Facility (Optional Provision)

Construction of new critical facilities shall be, to the extent possible, located outside the limits of the SFHA (100-year floodplain). Construction of new critical facilities shall be permissible within the SFHA if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three feet above BFE or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility should also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the BFE shall be provided to all critical facilities to the extent possible.

5.7 Livestock Sanctuaries

Elevated areas for the purpose of creating a flood sanctuary for livestock are allowed on farm units where livestock is allowed. Livestock flood sanctuaries shall be sized appropriately for the expected number of livestock and be elevated sufficiently to protect livestock. Proposals for livestock flood sanctuaries shall meet all procedural and substantive requirements of this chapter.

Note: To be “elevated sufficiently to protect livestock” typically means to be elevated at least one foot above the BFE.

Section 6.0 - Variances

The variance criteria set forth in this section of the ordinance are based on the general principle of zoning law that variances pertain to a piece of property and are not personal in nature. A variance may be granted for a parcel of property with physical characteristics so unusual that complying with the requirements of this ordinance would create an exceptional hardship to the applicant or the surrounding property owners. The characteristics must be unique to the property and not be shared by adjacent parcels. The unique characteristic must pertain to the land itself, not to the structure, its inhabitants, or the property owners.

It is the duty of the **{governing body}** to help protect its citizens from flooding. This need is so compelling and the implications of the cost of insuring a structure built below the Base Flood Elevation are so serious that variances from the flood elevation or from other requirements in the flood ordinance are quite rare. The long-term goal of preventing and reducing flood loss and damage can only be met if variances are strictly limited. Therefore, the variance guidelines provided in this ordinance are more detailed and contain multiple provisions that must be met before a variance can be properly granted. The criteria are designed to screen out those situations in which alternatives other than a variance are more appropriate.

6.1 Requirements for Variances

- 1) Variances shall only be issued:
 - a) Upon a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances;
 - b) For the repair, rehabilitation, or restoration of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure’s continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure;

- c) Upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief;
 - d) Upon a showing of good and sufficient cause;
 - e) Upon a determination that failure to grant the variance would result in exceptional hardship to the applicant;
 - f) Upon a showing that the use cannot perform its intended purpose unless it is located or carried out in close proximity to water. This includes only facilities defined in Section 2.0 {or the numbering system used by the community} of this ordinance in the definition of “Functionally Dependent Use.”
- 2) Variances shall not be issued within any floodway if any increase in flood levels during the base flood discharge would result.
 - 3) Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the BFE, provided the procedures of Sections 4.0 and 5.0 {or the numbering system used by the community} of this ordinance have been fully considered. As the lot size increases beyond one-half acre, the technical justification required for issuing the variance increases.

6.2 Variance Criteria

In considering variance applications, the **{Governing Body}** shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:

- 1) The danger that materials may be swept onto other lands to the injury of others;
- 2) The danger to life and property due to flooding or erosion damage;
- 3) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
- 4) The importance of the services provided by the proposed facility to the community;
- 5) The necessity to the facility of a waterfront location, where applicable;

- 6) The availability of alternative locations for the proposed use, which are not subject to flooding or erosion damage;
- 7) The compatibility of the proposed use with existing and anticipated development;
- 8) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
- 9) The safety of access to the property in time of flood for ordinary and emergency vehicles;
- 10) The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site; and,
- 11) The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities, such as sewer, gas, electrical, water system, and streets and bridges.

6.1 Additional Requirements for the Issuance of a Variance

- 1) Any applicant to whom a variance is granted shall be given written notice over the signature of a community official that:
 - a) The issuance of a variance to construct a structure below the BFE will result in increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage, and
 - b) Such construction below the BFE increases risks to life and property.
- 2) The Floodplain Administrator shall maintain a record of all variance actions, including justification for their issuance.
- 3) The Floodplain Administrator shall condition the variance as needed to ensure that the requirements and criteria of this chapter are met.
- 4) Variances as interpreted in the NFIP are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from flood elevations should be quite rare.

**APPENDIX A
STANDARDS FOR SHALLOW FLOODING
AREAS (AO ZONES)
(44 CFR 60.3(c)7, 8 and 11)**

Shallow flooding areas appear on FIRMs as AO zones with depth designations. The base flood depths in these zones range from 1 to 3 feet above ground where a clearly defined channel does not exist, or where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In addition to other provisions in this code, the following additional provisions also apply in AO zones:

1. New construction and substantial improvements of residential structures and manufactured homes within AO zones shall have the lowest floor (including basement and mechanical equipment) elevated above the highest adjacent grade to the structure, one foot or more above* the depth number specified in feet on the community's FIRM (at least two feet above the highest adjacent grade to the structure if no depth number is specified).
2. New construction and substantial improvements of nonresidential structures within AO zones shall either:
 - a) Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, one foot or more above* the depth number specified on the FIRM (at least two feet if no depth number is specified); or
 - b) Together with attendant utility and sanitary facilities, be completely flood proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer, or architect as in section 5.2-2(3).
3. Require adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.
4. Recreational vehicles placed on sites within AO zones on the community's FIRM either:
 - a) Be on the site for fewer than 180 consecutive days, or

- b) Be fully licensed and ready for highway use, on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or
- c) Meet the requirements of subsections (1) and (3) above and the anchoring requirements for manufactured homes (Section 5.1-1(2)).

APPENDIX B
STANDARDS FOR COASTAL HIGH HAZARD AREAS (V ZONES)
44 CFR 60.3(e)(2 – 8)

Located within areas of special flood hazard established in Section 3.2 are Coastal High Hazard Areas, designated as zones V1-30, VE, and/or V. These areas have special flood hazards associated with high velocity waters from surges and, therefore, in addition to meeting all provisions in this ordinance, the following provisions shall also apply:

1. All new construction and substantial improvements in zones V1-30 and VE (V if base flood elevation data is available) on the community's FIRM shall be elevated on pilings and columns so that:
 - a) Elevation:
 - i) Residential Buildings

The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated one foot or more above the base flood level.
 - ii) Nonresidential buildings

The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated one foot or more above the base flood level or meets the elevation requirements of ASCE 24, whichever is higher; and
 - b) The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a one percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval).

A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction, and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of subsections (1)(a)(i) and (2)(a)(ii).

2. Obtain the elevation (in relation to mean sea level) of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of all new

and substantially improved structures in zones V1-30, VE, and V on the community's FIRM and whether or not such structures contain a basement. The (Floodplain Administrator) shall maintain a record of all such information.

3. All new construction within zones V1-30, VE, and V on the community's FIRM shall be located landward of the reach of mean high tide.
4. Provide that all new construction and substantial improvements within zones V1-30, VE, and V on the community's FIRM have the space below the lowest floor either free of obstruction or constructed with non-supporting breakaway walls, open wood lattice-work, or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system. For the purposes of this section, a breakaway wall shall have a design safe loading resistance of not less than 10 and no more than 20 pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot (either by design or when so required by local or state codes) may be permitted only if a registered professional engineer or architect certifies that the design proposed meets the following conditions:
 - a) Breakaway wall collapse shall result from water load less than that which would occur during the base flood; and
 - b) The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and non-structural). Maximum wind and water loading values to be used in this determination shall each have a one percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval).

If breakaway walls are utilized, such enclosed space shall be useable solely for parking of vehicles, building access, or storage. Such space shall not be used for human habitation.

5. Prohibit the use of fill for structural support of buildings within zones V1-30, VE, and V on the community's FIRM.
6. Prohibit man-made alteration of sand dunes within zones V1-30, VE, and V on the community's FIRM which would increase potential flood damage.
7. All manufactured homes to be placed or substantially improved within zones V1-30, V, and VE on the community's FIRM on sites:

- a) Outside of a manufactured home park or subdivision,
 - b) In a new manufactured home park or subdivision,
 - c) In an expansion to an existing manufactured home park or subdivision, or
 - d) In an existing manufactured home park or subdivision on which a manufactured home has incurred “substantial damage” as the result of a flood; shall meet the standards of paragraphs (1) through (6) of this section and manufactured homes placed or substantially improved on other sites in an existing manufactured home park or subdivision within zones V1-30, V, and VE on the FIRM shall meet the requirements of Section 5.2-3.
8. Recreational vehicles placed on sites within V or VE zones on the community’s FIRM shall either:
- a) Be on the site for fewer than 180 consecutive days, or
 - b) Be fully licensed and ready for highway use, on its wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or
 - c) Meet the requirements of subsections (1) and (3) above and the anchoring requirements for manufactured homes (Section 5.1-1(2)).

Chapter 14.80 FLOOD HAZARD AREAS

Sections:

- 14.80.010 Purpose.**
- 14.80.020 Flood insurance study adoption.**
- 14.80.030 Definitions.**
- 14.80.040 Flood hazard areas.**
- 14.80.050 Flood hazard area review procedures.**
- 14.80.060 Flood hazard area standards.**
- 14.80.070 Variances to flood hazard areas.**
- 14.80.080 Appendices.**

14.80.010 Purpose.

The purpose of this chapter is to promote the public health, safety, and general welfare of the citizens of Edgewood. The standards contained in this chapter are intended to minimize public and private losses due to flood conditions in flood hazard areas and provide special criteria necessary for regulated activities located within flood hazard areas of the city. The following statements describe the purpose of this chapter:

- A. Protect human life and health;
- B. Minimize expenditure of public money and costly flood control projects;
- C. Minimize the need for rescue and relief efforts associated with flooding;
- D. Minimize prolonged business interruptions;
- E. Minimize damage to public infrastructure, facilities and utilities;
- F. Minimize damage to critical fish and wildlife habitat areas;
- G. Minimize net loss of ecological functions of floodplains;
- H. Ensure that potential buyers are notified that property is in a flood hazard area;
- I. Ensure that those who occupy flood hazard areas assume responsibility for their actions; and
- J. Qualify Edgewood for participation in the National Flood Insurance Program, thereby giving the citizens of Edgewood the opportunity to purchase flood insurance with particular emphasis to those in flood hazard areas. (Ord. 17-513 § 3 (Exh. A)).

14.80.020 Flood insurance study adoption.

The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for Pierce County, Washington and Incorporated Areas," dated March 7, 2017, with accompanying FIRMs and any map amendments or corrections are hereby adopted by reference and declared to be a part of this title. The flood insurance study and FIRMs are on file at Edgewood City Hall, 2224 104th Avenue East, Edgewood, Washington, 98371. The city may add or delete land from areas of special flood hazard or revise base flood elevations, utilizing best available information for flood hazard identification in accordance with federal regulations. (Ord. 17-513 § 3 (Exh. A)).

14.80.030 Definitions.

- A. Refer to Chapter [14.20](#) EMC for definitions of any word or phrase not otherwise contained herein. For this chapter the definitions listed below shall apply:

1. "Appeal" means a request for a review of the interpretation of any provision of this chapter, per EMC [14.10.110](#), or request for a flood hazard area variance per EMC [14.80.070](#).
2. "Area of shallow flooding" means areas designated as AO or AH zones on the FIRM(s). AO zones are characterized as sheet flows, having base flood depths that range from one to three feet above the natural ground, where a clearly defined channel does not exist, the path of flooding is unpredictable and indeterminate, and velocity flow may be evident. AH zones indicate similar depth ponding, shown with standard base flood elevations on the FIRM(s).
3. "Area of special flood hazard" means land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. Designation on FIRM(s) always includes the letter A or V.
4. "Basement" means any area of the building having its floor subgrade (below ground level) on all sides, for the purposes of this title.
5. "Breakaway wall" means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.
6. Critical Facilities. See EMC [14.20.010](#)(B)(22). For floodplain management purposes, "essential public facilities" as defined under EMC [18.20.080](#) and [18.100.050](#) are considered critical facilities.
7. "Development" means any human-induced change to improved or unimproved real estate, including but not limited to: the construction of buildings or other structures, placement of a manufactured home/mobile home, mining, dredging, clearing, filling, grading, paving, excavation, drilling operations, storage of equipment or materials located within an area of special flood hazard, or activities otherwise governed by EMC Title [16](#), Subdivisions.
8. "Elevated building" means a nonbasement building that has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.
9. "Existing manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the adopted floodplain management regulations.
10. "Expansion to an existing manufactured home park or subdivision" means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).
11. "Flood" or "flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from:
 - a. The overflow of inland or tidal waters; or
 - b. The unusual and rapid accumulation of runoff of surface waters from any source.
12. "Flood insurance study (FIS)" means the official report provided by the Federal Insurance Administration (FIA) that includes flood profiles, FIRM(s), and the water surface elevation of the base flood.
13. "Increased cost of compliance (ICC)" means a flood insurance claim payment up to \$30,000 directly to a property owner for the cost to comply with floodplain management regulations after a direct physical loss caused by a flood. Eligibility for an ICC claim can be through a single instance of "substantial damage" or as a result of a "cumulative substantial damage." (More information can be found in FEMA ICC Manual 301.)

14. "Manufactured home or mobile home" means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes, the term "manufactured home or mobile home" also includes park trailers, travel trailers, and other similar recreational vehicles placed on a site for greater than 180 consecutive days. For insurance purposes, the term "manufactured home or mobile home" does not include park trailers, travel trailers, recreational vehicles, or other similar vehicles.

15. "Manufactured home park or subdivision" means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

16. "New construction" means structures for which the start of construction commenced on or after the following:

- a. For the purposes of determining flood insurance rates, the effective date of an initial FIRM (i.e., August 19, 1987, or specifically for Panel 350, August 4, 1988), and includes any subsequent improvements to such structures.
- b. For floodplain management purposes, March 7, 2017 (the effective date of the city's floodplain management ordinance), including any subsequent improvements to such structures.

17. "New manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after March 7, 2017 (the effective date of the city's floodplain management ordinance).

18. "Recreational vehicle (RV)" means a vehicle 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 a temporary living quarters for recreational, camping, travel, or seasonal use.

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

20. "Structure" means a walled and roofed building, including a gas or liquid storage tank that is principally above ground.

21. "Substantial improvement" means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either:

- a. Before the improvement or repair is started; or
- b. If the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure.

The term "substantial improvement" does not, however, include either:

- a. Any project for improvement of a structure to correct pre-cited existing violations of state or local health, sanitary, or safety code specifications which have been previously identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or
- b. Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places; provided, that the alteration will not preclude the structure's continued designation as a historic structure.

22. "Variance" means a grant of relief from the requirements of this chapter that permits construction in a manner that would otherwise be prohibited, per EMC [14.80.070](#).

23. Violation. See EMC [14.20.010](#)(B)(91). With regard to floodplain management, projects without an elevation certificate, other certifications, or other evidence of compliance required in this chapter are presumed to be in violation until such time as said documentation is provided.

24. "Water dependent" means a structure for commerce or industry that cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations. (Ord. 17-513 § 3 (Exh. A)).

14.80.040 Flood hazard areas.

Edgewood regulates the following flood hazard areas:

A. Potential Flood Hazard Areas.

1. Potential flood hazard areas, as depicted on the Critical Areas Atlas – Flood Hazard Area Map, include:

a. Detailed Study Areas.

- i. FEMA Flood Insurance Rate Map (FIRM) and Floodway Map AE and AH zones.
- ii. Areas within 300 feet horizontal distance from the base flood elevation established for the mapped AE and AH zones.
- iii. Areas within five feet of vertical height from the base flood elevation established for the mapped AE and AH zones.

b. Unstudied Areas. FEMA Flood Insurance Rate Map (FIRM) A zones and shaded X zones, and areas within 300 feet horizontal distance from said mapped areas.

c. Natural Waters or Watercourse. Areas within five feet of vertical height above the ordinary high water mark of an identified natural watercourse.

d. Groundwater Flooding Areas. Areas within 300 feet horizontal distance from a mapped groundwater flooding area.

e. Potholes. Areas not identified as a mapped flood hazard area as described above, but within 10 feet of vertical relief from the bottom of an identified pothole or within two feet of vertical relief of a potential surface water spillway or other type of outlet. Potholes may be identified by city topographic mapping, field survey, or site inspections.

f. Channel Migration Zones (CMZs). Channel migration zones shall apply only to those watercourses specifically identified by the city or listed in subsection (B)(4) of this section. In those areas where detailed CMZ studies have been completed and accepted by the department, additional horizontal and vertical review threshold criteria (i.e., 300 feet horizontal and five feet vertical) shall not apply.

2. The Critical Areas Atlas – Flood Hazard Areas Map may not show all potential flood hazard areas that may be necessary for a specific site analysis. The department may make interpretations, where needed, as to the approximate location of the

boundaries of potential flood hazard areas. When there is a conflict between the elevations and the mapped potential flood hazard area boundaries, the elevations shall govern.

3. Where there is insufficient information shown on the potential flood hazard area maps, the department may require the applicant to verify that the site is out of the flood hazard area using the flood hazard area review procedures set forth in EMC [14.80.050](#).

B. Floodway. A floodway is an extremely hazardous area due to the depth or velocity of floodwaters which carry debris, potential projectiles, and have erosion potential. The following areas are regulated by the city as floodways:

1. Regulatory Floodway. Regulatory floodway designated by flood hazard area maps.
2. Deep or Fast-Flowing Water Areas. Areas of deep or fast-flowing water shall be regulated as a floodway. Based on the criteria set forth in this chapter, the department shall make the determination after review and approval of applicant's analysis of whether the project site falls within the floodway area based on deep or fast-flowing waters.
3. Potholes and Shaded X Zones. That portion of a pothole and zone area that is three feet or greater in depth shall be regulated as a floodway.
4. Channel Migration Zone (CMZ).
 - a. CMZs shall be regulated as a floodway.
 - b. CMZs are equivalent to the base flood elevation limits, i.e., 100-year floodplain limits.

C. Flood Fringe. All areas subject to inundation by the base flood, but outside the limits of the floodway as set forth in subsection (B) of this section. Those portions of the A, AE, AH, and shaded X zones not defined as floodway, and that portion of a pothole and FEMA shaded X zone area that is between zero feet (base flood elevation) and three feet in depth, shall be regulated as a flood fringe.

D. Other Areas of Special Flood Hazard.

1. Groundwater Flooding Areas. Groundwater flooding areas are those areas identified by Edgewood and shown on flood hazard maps and are subject to flood inundation from subsurface waters that result from a fluctuation of the groundwater table. Groundwater flooding areas shall be regulated as a floodway or flood fringe pothole.
2. Natural Waters or Watercourses. Natural waters or watercourses as identified on city topographic, planimetric or orthophoto maps, WDNR stream classification maps, USGS quadrangle maps, or other source maps that are not identified as a flood hazard area on the FEMA maps. That portion of the natural watercourse located between the ordinary high water mark and a topographic elevation five feet above the ordinary high water mark shall be regulated as a floodway or flood fringe. If the applicant chooses to accept the five-foot topographic elevation line above the ordinary high water mark as the base flood elevation (i.e., floodplain elevation limits), a flood study shall not be required for a natural water/watercourse.
3. Frequently Flooded Areas. See EMC [14.80.050](#)(A)(9) as the areas defined by this section. (Ord. 17-513 § 3 (Exh. A)).

14.80.050 Flood hazard area review procedures.

A. General Requirements.

1. The city's Critical Areas Atlas – Flood Hazard Area Map provides an indication of where potential flood hazard areas are located within the city. The actual presence or location of a flood hazard area shall be determined using the procedures and criteria contained in this chapter.

2. The department will complete a review of the flood hazard area maps, and other source documents, for any development proposal to determine whether the proposed project area for a regulated activity falls within a potential flood hazard area. When there is a conflict between the elevations and the mapped 100- or 500-year floodplain or floodway boundaries, the elevations shall govern. In the instance where base flood elevation data has not been provided within a mapped A zone, the department shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state, or other source to complete their review.

3. When the department's maps or sources indicate that the proposed project area for a regulated activity is or may be located within a potential flood hazard area, except for coastal flood hazard areas, the department shall require a flood boundary verification survey as outlined in subsection (C) of this section, and may require a flood study as outlined in subsection (D) of this section, a deep or fast-flowing water analysis as outlined in subsection (E) of this section, or a zero-rise analysis as outlined in subsection (F) of this section.

4. Any proposed development located within a flood hazard area shall comply with the flood hazard area standards set forth in EMC [14.80.060](#).

5. Prior to approval of any proposed flood hazard area development, all necessary permits from those governmental agencies from which prior approval is required by federal or state law, including but not limited to Section 404 of the Federal Water Pollution Control Act Amendments of 1972, [33 U.S.C. 1334](#), must be provided to the city by the applicant.

6. A FEMA letter of map amendment (LOMA) or letter of map revision (LOMR) shall not be submitted to FEMA until review and approval has been granted by the department. The city shall not recognize any LOMA or LOMR as an amendment to the department's flood hazard maps unless the department has granted prior approval.

7. Unless otherwise stated in this chapter, the critical area protective measure provisions contained in EMC [14.10.070](#) shall apply.

8. The Federal Emergency Management Agency (FEMA) administers the nation's floodplain management program. FEMA has identified some of the flood prone areas in the city; however, it is generally recognized that FEMA's Flood Insurance Rate Maps (FIRMs) may not accurately reflect the degree or frequency of flooding within all areas of the city. Therefore, information available through FEMA may not meet best available science criteria and cannot be used exclusively to address frequently flooded areas.

9. The city has determined that the following documents and sources are the most current and accurate information concerning frequently flooded areas within the city, and therefore represent best available science:

- a. The city's Surface Water Management Plan, 1997, or as amended thereafter.
- b. Aerial photographs of the city, especially those taken in wintertime 1996 and 1997.
- c. The city's two-foot elevation contour mapping performed by Nies Mapping Group, Inc., 1999, or as subsequently updated.
- d. Relevant and verifiable information from the city's Capacity Analysis Technical Review Ad Hoc Committee draft report, 2000.
- e. Relevant and verifiable government and citizen photographs, notes, observations, etc., regarding historic ponding/flooding levels, including but not limited to the City of Edgewood Potholes Water Level Monitoring 2006-2007 report prepared by Robinson Engineers, LLC.
- f. Relevant and verifiable information available through Pierce County.

g. Relevant and verifiable information available through FEMA.

10. Flooding conditions within the city generally fall into three distinct hydrologic settings: (a) upland areas within enclosed depressions, (b) streams that flow off the upland areas, and (c) valley lowlands. Accordingly, the city manages frequently flooded areas within these three zones, as described below:

a. Upland Areas within Enclosed Depressions. From the above list use the historic ponding elevation, determined by subsection (A)(9) of this section, or the FEMA 100-year base flood elevation, whichever is highest.

b. Streams Which Flow Off the Upland Areas. From the above list use the historic flood elevation, determined by subsection (A)(9) of this section, or the FEMA 100-year base flood elevation, whichever is highest.

c. Valley Lowlands. From the above list use the historic flood elevation determined by subsection (A)(9) of this section, or the FEMA 100-year base flood elevation, whichever is highest.

11. The city will provide local flood information to FEMA, and request FEMA's assistance in accurately mapping and evaluating frequently flooded areas.

12. Warning and Disclaimer of Liability. The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside frequently flooded areas or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of city, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

B. Channel Migration Zone Study.

1. In areas where Edgewood has not conducted a detailed channel migration zone study, an applicant may submit an independent channel migration zone study to demonstrate that the channel migration zone limits for those watercourses listed in this chapter are located inside the 100-year floodplain limits.

2. The channel migration zone study shall be prepared, signed, and dated by a professional engineer or engineering geologist with at least five years of experience in fluvial geomorphology, river dynamics, or geotechnical engineering.

3. The channel migration zone study shall, at a minimum, contain the information set forth in EMC [14.80.080](#), Appendix B.

4. The department shall review the channel migration zone study and either accept the new channel migration zone limits or reject the study and require the use of the 100-year floodplain limits. Once the department has reviewed and approved the channel migration zone study, the applicant shall be required to provide a flood boundary verification survey, as outlined in subsection (C) of this section, utilizing the newly established channel migration zone limits as the floodway limits.

C. Flood Boundary Verification Survey.

1. A flood boundary verification survey that delineates the horizontal and vertical limits of the base flood elevation shall be submitted to the department when the department's maps or sources indicate that the proposed project area for a regulated activity is located within a potential flood hazard area.

a. Where a base flood elevation has not been determined, a flood study shall be required pursuant to subsection (D) of this section.

b. A base flood elevation that has been established through a detailed flood study accepted by the department may be used in lieu of conducting a flood study.

c. The base flood elevation for a natural watercourse as set forth in this chapter shall be established at the five-foot topographic elevation line above the ordinary high water mark.

2. The requirement to submit a flood boundary verification survey may be waived at the department's discretion, when the department can determine, using contour elevations, base flood data, orthophotos, and parcel data, that the extent of the regulated activity is clearly above the base flood elevation.
3. The flood boundary verification survey shall be prepared, signed, and dated by a registered land surveyor.
4. The department shall review the flood boundary verification survey to determine if the proposed development is located within a flood hazard area.
5. If the proposed development lies within the flood hazard area, the limits of the floodway, as well as the base flood elevation, shall be shown on the flood boundary verification survey.

D. Flood Study.

1. A flood study shall be conducted when the department's maps or sources indicate that the proposed project area for a regulated activity is, or may be located within, a potential flood hazard area where base flood elevation data is not available through the flood insurance study or other authoritative sources, or when an established base flood elevation is contested. A full engineering analysis to determine the base flood elevation shall be required by the department. Base flood elevations shall be determined using the detailed methods established in EMC [14.80.080](#), Appendix A. The department may approve alternative methods.
2. The flood study shall be prepared, signed, and dated by a professional engineer.
3. Once the department has reviewed and approved the flood study, the applicant shall be required to provide a flood boundary verification survey, utilizing the newly established base flood elevation, as outlined in subsection (C) of this section.
4. Flood studies shall not be required for coastal flood hazard areas.

E. Deep or Fast-Flowing Water Analysis.

1. When the department determines that a proposed project area for a regulated activity is located within a flood hazard area, a deep or fast-flowing water analysis based on EMC [14.80.080](#), Appendix A, shall be required to determine the floodway limits.
2. The floodway limits and flood fringe limits identified in the deep and/or fast-flowing water analysis shall be depicted on the flood boundary verification survey, as outlined in subsection (C) of this section.
3. The deep and/or fast-flowing water analysis shall be prepared, signed, and dated by a professional engineer.
4. Deep and/or fast-flowing water analysis shall not be required for coastal flood hazard areas.

F. Zero-Rise Analysis.

1. When the department determines that a proposed project area for a regulated activity is located within a flood hazard area, a zero-rise analysis shall be required to determine that no increase in base flood elevation, displacement of flood volume, or flow conveyance reduction will occur as a result of the development.
2. The zero-rise analysis shall be conducted utilizing Hydrologic Engineering Center – River Analysis System (HEC-RAS) modeling methodology for stream and channel floodways; the Western Washington Hydrology Model (WWHM) for pothole or closed depression floodways; or an alternative methodology approved by the city (see EMC [14.80.080](#), Appendix A). The

analysis shall show that no rise greater than 0.01 foot has occurred as a result of the proposed development. The scope of the proposed development may need to be reduced or special engineering may be required, e.g., utilizing piers or pilings to achieve zero rise.

3. The zero-rise analysis shall be prepared, signed, and dated by a professional engineer.
4. The zero-rise analysis shall be documented on the zero-rise analysis form, as set forth in EMC [14.80.080](#), Appendix A, and shall be attached to the flood hazard area permit.
5. Zero-rise analysis shall not be required for coastal flood hazard areas.
6. When structures are elevated by pier or pilings and no fill is placed in the flood hazard area, the requirement to submit a zero-rise analysis may be waived at the department's discretion. (Ord. 17-513 § 3 (Exh. A)).

14.80.060 Flood hazard area standards.

A. General.

1. All subdivision proposals shall:
 - a. Be consistent with the need to minimize flood damage;
 - b. Have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage; and
 - c. Have adequate drainage provided to reduce exposure to flood damage.
2. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or five acres (whichever is less).
3. New construction done by or for the city, such as bridges, roads, flood control works, revetments, retaining walls, drainage structures, sewer or water lines, parks, or other structures necessary to promote the public's health, safety, and welfare, shall be allowed in a flood hazard area when:
 - a. The project is prepared, dated, and stamped by a registered professional engineer in the state of Washington and is designed so the project does not result in any increase in flood levels during the occurrence of the base flood discharge (zero-rise) and shall not obstruct the floodway or cause an adverse impact to critical fish or wildlife habitat or adjacent, cross-channel, or upstream or downstream properties; and
 - b. The improvements utilize appropriate flood hazard protection standards.
4. Elevation Certificate. A Federal Emergency Management Agency (FEMA) elevation certificate shall be required for new construction, any addition affixed to the side of a structure, and substantial improvements located within flood hazard areas. The most current version of the FEMA elevation certificate must be completed and certified by a professional land surveyor, currently licensed in the state of Washington, kept on file by the city for public inspection, recording the actual (as-built) elevation (in relation to mean sea level) of:
 - a. The lowest floor, including basement, of all new or substantially improved structures, whether or not the structure contains a basement;
 - b. For floodproofed nonresidential structures, where the structure was floodproofed (including floodproofing certifications).

B. Floodways. Any development, encroachment, clearing and grading, new construction, or substantial improvements, including structures that do not require a building permit, shall be prohibited within the floodway, except as allowed in the following standards:

1. Agricultural activities that do not require the installation of structures and that do not have any associated fill.
2. Park and recreational uses and facilities that do not require the installation of structures and that do not have any associated fill.
3. Individual recreational vehicles, not located in an RV park, that are licensed and ready for highway use, on wheels or jacking system, and are not permanently attached to the site (i.e., attached only by quick disconnect type utilities and security devices, with no permanently attached additions).
4. Habitat enhancement or stream restoration activities are permitted subject to the provisions outlined in EMC [14.50.060](#).
5. Rehabilitation, reconstruction, or an upper story addition to an existing structure that does not exceed the limits for a substantial improvement.
6. Private bridges may be allowed to cross the floodway; provided, that the structure meets the requirements contained in EMC [14.80.050](#) and the following:
 - a. The lowest structural member of a private bridge proposed to cross a channel migration zone shall be a minimum of six feet above the base flood elevation.
 - b. The lowest structural member of a private bridge proposed to cross the floodway portion of any other watercourse shall be a minimum of one foot above the base flood elevation.

C. Flood Fringe Areas. All activities allowed in subsection (B) of this section shall be permitted in a flood fringe area. Any other proposed development, encroachment, clearing and grading, new construction, or substantial improvements are prohibited in a flood fringe area, except as permitted under the following standards:

1. Structures that do not require a building permit and that do not have any associated fill are allowed, subject to flood hazard area review and permitting.
2. All other regulated activities shall only be allowed when the proposed development is located on an existing lot of record that was created prior to the effective date of the ordinance codified in this title. Applicants shall demonstrate there are no other feasible alternatives that would allow the proposed development to occur completely outside the flood hazard area. At a minimum, the following shall be demonstrated:
 - a. The development cannot be located outside the flood hazard area due to topographic constraints of the parcel or its size or location in relation to the limits of the flood hazard area and a building setback variance has been reviewed, analyzed, and rejected as a feasible alternative to encroachment into the flood hazard area; and
 - b. The proposed development shall not cause an adverse impact to adjacent, cross-channel, or upstream or downstream properties.
3. Roads, Bridges, Trails, and Parking Lots.
 - a. Roads, bridges, driveways, trails, emergency vehicle access, and access routes and easements, where allowed, shall be constructed and armored based on the standards in subsection (C)(4) of this section and elevated a minimum of one foot above the base flood elevation.
 - b. Parking lots shall be elevated to a minimum of one-half foot below the base flood elevation.

4. Clearing and Grading. When development is permitted under this subsection, it shall be designed to a zero-rise standard. Any grading associated with the permitted development shall not increase flood hazards, water velocities, or flood elevations. In addition to meeting the requirements for zero-rise, all permitted development must also meet the following requirements:

- a. Compensatory Storage. New excavated storage volume shall be equivalent to the flood storage capacity eliminated by grading within the flood fringe. Equivalent shall mean that the storage removed shall be replaced by equal live storage volume between corresponding one-foot contour intervals that are hydraulically connected to the floodplain through their entire depth.
- b. Flow Conveyance. New excavated conveyance areas shall be equivalent to existing conveyance within the flood fringe. "Equivalent" shall mean a mechanism for transporting water from one point to another using an open channel system.
- c. Erosion Protection. Development shall be protected from flow velocities greater than two feet per second through the use of bioengineering methods or, when bioengineering methods have been deemed insufficient to protect development, then hard armoring may be utilized. All erosion protection shall extend one to three feet, depending on development requirements, above the base flood elevation and shall be covered with topsoil and planted with native vegetation.

5. Critical Facilities.

- a. New construction, additions affixed to an existing structure, and substantial improvement of hazardous facilities, and special occupancy structures are prohibited.
- b. New construction of a critical facility, reconstruction of an existing critical facility, or any addition to an existing critical facility that exceeds the threshold for substantial improvement shall be permitted when no feasible alternative site is available outside the flood hazard area. Such regulated activities are subject to the following:
 - i. Critical facilities with a crawl space elevated by fill shall have the lowest floor and any utilities and ductwork elevated a minimum of three feet above base flood elevation, or to the height of the 500-year flood, whichever is higher.
 - ii. Critical facilities elevated by piers or pilings shall have the finished floor and any utilities and ductwork elevated a minimum of three feet above the base flood elevation or to the height of the 500-year flood, whichever is higher, and must be designed by a professional structural engineer.
 - iii. Access to and from the critical facility shall be protected to the height utilized under subsections (C)(5)(b)(i) and (ii) of this section. Access routes shall be elevated to or above the same elevation to the maximum extent possible.
 - iv. Critical facilities shall be armored based on the standards in subsection (C)(4) of this section.
 - v. Floodproofing and sealing measures must be taken to ensure that toxic or explosive substances will not be displaced or released into floodwaters.

6. Structures, except for critical facilities as set forth in subsection (C)(5) of this section, shall be allowed subject to the following standards:

- a. New construction, additions affixed to an existing structure, and substantial improvement of any structure with a crawl space shall have the lowest floor elevated a minimum of two feet above base flood elevation.
- b. New construction, additions affixed to an existing structure, and substantial improvement of any structure elevated by piers or pilings shall have the bottom of the lowest horizontal structural member elevated a minimum of two feet above the base flood elevation and must be designed by a professional structural engineer. Electrical, heating, ventilation, plumbing, air-conditioning equipment, and other service facilities and associated ductwork shall be elevated a minimum of two feet above base flood elevation; however, the department may approve a lesser minimum distance above base flood elevation;

provided, that the systems are designed to prevent floodwater from entering or accumulating within the components. Areas below the lowest horizontal structural member shall not be enclosed and shall remain free of obstructions.

c. Mobile or manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement, and shall be installed using methods and practices to minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This is in addition to applicable state and local anchoring requirements for resisting wind forces.

7. Agricultural Accessory Structures. The lowest floor in an agricultural accessory structure shall be located at the base flood elevation or higher; provided, that the structure be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a professional engineer in the state of Washington or must meet or exceed the following minimum criteria:

a. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided;

b. The bottom of all openings shall be no higher than one foot above grade; and

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

8. Construction Standards.

a. Construction of a basement is prohibited.

b. Crawl spaces shall be backfilled with clean earth material and shall meet International Building Code requirements. Finished grade within the crawl space shall be at least two feet above the base flood elevation.

c. Floodproofing in lieu of elevating the structure is prohibited.

d. All single-family, two-family, multifamily, mobile or manufactured homes, commercial, and industrial structures shall be placed on standard concrete stemwall or footing foundations or piles, piers, or column foundations and engineered pursuant to International Building Code requirements.

9. Sewage Disposal and Potable Water Installation.

a. New and replacement public water sources, i.e., wells and water supply lines and public sanitary sewage conveyance systems, are allowed. These systems shall be designed to withstand scour resulting from flow velocity, minimize or eliminate infiltration of floodwaters into the systems, and minimize or eliminate discharge from the systems into floodwaters.

b. All replacement wells and replacement on-site sewage systems (OSS) shall be designed to minimize or eliminate impairment to them or contamination from/to them during flooding, i.e., infiltration of floodwaters into or discharge out of the systems. They shall not be located in pothole or no-outlet floodplains.

c. All new individual wells and new on-site sewage systems (OSS) shall be prohibited. Conveyance systems from a structure to a well or OSS located outside of the flood hazard area shall be allowed provided these systems are designed to meet the standards in subsection (C)(4) of this section. (Ord. 17-513 § 3 (Exh. A)).

14.80.070 Variances to flood hazard areas.

A. General. Variances are reviewed pursuant to the process and criteria outlined in EMC [14.10.100](#), Variances to critical areas.

B. Additional Criteria for Flood Hazard Area Variances. In addition to the variance criteria referenced in subsection (A) of this section, in order for the decision maker to approve a flood hazard area variance, there must be written findings that the applicant has demonstrated the proposal satisfies all of the following:

1. Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected on a small or irregularly shaped lot contiguous to and surrounded by lots with existing structures constructed below the base flood level. As the lot size increases the technical justification required for issuing the variance increases.
2. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.
3. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
4. Variances shall only be issued upon:
 - a. A showing of good and sufficient cause;
 - b. A determination that failure to grant the variance would result in exceptional hardship to the applicant and that the hardship was not created by the applicant;
 - c. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
5. Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from flood elevations should be quite rare.
6. Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of floodproofing than watertight or dry-floodproofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except subsection (B)(l) of this section, and otherwise complies with EMC [14.80.060](#), Flood hazard area standards.
7. Any applicant to whom a variance is granted shall be given written notice that the permitted structure will be built with its lowest floor below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk. (Ord. 17-513 § 3 (Exh. A)).

14.80.080 Appendices.

A. Floodplain/Floodway Analysis.

B. Channel Migration Zone Study.

APPENDIX A

FLOODPLAIN/FLOODWAY ANALYSIS

This appendix describes the flood hazard analyses and studies as required by this chapter. Flood hazard studies establish the base flood elevation and delineate floodplain and/or floodway(s) when a proposed project contains or is adjacent to a river, stream, lake, or closed depression.

Flood hazard studies must conform to FEMA regulations described in [44 CFR Part 65](#). In addition, the following information must be provided and procedures performed for flood hazard studies used under this chapter to examine development proposals or improvements within a floodplain.

Article I. Floodway Determination

The city recognizes two distinct floodways. The FEMA floodway describes the limit to which encroachment into the natural conveyance channel can cause one-foot or less rise in water surface elevation. The deep and fast-flowing (DFF) water floodways are hazardous areas and conditions of the floodplain for both people and habitable structures. Life safety and protection to improved properties are compromised if encroached upon. Encroachment cannot occur within these areas.

A. FEMA Floodways.

1. FEMA floodways are determined through the procedures outlined in the FEMA publication Guidelines and Specifications for Study Contractors using the one-foot maximum allowable rise criteria.
2. Transitions shall take into account obstructions to flow such as road approach grades, bridges, piers, culverts, or other restrictions. General guidelines for transitions may be found in HEC-RAS, Water Surface Profiles – User’s Manual, Appendix IV, Application of HEC-RAS Bridge Routines, published by the Hydrologic Engineering Center, Davis, California.

B. Deep and/or Fast-Flowing (DFF) Floodways.

1. DFF floodways are generally assumed to include the entire 100-year floodplain until the department approves a detailed floodway analysis that defines areas of DFF within the entire floodplain area based on the criteria.
2. The hydraulic model must adequately be calibrated to known or recorded stage elevations of past flood events with computed recurrence frequency intervals for the 100-year flood recurrence interval. This is to ensure model accuracy.

Article II. Flood Study Content and Required Information

Three copies of the completed floodplain/floodway analysis study report and the modeling digital files shall be submitted. The report submittal must be stamped by a licensed professional civil engineer and include the following information in addition to that required for the drainage plan of a proposed project:

A. Floodplain/Floodway Map.

1. A scaled survey base map stamped by a licensed professional land surveyor registered in the state of Washington. The map must accurately locate the proposed development with respect to the floodplain and floodway, the channel of the subject stream, river, and/or pothole location, and the existing improvements within the subject study area. It must also supply all pertinent information such as the nature of the proposed project, legal description of the property on which the project would be located, fill quantity, limits and elevation, the building floor elevations, and use of compensatory storage.
2. The map must show elevation contours at a minimum of two-foot vertical intervals and shall comply with survey and map guidelines published in the FEMA publication Guidelines and Specifications for Study Contractors. The map must show the following:
 - a. Elevations and ground contours, spot elevations, and vertical datum NAVD 88 (North American Vertical Datum of 1988) (or most recent vertical datum accepted by the department).
 - b. Elevations and dimensions of existing structures, fill, and compensatory storage areas.
 - c. Size, location, elevation and spatial arrangement of all proposed structures on the site.

- d. Location and elevations of roadways, drainage facilities, water supply lines, and sanitary sewer facilities.
- e. Areas of DFF must clearly be shown and plotted on the map sheet depicting the bounded area of the floodway on both sides of the study channel through the subject site. DFF floodway studies must reflect all transitions as referenced above as well.
- f. The base maps must also be accompanied by all field survey notes/computations, drawings, etc., for each cross-section with water surface elevation at the time the cross-section field survey was done.

B. Study Report.

- 1. Soil maps, groundcover maps, and photographs.
- 2. A narrative report containing the purpose of the study and description of the study area, data collection, methodology for both the hydrology and hydraulics, detailed discussion on the input parameters used, modeling results, and conclusions.
- 3. A floodplain/floodway analysis must include calculations and all computer analysis input and output information, supporting graphical illustrations, as well as the following additional information:
 - a. Scaled cross-sections showing the current, existing conditions of the river or stream channel, the floodplain adjoining each side of the channel, the computed floodway, the cross-sectional area to be occupied by any proposed development and all historic high water information.
 - b. Profiles showing the bottom of the channel, the top of both left and right banks and computed base floodwater surface elevations for the 10-, 25-, 50- and 100-year events.
 - c. Plans and specifications of any flood protection for structures, construction areas, clearing, dredging, channel improvements, storage of materials, water supply, and sanitary facilities within the floodplain.
 - d. Complete printout of input and output data of the model that was used for the analysis. Liberal use of comments and written discussion will assist considerably in understanding the model logic and minimize misinterpretations and/or questions.
 - e. A map, showing the graphical/plotted location and limits of the computed floodway and/or floodplain.
 - f. Three copies of ready-to-run digital files of both the hydrologic and hydraulic model and its input and output files used in the study. Data shall be submitted on a disk in standard ASCII format, ready to use on an IBM-compatible personal computer and in the applicable software application, e.g., HEC-RAS, HSPF – Hydrological Simulation Program – FORTRAN, SBUH, or similar application.
 - g. A section on the flood flow including computer modeling or calculations.
 - h. Aerial photographs of the site including pre-February 1996 and post-February 1996 photos of the site.
 - i. All field survey notes/computations, maps, and drawings for each cross-section with water surface elevation at the time of the cross-section field survey.

C. Computer Modeling Information. Floodway/floodplain studies submitted to the city for review must include output summary tables and include the following (but not limited to) items:

- 1. Cross-section(s) identification number.
- 2. Range of flows being examined.

3. Computed water surface elevation at each cross-section.
4. Energy grade line at each cross-section.
5. Graphical plots of the channel cross-sections with computed water surface elevations for all model runs including calibrated model runs.
6. All model input and output printouts.
7. Graphical plots of the model output data that show the points and segments along each cross-section where deep and/or fast-flowing water occurs. This shall include cross-section plots of depth and velocity in one-unit increments. The plots shall also be accompanied with a table listing the station distance (right and left bank), flow rate, area, hydraulic depth, velocity, and whether each point is a floodway.
8. A plan sheet clearly showing the graphical representation of the bounded area of the floodway based on DFF criteria through the entire study site and reach. Note that identified islands or pockets within the middle of the bounded floodway area are generally considered as part of the floodway, unless otherwise approved by the department.
9. Discussion on the starting water surface elevation for the hydraulic model.

Article III. Determining Flood Flows

The three techniques used to determine the flows used in a flood study depend on whether gauge data is available, whether a basin plan has been adopted, or a detailed flood study has been done and approved for use by the department. The first technique is for basins with adopted basin plan areas. The second technique is used if a gauging station exists on the stream. The third technique is used on ungauged catchments or those with an insufficient length of record. In all cases, the engineer shall be responsible for assuring that the hydrologic methods used are technically reasonable, conservative, conform to the FEMA publication, Guidelines and Specifications for Study Contractors, and are acceptable by FEMA and the department.

A. Flood Flows from Adopted Basin Plan Information. Flood flows may be determined using information from the city's basin plan. The hydrologic model used in the basin plan shall be updated to include the latest changes in zoning or any additional information regarding the basin which has been acquired since the adoption of the basin plan.

B. Flood Flows from Stream Gauge Data. Determining flood flows from stream gauge data uses the Log-Pearson Type III distribution method as described in the Guidelines for Determining Flood Flow Frequency, Bulletin 17B of the Hydrology Committee, United States Water Resources Council (revised October 1981).

1. This technique may be used only if data from a gauging station in the basin is available for a period of at least 10 years.
2. If the difference in the drainage area on the stream at the study site and the drainage area to a gauging station on the stream at a different location in the same basin is less than or equal to 50 percent, the flow at the study site shall be determined by transferring the calculated flow at the gauge to the study site using a drainage area ratio raised to the 0.86 power, as in the following equation:

$$Q_{ss} = Q_s(A_{ss}/A_G)^{0.86}$$

where

Q_{ss} = estimated flow for the given return frequency on the stream at the study site.

Q_G = flow for the given return frequency on the stream at the gauge site.

A_{ss} = drainage area tributary to the stream at the study site.

A_G = drainage area tributary to the stream at the gauge site.

3. If the difference in the drainage area at the study site and the drainage area at a gauging station in the basin is more than 50 percent and a basin plan has not been prepared, a continuous model shall be used as described below to determine the flood flows at the study site.

4. In all cases where dams or reservoirs, floodplain development, or land use upstream may have altered the storage capacity or runoff characteristics of the basin so as to affect the validity of this technique, a continuous model shall be used to determine flood flows at the study site.

C. Flood Flows from a Calibrated Continuous Model. Flood flows may be determined by utilizing a continuous flow simulation model such as HSPF or other equivalent continuous flow simulation model, as approved by the city. Where flood elevation or stream gauging data are available, the model shall be calibrated to the known data. Otherwise, regional parameters may be used.

Article IV. Determining Flood Elevations, Profiles and Floodways (Hydraulic Model)

A. Reconnaissance. The applicant's project engineer is responsible for the collection of all existing data with regard to flooding in the study area. This shall include a literature search of all published reports in the study area and adjacent communities and an information search to obtain all unpublished information on flooding in the immediate and adjacent areas from federal, state, and local units of government. This search shall include specific information on past flooding in the area, drainage structures such as bridges and culverts that affect flooding in the area, available topographic maps, available community maps, photographs of past flood events, and general flooding problems within the community. Documented discussions with nearby property owners should also be done to obtain a witness account of the flooding extent. A field reconnaissance shall be made by the applicant's project engineer to determine hydraulic conditions of the study area, including type and number of structures, locations of cross-sections, and other parameters including the roughness values necessary for the hydraulic analysis.

B. Base Data. Channel cross-sections used in the hydraulic analysis shall be current/existing at the time the study is performed and shall be obtained by field survey. Topographic information obtained from aerial photographs/mapping may be used in combination with surveyed channel cross-sections in the hydraulic analysis. The elevation datum of all information used in the hydraulic analysis shall be verified. All information shall be referenced directly to NAVD 1988 (and include local correlation to NGVD) unless otherwise approved by the city.

C. Methodology. Flood studies and analysis (including deep and/or fast-flowing floodways and zero-rise analysis) shall be calculated using the U.S. Army Corps of Engineers HEC-RAS computer model (or subsequent revision) unless otherwise approved by the city.

D. Adequacy of the Hydraulic Model. Edgewood considers the following (but not limited to) factors when determining the adequacy of the hydraulic model for use in the floodway/floodplain model:

1. Cross-section of a downstream starting location and spacing.
2. Differences in energy grade line (significant differences in the energy grade line from cross-section to cross-section are an indication that cross-sections should be more closely spaced or that other inaccuracies exist in the hydraulic model).
3. Methods and results for analyzing the hydraulics of structures such as bridges and culverts.
4. Lack of flow continuity.
5. Use of a gradually varied flow model. In certain cases, rapidly varied flow techniques may need to be used in combination with a gradually varied flow model such as weir flow over a levee, flow through a spillway of a dam, or special application of bridge flow (pressure flow if bridge superstructure is shown to be submerged for the study event).

6. Manning's "n" value.
7. Calibration of hydraulic model to known or observed flow stage elevations including past flood events.
8. Special Applications. In some cases, steady state one-dimensional hydraulic models may not be sufficient for preparing the floodplain/floodway analysis. This may occur where sediment transport, two-dimensional flow, or other unique hydraulic circumstances affect the accuracy of the model. In these cases, the project engineer must propose and obtain department approval of alternative models for establishing the water surface elevations.
9. All reported error or warning messages by the model must be properly and adequately addressed or resolved and included in the report for review verification.

Article V. Zero-Rise Analysis (ZRA)

A. Zero-rise analysis (ZRA) is required where encroachment within the flood fringe area is allowed and approved by the department. The ZRA must show that the proposed development encroachment in the flood fringe area will not create more than a 0.01-foot rise in the base flood elevation resulting from a comparison of existing conditions and proposed conditions. This is directly attributable to development in the floodplain but not attributable to manipulation of mathematical variables such as roughness factors, coefficients, discharge, and other hydraulic parameters.

B. In addition to those items listed in subsection (A) of this article, the following shall be included in a ZRA:

1. Floodway boundaries (based on zero-rise) are to follow the stream lines and reasonably balance the rights of property owners on either side of the floodway. Use of the automatic equal conveyance encroachment option in the model will be considered equitable.
2. The ZRA must include a sufficient number of cross-sections in order to accurately model the subject fill and compensatory storage areas of the site. In all cases, cross-sections shall be located downstream, through the subject site and upstream of the site at a very minimum. They shall also be located where changes in channel and the fill material characteristics occur, such as slope, shape, and roughness. The sections shall also be located perpendicular to the flow path in the channel and the outside overbank areas. The department shall review and approve the proposed number and location of cross-sections. All cross-sections and surveys shall be prepared and certified by a professional land surveyor or registered professional engineer in the state of Washington.
3. The difference between two profiles of water surface elevation at the cross-section, e.g., difference between existing and encroached water surface. The model must report 0.01 feet or less an allowable change in the water surface elevation. This must be shown in the profile graphical plot as well.
4. The difference between profiles of the energy grade line at the cross-section. The model must report 0.01 feet or less. This is the allowable change in the energy grade line. This must be shown in the profile graphical plot as well.

C. Conveyance Capacity.

1. The ZRA must also show that the proposed development encroachment in the flood fringe area will not show a measurable decrease (less than 0.01 CFS) in the conveyance capacity of the channel, resulting from a comparison of existing conditions and proposed conditions, for each of the cross-sections. This is also directly attributable to development in the floodplain but not attributable to manipulation of mathematical variables such as roughness factors, coefficients, discharge, and other hydraulic parameters.
2. The analysis must provide calculations of the reduction in conveyance caused by the proposed development encroachment, assuming no change in the water surface elevation, and using the roughness coefficient value(s) appropriate for the proposed development.

3. The analysis must then provide calculations for the increase in conveyance of the proposed compensatory measure, using the roughness coefficient value(s) appropriate for the proposed development.
4. Include a comparison analysis and discussion from subsections (C)(2) and (3) of this article. The comparison must adequately show that the conveyance capacity has not measurably decreased between the existing condition and proposed development condition.

Floodplain/Floodway Zero-Rise Certification

This is to certify that I am a duly qualified professional Engineer licensed to practice in the state of Washington.

This is to further certify that the attached Floodplain/Floodway zero-rise analysis conclusively shows that the proposed development of:

_____ (Name of Development)	_____ Parcel Number
--------------------------------	------------------------

will not increase the 100-year Base Flood elevation(s) and widths nor reduce the conveyance capacity of the Floodplain, Floodway and its associated channel to the

 (Name of River, Stream, Pothole or other Watercourse)

Supporting Data

Base Flood Elevation (Pre-Development) = _____ FT (NAVD 88)

Base Flood Elevation (Post-Development) = _____ FT (NAVD 88)

Conveyance Capacity (Pre-Development) = _____ CFS

Conveyance Capacity (Post-Development) = _____ CFS

with compensatory storage)

_____ Signature	_____ Date
--------------------	---------------

_____ Title	_____ Firm Name
_____ Address	
_____ City	
_____ State	_____ Zip Code

APPENDIX B

CHANNEL MIGRATION ZONE STUDY REQUIREMENTS

The channel migration zone (CMZ) is the area within the lateral extent of likely stream channel movement due to stream bank destabilization and erosion, rapid stream incision, and shifts in location of stream channels. The CMZ will define areas in which, to the best information available, development should be regulated due to the dangers expected from erosion.

Article I. Determining Channel Migration Zone Limits

A. The CMZ shall be based on available historic records of channel migration, or 100 years of calculated channel migration, whichever is greater, and will generally include those areas that encompass:

1. The limit of geologic controls, such as hill slope, bedrock outcrop, or abandoned floodplain terrace;
2. Side channels, abandoned channels, and oxbows; and
3. Outside edges of progressive bank erosion at meander bends.

B. Channel migration over the 100-year time frame can be estimated and predicted from geomorphic analysis of annual bank erosion rates, historic meander belt width, and measured meander bend amplitudes, potential avulsion sites, and previous river channel locations as depicted on historic aerial photographs and maps. The 100-year time span represents the time required to grow mature trees that can provide functional large woody debris to streams.

C. The CMZ boundaries will be determined using the following specific criteria:

1. The representative average annual rate of channel migration in the affected river reach is calculated by dividing the lateral distance eroded with the corresponding elapsed time shown in sequential aerial photographs or historic maps (distance/time equals channel movement). Measurements from reaches that have had some form of bank armoring shall not be included. Historical records will need to be checked closely for this information.
2. Identify the width of the channel migration zone by multiplying the representative average annual erosion rate by 100 years.

D. Areas separated from the active channel by legally existing artificial channel constraints (levees, roads, driveways, etc.) that limit bank erosion and channel avulsion to the 100-year recurrence interval flood elevation plus three feet of freeboard shall serve as a boundary for the outer limit of the CMZ.

Article II. Channel Migration Zone Study Content and Required Information

Three copies of the completed channel migration zone study shall be submitted. The study submittal must be stamped by a licensed professional engineer or professional geologist with five years of experience in fluvial geomorphology, river dynamics, or geotechnical engineering. The CMZ study shall include the following information in addition to that required for the drainage plan of a proposed project. The CMZ study will consist of a written technical report including:

- A. Detailed methods, techniques, and assumptions used in determining the location of the CMZ.
- B. A vicinity map and site with scale, north arrow, and parcel number(s) or specific site being studied.
- C. A clear statement of the requested revision to Pierce County's determination of the 100-year floodplain limits as the CMZ.
- D. A clearly stated conclusion of the study results that support the requested revision. The conclusion needs to document the basis for the revision, show how the data presented refutes the 100-year floodplain limits as the CMZ, and calculates the new results using the new information.
- E. A map clearly delineating the subject property and the CMZ of the adjacent watercourse. In addition to providing a hard copy of the CMZ map, the CMZ map shall also be provided in ARC-View shapefile format. Contact the department for mapping and aerial imaging standards. (Ord. 17-513 § 3 (Exh. A)).

The Edgewood Municipal Code is current through Ordinance 20-0574, passed February 25, 2020.

Disclaimer: The City Clerk's office has the official version of the Edgewood Municipal Code. Users should contact the City Clerk's office for ordinances passed subsequent to the ordinance cited above.

City Website: <http://www.cityofedgewood.org>

City Telephone: (253) 952-3299

[Code Publishing Company](#)



**CITY OF EDGEWOOD
PLANNING COMMISSION
RECOMMENDATION**

The Planning Commission voted 6-0 to recommend APPROVAL of the proposed code amendment to the Edgewood Municipal Code (EMC) pertaining to Flood Code updates, and to send their recommendation to the City Council for consideration.

It is the recommendation of the City of Edgewood Planning Commission to approve the drafted EMC amendments as presented in the staff report and attachments submitted by Public Works Director Jeremy Metzler for the November 9, 2020 Planning Commission agenda.

**RECOMMENDED BY THE CITY OF EDGEWOOD PLANNING COMMISSION
ON THE 9TH DAY OF NOVEMBER 2020.**

Planning Commission Chair

Attest by:

Evan Hietpas
Planning Technician

ORDINANCE NO. 20-xxxx

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF EDGEWOOD, PIERCE COUNTY, WASHINGTON, RELATING TO FLOOD HAZARD REDUCTION; AMENDING EMC CH. 14.80; AMENDING EMC SECTION 14.20.010; AMENDING EMC SECTION 13.05.170; PROVIDING FOR SEVERABILITY; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, the Legislature of the State of Washington has delegated the responsibility to local communities to adopt floodplain management regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the flood hazard areas of the City of Edgewood (“City”) are subject to periodic inundation, which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare; and

WHEREAS, flood losses may be caused by the cumulative effect of obstructions in areas of special flood hazards that increase flood heights and velocities, and when inadequately anchored, damage uses in other areas and uses that are inadequately floodproofed, elevated, or otherwise protected from flood damage also contribute to flood loss; and

WHEREAS, the City participates in the National Flood Insurance Program (“NFIP”); and

WHEREAS, as a condition of participation in the NFIP, communities are required to adopt and enforce a flood hazard reduction ordinance that meets the minimum requirements of the NFIP; and

WHEREAS, the City adopted a flood hazard reduction ordinance in 2017; and

WHEREAS, the Federal Emergency Management Agency (“FEMA”) and the Washington Department of Ecology (“Ecology”) released a revised model flood damage prevention ordinance for Washington cities in December of 2019; and

WHEREAS, revisions are necessary to the City’s current flood hazard reduction ordinance to comply with legal requirements as reflected in the model ordinance; and

WHEREAS, the City submitted the text of the proposed amendments to Ecology for review on July 31, 2020; and

WHEREAS, Ecology provided comments on the proposed amendments to the City for revisions on August 26, 2020; and

WHEREAS, following said revisions, the City submitted the text of the proposed amendments to FEMA and Ecology for review on September 17, 2020; and

WHEREAS, the City submitted the proposed amendments to the Department of Commerce for review on September 30, 2020; and

WHEREAS, the City's SEPA responsible official issued a Determination of Non-Significance on October 29, 2020; and

WHEREAS, the City held a public hearing before the Planning Commission on the proposed amendments at the November 9, 2020 Planning Commission regular meeting; and

WHEREAS, the City Council held a public hearing on the proposed amendments at their November 24, 2020 regular meeting; and

WHEREAS, the City Council of the City of Edgewood find the proposed amendments to be necessary to bring the City's flood hazard reduction ordinance into compliance with current laws and regulations;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF EDGEWOOD, WASHINGTON, DO ORDAIN AS FOLLOWS:

Section 1. EMC Chapter 14.80, Flood Hazard Areas, Amended. Chapter 14.80 of the Edgewood Municipal Code, Flood Hazard Areas, is hereby amended in as reflected in the attached Exhibit A.

Section 2. EMC Section 14.20.010, Definitions, Amended. Section 14.20.010, Definitions, of the Edgewood Municipal Code, is hereby amended in as reflected in the attached Exhibit B.

Section 3. EMC Section 13.05.170, Modifications to the PCM, Amended. Section 13.05.170, Modifications to the PCM, is hereby amended to replace all references to EMC Section 14.80.050(F) with references to EMC 14.80.050(E). All other portions of EMC Section 13.05.170 shall remain unchanged.

Section 4. Severability. If any section, sentence, clause or phrase of this ordinance should be held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or constitutionality of any other section, sentence, clause or phrase of this ordinance.

Section 5. Effective Date. A summary of this Ordinance consisting of its title shall be published in the official newspaper of the City and shall take effect and be in full force five (5) days after publication, as provided by law. The full text of this Ordinance shall be mailed without charge, upon request.

PASSED BY THE CITY COUNCIL ON THE 8TH DAY OF DECEMBER, 2020

Mayor Daryl Eidinger

ATTEST/AUTHENTICATED:

Rachel Pitzel, CMC
City Clerk

APPROVED AS TO FORM:

City Attorney, Ann Marie J. Soto

Date of Publication: December 10, 2020
Effective Date: December 15, 2020

DRAFT

Exhibit A

14.80.010 Purpose and applicability.

The purpose of this chapter is to promote the public health, safety, and general welfare of the citizens of Edgewood, thereby reducing the annual cost of flood insurance. This ordinance shall apply to all special flood hazard areas within the boundaries of the City of Edgewood.

The standards contained in this chapter are intended to minimize public and private losses due to flood conditions in ~~flood hazard-specific areas,~~ and provide special criteria necessary for regulated activities located within ~~flood hazardsaid areas, by provisions designed to-of the city,~~ thereby reducing the annual cost of flood insurance. The following statements describe the purpose of this chapter:

- A. Protect human life and health;
- B. Minimize expenditure of public money ~~and for~~ costly flood control projects;
- C. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- D. Minimize prolonged business interruptions;
- E. Minimize damage to public infrastructure, facilities and utilities, such as water and gas mains; electric, telephone, and sewer lines; and streets and bridges located in flood hazard areas;
- F. Minimize damage to critical fish and wildlife habitat areas;
- G. Minimize net loss of ecological functions of floodplains;
- H. ~~Ensure that~~ Notify potential buyers ~~are notified~~ that property is in a Special- ~~Flood H~~azard Area;
- I. ~~Ensure that~~ Notify those who occupy flood hazard areas that they assume responsibility for their actions; ~~and~~
- J. Qualify Edgewood for participation in the National Flood Insurance Program, thereby giving the citizens of Edgewood the opportunity to purchase flood insurance with particular emphasis to those in flood hazard areas and maintain eligibility for disaster relief; and
- K. Help maintain a stable tax base by providing for the sound use and development of flood hazard areas so as to minimize blight areas caused by flooding.

Lands to which this ordinance applies.

~~This ordinance shall apply to all special flood hazard areas within the boundaries of the City of Edgewood.~~

14.80.011 Abrogation and Greater Restrictions.

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

14.80.012 Interpretation.

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

- 1) Considered as minimum requirements;
- 2) Liberally construed in favor of the governing body; and,
- 3) Deemed neither to limit nor repeal any other powers granted under state statutes.

14.80.013 Methods of Reducing Flood Losses:

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

- A. Restricting or prohibiting development that is dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
- B. Requiring that development vulnerable to floods be protected against flood damage at the time of initial construction;
- C. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
- D. Controlling filling, grading, dredging, or other development, which may increase flood damage; and
- E. Preventing or regulating the construction of flood barriers that unnaturally divert floodwaters or may increase flood hazards in other areas.

14.80.014 Designation of the Floodplain Administrator

The Public Works Director is hereby appointed as the Edgewood Floodplain Administrator to administer, implement, and enforce this ordinance by granting or denying development permits

in accordance with its provisions. The Floodplain Administrator may delegate authority to implement these provisions.

14.80.015 Duties & Responsibilities of the Floodplain Administrator

Duties of the Floodplain Administrator shall include, but not be limited to:

A. Permit Review

Review all development permits to determine that:

1. The permit requirements of this Chapter have been satisfied;
2. All other required state and federal permits have been obtained;
3. The site is reasonably safe from flooding;
4. The proposed development is not located in the floodway. If located in the floodway, assure that the encroachment provisions of EMC 14.80.060(D) are met; and
5. Notify FEMA when annexations occur in the Special Flood Hazard Area.

B. Use of Other Base Flood Data (In A Zones)

When base flood elevation data has not been provided (in A zones), the Floodplain Administrator shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state, or other source, in order to administer EMC 14.80.060(B), Specific Standards, and 14.80.060(D), Floodways.

C. Information to be Obtained and Maintained

1. Where base flood elevation data is provided through the FIS, FIRM, or as required as in EMC 14.80.015(B), obtain and maintain a record of the actual (as-built) 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.
2. For all new or substantially improved floodproofed nonresidential structures where base flood elevation data is provided through the FIS, FIRM, or as required in EMC 14.80.015(B):
 - i. Obtain and maintain a record of the elevation (in relation to mean sea level) to which the structure was floodproofed.
 - ii. Maintain the floodproofing certifications required in EMC 14.80.045(B)(3).

3. Certification required by EMC 14.80.050(F) / 14.80.060(D)(1).
4. Records of all variance actions, including justification for their issuance.
5. Improvement and damage calculations.
6. Maintain for public inspection all records pertaining to the provisions of this ordinance.

D. Alteration of Watercourse. Whenever a watercourse is to be altered or relocated:

1. Notify adjacent communities and the Department of Ecology prior to such alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administrator through appropriate notification means.
2. Assure that the flood carrying capacity of the altered or relocated portion of said watercourse is maintained.

E. Interpretation of FIRM Boundaries

Make interpretations where needed, as to exact location of the boundaries of the areas of special flood hazards (e.g. where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation. Such appeals shall be granted consistent with the standards of Section 60.6 of the Rules and Regulations of the NFIP.

F. Review of Building Permits

Where elevation data is not available either through the FIS, FIRM, or from another authoritative source (EMC 14.80.015(B), Use of Other Base Flood Data (In A Zones)), applications for floodplain development shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate habitable buildings at least two feet above the highest adjacent grade in these zones may result in higher insurance rates.

G. Changes to Special Flood Hazard Area

1. If a project will alter the BFE or boundaries of the SFHA, then the project proponent shall provide the community with engineering documentation and analysis regarding the proposed change. If the change to the BFE or boundaries of the SFHA would normally require a Letter of Map Change, then the project proponent shall initiate, and receive approval of, a Conditional Letter of Map Revision (CLOMR) prior to approval of the development permit. The project shall be constructed in a manner consistent with the approved CLOMR.

2. If a CLOMR application is made, then the project proponent shall also supply the full CLOMR documentation package to the Floodplain Administrator to be attached to the floodplain development permit, including all required property owner notifications.

14.80.020 ~~Flood insurance study adoption~~ Basis for Establishing the Areas of Special Flood Hazard.

The ~~areas of~~ special flood hazard areas identified by the Federal Insurance Administrator ~~in~~ in a scientific and engineering report entitled “The Flood Insurance Study for Pierce County, Washington and Incorporated Areas,” dated March 7, 2017, with accompanying FIRMs dated March 7, 2017, and any map amendments or corrections-revisions thereto, are hereby adopted and incorporated herein by reference ~~and declared to be a part of this title.~~ The flood insurance study FIS and FIRMs are on file at Edgewood City Hall, 2224 104th Avenue East, Edgewood, Washington, 98371. The best available information for flood hazard area identification as outlined in EMC 14.80.015(B) shall be the basis for regulation until a new FIRM is issued that incorporates data utilized under EMC 14.80.015(B). ~~The city may add or delete land from areas of special flood hazard or revise base flood elevations, utilizing best available information for flood hazard identification in accordance with federal regulations.~~

In addition, for the purposes of this Title, the City of Edgewood may regulate those areas listed under EMC 14.80.040 as special flood hazard areas.

14.80.030 Definitions.

A. Refer to Chapter 14.20 EMC for definitions of any word or phrase not otherwise contained herein. For this chapter the definitions listed below shall apply:

1. “Alteration of watercourse” means any action that will change the location of the channel occupied by water within the banks of any portion of a riverine waterbody.

2. “Appeal” means a request for a review of the interpretation of any provision of this chapter, per EMC 14.10.110, or request for a flood hazard area variance per EMC 14.80.070.

23. “Area of shallow flooding” means a designated zone AO, AH, AR/AO or AR/AH on a community’s Flood Insurance Rate Map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow. Also referred to as the sheet flow area. ~~areas designated as AO or AH zones on the FIRM(s). AO zones are characterized as sheet flows, having base flood depths that range from one to three feet above the natural ground, where a clearly defined channel does not exist, the path of flooding is unpredictable and indeterminate, and velocity flow may be evident. AH zones indicate similar depth ponding, shown with standard base flood elevations on the FIRM(s).~~

34. “Area of special flood hazard” means the land in the floodplain within a community subject to a 1 percent or greater chance of flooding in any given year. It is shown on the Flood Insurance Rate Map (FIRM) as zone A, AO, AH, A1-30, AE, A99, AR. “Special flood hazard area” is synonymous in meaning with the phrase “area of special flood hazard”. ~~land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. Designation on FIRM(s) always includes the letter A or V.~~

5. “ASCE 24” means the most recently published version of ASCE 24, Flood Resistant Design and Construction, published by the American Society of Civil Engineers.

6. “Base Flood” has the same meaning as defined in EMC Ch. 14.20.

7. “Base Flood Elevation”, or “BFE”, means the elevation to which floodwater is anticipated to rise during the base flood.

48. “Basement” means any area of the building having its floor subgrade (below ground level) on all sides, for the purposes of this title.

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

610. “Building” shall have the same meaning as “structure” in this title.

11. “Building Code” means the currently effective versions of the International Building Code and the International Residential Code adopted by the State of Washington Building Council, as adopted under EMC 15.05.

12. Critical Facilities. See EMC 14.20.010(B)(22). For floodplain management purposes, “essential facilities” as defined herein, and “essential public facilities” as defined under EMC 18.20.080 and 18.100.050, are considered critical facilities.

713. “Development” means any human-induced change to improved or unimproved real estate, including but not limited to: the construction of buildings or other structures, placement of a manufactured home/mobile home, mining, dredging, clearing, filling, grading, paving, excavation, drilling operations, storage of equipment or materials located within an area of special flood hazard, or activities otherwise governed by EMC Title 16, Subdivisions.

814. “Elevated building” means a nonbasement building that has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

15. “Essential facility” means the same thing as “essential facility” defined in ASCE 24. Table 1-1 in ASCE further identifies building occupancies that are essential facilities.

916. “Existing manufactured home park or subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the adopted floodplain management regulations adopted by the community.

107. “Expansion to an existing manufactured home park or subdivision” means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

148. “Flood” or “flooding” means

a. a general and temporary condition of partial or complete inundation of normally dry land areas from:

ai. The overflow of inland or tidal waters; or

bii. The unusual and rapid accumulation of runoff of surface waters from any source; or

iii. Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in paragraph (1)(b) of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.

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

192. “Flood elevation study” means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards. Also known as a Flood Insurance Study (FIS).

20. “Flood Insurance Rate Map” or “FIRM” has the same meaning as defined in EMC 14.20. A FIRM that has been made available digitally is called a Digital Flood Insurance Rate Map (DFIRM).

21. “Flood ~~insurance~~ elevation study (FIS)” means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards. Also known as a Flood Insurance Study (FIS).~~the official report provided by the Federal Insurance Administration (FIA) that includes flood profiles, FIRM(s), and the water surface elevation of the base flood.~~

22. “Floodplain or flood-prone area” -means any land area susceptible to being inundated by water from any source. See “Flood or Flooding.”has the same meaning as defined in EMC 14.20.

23. “Floodplain administrator” means the community official designated by this Chapter to administer and enforce the floodplain management regulations.

24. “Flood proofing” means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate risk of flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents. Flood proofed structures are those that have the structural integrity and design to be impervious to floodwater below the Base Flood Elevation.

25. “Floodway” has the same meaning as defined in EMC 14.20. Also referred to as “regulatory floodway.”

26. “Highest adjacent grade” means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

2713. “Historic structure” means any structure that is:

A. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

B. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

C. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or

D. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:

i. By an approved state program as determined by the Secretary of the Interior, or

ii. Directly by the Secretary of the Interior in states without approved programs.

28. “Increased cost of compliance (ICC)” means a flood insurance claim payment up to \$30,000 directly to a property owner for the cost to comply with floodplain management regulations after a direct physical loss caused by a flood. Eligibility for an ICC claim can be through a single instance of “substantial damage” or as a result of a “cumulative substantial damage.” (More information can be found in FEMA ICC Manual 301.)

1429. “Lowest floor” has the same meaning as defined in EMC 14.20.

30. “Manufactured home or mobile home” means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes, the term “manufactured home or mobile home” also includes park trailers, travel trailers, and other similar recreational vehicles placed on a site for greater than 180 consecutive days. For insurance purposes, the term “manufactured home or mobile home” does not include park trailers, travel trailers, recreational vehicles, or other similar vehicles.

1531. “Manufactured home park or subdivision” means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

32. “Mean sea level” means for purposes of the National Flood Insurance Program, the vertical datum to which Base Flood Elevations shown on a community's Flood Insurance Rate Map are referenced.

1633. “New construction” means structures for which the start of construction commenced on or after the following:

a. For the purposes of determining flood insurance rates, the effective date of an initial FIRM (i.e., August 19, 1987, or specifically for Panel 350, August 4, 1988), and includes any subsequent improvements to such structures.

b. For floodplain management purposes, December 15, 2020 ~~March 7, 2017~~ (the effective date of the city’s floodplain management ordinance), including any subsequent improvements to such structures.

1734. “New manufactured home park or subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the

manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after December 15, 2020 ~~March 7, 2017~~ (the effective date of the city's floodplain management ordinance).

~~1835.~~ "Reasonably safe from flooding" means development that is designed and built to be safe from flooding based on consideration of current flood elevation studies, historical data, high water marks and other reliable data known to the community. In unnumbered A zones where flood elevation information is not available and cannot be obtained by practicable means, reasonably safe from flooding means that the lowest floor is at least two feet above the Highest Adjacent Grade.

36. "Recreational vehicle (RV)" means a vehicle 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 a temporary living quarters for recreational, camping, travel, or seasonal use.

~~3719.~~ "Start of construction" includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement was within 180 days of the permit date. The "actual start" means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the "actual start of construction" means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

~~2038.~~ "Structure", for the purposes of floodplain management, means a walled and roofed building, including a gas or liquid storage tank that is principally above ground, as well as a manufactured home.

39. “Substantial damage” has the same meaning as defined in EMC 14.20.

40.

~~21. “Substantial improvement” has the same meaning as defined in EMC 14.20. means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either:~~

~~a. Before the improvement or repair is started; or~~

~~b. If the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition “substantial improvement” is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure.~~

~~The term “substantial improvement” does not, however, include either:~~

~~a. Any project for improvement of a structure to correct pre-cited existing violations of state or local health, sanitary, or safety code specifications which have been previously identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or~~

~~b. Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places; provided, that the alteration will not preclude the structure’s continued designation as a historic structure.~~

~~2241. “Variance” means a grant of relief from the requirements of this chapter that permits construction in a manner that would otherwise be prohibited, per EMC 14.80.070.~~

~~2342. Violation. See EMC 14.20.010(B)(91). With regard to floodplain management, projects without an elevation certificate, other certifications, or other evidence of compliance required in this chapter are presumed to be in violation until such time as said documentation is provided.~~

~~2443. “Water dependent” means a structure for commerce or industry that cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations.~~

44. “Water surface elevation” means the height, in relation to the vertical datum utilized in the applicable flood insurance study of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

14.80.040 Additional special flood hazard areas.

In addition to those areas identified under EMC 14.80.020, the City of Edgewood may regulate the following as special flood hazard areas:

A. Potential Flood Hazard Areas. Unless otherwise approved under a Development Permit (EMC 14.80.045), the following areas shall be regulated as special flood hazard areas:-

1. Potential City Identified Flood Hazard Areas, as depicted on the Frequently Flooded Areas Critical Areas Atlas—Flood Hazard Area Map adopted under EMC 14.10.040(G), include:

a. Detailed Study Areas.

i. FEMA Flood Insurance Rate Map (FIRM) and Floodway Map AE and AH zones.

ii. Areas within 300 feet horizontal distance and five feet of vertical height from the base flood elevation established for the mapped AE and AH zones.

iii. Areas within five feet of vertical height from the base flood elevation established for the mapped AE and AH zones.

b. Unstudied Areas. FEMA Flood Insurance Rate Map (FIRM) A zones and shaded X zones, and areas within 300 feet horizontal distance from said mapped areas.

c. Natural Waters or Watercourse. Areas within five feet of vertical height above the ordinary high water mark of an identified natural watercourse.

d. Groundwater Flooding Areas. Areas within 300 feet horizontal distance from a mapped groundwater flooding area.

e. Potholes/Closed Depressions. Areas not identified as a mapped flood hazard area as described above, but within 10 feet of vertical relief from the bottom of an identified closed depression or within two feet of vertical relief of a potential surface water spillway

or other type of outlet. ~~Pothole~~Closed depressions may be identified by city topographic mapping, field survey, or site inspections.

~~f. Channel Migration Zones (CMZs). Channel migration zones shall apply only to those watercourses specifically identified by the city or listed in subsection (B)(4) of this section. In those areas where detailed CMZ studies have been completed and accepted by the department, additional horizontal and vertical review threshold criteria (i.e., 300 feet horizontal and five feet vertical) shall not apply.~~

~~76. 2.-The Frequently Flooded Areas Map (EMC 14.10.040(G))Critical Areas Atlas— Flood Hazard Areas Map~~ may not show all potential flood hazard areas that may be necessary for a specific site analysis. The department may make interpretations, where needed, as to the approximate location of the boundaries of potential flood hazard areas. When there is a conflict between the elevations and the mapped potential flood hazard area boundaries, the elevations shall govern. ~~3.-Further, where there is insufficient information shown on the potential flood hazard area maps, the department may require the applicant to verify that the site is out of the flood hazard area using the flood hazard area review procedures set forth in EMC 14.80.050.~~

B. Floodway. A floodway is an extremely hazardous area due to the depth and/or velocity of floodwaters which could carry debris, potential projectiles, and have erosion potential. The following areas are regulated by the city as special flood hazard areas and floodways:

1. Regulatory Floodway. Regulatory floodway designated by flood hazard area maps.
2. Deep or Fast-Flowing Water Areas. Areas of deep or fast-flowing water shall be regulated as a floodway. Based on the criteria set forth in this chapter, the department shall make the determination after review and approval of applicant's analysis of whether the project site falls within the floodway area based on deep or fast-flowing waters.
3. Closed Depressions~~Potholes~~ and Shaded X Zones. That portion of a ~~pothole and zone~~ said areas that is three feet or greater in depth shall be regulated as a floodway. This includes, but is not limited to, the City-Identified Floodway areas as depicted on the Frequently Flooded Areas Map adopted under EMC 14.10.040(G).
4. ~~Channel Migration Zone (CMZ).~~
- a. ~~CMZs shall be regulated as a floodway.~~

~~b. CMZs are equivalent to the base flood elevation limits, i.e., 100-year floodplain limits.~~

C. Flood Fringe. All areas subject to inundation by the base flood, but outside the limits of the floodway as set forth in subsection (B) of this section. Those portions of the A, AE, AH, and shaded X zones not defined as floodway, and that portion of a closed depression ~~pothole~~ and FEMA shaded X zone area that is between zero feet (base flood elevation) and three feet in depth (City-Identified 100-year Floodplain areas as depicted on the Frequently Flooded Areas Map adopted under EMC 14.10.040(G)), shall be regulated as a flood fringe.

D. Other Areas of Special Flood Hazard.

1. Groundwater Flooding Areas. Groundwater flooding areas are those areas ~~identified by Edgewood and shown on flood hazard maps and~~ are subject to flood inundation from subsurface waters that result from a fluctuation of the groundwater table. Groundwater flooding areas shall be regulated as closed depressions per subsections (B)(3) and (C) of this section, above a floodway or flood fringe ~~pothole~~.

2. Natural Waters or Watercourses. Natural waters or watercourses as identified on city topographic, planimetric or orthophoto maps, WDNR stream classification maps, USGS quadrangle maps, or other source maps that are not identified as a flood hazard area on the FEMA maps. That portion of the natural watercourse located between the ordinary high water mark and a topographic elevation ~~five~~ two feet above the ordinary high water mark shall be regulated as a floodway, and between two and five feet above the ordinary high water mark shall be regulated as ~~or~~ flood fringe. If the applicant chooses to accept the five-foot topographic elevation line above the ordinary high water mark as the base flood elevation (i.e., floodplain elevation limits), a flood study shall not be required for a natural water/watercourse.

~~3. Frequently Flooded Areas. See EMC 14.80.050(A)(9) as the areas defined by this section.~~

14.80.045 Establishment of Development Permit.

A. Development permit required. A development permit shall be obtained before construction or development begins within any area of Special Flood Hazard. The permit shall be for all structures including manufactured homes, as set forth in the “Definitions,” and for all development including fill and other activities, also as set forth in the “Definitions.”

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

1. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures recorded on a current elevation certificate, completed and certified by a professional land surveyor currently licensed in the state of Washington, with Section B of such certificate completed by the Floodplain Administrator.

2. Elevation in relation to mean sea level to which any structure has been floodproofed;

3. Where a structure is to be floodproofed, certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet floodproofing criteria in EMC 14.80.060(B)(2), Nonresidential Construction;

4. Description of the extent to which a watercourse will be altered or relocated as a result of proposed development;

5. Where development is proposed in a floodway, an engineering analysis indication no rise of the Base Flood Elevation, and

6. Any other such information that may be reasonably required by the Floodplain Administrator in order to review the application.

14.80.050 Flood hazard area review procedures.

A. General Requirements.

1. The city's ~~Frequently Flooded Areas Map (EMC 14.10.040(G))~~~~Critical Areas Atlas—Flood Hazard Area Map~~ only provides an indication of where potential flood hazard areas ~~are~~may be located within the city. The actual presence or location of a flood hazard area shall be determined using the procedures and criteria contained in this chapter.

2. The department will complete a review of the flood hazard area maps, and other source documents, for any development proposal to determine whether the proposed project area for a regulated activity falls within a potential flood hazard area. When there is a conflict between the elevations and the mapped 100- or 500-year floodplain or floodway

boundaries, the elevations shall govern. In the instance where base flood elevation data has not been provided within a mapped A zone, the department shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state, or other source to complete their review.

3. When the department's maps or sources indicate that the proposed project area for a regulated activity is or may be located within a potential flood hazard area, ~~except for coastal flood hazard areas~~, the department shall require a flood boundary verification survey as outlined in subsection (~~CB~~) of this section, and may require a flood study as outlined in subsection (~~DC~~) of this section, a deep or fast-flowing water analysis as outlined in subsection (~~ED~~) of this section, or a zero-rise analysis as outlined in subsection (~~FE~~) of this section.

4. Any proposed development located within a flood hazard area shall comply with the provisions for flood hazard reduction area standards set forth in EMC 14.80.060.

5. Prior to City approval of any proposed flood hazard area development, ~~all~~ any necessary permits from those governmental agencies from which prior approval is required by federal or state law, including but not limited to Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334, must be provided to the city by the applicant.

6. A FEMA letter of map amendment (LOMA) or letter of map revision (LOMR) shall not be submitted to FEMA until review and approval has been granted by the department. The city shall not recognize any LOMA or LOMR as an amendment to the department's flood hazard maps unless the department has granted prior approval.

7. Unless otherwise stated in this chapter, the critical area protective measure provisions contained in EMC 14.10.070 shall apply.

~~8. The Federal Emergency Management Agency (FEMA) administers the nation's floodplain management program. FEMA has identified some of the flood prone areas in the city; however, it is generally recognized that FEMA's Flood Insurance Rate Maps (FIRMs) may not accurately reflect the degree or frequency of flooding within all areas of the city. Therefore, information available through FEMA may not meet best available science criteria and cannot be used exclusively to address frequently flooded areas.~~

9. The city has determined that the following documents and sources are the most current and accurate information concerning frequently flooded areas within the city, and therefore represent best available science:

- a. The city's Surface Water Management Plan, 1997, or as amended thereafter.
- b. Aerial photographs of the city, especially those taken in wintertime 1996 and 1997.
- c. The city's two-foot elevation contour mapping performed by Nies Mapping Group, Inc., 1999, or as subsequently updated.
- d. Relevant and verifiable information from the city's Capacity Analysis Technical Review Ad Hoc Committee draft report, 2000.
- e. Relevant and verifiable government and citizen photographs, notes, observations, etc., regarding historic ponding/flooding levels, including but not limited to the City of Edgewood Potholes Water Level Monitoring 2006-2007 report prepared by Robinson Engineers, LLC.
- f. Relevant and verifiable information available through Pierce County.
- g. Relevant and verifiable information available through FEMA.

10. Flooding conditions within the city generally fall into three distinct hydrologic settings: (a) upland areas within enclosed depressions, (b) streams that flow off the upland areas, and (c) valley lowlands. Accordingly, the city manages frequently flooded areas within these three zones, as described below:

- a. Upland Areas within Enclosed Depressions. From the above list use the historic ponding elevation, determined by subsection (A)(9) of this section, or the FEMA 100-year base flood elevation, whichever is highest.
- b. Streams Which Flow Off the Upland Areas. From the above list use the historic flood elevation, determined by subsection (A)(9) of this section, or the FEMA 100-year base flood elevation, whichever is highest.
- c. Valley Lowlands. From the above list use the historic flood elevation determined by subsection (A)(9) of this section, or the FEMA 100-year base flood elevation, whichever is highest.

~~11. The city will provide local flood information to FEMA, and request FEMA's assistance in accurately mapping and evaluating frequently flooded areas.~~

~~128.~~ Warning and Disclaimer of Liability. The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside the areas of special flood hazards~~frequently flooded areas~~ or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the City of Edgewood, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

~~B. Channel Migration Zone Study.~~

~~1. In areas where Edgewood has not conducted a detailed channel migration zone study, an applicant may submit an independent channel migration zone study to demonstrate that the channel migration zone limits for those watercourses listed in this chapter are located inside the 100-year floodplain limits.~~

~~2. The channel migration zone study shall be prepared, signed, and dated by a professional engineer or engineering geologist with at least five years of experience in fluvial geomorphology, river dynamics, or geotechnical engineering.~~

~~3. The channel migration zone study shall, at a minimum, contain the information set forth in EMC 14.80.080, Appendix B.~~

~~4. The department shall review the channel migration zone study and either accept the new channel migration zone limits or reject the study and require the use of the 100-year floodplain limits. Once the department has reviewed and approved the channel migration zone study, the applicant shall be required to provide a flood boundary verification survey, as outlined in subsection (C) of this section, utilizing the newly established channel migration zone limits as the floodway limits.~~

~~C.B. Flood Boundary Verification Survey.~~

~~1. A flood boundary verification survey that delineates the horizontal and vertical limits of the base flood elevation shall be submitted to the department when the department's maps~~

or sources indicate that the proposed project area for a regulated activity is located within a potential flood hazard area.

- a. Where a base flood elevation has not been ~~established~~determined, a flood study shall be required pursuant to subsection (~~DC~~) of this section.
- b. A base flood elevation that has been established through a detailed flood study accepted by the department may be used in lieu of conducting a new flood study.
- c. In lieu of a flood study, ~~The base flood elevation for a natural watercourse as set forth in this chapter (EMC 14.80.040(D)(2))~~ shall be established at the five-foot topographic elevation line above the ordinary high water mark.

2. The requirement to submit a flood boundary verification survey may be waived at the department's discretion, when the department can determine, using contour elevations, base flood data, orthophotos, and parcel data, that the extent of the regulated activity is clearly above the base flood elevation.

3. The flood boundary verification survey shall be prepared, signed, and dated by a registered land surveyor.

4. The department shall review the flood boundary verification survey to determine if the proposed development is located within a flood hazard area.

5. If the proposed development lies within the flood hazard area, the limits of the floodway, as well as the base flood elevation, shall be shown on the flood boundary verification survey.

~~DC~~. Flood Study.

1. A flood study shall be conducted when the department's maps or sources indicate that the proposed project area for a regulated activity is, or may be located within, a potential flood hazard area where base flood elevation data is not available through the flood insurance study or other authoritative sources, or when an established base flood elevation is contested. A full engineering analysis to determine the base flood elevation shall be required by the department. Base flood elevations shall be determined using the detailed methods established in EMC 14.80.080, Appendix A. The department may approve alternative methods.

2. The flood study shall be prepared, signed, and dated by a professional engineer.
3. Once the department has reviewed and approved the flood study, the applicant shall be required to provide a flood boundary verification survey, utilizing the newly established base flood elevation, as outlined in subsection (~~CB~~) of this section.
4. ~~Flood studies shall not be required for coastal flood hazard areas.~~

ED. Deep or Fast-Flowing Water Analysis.

1. When the department determines that a proposed project area for a regulated activity is located within a flood hazard area, a deep or fast-flowing water analysis based on EMC 14.80.080, Appendix A, shall be required to determine the floodway limits.
2. The floodway limits and flood fringe limits identified in the deep and/or fast-flowing water analysis shall be depicted on the flood boundary verification survey, as outlined in subsection (~~CB~~) of this section.
3. The deep and/or fast-flowing water analysis shall be prepared, signed, and dated by a professional engineer.
4. ~~Deep and/or fast flowing water analysis shall not be required for coastal flood hazard areas.~~

FE. Zero-Rise Analysis.

1. When the department determines that a proposed project area for a regulated activity is located within a special flood hazard area, a zero-rise analysis shall be required to determine that no increase in base flood elevation, displacement of flood volume, or flow conveyance reduction will occur as a result of the development.
2. The zero-rise analysis shall be conducted utilizing Hydrologic Engineering Center – River Analysis System (HEC-RAS) modeling methodology for stream and channel floodways; the Western Washington Hydrology Model (WWHM) for ~~pothole or~~ closed depression floodways; or an alternative methodology approved by the city (see EMC 14.80.080, Appendix A). The analysis shall show that no rise ~~greater than 0.01 foot~~ has occurred as a result of the proposed development. The scope of the proposed development may need to be reduced or special engineering may be required (~~e.g.,~~ utilizing piers or pilings) to achieve zero rise.

3. If the zero-rise analysis is required for a project that is proposed outside of, but tributary to, a special flood hazard area, the analysis shall show that no rise greater than 0.01 foot will occur because of the proposed development (see EMC Ch. 13.05).

34. The zero-rise analysis shall be prepared, signed, and dated by a professional engineer.

45. The zero-rise analysis shall be documented on the zero-rise analysis form, as set forth in EMC 14.80.080, Appendix A, and shall be attached to the flood hazard area permit.

5. Zero-rise analysis shall not be required for coastal flood hazard areas.

6. When structures are elevated by pier or pilings and no fill is placed in the flood hazard area, the requirement to submit a zero-rise analysis may be waived at the department's discretion.

, completed and certified by a professional land surveyor currently licensed in the state of Washington,

14.80.060 Flood hazard area standards Provisions for Flood Hazard Reduction.

A. General Standards.

In all areas of special flood hazards (see EMC 14.80.020 and 14.80.040), the following standards are required:

1. Anchoring

a. All new construction and substantial improvements, including those related to manufactured homes, shall be anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydro static loads including the effects of buoyancy.

b. All manufactured homes shall 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. For more detailed information, refer to guidebook, FEMA-85, "Manufactured Home Installation in Flood Hazard Areas."

2. Construction Materials and Methods

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

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

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

3. Storage of Materials and Equipment

a. The storage or processing of materials that could be injurious to human, animal, or plant life if released due to damage from flooding is prohibited in special flood hazard areas.

b. Storage of other material or equipment may be allowed if not subject to damage by floods and if firmly anchored to prevent flotation, or if readily removable from the area within the time available after flood warning.

4. Utilities

a. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems;

b. Water wells shall be located on high ground that is not in the floodway (WAC 173-160-171) or in flood fringe areas;

c. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;

d. Onsite waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding. New effluent dispersal components shall be prohibited in all special flood hazard areas, and replacement effluent dispersal components shall be prohibited in closed depression floodways and flood fringe.

5. Subdivision Proposals and Development

All new development shall:

- a. Be consistent with the need to minimize flood damage;
- b. Have public utilities and facilities, such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage;
- c. Have adequate drainage provided to reduce exposure to flood damage; and
- d. Where subdivision proposals and other proposed developments contain greater than 50 lots or 5 acres (whichever is the lesser) base flood elevation data shall be included as part of the application.

6. Public Works Projects

New construction done by or for the City, such as bridges, roads, flood control works, revetments, retaining walls, drainage structures, sewer or water lines, parks, or other structures necessary to promote the public's health, safety, and welfare, shall be allowed in a flood hazard area when:

- a. The project is prepared, dated, and stamped by a registered professional engineer in the state of Washington and is designed so the project does not result in any increase in flood levels during the occurrence of the base flood discharge (zero-rise) and shall not obstruct the floodway or cause an adverse impact to critical fish or wildlife habitat or adjacent, cross-channel, or upstream or downstream properties; and
- b. The improvements utilize applicableappropriate flood hazard reduction provisionsprotection standards.

~~7. Elevation Certificate. A Federal Emergency Management Agency (FEMA) elevation certificate shall be required for new construction, any addition affixed to the side of a structure, and substantial improvements located within flood hazard areas. The most current version of the FEMA elevation certificate must be completed and certified by a professional land surveyor, currently licensed in the state of Washington, kept on file by the city for public inspection, recording the actual (as-built) elevation (in relation to mean sea level) of:~~

- ~~a. The lowest floor, including basement, of all new or substantially improved structures, whether or not the structure contains a basement;~~

b. For floodproofed nonresidential structures, where the structure was floodproofed (including floodproofing certifications):

B. Specific Standards

In all areas of special flood hazards where base flood elevation data has been provided as set forth in EMC 14.80.015(B) or 14.80.020, including but not limited to Flood Fringe areas (EMC 14.80.040(C)), the following provisions are required:

1. Residential Construction

a. In AE and A1-30 zones and other A zoned areas where the BFE has been determined or can be reasonably obtained, new construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated two feet or more above the BFE. Mechanical equipment and utilities shall be waterproof or elevated at least two feet above the BFE.

b. New construction and substantial improvement of any residential structure in an Unnumbered A zone for which a BFE is not available and cannot be reasonably obtained shall be reasonably safe from flooding, but in all cases the lowest floor shall be at least two feet above the Highest Adjacent Grade.

c. 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 must meet or exceed the following minimum criteria:

i. Have a minimum of two openings with a total net area of not less than one square inch for every square foot of enclosed area subject to flooding.

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

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

iv. A garage attached to a residential structure, constructed with the garage floor slab below the BFE, must be designed to allow for the automatic entry and exit of flood waters.

Alternatively, a registered engineer or architect may design and certify engineered openings.

2. Nonresidential Construction

New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall meet the requirements of subsection (a) or (b), below.

a. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall meet all of the following requirements:

i. In AE and A1-30 zones or other A zoned areas where the BFE has been determined or can be reasonably obtained:

New construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall have the lowest floor, including basement, elevated two feet or more above the BFE, or elevated as required by ASCE 24, whichever is greater. Mechanical equipment and utilities shall be waterproofed or elevated at least two feet above the BFE, or as required by ASCE 24, whichever is greater.

ii. If located in an Unnumbered A zone for which a BFE is not available and cannot be reasonably obtained, the structure shall be reasonably safe from flooding, but in all cases the lowest floor shall be at least two feet above the Highest Adjacent Grade.

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

A. Have a minimum of two openings with a total net area of not less than one square inch for every square foot of enclosed area subject to flooding.

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

C. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwater.

b. If the requirements of subsection (a) are not met, then new construction and substantial improvement of any commercial, industrial or other nonresidential structure shall meet all of the following requirements:

i. Be dry floodproofed so that below two feet or more above the base flood level the structure is watertight with walls substantially impermeable to the passage of water or dry floodproofed to the elevation required by ASCE 24, whichever is greater;

ii. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;

iii. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in EMC 14.80.015(C)(2); and

iv. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in EMC 14.80.060(B)(1)(e).

3. Manufactured Homes

a. All manufactured homes to be placed or substantially improved on sites shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated two feet or more above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

4. Recreational Vehicles

a. Recreational vehicles placed on sites are required to either:

- i. Be on the site for fewer than 180 consecutive days, or
- ii. Be fully licensed and ready for highway use, on wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or
- iii. Meet the requirements of section (3) above.

5. Enclosed Area Below the Lowest Floor

If buildings or manufactured homes are constructed or substantially improved with fully enclosed areas below the lowest floor, the areas shall be used solely for parking of vehicles, building access, or storage.

6. Appurtenant Structures (Detached Garages & Small Storage Structures) For A Zones (A, AE, A1-30, AH, AO):

a. Appurtenant structures used solely for parking of vehicles or limited storage may be constructed such that the floor is below the BFE, provided the structure is designed and constructed in accordance with the following requirements:

- i. Use of the appurtenant structure must be limited to parking of vehicles or limited storage;
- ii. The portions of the appurtenant structure located below the BFE must be built using flood resistant materials;
- iii. The appurtenant structure must be adequately anchored to prevent flotation, collapse, and lateral movement;
- iv. Any machinery or equipment servicing the appurtenant structure must be elevated or flood proofed to or above the BFE;
- v. The appurtenant structure must comply with floodway encroachment provisions in EMC 14.80.060(D)(1).
- vi. The appurtenant structure must be designed to allow for the automatic entry and exit of flood waters in accordance with EMC 14.80.060(B)(1)(e)
- vii. The structure must have low damage potential.

viii. If the structure is converted to another use, it must be brought into full compliance with the standards governing such use, and

ix. The structure must not be used for human habitation.

b. Detached garages, storage structures, and other appurtenant structures not meeting the above standards must be constructed in accordance with all applicable standards in EMC 14.80.060(B)(1).

c. Upon completion of the structure, certification that the requirements of this section have been satisfied shall be provided to the Floodplain Administrator for verification.

7. Additional Flood Fringe Standards. Structures that do not require a building permit and that do not have any associated fill are allowed, subject to flood hazard area review and permitting. Any other proposed development, encroachment, clearing and grading, new construction, or substantial improvements are prohibited in a flood fringe area, except as permitted under the following standards:

a. Vehicular, Pedestrian, and Non-Motorized Access. Roads, bridges, driveways, trails, emergency vehicle access, and access routes and easements, where allowed, shall be constructed and armored based on the standards in subsection (b) of this section and elevated a minimum of one foot above the base flood elevation. Parking lots shall be elevated to a minimum of one-half foot below the base flood elevation.

b. Clearing and Grading. Development under this subsection shall be designed to a zero-rise standard (see EMC 14.80.050(F) and 14.80.060(D)(1)). Any grading associated with the development shall not cause an adverse impact to adjacent, cross-channel, or upstream or downstream properties, nor increase flood hazards, water velocities, or flood elevations. In addition to meeting the requirements for zero-rise, all permitted development must also meet the following requirements:

i. Compensatory Storage. New excavated storage volume shall be equivalent to the flood storage capacity eliminated by grading within the flood fringe. Equivalent shall mean that the storage removed shall be replaced by equal live storage volume between corresponding one-foot

contour intervals that are hydraulically connected to the floodplain through their entire depth.

ii. Flow Conveyance. New excavated conveyance areas shall be equivalent to existing conveyance within the flood fringe. “Equivalent” shall mean a mechanism for transporting water from one point to another using an open channel system.

iii. Erosion Protection. Development shall be protected from flow velocities greater than two feet per second through the use of bioengineering methods or, when bioengineering methods have been deemed insufficient to protect development, then hard armoring may be utilized. All erosion protection shall extend one to three feet, depending on development requirements, above the base flood elevation and shall be covered with topsoil and planted with native vegetation.

c. AE and A1-30 Zones with Base Flood Elevations but No Floodways

In areas with BFEs (but a regulatory floodway has not been designated), no new construction, substantial improvements, or other development (including fill) shall be permitted within zones A1-30 and AE on the community’s FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood at any point within the community.

C. Floodways

Located within areas of special flood hazard established in EMCs 14.80.020 and 14.80.040 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the depth and/or velocity of floodwaters that can carry debris, and increased erosion potential, any development, encroachment, clearing and grading, fill, new construction, or substantial improvements, including structures that do not require a building permit, shall be prohibited within the floodway, except as allowed by the following provisions:

1. No Rise Standard

If any of the following allowed activities require installation of structures or any earthwork/fill within the floodway, certification by a registered professional engineer

must be 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 (see EMC 14.80.050(F)).

2. Residential Construction in Floodways

Construction or reconstruction of residential structures is prohibited within designated floodways, except for: (a) repairs, reconstruction, or improvements to a structure that do not increase the ground floor area; and (b) repairs, reconstruction, or improvements to a structure, the cost of which does not exceed 50 percent of the market value of the structure either, (i) before the repair or reconstruction is started, or (ii) if the structure has been damaged, and is being restored, before the damage occurred. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications that have been identified by the local code enforcement official and that are the minimum necessary to assure safe living conditions, or to structures identified as historic places, may be excluded in the 50 percent.

a. Replacement of Farmhouses in Floodway. Repairs, reconstruction, replacement, or improvements to existing farmhouse structures located in designated floodways and that are located on lands designated as agricultural lands of long-term commercial significance under RCW 36.70A.170 may be permitted subject to the following:

- i. The new farmhouse is a replacement for an existing farmhouse on the same farm site;
- ii. There is no potential building site for a replacement farmhouse on the same farm outside the designated floodway;
- iii. Repairs, reconstruction, or improvements to a farmhouse shall not increase the total square footage of encroachment of the existing farmhouse;
- iv. A replacement farmhouse shall not exceed the total square footage of encroachment of the farmhouse it is replacing;

- v. A farmhouse being replaced shall be removed, in its entirety, including foundation, from the floodway within ninety days after occupancy of a new farmhouse;
- vi. For substantial improvements and replacement farmhouses, the elevation of the lowest floor of the improvement and farmhouse respectively, including basement, is a minimum of two feet higher than the BFE;
- vii. New and replacement water supply systems are designed to eliminate or minimize infiltration of flood waters into the system;
- viii. New and replacement sanitary sewerage systems are designed and located to eliminate or minimize infiltration of flood water into the system and discharge from the system into the flood waters; and
- ix. All other utilities and connections to public utilities are designed, constructed, and located to eliminate or minimize flood damage.

b. Substantially Damaged Residences in Floodway

- i. For all substantially damaged residential structures, other than farmhouses, located in a designated floodway, the Floodplain Administrator may make a written request that the Washington Department of Ecology assess the risk of harm to life and property posed by the specific conditions of the floodway. Based on analysis of depth, velocity, flood-related erosion, channel migration, debris load potential, and flood warning capability, the Department of Ecology may exercise best professional judgment in recommending to the local permitting authority repair, replacement, or relocation of a substantially damaged structure consistent with WAC 173-158-076. The property owner shall be responsible for submitting to the local government and the Department of Ecology any information necessary to complete the assessment. Without a favorable recommendation from the department for the repair or replacement of a substantially damaged residential structure located in the regulatory floodway, no repair or replacement is allowed per WAC 173-158-070(1).

ii. Before the repair, replacement, or reconstruction is started, all requirements of the NFIP, the state requirements adopted pursuant to Ch. 86.16 RCW, and all applicable local regulations must be satisfied. In addition, the following conditions must be met:

- A. There is no potential safe building location for the replacement residential structure on the same property outside the regulatory floodway.
- B. A replacement residential structure is a residential structure built as a substitute for a legally existing residential structure of equivalent use and size.
- C. Repairs, reconstruction, or replacement of a residential structure shall not increase the total square footage of floodway encroachment
- D. The elevation of the lowest floor of the substantially damaged or replacement residential structure is a minimum of two feet higher than the BFE.
- E. New and replacement water supply systems are designed to eliminate or minimize infiltration of flood water into the system.
- F. New and replacement sanitary sewerage systems are designed and located to eliminate or minimize infiltration of flood water into the system and discharge from the system into the flood waters.
- G. All other utilities and connections to public utilizes designed, constructed, and located to eliminate or minimize flood damage.

3. All Other Building Standards Apply in the Floodway

If EMC 14.80.060(D)(1) is satisfied or construction is allowed pursuant to EMC 14.80.060(D)(2), all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of EMC 14.80.060, Provisions for Flood Hazard Reduction.

4. Other Allowable Activities in the Floodway

- a. Agricultural activities that do not require the installation of structures and that do not have any associated fill.

- b. Park and recreational uses and facilities that do not require the installation of structures and that do not have any associated fill.
- c. Habitat enhancement or stream restoration activities, subject to the provisions outlined in EMC 14.50.060.
- d. Private bridges may be allowed to cross the floodway; provided, that the structure meets the requirements contained in EMC 14.80.050 and the following:
 - i. The lowest structural member of a private bridge proposed to cross a channel migration zone shall be a minimum of six feet above the base flood elevation.
 - ii. The lowest structural member of a private bridge proposed to cross the floodway portion of any other watercourse shall be a minimum of one foot above the base flood elevation.

D. General Requirements for Other Development

All development, including manmade changes to improved or unimproved real estate for which specific provisions are not specified in this ordinance or the state building codes with adopted amendments and any Edgewood amendments, shall:

1. Be located and constructed to minimize flood damage;
2. Meet the encroachment limitations of this ordinance if located in a regulatory floodway;
3. Be anchored to prevent flotation, collapse, or lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of the design flood;
4. Be constructed of flood damage-resistant materials;
5. Meet the flood opening requirements of EMC 14.80.060(B)(1)(e), and
6. Have mechanical, plumbing, and electrical systems above the design flood elevation or meet the requirements of ASCE 24, except that minimum electric service required to address life safety and electric code requirements is permitted below the design flood elevation provided it conforms to the provisions of the electrical part of building code for wet locations.

E. Critical Facilities

Construction of new critical facilities shall be, to the extent possible, located outside the limits of the SFHA (100-year floodplain). Construction of new critical facilities shall be permissible within the SFHA if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three feet above BFE or to the height of the 500-year flood,

whichever is higher. Access to and from the critical facility should also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the facility's lowest floor shall be provided to all critical facilities to the extent possible.

F. Livestock Sanctuaries

Elevated areas for the for the purpose of creating a flood sanctuary for livestock are allowed on farm units where livestock is allowed. Livestock flood sanctuaries shall be sized appropriately for the expected number of livestock and be elevated sufficiently to protect livestock (at least one foot above the BFE). Proposals for livestock flood sanctuaries shall meet all procedural and substantive requirements of this chapter.

14.80.070 Variances to flood hazard areas.

The variance criteria set forth in this section are based on the general principle of zoning law that variances pertain to a piece of property and are not personal in nature. A variance may be granted for a parcel of property with physical characteristics so unusual that complying with the requirements of this ordinance would create an exceptional hardship to the applicant or the surrounding property owners. The characteristics must be unique to the property and not be shared by adjacent parcels. The unique characteristic must pertain to the land itself, not to the structure, its inhabitants, or the owner(s) of the property.

It is the duty of the City of Edgewood to help protect its citizens from flooding. This need is so compelling and the implications of the cost of insuring a structure built below the Base Flood Elevation are so serious that variances from the flood elevation or from other requirements in the flood ordinance should be quite rare. The long-term goal of preventing and reducing flood loss and damage can only be met if variances are strictly limited. Therefore, the variance guidelines provided in this ordinance are more detailed and contain multiple provisions that must be met before a variance can be properly granted. The criteria are designed to screen out those situations in which alternatives other than a variance are more appropriate.

A. General. Variances are reviewed pursuant to the process and criteria outlined in EMC 14.10.100, Variances to critical areas.

~~B. Additional Criteria for Flood Hazard Area Variances~~Requirements for Flood Hazard Area Variances. In addition to the variance criteria referenced in subsection (A) of this section, ~~in order for the decision maker to approve a flood hazard area variance, there must be written~~

findings that the applicant has demonstrated the proposal satisfies all of the following variances shall only be issued:

1. Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected on a small or irregularly shaped lot contiguous to and surrounded by lots with existing structures constructed below the base flood level. As the lot size increases the technical justification required for issuing the variance increases. Upon a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances;

2. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result. For the repair, rehabilitation, or restoration of historic structure(s), upon a determination that the variance will not preclude the structure's continued designation as a historic structure and that the variance is the minimum necessary to preserve the historic character and design of the structure (if applicable);

3. Variances shall only be issued uUpon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

4. Variances shall only be issued uUpon:

a. A-showing of good and sufficient cause; and

b5. Upon aA determination that failure to grant the variance would result in exceptional hardship to the applicant and that the hardship was not created by the applicant.;

c. AC. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.

D. Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the BFE, provided the procedures of 14.80.014, 14.80.015, and 14.80.060 of this Chapter have been fully considered. As the lot size increases beyond one-half acre, the technical justification required for issuing the variance increases.

E. Variance Criteria. In considering variance applications, the Edgewood Hearing Examiner shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:

1. The danger that materials may be swept onto other lands to the injury of others;
2. The danger to life and property due to flooding or erosion damage;
3. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
4. The importance of the services provided by the proposed facility to the community;
5. The necessity to the facility of a waterfront location, if applicable;
6. The availability of alternative locations for the proposed use, which are not subject to flooding or erosion damage;
7. The compatibility of the proposed use with existing and anticipated development;
8. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
9. The safety of access to the property in time of flood for ordinary and emergency vehicles;
10. The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site; and
11. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities, such as sewer, gas, electrical, water system, and streets and bridges. ~~determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.~~

F. Additional Requirements for the Issuance of a Variance

1. Any applicant to whom a variance is granted shall be given written notice over the signature of a community official that:

a. The issuance of a variance to construct a structure below the BFE will result in increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage, and

b. Such construction below the BFE increases risks to life and property.

2. The Floodplain Administrator shall maintain a record of all variance actions, including justification for their issuance.

3. The Floodplain Administrator shall condition the variance as needed to ensure that the requirements and criteria of this chapter are met.

5 4. Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from flood elevations should be quite rare.

~~6. Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of floodproofing than watertight or dry floodproofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except subsection (B)(1) of this section, and otherwise complies with EMC 14.80.060, Flood hazard area standards.~~

~~7. Any applicant to whom a variance is granted shall be given written notice that the permitted structure will be built with its lowest floor below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk.~~

14.80.075 Penalties for Noncompliance

All development within special flood hazard areas is subject to the terms of this ordinance and other applicable regulations. No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations. Violations of the provisions of this ordinance by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions), shall constitute a civil violation under Title 7 of the EMC. Any person who violates this ordinance or fails to comply with any of its requirements shall upon conviction thereof be

fined in accordance with Title 7 EMC. Nothing herein contained shall prevent the City from taking such other lawful action as is necessary to prevent or remedy any violation.

14.80.080 Appendices.

A. Floodplain/Floodway Analysis.

~~B. Channel Migration Zone Study.~~

APPENDIX A

FLOODPLAIN/FLOODWAY ANALYSIS

This appendix describes the flood hazard analyses and studies as required by this chapter. Flood hazard studies establish the base flood elevation and delineate floodplain and/or floodway(s) when a proposed project contains or is adjacent to a river, stream, lake, or closed depression.

Flood hazard studies must conform to FEMA regulations described in 44 CFR Part 65. In addition, the following information must be provided and procedures performed for flood hazard studies used under this chapter to examine development proposals or improvements within a floodplain.

Article I. Floodway Determination

~~The city recognizes two distinct floodways. The FEMA floodway describes the limit to which encroachment into the natural conveyance channel can cause one foot or less rise in water surface elevation. The deep and fast flowing (DFF) water floodways are hazardous areas and conditions of the floodplain for both people and habitable structures. Life safety and protection to improved properties are compromised if encroached upon. Encroachment cannot occur within these areas.~~

~~A. FEMA Floodways.~~

- ~~1. FEMA floodways are determined through the procedures outlined in the FEMA publication Guidelines and Specifications for Study Contractors using the one foot maximum allowable rise criteria.~~

~~2. Transitions shall take into account obstructions to flow such as road approach grades, bridges, piers, culverts, or other restrictions. General guidelines for transitions may be found in HEC-RAS, Water Surface Profiles—User's Manual, Appendix IV, Application of HEC-RAS Bridge Routines, published by the Hydrologic Engineering Center, Davis, California.~~

~~B. Deep and/or Fast-Flowing (DFF) Floodways.~~

~~1. DFF floodways are generally assumed to include the entire 100-year floodplain until the department approves a detailed floodway analysis that defines areas of DFF within the entire floodplain area based on the criteria.~~

~~2. The hydraulic model must adequately be calibrated to known or recorded stage elevations of past flood events with computed recurrence frequency intervals for the 100-year flood recurrence interval. This is to ensure model accuracy.~~

Article II. Flood Study Content and Required Information

~~Three copies of~~ When required under EMC 14.80.050(C), the completed floodplain/floodway analysis study report and the modeling digital files shall be submitted with the Development Permit (EMC 14.80.045). The report submittal must be stamped by a licensed professional civil engineer and include the following information in addition to that required for the drainage plan of a proposed project:

A. Floodplain/Floodway Map.

1. A scaled survey base map stamped by a licensed professional land surveyor registered in the state of Washington. The map must accurately locate the proposed development with respect to the floodplain and floodway, the channel of the subject stream, river, and/or ~~pothole~~ closed depression location, and the existing improvements within the subject study area. It must also supply all pertinent information such as the nature of the proposed project, legal description of the property on which the project would be located, fill quantity, limits and elevation, the building floor elevations, and use of compensatory storage.

2. The map must show elevation contours at a minimum of two-foot vertical intervals and shall comply with survey and map guidelines published in the FEMA publication Guidelines and Specifications for Study Contractors. The map must show the following:

- a. Elevations and ground contours, spot elevations, and vertical datum NAVD 88 (North American Vertical Datum of 1988) (or most recent vertical datum accepted by the department).
- b. Elevations and dimensions of existing structures, fill, and compensatory storage areas.
- c. Size, location, elevation and spatial arrangement of all proposed structures on the site.
- d. Location and elevations of roadways, drainage facilities, water supply lines, and sanitary sewer facilities.
- e. Areas of DFF must clearly be shown and plotted on the map sheet depicting the bounded area of the floodway on both sides of the study channel through the subject site. DFF floodway studies must reflect all transitions as referenced above as well.
- f. The base maps must also be accompanied by all field survey notes/computations, drawings, etc., for each cross-section with water surface elevation at the time the cross-section field survey was done.

B. Study Report.

1. Soil maps, groundcover maps, and photographs.
2. A narrative report containing the purpose of the study and description of the study area, data collection, methodology for both the hydrology and hydraulics, detailed discussion on the input parameters used, modeling results, and conclusions.
3. A floodplain/floodway analysis must include calculations and all computer analysis input and output information, supporting graphical illustrations, as well as the following additional information:
 - a. Scaled cross-sections showing the current, existing conditions of the river or stream channel, the floodplain adjoining each side of the channel, the computed floodway, the cross-sectional area to be occupied by any proposed development and all historic high water information.

- b. Profiles showing the bottom of the channel, the top of both left and right banks and computed base floodwater surface elevations for the 10-, 25-, 50- and 100-year events.
- c. Plans and specifications of any flood protection for structures, construction areas, clearing, dredging, channel improvements, storage of materials, water supply, and sanitary facilities within the floodplain.
- d. Complete digital printout of input and output data of the model that was used for the analysis. Liberal use of comments and written discussion will assist considerably in understanding the model logic and minimize misinterpretations and/or questions.
- e. A map, showing the graphical/plotted location and limits of the computed floodway and/or floodplain.
- f. ~~Three copies of r~~Ready-to-run digital files of both the hydrologic and hydraulic model and its input and output files used in the study. ~~Data shall be submitted on a disk in standard ASCII format, ready to use on an IBM compatible personal computer and in the applicable software application, e.g., HEC RAS, HSPF—Hydrological Simulation Program—FORTRAN, SBUH, or similar application.~~
- g. A section on the flood flow including computer modeling or calculations.
- h. Aerial photographs of the site ~~including pre-February 1996 and post-February 1996 photos of the site.~~
- i. All field survey notes/computations, maps, and drawings for each cross-section with water surface elevation at the time of the cross-section field survey.

C. Computer Modeling Information. Floodway/floodplain studies submitted to the city for review must include output summary tables and include the following (but not limited to) items:

1. Cross-section(s) identification number.
2. Range of flows being examined.
3. Computed water surface elevation at each cross-section.
4. Energy grade line at each cross-section.

5. Graphical plots of the channel cross-sections with computed water surface elevations for all model runs including calibrated model runs.
6. All model input and output ~~printouts~~reports.
7. Graphical plots of the model output data that show the points and segments along each cross-section where deep and/or fast-flowing water occurs. This shall include cross-section plots of depth and velocity in one-unit increments. The plots shall also be accompanied with a table listing the station distance (right and left bank), flow rate, area, hydraulic depth, velocity, and whether each point is a floodway.
8. A plan sheet clearly showing the graphical representation of the bounded area of the floodway based on DFF criteria through the entire study site and reach. Note that identified islands or pockets within the middle of the bounded floodway area are generally considered as part of the floodway, unless otherwise approved by the department.
9. Discussion on the starting water surface elevation for the hydraulic model.

Article III. Determining Flood Flows

The ~~two~~three techniques used to determine the flows used in a flood study depend on ~~whether gauge data is available, whether a basin plan has been adopted, or a detailed flood study has been done and approved for use by the department.~~ The first technique is for basins with adopted basin plan areas. ~~The second technique is used if a gauging station exists on the stream.~~ The ~~second~~third technique is used on ungauged catchments or those with an insufficient length of record. In ~~all cases~~either case, the engineer shall be responsible for assuring that the hydrologic methods used are technically reasonable, conservative, conform to the FEMA publication, Guidelines and Specifications for Study Contractors, and are acceptable by FEMA and the department.

A. Flood Flows from Adopted Basin Plan Information. Flood flows may be determined using information from the city's basin plan. The hydrologic model used in the basin plan shall be updated to include the latest changes in zoning or any additional information regarding the basin which has been acquired since the adoption of the basin plan.

~~B. Flood Flows from Stream Gauge Data. Determining flood flows from stream gauge data uses the Log-Pearson Type III distribution method as described in the Guidelines for Determining~~

Flood Flow Frequency, Bulletin 17B of the Hydrology Committee, United States Water Resources Council (revised October 1981).

1. This technique may be used only if data from a gauging station in the basin is available for a period of at least 10 years.
2. If the difference in the drainage area on the stream at the study site and the drainage area to a gauging station on the stream at a different location in the same basin is less than or equal to 50 percent, the flow at the study site shall be determined by transferring the calculated flow at the gauge to the study site using a drainage area ratio raised to the 0.86 power, as in the following equation:

$$Q_{ss} = Q_g (A_{ss}/A_g)^{0.86}$$

where

Q_{ss} = estimated flow for the given return frequency on the stream at the study site.

Q_g = flow for the given return frequency on the stream at the gauge site.

A_{ss} = drainage area tributary to the stream at the study site.

A_g = drainage area tributary to the stream at the gauge site.

3. If the difference in the drainage area at the study site and the drainage area at a gauging station in the basin is more than 50 percent and a basin plan has not been prepared, a continuous model shall be used as described below to determine the flood flows at the study site.
4. In all cases where dams or reservoirs, floodplain development, or land use upstream may have altered the storage capacity or runoff characteristics of the basin so as to affect the validity of this technique, a continuous model shall be used to determine flood flows at the study site.

CB. Flood Flows from a Calibrated Continuous Model. Flood flows may be determined by utilizing a continuous flow simulation model such as HSPF or other equivalent continuous flow simulation model, as approved by the city. Where flood elevation or stream gauging data are available, the model shall be calibrated to the known data. Otherwise, regional parameters may be used.

Article IIIV. Determining Flood Elevations, Profiles and Floodways (Hydraulic Model)

A. Reconnaissance. The applicant's project engineer is responsible for the collection of all existing data with regard to flooding in the study area. This shall include a literature search of all published reports in the study area and adjacent communities and an information search to obtain all unpublished information on flooding in the immediate and adjacent areas from federal, state, and local units of government. This search shall include specific information on past flooding in the area, drainage structures such as bridges and culverts that affect flooding in the area, available topographic maps, available community maps, photographs of past flood events, and general flooding problems within the community. Documented discussions with nearby property owners should also be done to obtain a witness account of the flooding extent. A field reconnaissance shall be made by the applicant's project engineer to determine hydraulic conditions of the study area, including type and number of structures, locations of cross-sections, and other parameters including the roughness values necessary for the hydraulic analysis.

B. Base Data. Channel cross-sections used in the hydraulic analysis shall be current/existing at the time the study is performed and shall be obtained by field survey. Topographic information obtained from aerial photographs/mapping may be used in combination with surveyed channel cross-sections in the hydraulic analysis. The elevation datum of all information used in the hydraulic analysis shall be verified. All information shall be referenced directly to NAVD 1988 (and include local correlation to NGVD) unless otherwise approved by the city.

C. Methodology. Flood studies and analysis (including deep and/or fast-flowing floodways and zero-rise analysis) shall be calculated using the U.S. Army Corps of Engineers HEC-RAS computer model (or subsequent revision) unless otherwise approved by the city.

D. Adequacy of the Hydraulic Model. Edgewood considers the following (but not limited to) factors when determining the adequacy of the hydraulic model for use in the floodway/floodplain model:

1. Cross-section of a downstream starting location and spacing.
2. Differences in energy grade line (significant differences in the energy grade line from cross-section to cross-section are an indication that cross-sections should be more closely spaced or that other inaccuracies exist in the hydraulic model).
3. Methods and results for analyzing the hydraulics of structures such as bridges and culverts.

4. Lack of flow continuity.

5. Use of a gradually varied flow model. In certain cases, rapidly varied flow techniques may need to be used in combination with a gradually varied flow model such as weir flow over a levee, flow through a spillway of a dam, or special application of bridge flow (pressure flow if bridge superstructure is shown to be submerged for the study event).

6. Manning's "n" value.

7. Calibration of hydraulic model to known or observed flow stage elevations including past flood events.

8. Special Applications. In some cases, steady state one-dimensional hydraulic models may not be sufficient for preparing the floodplain/floodway analysis. This may occur where sediment transport, two-dimensional flow, or other unique hydraulic circumstances affect the accuracy of the model. In these cases, the project engineer must propose and obtain department approval of alternative models for establishing the water surface elevations.

9. All reported error or warning messages by the model must be properly and adequately addressed or resolved and included in the report for review verification.

Article IV. Zero-Rise Analysis (ZRA)

A. Zero-rise analysis (ZRA) is required where encroachment within the flood fringe and/or floodway area is allowed and approved by the department. The ZRA must show that the proposed development encroachment in the flood fringe area will not create ~~more than a 0.01-foot~~ any rise in the base flood elevation resulting from a comparison of existing conditions and proposed conditions. This is directly attributable to development in the floodplain but not attributable to manipulation of mathematical variables such as roughness factors, coefficients, discharge, and other hydraulic parameters.

B. ZRA is also required where development is proposed within a closed depression basin, having surface water runoff that is tributary to said closed depression, but no encroachment of the flood fringe or floodway is proposed. In this case, the ZRA must show that the proposed development will not create more than a 0.01-foot rise in the base flood elevation resulting from a comparison of existing conditions and proposed conditions. This is directly attributable to the change in land cover by the proposed development, but not attributable to manipulation of mathematical variables such as roughness factors, coefficients, discharge, and other hydraulic parameters.

BC. In addition to those items listed in subsection (A) of this article, the following shall be included in a ZRA on projects that encroach within the flood fringe and/or floodway area:

1. Floodway boundaries (based on zero-rise) are to follow the stream lines and reasonably balance the rights of property owners on either side of the floodway. Use of the automatic equal conveyance encroachment option in the model will be considered equitable.
2. The ZRA must include a sufficient number of cross-sections in order to accurately model the subject fill and compensatory storage areas of the site. In all cases, cross-sections shall be located downstream, through the subject site and upstream of the site at a very minimum. They shall also be located where changes in channel and the fill material characteristics occur, such as slope, shape, and roughness. The sections shall also be located perpendicular to the flow path in the channel and the outside overbank areas. The department shall review and approve the proposed number and location of cross-sections. All cross-sections and surveys shall be prepared and certified by a professional land surveyor or registered professional engineer in the state of Washington.
3. The difference between two profiles of water surface elevation at the cross-section, e.g., difference between existing and encroached water surface. The model must report 0.01 feet or less an allowable change in the water surface elevation. This must be shown in the profile graphical plot as well.
4. The difference between profiles of the energy grade line at the cross-section. The model must report 0.01 feet or less. This is the allowable change in the energy grade line. This must be shown in the profile graphical plot as well.

CD. Conveyance Capacity.

1. The ZRA must also show that the proposed development encroachment in the flood fringe area will not show a measurable decrease (less than 0.01 CFS) in the conveyance capacity of the channel, resulting from a comparison of existing conditions and proposed conditions, for each of the cross-sections. This is also directly attributable to development in the floodplain but not attributable to manipulation of mathematical variables such as roughness factors, coefficients, discharge, and other hydraulic parameters.
2. The analysis must provide calculations of the reduction in conveyance caused by the proposed development encroachment, assuming no change in the water surface elevation, and using the roughness coefficient value(s) appropriate for the proposed development.

3. The analysis must then provide calculations for the increase in conveyance of the proposed compensatory measure, using the roughness coefficient value(s) appropriate for the proposed development.

4. Include a comparison analysis and discussion from subsections (C)(2) and (3) of this article. The comparison must adequately show that the conveyance capacity has not measurably decreased between the existing condition and proposed development condition.

Floodplain/Floodway Zero-Rise Certification

This is to certify that I am a duly qualified professional Engineer licensed to practice in the state of Washington.

This is to further certify that the attached Floodplain/Floodway zero-rise analysis conclusively shows that the proposed development of:

_____	_____
(Name of Development)	Parcel Number

will not increase the 100-year Base Flood elevation(s) and widths nor reduce the conveyance capacity of the Floodplain, Floodway and its associated channel to the

(Name of River, Stream, ~~Pothole~~ Pothole-Closed Depression or other Watercourse)

Supporting Data

Base Flood Elevation (Pre-Development) = _____ FT (NAVD 88)

Base Flood Elevation (Post-Development) = _____ FT (NAVD 88)

Conveyance Capacity (Pre-Development) = _____ CFS

Conveyance Capacity (Post-Development = _____ CFS

with compensatory storage)

_____	_____
Signature	Date
_____	_____
Title	Firm Name

Address	

City	
_____	_____
State	Zip Code

APPENDIX B

CHANNEL MIGRATION ZONE STUDY REQUIREMENTS

The channel migration zone (CMZ) is the area within the lateral extent of likely stream channel movement due to stream bank destabilization and erosion, rapid stream incision, and shifts in location of stream channels. The CMZ will define areas in which, to the best information available, development should be regulated due to the dangers expected from erosion.

Article I. Determining Channel Migration Zone Limits

A. The CMZ shall be based on available historic records of channel migration, or 100 years of calculated channel migration, whichever is greater, and will generally include those areas that encompass:

1. The limit of geologic controls, such as hill slope, bedrock outcrop, or abandoned floodplain terrace;
2. Side channels, abandoned channels, and oxbows; and
3. Outside edges of progressive bank erosion at meander bends.

B. Channel migration over the 100-year time frame can be estimated and predicted from geomorphic analysis of annual bank erosion rates, historic meander belt width, and measured meander bend amplitudes, potential avulsion sites, and previous river channel locations as depicted on historic aerial photographs and maps. The 100-year time span represents the time required to grow mature trees that can provide functional large woody debris to streams.

C. The CMZ boundaries will be determined using the following specific criteria:

1. The representative average annual rate of channel migration in the affected river reach is calculated by dividing the lateral distance eroded with the corresponding elapsed time shown in sequential aerial photographs or historic maps (distance/time equals channel movement). Measurements from reaches that have had some form of bank armoring shall not be included. Historical records will need to be checked closely for this information.
2. Identify the width of the channel migration zone by multiplying the representative average annual erosion rate by 100 years.

D. Areas separated from the active channel by legally existing artificial channel constraints (levees, roads, driveways, etc.) that limit bank erosion and channel avulsion to the 100-year recurrence interval flood elevation plus three feet of freeboard shall serve as a boundary for the outer limit of the CMZ.

Article II. Channel Migration Zone Study Content and Required Information

Three copies of the completed channel migration zone study shall be submitted. The study submittal must be stamped by a licensed professional engineer or professional geologist with five years of experience in fluvial geomorphology, river dynamics, or geotechnical engineering. The

~~CMZ study shall include the following information in addition to that required for the drainage plan of a proposed project. The CMZ study will consist of a written technical report including:~~

~~A. Detailed methods, techniques, and assumptions used in determining the location of the CMZ.~~

~~B. A vicinity map and site with scale, north arrow, and parcel number(s) or specific site being studied.~~

~~C. A clear statement of the requested revision to Pierce County's determination of the 100-year floodplain limits as the CMZ.~~

~~D. A clearly stated conclusion of the study results that support the requested revision. The conclusion needs to document the basis for the revision, show how the data presented refutes the 100-year floodplain limits as the CMZ, and calculates the new results using the new information.~~

~~E. A map clearly delineating the subject property and the CMZ of the adjacent watercourse. In addition to providing a hard copy of the CMZ map, the CMZ map shall also be provided in ARC View shapefile format. Contact the department for mapping and aerial imaging standards.~~

Exhibit B

14.20.010 Definitions.

A. This title relies on the definitions contained in Chapter 18.20 EMC, Definitions. Any word or phrase not contained herein shall be first referenced to Chapter 18.20 EMC for meaning. The city also adopts by reference the definitions stated in WAC 197-11-700 through 197-11-799, as now or hereafter amended.

1. For any word or term not defined herein, the latest edition of Webster's Dictionary shall be used.
2. The director, or their designee, has the final authority to determine the interpretation or usage of terms used in this chapter.

B. Additional definitions not contained in Chapter 18.20 EMC that apply to this title are:

1. "Addition" means an alteration to an existing structure that increases the floor area, either affixed to the structure's side or an upper story addition.
2. "Agricultural activities" means the production of crops or raising or keeping livestock, including operation and maintenance of farm and stock ponds, drainage ditches, irrigation systems, and normal operation, maintenance, and repair of existing serviceable agricultural structures, facilities, or improved areas, and the practice of aquaculture. Activities which bring an area into agricultural use are not part of an ongoing activity. An operation ceases to be ongoing when the area in which it was conducted is proposed for conversion to a nonagricultural use or has lain idle for a period of longer than five years, unless the idle land is registered in a federal or state soils conservation program. Forest practices regulated under Chapter 76.09 RCW or WAC Title 222 are not included in this definition.
3. "Agricultural land(s)" means land primarily devoted to the commercial production of horticultural, viticultural, floricultural, dairy, apiary, vegetable, or animal products or of berries, grain, hay, straw, turf, seed, Christmas trees not subject to the excise tax imposed by RCW 84.33.100 through 84.33.140, finfish in upland hatcheries, or livestock, and that has long-term commercial significance for agricultural production.
4. "Animal containment area" means a site keeping at least 2,000 pounds of large animals per acre or 750 pounds of small animals per acre, or where a high volume of waste material is deposited in quantities capable of impacting groundwater resources.

5. “Animal, large” means an animal weighing 100 pounds or more.
6. “Animal, small” means an animal with an average weight of less than 100 pounds.
7. “Application” means a request for a license.
8. “Base flood” means the flood having a one percent chance of being equaled or exceeded in any given year, also referred to as the “100-year flood,” ~~and is designated on FIRM(s) by the letter A or V.~~
9. “Best available science” means scientific information applicable to the critical area prepared by local, state, or federal natural resource agencies, a qualified scientific professional, or team of qualified scientific professionals that is consistent with criteria established in WAC 365-195-900 through 365-195-925.
10. “Best management practices (BMP)” means conservation practices or systems of practices and management measures that:
 - a. Control soil loss and reduce water quality degradation caused by high concentrations of nutrients, animal waste, toxics and sediment;
 - b. Minimize adverse impacts to surface water and groundwater flow and circulation patterns and to the chemical, physical, and biological characteristics of wetlands;
 - c. Protect trees and vegetation designated to be retained during and following site construction and use native plant species appropriate to the site for revegetation of disturbed areas; and
 - d. Provide standards for proper use of chemical herbicides within critical areas.
11. “Buffer” means areas contiguous with critical areas that are required for the integrity, maintenance, function, and structural stability of said critical areas.
12. “Building footprint” means the horizontal area measured within the outside of the exterior walls of the ground floor of all principal and accessory buildings on a lot.
13. “City” means the city of Edgewood municipal corporation.
14. “City council” means the Edgewood city council.

15. “Classification” means defining value and hazard categories to which critical areas and land resource lands will be assigned.

16. “Compensatory mitigation” means replacing project-induced losses or impacts to a critical area.

17. “Conservation easement” means a recorded deed restriction or covenant that runs in perpetuity on a parcel of land restricting the use of the property by preventing future real estate development such as residential, industrial, or commercial use that may allow for continued current uses, e.g., residential, recreational, agriculture, forestry, or ranching.

18. “Contaminant” means any chemical, physical, biological, or radiological substance that does not occur naturally or occurs at concentrations and durations as to be injurious to human health or welfare or shown to be ecologically damaging.

19. “Crawl space” means the shallow space beneath the bottom floor of a house with no basement; used for access and inspection of framing, electrical, plumbing, insulation, vapor barriers, or duct work. For purposes of the National Flood Insurance Program Elevation Certificate, this definition does not include spaces that have subgrade around all sides, which shall be considered a basement.

20. “Critical aquifer recharge areas” means areas with a critical recharging effect on aquifers used for potable water, including areas where an aquifer that is a source of drinking water is vulnerable to contamination that would affect the potability of the water, or is susceptible to reduced recharge.

21. “Critical area” means land that contains any of the following area, areas, or ecosystems: aquifer recharge areas, fish and wildlife habitat conservation areas, frequently flooded areas, geologically hazardous areas, or wetlands as defined in Chapter 36.70A RCW, as it now exists or may be hereinafter amended, and this chapter.

22. “Critical facilities” means those facilities occupied by populations or which handle dangerous substances including but not limited to hospitals, medical facilities, nursing homes; structures housing, supporting, or containing toxic or explosive substances; covered public assembly structures; school buildings through secondary, including daycare centers; buildings for colleges or adult education; police, fire, and emergency response installations; jails and detention facilities; and all structures with occupancy of greater than 5,000 people. These facilities are such that even a slight chance of flooding might be too great.

23. “Debris flow” means the rapid downslope movement of a viscous mass of water-saturated sediments.

24. “Degraded” means to have suffered a decrease in naturally occurring function or value.

25. “Delineation” means a wetland study conducted in accordance with the approved federal wetland delineation manual and applicable regional supplements.

26. “Depressional pothole” or “Closed depression” means a relatively sunken or low-lying area of the earth’s surface, especially one having no natural outlet for surface drainage.

27. Development. See EMC 18.20.070.

28. Development Activity. See EMC 18.20.070.

29. “Director” means the head of the city’s community development department or their designee.

30. “DRASTIC” is an acronym for a computer model developed by the National Water Well Association and Environmental Protection Agency used to measure aquifer susceptibility.

31. “Earth material” means naturally occurring rock, soil, stone, sediment, or combination thereof.

32. “Earthflow” means a slow downslope movement of viscous, saturated sediments.

33. “Elevation certificate” means an administrative tool of the National Flood Insurance Program (NFIP) that can be used to provide elevation information, to determine the proper insurance premium rate, and to support a request for a Letter of Map Amendment (LOMA) or Letter of Map Revision based on fill (LOMR-F). ~~the official form (FEMA Form 81-31) used to track development, provide elevation information necessary to ensure compliance with community floodplain management ordinances, and determine the proper insurance premium rate, with Section B completed by community officials.~~

34. “Encroachment” means development or regulated activity conducted inside the boundaries of any critical areas or buffers.

35. Engineer. As defined by Chapter 18.43 RCW.

36. “Engineering geologist” means a geologist who has met the qualifications in engineering geology established under Chapter 18.220 RCW.

37. “Enhancement” means actions performed within existing critical areas or buffers to intentionally increase or augment one or more ecological functions or values of the existing area. Enhancement actions include, but are not limited to, increasing plant diversity and cover; increasing wildlife habitat and structural complexity with snags or woody debris; installing environmentally compatible erosion controls; removing nonnative plant or animal species; or removing human-made structures or fill that are degrading ecological functions or values.

38. “Erosion hazard areas” means those areas that because of natural characteristics, including vegetative cover, soil texture, slope, gradient, and rainfall patterns, or human-induced changes to such characteristics, are vulnerable to erosion.

39. “Facility” means all structures, contiguous land, appurtenances, and other improvements on the land used for recycling, reusing, reclaiming, transferring, storing, treating, disposing, or otherwise handling a hazardous substance. This term includes underground and aboveground tanks and operations, which handle, use, dispose of, or store hazardous substances.

40. “Filling” means the act of placing fill or fill material on any surface, including temporary stockpiling of fill material.

41. “Finished floor” means the top of the next higher floor above the lowest floor. For purposes of the National Flood Insurance Program Elevation Certificate, the “finished floor” referenced in this regulation shall equal the top of the next higher floor.

42. “Fisheries biologist” means a professional with a degree in fisheries or certification by the American Fisheries Society, or with five years of professional experience as a fisheries biologist.

43. “Flood hazard areas” means areas designated pursuant to the provisions contained in EMC Ch. 14.80. of flooding identified by verifiable flooded areas using:

- ~~a. Aerial photographs of the city, especially those taken in wintertime 1996 and 1997;~~
- ~~b. Relevant and verifiable information from the city’s capacity analysis technical review ad hoc committee (CATRAC) draft report, 2000;~~

c. ~~Relevant and verifiable government and citizen photographs, notes, observations, etc., regarding historic ponding/flooding levels;~~

d. ~~Relevant and verifiable information available through Pierce County;~~

e. ~~Relevant and verifiable information available through the Federal Emergency Management Agency (FEMA); or~~

f. ~~Areas of land located in floodplains, which are subject to a one percent or greater chance of flooding in any given year, including, but not limited to, streams, rivers, lakes, ponds, wetlands, or depression potholes.~~

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

45. “Flood fringe” means the area subject to inundation by the base flood, but outside the limits of the floodway, and which may provide needed temporary storage capacity for floodwaters.

46. “Floodplain” or flood-prone area means the total area subject to inundation by the base flood, including the flood fringe and the floodway areas, any land area susceptible to being inundated by water from any source. See “flood” or “flooding.”

47. “Floodplain administrator” means the community official designated by title to administer and enforce the floodplain management regulations.

48. “Floodproofing” means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate risk of flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents. Flood proofed structures are those that have the structural integrity and design to be impervious to floodwater below the Base Flood Elevation.

49. “Floodway” means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to convey and discharge the base flood without

cumulatively increasing the water surface elevation by more than one foot, and those areas designated as deep and/or fast-flowing water. Also referred to as “Regulatory Floodway.”

~~48~~50. “Fluvial processes” means the physical interaction of flowing water and the natural channels of rivers and streams.

~~49~~51. “Frequently flooded area” means lands in the floodplain subject to at least a one percent or greater chance of flooding in any given year, or within areas subject to flooding due to high groundwater. These areas include, but are not limited to, streams, rivers, lakes, wetlands, and areas where high groundwater forms ponds on the ground surface.

~~50~~52. “Geologically hazardous areas” means areas that because of their susceptibility to erosion, sliding, earthquake, or other geological events are not suited to the siting of commercial, residential, or industrial development consistent with public health or safety concerns.

~~53~~4. “Geologist” means an engineering geologist or hydrogeologist that is registered in the state of Washington.

~~52~~54. “Geotechnical professional” means a person with experience and training in analyzing, evaluating, and mitigating landslide, erosion, or seismic hazards. A geotechnical professional shall be licensed in the state of Washington as a geologist or professional engineer, and must have five or more years’ experience specializing in landslide, erosion, or seismic hazards, as applicable.

~~53~~55. “Geotechnical report” means a report prepared by a geologist or professional engineer, licensed by the state of Washington with expertise in geotechnical engineering, evaluating the site conditions and mitigating measures necessary to reduce the risks associated with development in geologically hazardous areas.

~~54~~56. “Grading” or “clearing and grading” means any excavating, filling, clearing, creating of impervious surfaces, or any combination of these items.

~~55~~57. “Habitat management plan” means a report prepared by a professional wildlife biologist or fisheries biologist which discusses and evaluates the measures necessary to maintain fish and wildlife habitat conservation areas on a proposed development site.

~~56~~58. “Habitat of local importance” means an area, range, or habitat within which a species has a primary association and which, if altered, may reduce the likelihood that the species

will maintain and reproduce over the long term. Examples include areas of high relative density or species richness, breeding habitat, winter range, and movement corridors. These areas may also include habitats that are of limited availability or high vulnerability to alteration.

~~57~~59. “Hard armoring” means the use of large rock or human-made materials to protect property from shoreline erosion. Such techniques include cement or concrete bulkheads, steel structures, rock wall revetments, and rock gabion structures. Hard armoring typically does not utilize or integrate any soft armoring or soil bioengineering methods.

~~58~~60. “Historic structure means any structure that is:

a. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

b. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

c. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or

d. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:

i. By an approved state program as determined by the Secretary of the Interior, or

ii. Directly by the Secretary of the Interior in states without approved programs.

61. “Holocene epoch” means that part of the geologic record that post-dates the youngest deposits associated with the late Pleistocene Age Fraser Glaciation and is typically considered to be the past 10,000 years.

~~59~~62. “Hydrogeologic assessment” means a report detailing the subsurface conditions, the design of a proposed land use action, and the facilities operation which indicates the susceptibility and potential for contamination of groundwater supplies.

~~60~~63. “Landslide hazard area” means any area subject to risk of mass movement due to a combination of geologic, topographic, and hydrologic factors.

~~61~~64. “LiDAR” means an acronym that stands for light detection and ranging imaging.

~~62~~65. “Long-term commercial significance” means the growing capacity, productivity, and soil composition of land, which makes it suitable for long-term commercial production, in consideration with the land’s proximity to population areas, and the possibility of more intense uses of land.

~~63~~66. “Lowest floor” means the lowest floor of the lowest enclosed area (including basement and crawl space). 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 nonelevation design requirements of this title (i.e. provided there are adequate flood ventilation openings).

~~64~~67. “Mineral resource lands” means those lands primarily devoted to the extraction of minerals or which have known or potential long-term commercial significance for the extraction of minerals.

~~65~~68. “Mudflow” means a debris flow containing an abundance of fine particles.

~~66~~69. “Native vegetation” or “native plants” means a mix of plant species comprising herbs, grasses, grass-like plants, shrubs and trees indigenous to the Puget Sound region that reasonably could be expected to naturally occur on the site.

~~67~~70. “Natural resource lands” means agricultural and mineral resource lands, which have long-term commercial significance.

~~68~~71. “New construction” means structures for which the start of construction commenced on or after the effective date of the ordinance codified in this title.

~~69~~72. “Professional engineer” means an engineer currently licensed and registered in the state of Washington.

~~70~~73. Regulated Activities. See EMC 14.30.020.

~~71~~74. “Restoration” means an action which returns habitat to a state in which its stability and functions approach its unaltered state as closely as possible. This may be accomplished through measures including, but not limited to, revegetation, removal of intrusive stream bank structures, and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the critical area to aboriginal or preEuropean settlement conditions.

~~72~~75. “RCW” is an acronym that stands for Revised Code of Washington.

~~73~~76. “Riparian” means the area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. Riparian habitat begins at the ordinary high water mark and includes the entire extent of the floodplain and riparian areas of wetlands that are directly connected to the stream course.

~~74~~77. “Seismic hazard areas” means areas subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, or soil liquefaction.

~~75~~78. “Sensitive areas” means agricultural lands and mineral resource lands and all associated buffers.

~~76~~79. “Shoreline” means the line where a body of water and the shore meet or the strip of land along the shoreline. There are no waters within the city meeting the criteria of shorelines of statewide significance as defined by RCW 90.58.030.

~~77~~80. “Site” means a lot, parcel, tract, or combination of lots, parcels, or tracts on which a regulated activity is proposed.

~~78~~81. “Sludge” means a semi-solid substance consisting of settled solids combined with varying amounts of water and dissolved materials generated from a wastewater treatment plant or system or other sources, including septage sludge, sewage sludge, and industrial sludge.

~~79~~82. “Sludge land application site” means a site where stabilized sludge, septage, and other organic wastes are applied to the surface of the land in accordance with established agronomic rates for fertilization or soil conditioning.

~~80~~83. “Special occupancy structures” means those structures that have the potential to provide capacity for large numbers of people or special groups of people or assemblies

such as but not limited to schools, jails and detention facilities, and resident incapacitated patients.

8184. “Species of local importance” means species that are of local concern due to their population status or their sensitivity to habitat manipulation.

8285. “Soft armoring techniques” or “soil bioengineering methods” means the use of woody plants and limited structural-mechanical systems that are integrated in a structurally and environmentally sound manner to repair and protect slopes and shorelines against shallow mass wasting and surface erosion. Examples include, but are not limited to, live stake, live fascine, brushlayer, live cribwall, vegetated geogrid, branchpacking, live slope grading, beach berms, or earthen berms.

8386. “Stream” means a feature where surface waters produce a defined channel or bed. A defined channel or bed is an area that demonstrates clear evidence of the passage of water and includes, but is not limited to, bedrock channels, gravel beds, sand and silt beds, and defined-channel swales. The channel or bed need not contain water year-round. This definition is not intended to include artificially created irrigation ditches, canals, storm or surface water devices, or other entirely artificial watercourses, unless they are used by salmonids or created for the purposes of stream mitigation.

8487. “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.

8588. “Substantial improvement” means any repair, reconstruction, addition, rehabilitation, or other improvement of a structure, whereby the cost for the work exceeds 50 percent of the market value of the existing structure before the start of construction of the improvement. The cost and market value may be determined using the current permit valuation. The director shall determine the current permit valuation based on the cost per square foot values in effect at the time of permit application. Substantial improvement shall be accumulative from the effective date of the ordinance codified in this title. This term includes structures which have incurred substantial damage, regardless of the actual repair work performed. The term does not, however, include either:

- a. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the

local code enforcement official and which are the minimum necessary to assure safe living conditions; or

b. Any alteration of a “historic structure” ~~listed on the National Register of Historic Places or a State Inventory of Historic Places~~; provided, that the alteration will not preclude the structure’s continued designation as a “historic structure.”

~~8689.~~ 8790. “Toe of slope” means a distinct topographic break in slope at the lowermost limit of the landslide or erosion hazard area.

~~8790.~~ 8790. “TPCHD” is an acronym that stands for the Tacoma-Pierce County health department.

~~8891.~~ 8891. “Underground storage tank” or “UST” means one tank or a combination of multiple tanks, including the underground pipes connected thereto, which are used to contain or dispense an accumulation of hazardous substances or hazardous wastes, and the total volume of which is 10 percent or more beneath the surface of the ground.

~~8992.~~ 8992. “Urban growth” means growth that makes intensive use of the land for the location of buildings, structures, and impermeable surfaces to such a degree as to be incompatible with the primary use of such land for the production of food, other agricultural products, or fiber, or the extraction of mineral resources. When allowed to spread over wide areas, urban growth typically requires urban governmental services.

~~9093.~~ 9093. “View corridor” means an area which affords views of lakes, mountains, or other scenic amenities normally enjoyed by residential property owners.

~~9194.~~ 9194. Violation. See Chapter 1.10 EMC for penalties.

~~9295.~~ 9295. “Volcanic hazard areas” means those areas subject to pyroclastic flows, lava flows, and inundation by debris flows, mudflows, or related flooding resulting from geologic or volcanic events on Mount Rainier.

~~9396.~~ 9396. “WAC” is an acronym that stands for the Washington Administrative Code.

~~9497.~~ 9497. “Wellhead protection area” means the area within the 10-year time-of-travel zone boundary or zone of contribution area of a Group A public water system well, as delineated on the critical aquifer recharge areas critical area map, pursuant to WAC 246-290-135.

9598. “Wetland” means areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas created to mitigate conversion of wetlands.

9699. “Wetland category” means the numeric designation (I through IV) assigned to a wetland to indicate the wetland’s overall function and value. Wetland categories rank the city’s wetlands from highest (Category I) to lowest (Category IV) using the current version of the Washington State Wetland Rating System for Western Washington (Hruby, 2014).

97100. “Wetland mosaic” means a patchwork of wetlands that is considered one unit where each patch of wetland is less than one acre and the areas delineated as vegetated wetland are more than 50 percent of the total area of the wetlands and uplands together.

98101. “Wetland specialist” means a person that obtained professional wetland scientist (PWS) or wetland professional in training (WPIT) certification from the Society of Wetland Scientists or a qualified wetland professional with experience and training in wetlands issues and with experience in performing a delineation, analyzing wetland functions and values, analyzing wetland impacts, and recommending wetland mitigation and restoration. A qualified wetland professional is a person with experience and training that includes, at a minimum:

- a. A B.S., B.A., or equivalent degree in biology, botany, environmental studies, fisheries, soil science, wildlife, agriculture, or related field; and
- b. Two years of related work experience; and
- c. One year’s experience delineating wetlands using the Federal Delineation Manual and applicable regional supplements and preparing wetland reports and mitigation plans; or

d. Four years of related work experience and training; and

e. Two years of experience delineating wetlands using the Unified Federal Manual and preparing wetland reports and mitigation plans.

99102. “Wildlife biologist” means a professional with a degree in wildlife, or certification by the Wildlife Society, or with five years of professional experience as a wildlife biologist.

DRAFT



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – Ordinance – Comprehensive Plan Annual Updates	Agenda Item #: 2.D
	For Agenda of: 11/17/2020
	Prepared by: Darren Groth
Attachments (list): 1. PC Rec_ 2020 Comp Plan Amendment - Draft 2. Exhibit 2_ AHBL Summary Staff Report	
Approval of Materials: Darren Groth Rachel Pitzel 11/12/2020 Dave Gray 11/12/2020 Daryl Eidingier 11/12/2020	Expenditure Required: N/A Amount Budgeted: N/A Timeline: 11/17/20: Initial Study Session 11/24/20: CC Public Hearing 12/01/20: Follow-up Study Session 12/08/20: Final Action

Summary Statement:

The City may consider amendments to its Comprehensive Plan once every year. Applications for Comprehensive Plan amendments are submitted before December 31st in order to be considered during the following year's amendment process. All applications submitted before the December 31st deadline are identified on the preliminary docket that is maintained by the Planning Director. After compiling the preliminary docket, the Director shall review the suggested amendments and prepare a report suggesting which amendments should be placed on the final docket.

On May 11, 2020, the Planning Commission held a Public Hearing to solicit public input pertaining to the 2019-2020 final docket. The Planning Commission voted 5-0 to recommend approval of the final docket proposed on May 11, 2020, which was upheld unanimously by City Council on June 9, 2020 under adopted Resolution No. 20-0507. On October 12, 2020, the City's contract planning team (AHBL) gave a presentation that outlined their the summary report attached as Exhibit 1, which analyzed the final docket for final discussion with the Planning Commission prior to the November 9, 2020 public hearing.

On November 9, 2020, the Planning Commission held a public hearing. Chair Overfield open the hearing and staff presented the five requests that make up the 2020 annual amendment. No public comments were received during the hearing. The Planning Commission voted 6-0 to recommend APPROVAL of the 2020 Comprehensive Plan Amendment, with one minor modification to the staff report and attachments submitted by Community and Economic Development Director Darren Groth for the November 9, 2020 Planning Commission agenda. The modification is related to Request #5 (Transportation Systems Plan). The Planning Commission recommended modifying the language "Planned Alley" to "Planned Connection" in Figure 9: Functional Classification System, and Figure 10: Principal Arterial Intersections.

This agenda item is the initial Study Session for City Council to receive the Planning Commission recommendation in anticipation for City Council's public hearing on November 24. Their recommendation is attached as Exhibit 1 and the AHBL summary report that outlines each proposed amendment is attached as Exhibit 2.

Item History:

Recommended Action:

Hold a discussion and provide staff direction to Discussion – Ordinance – Comprehensive Plan Annual Updates

Fiscal Note/Consideration:



**CITY OF EDGEWOOD
PLANNING COMMISSION
RECOMMENDATION**

The Planning Commission voted 6-0 to recommend APPROVAL of the 2020 Comprehensive Plan Amendments, and to send their recommendation to the City Council for consideration.

It is the recommendation of the City of Edgewood Planning Commission to approve the 2020 Comprehensive Plan Amendments, with one minor modification to the staff report and attachments submitted by Community and Economic Development Director Darren Groth for the November 9, 2020 Planning Commission agenda. The modification is related to Request #5 (Transportation Systems Plan). The Planning Commission recommended modifying the language “Planned Alley” to “Planned Connection” in Figure 9: Functional Classification System, and Figure 10: Principal Arterial Intersections.

**RECOMMENDED BY THE CITY OF EDGEWOOD PLANNING COMMISSION
ON THE 9TH DAY OF NOVEMBER 2020.**

Planning Commission Chair

Attest by:

Evan Hietpas
Planning Technician



City of Edgewood, Washington

2224 104th Avenue East, Edgewood WA 98372-1513

Phone: (253) 952-3299 Fax: (253) 952-3537

Staff Report

Comprehensive Plan Amendments File #s 19-1569, 19-1573, 19-1572 & 19-1574 Discussion Item October 12, 2020 at 7:00 PM

To:	City of Edgewood City Council
From:	Brittany Port, AICP and Wayne Carlson, FAICP (Contract Planners)
Date:	October 2, 2020
Subject:	Annual Comprehensive Plan Amendment

Part 1 – Background

Pursuant to RCW 36.70A.130(4), the City of Edgewood must update its Comprehensive Plan every eight years. The deadline for the next major update is June 2024. However, per Edgewood Municipal Code (EMC) Section 18.60.130, the City may consider amendments to its Comprehensive Plan once every year. Applications for Comprehensive Plan amendments are to be submitted before December 31st in order to be considered during the following year's amendment process. All applications submitted before the December 31st deadline are identified on the preliminary docket that is maintained by the Community Development Director. In 2019, the City received seven applications that met the required deadline for consideration in 2020.

Chapter 18.60 EMC establishes a procedures and criteria for Comprehensive Plan amendments. This Chapter states that the City Council shall consider the proposed amendment and the Planning Commission's recommendation at a regularly scheduled meeting. The City Council shall also apply the criteria set forth in EMC 18.60.220, as applicable, in rendering its final decision.

If the City Council concludes that no change in the recommendation of the Planning Commission is necessary, the City Council may make a final determination on the proposed amendment(s) without holding another public hearing and make a final decision.

If the City Council concludes that a change in the recommendation of the Planning Commission is necessary, the City Council shall consider whether another opportunity for public review and comment is needed under RCW 36.70A.035(2)(a) and, if so, it shall hold another public hearing before making a final decision.

The 2020 annual update includes one citizen-initiated request to amend the Comprehensive Plan Future Land Use Map (FLUM) designations and zoning and four City-initiated requests for amendments to the Comprehensive Plan FLUM designations, associated text, and transportation related text throughout the Comprehensive Plan. Request numbers one, three, and four are

interrelated as they would all occur within the Economic Study Overlay identified on the 2015 Comprehensive Plan FLUM. The requests are described in Part 2 of this staff report.

Part 2 –Requests

1. SITE-SPECIFIC REQUEST #1 – BRIDGE POINT EDGEWOOD



FILE NUMBER: 19-1569 – Bridge Point Edgewood

LOCATION: 4515-4519 96th Avenue East

TAX PARCEL(S): Parcel Nos. 0420163000, 0420164004, 0420164050, 0420164130, 0420164095, 0420164096, 0420164097, 0420164098

APPLICANT: Bridge Acquisition Company, LLC,
10655 NE 4th Street, Suite 210, Bellevue, WA 98004

EXISTING

COMPREHENSIVE PLAN: Single Family Moderate and Mixed Residential Moderate

REQUESTED

COMPREHENSIVE PLAN: Industrial

EXISTING ZONING: Single-Family Moderate (SF-3)

REQUESTED ZONING: Industrial (I)

REASON FOR REQUEST:

The applicant requests concurrent approval of an amendment to the Future Land Use Map (FLUM) in the 2015 Edgewood Comprehensive Plan and a rezoning or zone change to Industrial (I) for eight tax parcels in the southwest corner of Edgewood. The parcels are located near the southern edge of the City, north of Valley Avenue East, and immediately adjacent to the Union Pacific railway. The applicant states the reason for the request is to develop the property as a light industrial complex and cites the need for additional industrial zoned land in Edgewood as the basis for the request.

Within the Edgewood/Puyallup/Fife area, there is virtually no vacant industrial space. Since 2015, 2.6 million square feet of new industrial buildings on 175 acres of industrial land have been developed within 1.5 miles of the proposed amendment area (Bridge Point Edgewood); twelve industrial structures have been constructed – with nearly 100% occupancy of the new spaces.

The rezone of the Bridge Point Edgewood site is supported by the existing industrial development in the area and infrastructure improvements made in the area by adjacent jurisdictions including:

- The City of Fife widened and reconstructed Freeman Road from Valley Avenue to 20th Street.
- The City of Puyallup created, widened and signalized the intersection on Valley Avenue west of the Bridge Point Edgewood site.
- WSDOT is proposing the extension of Highway 167 from its current terminus at Meridian Avenue to the Port of Tacoma, with an interchange proposed in the immediate vicinity of the Bridge Point Edgewood property.

The benefits of the proposed comprehensive plan amendment and development of the Bridge Point Edgewood property to the City of Edgewood includes acceleration of job creation within the City, spurring growth within the local housing market, and increased tax revenues.

The request may also assist the cities of Edgewood, Fife, and Puyallup to one day achieve designation as an Industrial Center within Pierce County, making the City eligible for transportation funding from Puget Sound Regional Council.

SURROUNDING ZONING & LAND USE:

The Bridge Point Edgewood site is surrounded by the following land uses:

	Existing Zoning	Existing Land Use
North	Single-Family Moderate (SF-3) and Public	Single-family residences, undeveloped land, and a community well
South	City of Puyallup, Limited-Manufacturing (ML)	Union Pacific Railway and industrial development
East	Single-Family Moderate (SF-3)	Single-family residences
West	Single-Family Moderate (SF-3) and Industrial	Single-family residences and agriculture

The requested area is contiguous and abuts one of the tax parcels that were re-designated Industrial in 2019 as part of the colloquially named “Uchida Farms, LLC Comprehensive Plan amendment” (Uchida) request. All the tax parcels, to some extent, are included in the Economic Study Overlay identified on the 2015 Comprehensive Plan FLUM (tax parcels 042016-4004 and 042016-4130 have a portion of their parcel area included in the Economic Study Overlay).

AVAILABILITY OF UTILITIES:

The City of Edgewood was notified by the City of Fife that it has significant capacity in its sewer system, which extends to its boundary with Edgewood along Freeman Road south of 34th Street East. The sewer line in that segment of Freeman Road is a force main. The force main extends to the west from Freeman Road to 70th Avenue East, where it discharges to a larger municipal pump station. The lines were sized for commercial and industrial development in a service area that includes substantial amounts of property subsequently acquired by the Washington State Department of Transportation for the construction of SR 167 and its interchange with Valley Avenue. Since WSDOT’s uses will not generate sewage flows, Fife’s system has excess capacity that is available to serve properties in Edgewood, including the Cherrywood Mobile Home Park, Cherrywood Apartments, and the potential Edgewood industrial area to the east.

The Mt. View-Edgewood Water Company provides water service to most of the City of Edgewood including the parcels associated with this amendment request.

Urban services and utilities are available, or can be extended at the applicant’s expense, to accommodate future development that may occur due to the reclassification. Project SEPA environmental review will occur with developments that exceed the City’s adopted thresholds for environmental review.

AVAILABILITY OF PUBLIC SERVICES:

There are no known public service deficiencies in this area. The City requires future development proposals to demonstrate service demand and available capacity as part of the permitting process

SITE CHARACTERISTICS:

The Bridge Point Edgewood site consists of mainly undeveloped land with some pastureland that has been farmed. Two year-round streams flow through the site; Wapato Creek and Simons Creek which converges with Wapato Creek, eventually draining into Commencement Bay. The terrain of the site is mostly flat with some minor sloping along the banks of the creeks.

CRITICAL AREAS:

In 2017, the City of Edgewood amended its standards governing the protection and uses allowed within critical areas and buffers (see Title 14 EMC). These standards include management practices deemed by the Washington State Department of Ecology and the Washington State Department of Commerce to incorporate best available science.

The City's critical area maps show the probable existence of the following critical areas on all or some of the parcels in the proposed amendment area:

- Wellhead protection area,
- Aquifer recharge Area,
- Regulated floodplains,
- Wetlands and their buffers,
- Steep slopes, and
- Seismic and volcanic hazard area.

Wapato and Simons Creeks flow through the site and the Pierce County streams map and DNR stream typing map identify and classify both as Type F streams with a standard buffer of 100 feet. The mapped wetland areas are located along the creeks and FEMA's FIRM Panel Number 53053C0333E (effective 3/17/17) indicates portions of floodway associated with both creeks, with most of the site classified with a low risk of flooding.

Any future industrial development on the site would need to avoid impacts to the critical areas on or adjacent to the site and incorporate these buffers into their plan, though buffer averaging can be evaluated on an individual project basis.

While site constraints exist in the form of wetlands, the overall topography of the site lends itself to development of large-scale industrial projects. The conceptual plan submitted by the applicant offers an initial insight into how the needs of a particular use might be accommodated on the sites comprising the amendment area.

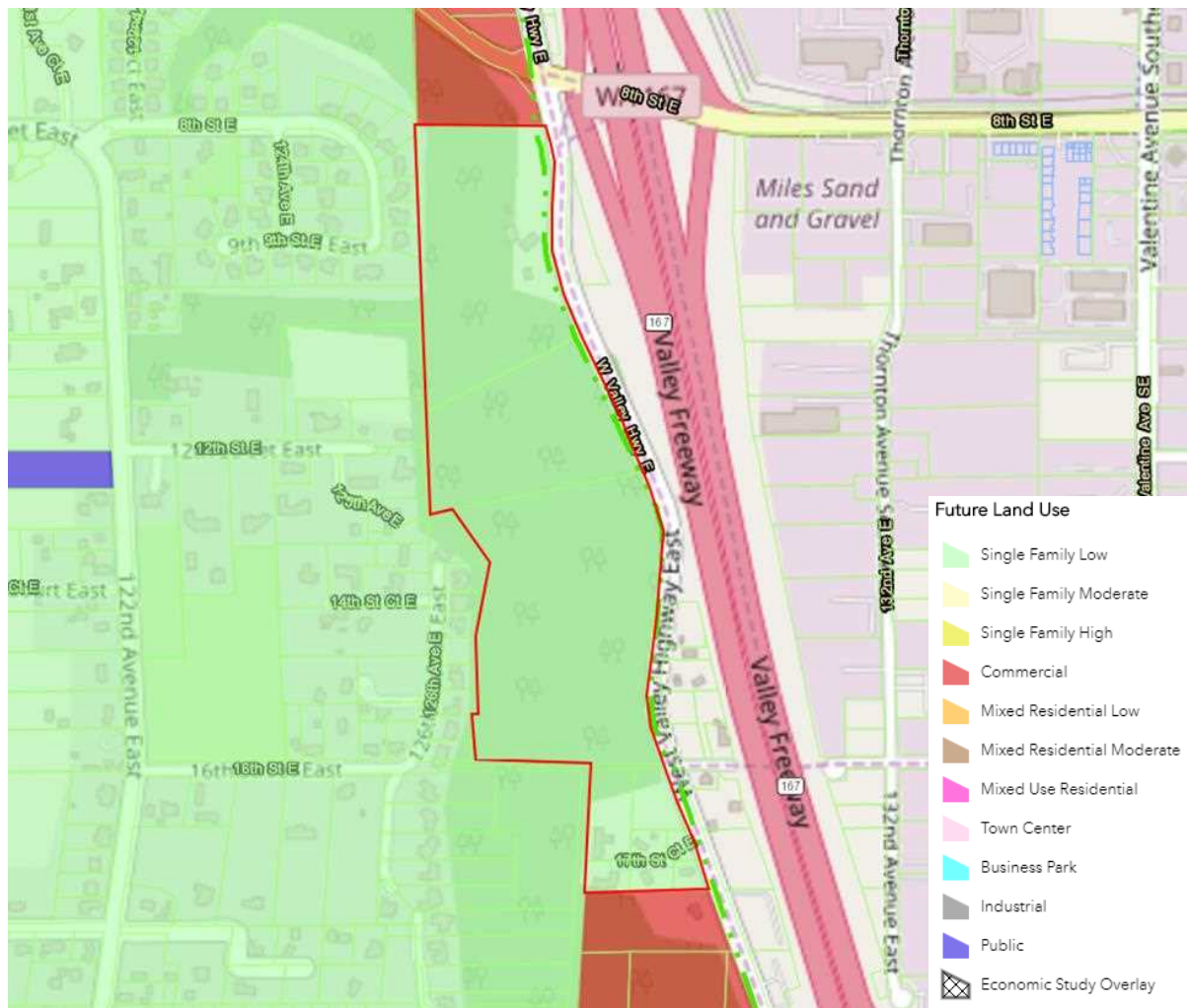
The protection of critical areas will not diminish or change if the area was to be reclassified from Single-Family 3 to Industrial.

ACCESS:

Vehicular access to the site would be provided from 98th Avenue East, which provides access to Valley Avenue East via 7th Street Northwest. The applicant provided a Trip Generation Summary that shows the number of daily trips generated by industrial uses would double the total daily trips generated by single family homes built at maximum density on the proposal site.

Future development applications will be subject to project specific SEPA environmental review. As applicable, the applicants will be required to submit detailed traffic impact analysis reviewed for concurrency and conformance to applicable city codes and standards, as well as certificates of availability for all utilities.

2. SITE-SPECIFIC REQUEST #2-EAST SIDE COMMERCIAL FLUM



FILE NUMBER: 19-1571 – East Side Commercial FLUM

LOCATION: Generally, along or near West Valley Highway East along the eastern edge of Edgewood

Staff Report
2020 Comprehensive Plan Amendments

TAX PARCEL(S): Parcel Nos. 042024003, 040024021, 0420024054, 4495400931, 4495400932, 4495400947, 4495400951, 4495400952, 4495400949, 4495400948, 4495400941

APPLICANT: City of Edgewood

**EXISTING
COMPREHENSIVE PLAN:** Single Family Low

**REQUESTED
COMPREHENSIVE PLAN:** Commercial

EXISTING ZONING: Single-Family 2 (SF-2)

REQUESTED ZONING: No change requested

REASON FOR REQUEST:

On December 9, 2019, the City of Edgewood Planning Commission discussed whether to include a Comprehensive Plan FLUM amendment re-designating 10 tax parcels along or near West Valley Highway East from Single-Family Low to Commercial. A concomitant zoning map amendment would not be made at this time in order to avoid creating nonconforming zoning issues for the properties within this area and instead would be processed on request from the subject property owners.

Approval of this request would require amendments within several areas of the City's Comprehensive Plan. Specifically, the Future Land Use Map contained on page 23 of the Comprehensive Plan would need to be updated, as well as Tables 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15 and Figures 9 and 11.

PAST AND FUTURE LAND USE AND ZONING ACTIONS:

The processing of this FLUM amendment would not require a concomitant zoning map amendment, and thus would not require any text amendments to the City's Zoning Code. The property owners, when ready, could apply for zoning map amendments consistent with the FLUM designation of their property to rezone to a Commercial zoning designation. The City should consider future Zoning and Comprehensive Plan amendments to ensure this area is able to meet the City's Commercial design standards. Development standards for the Commercial zoning district generally assume frontage along Meridian Avenue East. A Commercial district abutting West Valley Highway East may be better suited for a separate Commercial zoning district or potentially an overlay or small area plan to ensure development is compatible with the vision for the area.

SURROUNDING ZONING & LAND USE:

The East Side Commercial site is surrounded by the following land uses:

	Existing Zoning	Existing Land Use
North	Commercial (C)	Commercial (C)
South	Single-Family Low (SF-2)	Commercial (C)

	Existing Zoning	Existing Land Use
East	City of Pacific – Light Industry (North of 16th Street East) and City of Sumner-Interchange Commercial (South of 16th Street East)	City of Pacific – Commercial (North of 16th Street East) and City of Sumner-Interchange Commercial (South of 16th Street East)
West	Single-Family Low (SF-2)	Single-Family Low

AVAILABILITY OF UTILITIES:

Both the City of Pacific and the City of Sumner have existing water lines along 16th Street East to West Valley Highway. The City of Sumner provides water to the parcels included in this request that are located south of 16th Street East. Sumner also has existing sewer lines along West Valley Highway south of 16th Street East.

Urban services and utilities are available, or can be extended at the applicant's expense, to accommodate future development that may occur due to the reclassification. Project SEPA environmental review will occur with developments that exceed the City's adopted thresholds for environmental review.

AVAILABILITY OF PUBLIC SERVICES:

There are no known public service deficiencies in this area. The City requires future development proposals to demonstrate service demand and available capacity as part of the permitting process.

SITE CHARACTERISTICS:

The East Side Commercial proposal site consists of mainly undeveloped land with some single-family residences. The northern-most parcel of the site is currently being used as an illegal, nonconforming commercial business use. The terrain of the site includes steep slopes, generally sloping from west down to east with potential wetlands located in the lower elevations.

CRITICAL AREAS:

In 2017, the City of Edgewood amended its standards governing the protection and uses allowed within critical areas and buffers (see Title 14 EMC). These standards include management practices deemed by the Washington State Department of Ecology and the Washington State Department of Commerce to incorporate best available science.

The City's critical area maps show the probable existence of the following critical areas on all or some of the parcels in the proposed amendment area:

- Potential Wetlands and their buffers, and
- Steep slopes.

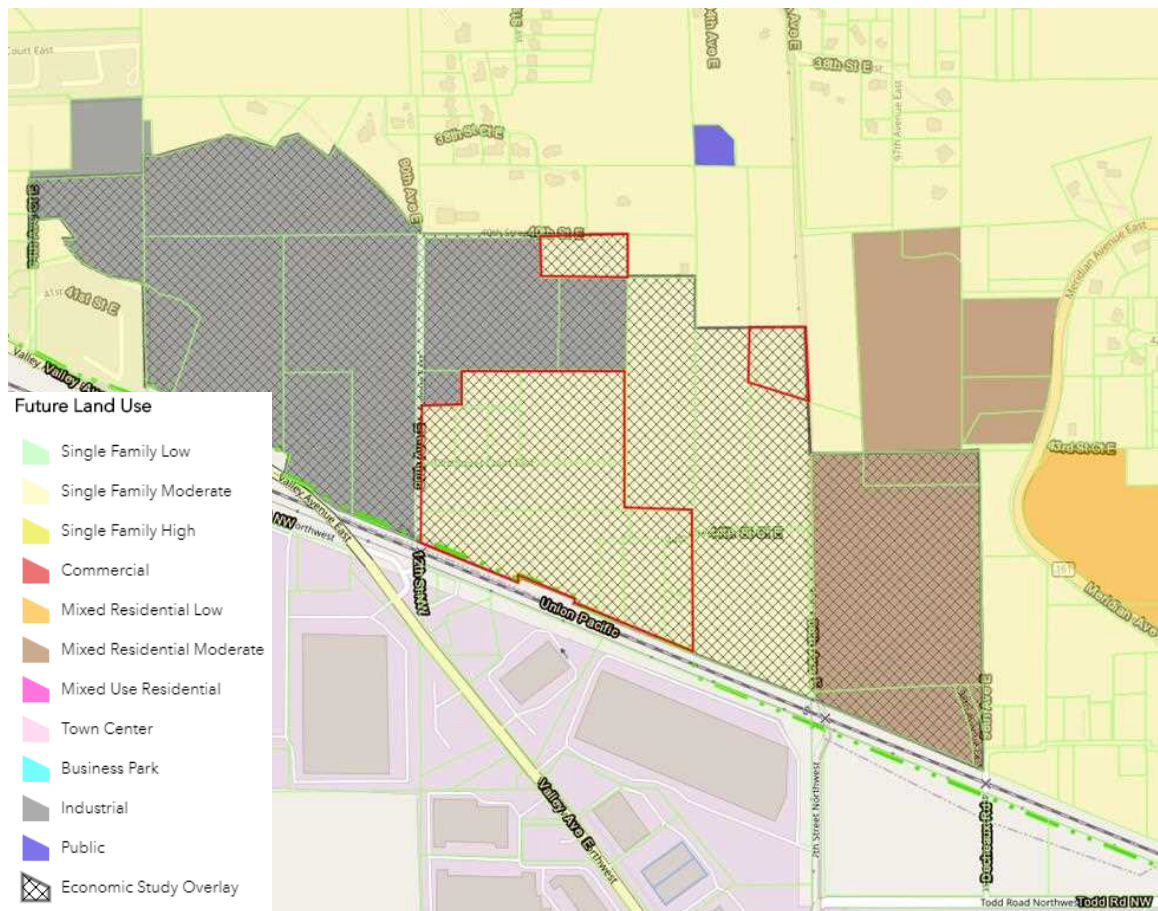
The protection of critical areas will not diminish or change if the area was to be reclassified from Single-Family Low to Commercial.

ACCESS:

Vehicular access to the site would be provided from West Valley Highway and 16th Avenue East.

Future development applications will be subject to project specific SEPA environmental review. As applicable, the applicants will be required to submit detailed traffic impact analysis reviewed for concurrency and conformance to applicable city codes and standards, as well as certificates of availability for all utilities.

3. SITE-SPECIFIC REQUEST #3 – COMPLETE FLUM DESIGNATION ON THE SPECIAL LAND USE STUDY OVERLAY



FILE NUMBER: 19-1573 – Complete FLUM Designation on the Special Land Use Study Overlay

LOCATION: Generally, north of Valley Avenue East and the Union Pacific Railway in the southwest corner of Edgewood

TAX PARCEL(S): Parcel Nos. 042016-3003, 042016-3024, 042016-3034, 042016-3037, 042016-3038, 042016-3043, 042016-3051,

042016-3074, 042016-3075, 042016-7703, 042016-7704,
042016-7705, 042016-7706, 042016-4131 (partial)

APPLICANT: City of Edgewood

EXISTING

COMPREHENSIVE PLAN: Single Family Moderate

REQUESTED

COMPREHENSIVE PLAN: Industrial

EXISTING ZONING: Single-Family Moderate (SF-3)

REQUESTED ZONING: No change requested

REASON FOR REQUEST:

The request is to change the future land use designation of 14 tax parcels within the Comprehensive Plan Special Land Use Study Overlay from Single Family-Moderate to Industrial.

As part of the 2015 Comprehensive Plan update, the public discussed the area to the west of and including the site for the Bridge Point Edgewood proposal (Site-Specific Request #1) in the southwest corner of the City. The City held public input meetings to discuss the possibility for a FLUM designation change in this area. The updated plan did not change the designation; however, a Special Land Use Study Overlay was approved in the southwest portion of the City.

As part of the 2019 Comprehensive Plan Amendment process, 12 tax parcels within the Special Land Use Study Overlay were re-designated Industrial as part of the colloquially named “Uchida Farms, LLC Comprehensive Plan amendment” (Uchida) request. The Uchida request included a market study for the lands included in that request which discussed industrial development in the vicinity of the overlay as well as the potential for job creation, and addressing the changing economics of small-scale farming uses that are currently practiced in the area.

On December 9, 2019, the City of Edgewood Planning Commission discussed changing the designation of all properties not previously or currently proposed as a Comprehensive Plan amendment located within the Special Land Use Study Overlay and designation as Mixed Residential Moderate or Single Family Moderate to Industrial and adopting a concomitant zoning map amendment to Industrial (I). With the inclusion of Request #1-Bridge Point Edgewood, over half of the Special Land Use Study Overlay has been or is proposed to be re-designated as Industrial. Market studies have or will be prepared by private entities for the majority of this area thereby completing the City’s obligation to study this area for future economic development uses and addressing the changing agricultural practices away from small-scale farming operations.

PAST AND FUTURE LAND USE AND ZONING ACTIONS:

On December 9, 2019, the Planning Commission indicated it would like to also rezone the parcels included in this amendment request. Making a concurrent amendment to the City's Zoning Map would help to mitigate potential conflicts between industrial development surrounding low density single-family development on both sides of this area. However, it would also create non-conforming uses that would limit the expansion of these properties as single-family residences.

No text amendments to the City's Zoning Code or map amendments to the City's Zoning Map should be necessary at this time as a result of this request. The property owners, when ready, could apply for zoning map amendments consistent with the FLUM designation of their property to rezone to an Industrial zoning designation.

SURROUNDING ZONING & LAND USE:

The subject property is surrounded by the following land uses:

	Existing Zoning	Existing Land Use
North	Single-Family Moderate (SF-3)	Single-family residences and undeveloped land
South	City of Puyallup, Limited-Manufacturing (ML)	Union Pacific railway and industrial development
East	Single-Family Moderate (SF-3)	Undeveloped land
West	Industrial (I)	Single-family residences and agriculture

AVAILABILITY OF UTILITIES:

The City of Edgewood was notified by the City of Fife that it has significant capacity in its sewer system, which extends to its boundary with Edgewood along Freeman Road south of 34th Street East. The sewer line in that segment of Freeman Road is a force main. The force main extends to the west from Freeman Road to 70th Avenue East, where it discharges to a larger municipal pump station. The lines were sized for commercial and industrial development in a service area that includes substantial amounts of property subsequently acquired by the Washington State Department of Transportation for the construction of SR 167 and its interchange with Valley Avenue. Since WSDOT's uses will not generate sewage flows, Fife's system has excess capacity that is available to serve properties in Edgewood, including the Cherrywood Mobile Home Park, Cherrywood Apartments, and the potential Edgewood industrial area to the east.

The Mt. View-Edgewood Water Company provides water service to most of the City of Edgewood including the parcels associated with this amendment request.

Urban services and utilities are available, or can be extended at an applicant's expense, to accommodate future development that may occur due to the reclassification. Project SEPA environmental review will occur with developments that exceed the City's adopted thresholds for environmental review.

AVAILABILITY OF PUBLIC SERVICES:

There are no known public service deficiencies in this area. The City requires development proposals to demonstrate service demand and available capacity as part of the permitting process. Staff anticipates this analysis will occur closer to the time of site development.

SITE CHARACTERISTICS:

The site consists of mainly pastureland that has been farmed, some single-family residences, and some undeveloped land. Two year-round streams flow through most of the 14 parcels included in the site; Wapato Creek and Simons Creek which converges with Wapato Creek, eventually draining into Commencement Bay. The terrain of the site is mostly flat with some minor sloping along the banks of the creeks.

CRITICAL AREAS:

The City's critical area maps show the probable existence of the following critical areas on all or some of the parcels in the proposed amendment area:

- Wellhead protection area,
- Aquifer recharge Area,
- Regulated floodplains,
- Wetlands and their buffers,
- Steep slopes, and
- Seismic and volcanic hazard area.

Wapato and Simons Creeks flow through the site and the Pierce County streams map and DNR stream typing map identify and classify both as Type F streams with a standard buffer of 100 feet. The mapped wetland areas are located along the creeks and FEMA's FIRM Panel Number 53053C0333E (effective 3/17/17) indicates portions of floodway associated with both creeks.

Any future industrial development on the site would need to avoid impacts to the critical areas on or adjacent to the site and incorporate these buffers into their plan, though buffer averaging can be evaluated on an individual project basis.

The protection of critical areas will not diminish or change if the area was to be reclassified from Single-Family 3 to Industrial.

ACCESS:

Vehicular access to the site would be provided from 90th Avenue East, which provides access to Valley Avenue East via 27th Avenue Court Northwest.

Future development applications will be subject to project specific SEPA environmental review. As applicable, the applicants will be required to submit detailed traffic impact analysis reviewed for concurrency and conformance to applicable city codes and standards, as well as certificates of availability for all utilities.

4. REQUEST #4 – ELIMINATE SPECIAL LAND USE STUDY OVERLAY

FILE NUMBER: 19-1572 – Eliminate the Special Land Use Study Overlay

LOCATION: Generally, north of Valley Avenue East and the Union Pacific railway in the southwest corner of Edgewood

TAX PARCEL(S): Uchida Farms Parcel Nos. 0420163054, 0420163055, 0420163702, 0420163047, 0420163026, 0420163023, 0420163052, 0420162700, 0420165004, 0420166003, 0420175005

Bridge Point Edgewood Parcel Nos. 0420163000, 0420164004, 0420164050, 0420164130, 0420164095, 0420164096, 0420164097, 0420164098

Remaining Parcel Nos. 042016-3003, 042016-3024, 042016-3034, 042016-3037, 042016-3038, 042016-3043, 042016-3051, 042016-3074, 042016-3075, 042016-7703, 042016-7704, 042016-7705, 042016-7706, 042016-4131 (partial)

APPLICANT: City of Edgewood

EXISTING COMPREHENSIVE PLAN: Special Land Use Study Overlay

REQUESTED COMPREHENSIVE PLAN: No overlay

EXISTING ZONING: Single-Family Moderate (SF-3) and Industrial

REQUESTED ZONING: No change requested

REASON FOR REQUEST:

With the processing of Requests #1 and #3, as well as the Uchida Farms, LLC request that was adopted in 2019, the City should remove the Special Land Use Study Overlay from the FLUM and delete any associated textual references to the overlay within the body of the Comprehensive Plan. The City, in processing the associated citizen-initiated and City-initiated requests, would have fulfilled its plan to study the feasibility of changing the land use designations within the overlay.

Approval of this request would require amendments within several areas of the City's Comprehensive Plan. Specifically, the Future Land Use Map contained on page 23 of the Comprehensive Plan would need to be updated, as well as amendments to the sidebar on Page 22 and discussion of the land use map on Pages 90 and 91 which discuss the Special Land Use Study Overlay.

5. REQUEST #5 – TRANSPORTATION SYSTEMS PLAN

FILE NUMBER: 19-1574 – Transportation Systems Plan

As stated in the Comprehensive Plan amendment application submitted on December 31, 2019, discussions with Council have revealed a need to improve connectivity between Edgewood and adjacent communities, as well as between the hilltop and valley areas within Edgewood. There is also a discrepancy in the existing Comprehensive Plan, when comparing the Functional Classification System and Long-Term Transportation Projects Maps. In addition, a recent discussion with the Planning Commission regarding recommendations from the City's traffic engineering consultants, Transpo Group and DN Traffic Consultants, has identified amendments to the City's parallel road network ordinance that may be made as part of this project.

Approval of this text amendment request would require amendments within several areas of the City's Comprehensive Plan. Specifically, the Transportation Goals and Policies, Mobility and Capacity section on page 44 of the Comprehensive Plan would need to be updated, as well as amendments to the Transportation Systems Plan, Street and Highway System, Roadway Functional Classification sections on pages 130 and 131 (Figure 9 and additional connectivity language). If the City's parallel road network ordinance is amended, further amendments would need to be made to the Comprehensive Plan, including Figure 10 on page 132, Figure 11 on page 133, Figure 12 on page 134, Table 31 on pages 135 through 137, and Table 41 on pages 163 and 164.

Part 3 – Compliance with EMC 18.60.220

Edgewood Municipal Code Section 18.60.220 establishes the evaluation criteria for proposed amendments to the Comprehensive Plan and development regulations. Pursuant to EMC 18.60.010(B), the development regulations are the controls placed on development or land use, including, but not limited to, the City's codes on zoning, critical areas, official controls, planned unit developments, subdivisions, binding site plans and the Shoreline Master Program. Applicants provide responses to said criteria as part of their submittal packages. The following lists the review criteria and staff's assessment of the applicants' responses:

A. All Amendments. All the comprehensive plan amendments shall be reviewed under the following criteria:

1. Whether the proposed amendment(s) conform to the Growth Management Act (Chapter 36.70A RCW);

SITE-SPECIFIC REQUEST #1

Applicant Response: As stated in the Responses to Comprehensive Plan Amendment Questions submitted with the application, the applicant believes the proposed map amendment and rezoning is consistent with the City of Edgewood's Comprehensive Plan and with the goals of the State of Washington's Growth Management Act (GMA). The applicant provided the following responses to the GMA goals:

Concentrated urban growth: Consistency would be achieved through an emphasis on controlled urban growth; concurrent with infrastructure capacity and public service capabilities identified through a comprehensive review of proposed plans versus existing capabilities of affected jurisdictions.

Sprawl reduction: Consistency would be achieved through encouragement of new industrial development within existing City boundaries; presumably in proximity to adequate infrastructure and services.

Regional transportation: Consistency would be achieved by requiring future development resulting from the proposed amendment, to provide for improvements necessary to accommodate growth while maintaining acceptable levels of service within the community's road network. A commitment to such accommodation is amply demonstrated in the applicant's preliminary conceptual site plan for the proposed Bridge Point site; a project conditioned on the approval of this amendment.

Affordable housing: Consistency would be achieved through the secondary impacts of economic growth driven by the growth in the community's industrial base, as workers may realize local opportunities to shorten their commute by living in the community where they work.

Economic development: Consistency would be achieved through the amendment's fostering of industrial growth – a staple element of the growth projections of the current comprehensive plan.

Property rights: Consistency would be achieved within the amendment process through the public hearings and community engagement elements associated with said review; preserving the rights of the Bridge Development Partners consortium to seek changes to policies which would allow them to realize full value of their properties. For those who may oppose this amendment, their property rights are maintained through their right to comment and a corresponding right to appeal a decision they view as contradictory to their interest.

Permit processing: Consistency is achieved through the initial entitlement process focusing on the comprehensive plan map amendment process; should approval be granted, consistency would be further reinforced by the plan review and permitting processes implemented by the City of Edgewood staff.

Natural resource industries: Consistency would be achieved through the applicant's commitment to work to preserve natural resources identified as present on the site; including the preservation and enhancement of trees, creek beds and shorelines affected by future development.

Open space and recreation: Consistency would be achieved through the addition of significant industrial growth in a manner which does not adversely impact existing open space or recreational opportunities on a macro scale. On a smaller scale, the proposed Bridge Point site offers a conceptual site plan with significant open space and

landscaping aesthetics scattered throughout the site; emphasizing a commitment to maintaining and enhancing critical areas.

Environmental protection: Consistency would be achieved through the responsible integration and implementation of best management practices in future development activity by the applicant; as evidence by a conceptual site plan lending credence to the level of consistency to be achieved.

Early and continuous public participation: Consistency would be achieved as a result of the community outreach and engagement inherent in the comprehensive plan amendment process as implemented by the City of Edgewood.

Public facilities and services: Consistency would be initially achieved through a thorough evaluation of impacts identified as a result of the proposed amendment review process. Later, as development activity is initiated, a more thorough analysis of the need for additional public facilities and the responsibility for additional costs would be addressed through system development charges.

Historic preservation: Consistency will be achieved through an initial opportunity to review and comment on the presence of any historic, architectural or cultural resources on any of the subject properties. Future development activity will be conducted in a manner which is fully cognizant of the possibility of undiscovered cultural artifacts; plans can be formulated to document the protocols to be followed in such case.

Staff Response: Staff concurs with the applicant's assessment. Beginning with the most wide-ranging element – conformance with the requirements of the GMA, specifically RCW 36.70A – the applicant has submitted the requisite documents in accordance with Edgewood's protocols for amendments and rezoning. Staff will continue the process of amending the maps in a manner which ensures early and continuous public participation and review by the appropriate commissions and elected officials.

Additionally, the City's Municipal Code outlines a process for amendments to the Comprehensive Plan FLUM in accordance with GMA. By following the City's process and incorporating public participation, the amendments conform to the procedural requirements of GMA. In particular, the amendment supports the following Statewide planning goals: Encourage economic development throughout the state that is consistent with adopted comprehensive plans, promote economic opportunity for all residents of this state, especially for unemployed and for disadvantaged persons, promote the retention and expansion of existing businesses and recruitment of new businesses, recognize regional differences impacting economic development opportunities, and encourage growth in areas experiencing insufficient economic growth, all within the capacities of the state's natural resources, public services, and public facilities.

The proposed amendment from *Single-Family Moderate* to *Industrial* supports this effort to promote economic development within the City of Edgewood, the recruitment of new businesses, and employment opportunities within the City of Edgewood.

SITE-SPECIFIC REQUEST #2

Staff Response: The proposed map amendment from *Single-Family Low* to *Commercial* is consistent with the City of Edgewood's Comprehensive Plan and with the goals of the State of Washington's Growth Management Act (GMA). The City's encouragement of new commercial development within City boundaries and within proximity to urban utilities and services would meet the GMA goal to reduce urban sprawl by allowing opportunities for additional employment and housing within the City. The GMA goal of economic development would be achieved through the amendment's fostering of commercial growth – a staple element of the growth projections of the current Comprehensive Plan.

Compliance with many of the planning goals of the GMA will be further analyzed as the owners of subject parcels apply for zoning designation changes to their individual properties. In particular, conformity with the GMA goals related to public facilities and services and regional transportation would be achieved by requiring future development resulting from the proposed amendment, to provide for improvements necessary to accommodate growth while maintaining acceptable levels of service within the community's infrastructure networks.

SITE-SPECIFIC REQUEST #3

Staff Response: Like Site-Specific Request #1, the proposed amendment from *Single-Family Moderate* to *Industrial* is consistent with the goals of the Growth Management Act (Chapter 36.70A RCW). The City's encouragement of new industrial development within City boundaries and within proximity to urban utilities and services would meet the GMA goal to reduce urban sprawl by allowing opportunities for additional employment within the City. The GMA goal of economic development would be achieved through the amendment's fostering of industrial growth – a staple element of the growth projections of the current Comprehensive Plan.

Compliance with many of the planning goals of the GMA will be further analyzed as the owners of subject parcels apply for zoning designation changes to their individual properties. In particular, conformity with the GMA goals related to public facilities and services and regional transportation would be achieved by requiring future development resulting from the proposed amendment, to provide for improvements necessary to accommodate growth while maintaining acceptable levels of service within the community's infrastructure networks.

REQUEST #4

Staff Response: The proposal to eliminate the Special Land Use Study Overlay is consistent with the goals to the Growth Management Act (Chapter 36.70A RCW) and the established procedures for processing comprehensive plan amendments. The City of Edgewood continuously reviews and evaluates its Comprehensive plan as required by the GMA and allows proposals for Comprehensive Plan amendments once per year.

REQUEST #5

Staff Response: The City's Public Works Department's proposal to amend specific text, tables, and figures within the Comprehensive Plan meets the GMA goal to encourage efficient multimodal transportation systems. The proposed amendments are based on regional priorities and work to improve regional transportation connectivity.

2. Whether the proposed amendment(s) are consistent with and implement the City's Comprehensive Plan, including the goals, policies and implementation strategies of the various elements of the plan;

~~SITE-SITE-SPECIFIC REQUEST #1~~

Applicant Response: Fostering the economic growth of the City's industrial base remains a key element of the overall comprehensive planning process (LU.1.m/Page 25). A proposal such as Bridge Point, which adapts underdeveloped farmland and vacant land, turning it into an economic engine for employment and sector growth, is certainly consistent with the goals of a comprehensive plan - as long as the proposal respects the environment and takes advantage of proximity to assets required by industrial uses such as convenient highway and rail access.

Amending the Comprehensive Plan and the concurrent rezoning of the Bridge Point properties will offer Edgewood a chance to realize these benefits and take advantage of a surging local real estate market and national economy.

Over the past four (4) years, development along Valley Avenue and Freeman Road has produced millions of square feet of industrial space - including Edgewood's recent approval of the Uchida Farm LLC project, which is a similar redevelopment currently beginning the permitting and plan review process with Edgewood staff.

Staff Response: Staff concurs with the applicant's assessment. Though the request is not consistent with the future land use map designations, it is consistent with many instances of Comprehensive Plan text, goals and policies. Of most relevance, the incorporation of this area into a "Special Land Use Study Overlay" in the City's 2015 Comprehensive Plan (Volume 1, Page 22) denotes the City's identification of the changing character of this area as well as its acknowledgement of the need for industrial development to support local job creation in the City of Edgewood. The proposed amendment from *Single-Family Moderate* to *Industrial* and accompanying application materials serve to address a portion of the Special Land Use Study Overlay area with its findings of an *Industrial* designation being appropriate for the amendment area.

The Land Use Element provides several policies that support this amendment, including policies for studying new land use designations and responding to changing community conditions. The potential for economic development, recruitment of businesses, transportation access, availability of public facilities and services, compatibility with surrounding development, and property owner interests are all listed as factors for considering new land use designations. The re-designation of the Bridge Point Edgewood site to *Industrial* meets most of these requirements.

SITE-SPECIFIC REQUEST #2

Staff Response: The change from *Single Family* to *Commercial* is consistent with the goals of the GMA. The proposed development will encourage urban growth in a consolidated manner, promote urban infill, and reduce sprawl. Because the development is in the urban area, people will also have access to multimodal transportation systems. This meets GMA in providing design and layout that shape the City into more livable and healthy spaces.

SITE-SPECIFIC REQUEST #3

Staff Response: See Staff Response to Site-Specific Request #1.

REQUEST #4

Staff Response: The proposal to remove the Special Land Use Study Overlay from the FLUM and delete any associated textual references to the overlay within the body of the Comprehensive Plan is consistent with and implements the City's Comprehensive Plan. This proposal is specifically consistent with GOAL LU.I.c on page 22 in the Land Use Element that establishes the obligation to update the FLUM and Comprehensive Plan text as needed. The City, in processing the associated citizen-initiated and City-initiated requests, would have fulfilled its plan to study the feasibility of changing the land use designations within the overlay and the Special Land Use Study Overlay becomes obsolete.

The proposal is consistent with the implementation strategies of the Comprehensive Plan section titled "Amending the Comprehensive Plan" found on page 12. The removal of the Special Land Use Study Overlay is the direct implementation of the need to "Maintain the Comprehensive Plan to ensure that changing conditions, including changes in the community and changes to regional, state and federal policies and regulation, are reflected in the Plan." Additionally, the proposal takes into consideration various efforts and applications since 2015 to change the land use designations of the parcels included within the Special Land Use Study Overlay and meets the intention to "Consider proposed Comprehensive Plan amendments concurrently so that the cumulative effect of the proposals can be determined."

REQUEST #5

Staff Response: The proposal brought by Public Works to update the Transportation Goals and Policies, Mobility and Capacity section on page 44 of the Comprehensive Plan, as well as amendments to the Transportation Systems Plan, Street and Highway System, Roadway Functional Classification sections is consistent with and implements the City's Comprehensive Plan. Specifically, the proposal meets the obligation stated on page 13 under "Amending the Comprehensive Plan" to "Ensure that the Comprehensive Plan, development regulations, City and other agency functional plans and budgets are mutually consistent and reinforce each other."

3. **Whether circumstances related to the proposed amendment(s) and/or the area in which it is located have substantially changed since the adoption of the city's comprehensive plan;**

SITE-SPECIFIC REQUEST #1

Applicant Response: Whereas the national and regional economies have shown a degree of sustainable growth in a variety of sectors, Edgewood has lagged behind in recent times (page 21 of the Edgewood Comprehensive Plan 2015). While recession may create the initial opportunities, one of the main drivers of consistent growth lies in the development of industrial land uses. Besides the benefits of increased tax revenues, industrial development drives employment, which in turn radiates economic growth into residential and retail sectors. The City of Edgewood has responded to this need by designating much of the southwest portion of Edgewood - including the entire Bridge Point Edgewood site – as the subject to a Special Land Use Overlay Study Area.

While certain observers catalog a surplus of available industrial land in Edgewood (12.82 acres according to the Puget Sound Regional Council), the applicant believes the perceived underutilization of Edgewood's industrial base is essentially incorrect and does not reflect current market conditions.

Local market activity indicates a shortage of industrial land in all submarkets stretching from Tacoma to Seattle - and this submarket is one of the region's most sought-after industrial locations.

Over the past four years approximately 2.6 million square feet of Class A industrial buildings have been developed on 175 acres of industrial land located within 1 ½ miles of the Bridge Point site. The majority of this development is located within ½-mile of the site – and serving as an even greater indicator of demand – all of the twelve industrial structures are 100% occupied.

Taking advantage of a competitive marketplace and being able to add to Edgewood's inventory of market-driven industrial infrastructure needed by tenants, is an advantage provided by the applicant's proposal- a project with the size, scale, and location capable of focusing regional industrial interest on a signature project for Edgewood.

Staff Response: As discussed above, the area in question was identified within the 2015 Comprehensive Plan as an area where “a number of factors have led to interest in possible re-designation of land uses in the overlay area, including industrial development in the surrounding area, support for local job creation, and changes in the economics of the small-scale farming activities that are currently practiced in the area.” As the applicant has assessed in their analysis of the changing market factors in the area: industrial growth in both Fife and Puyallup and a lack of vacant industrial space lend this property to have a more productive use under an *Industrial* land use designation.

SITE-SPECIFIC REQUEST #2

Staff Response: Since the adoption of the Comprehensive Plan, the City discovered that one of the parcels included in the request to amend the FLUM is currently being used as an illegal, nonconforming commercial business use. The Planning Commission considered a proposal to change the FLUM designation and zoning for the single parcel and ultimately decided to include it within the current proposal to re-designate 10 tax parcels along or near West Valley Highway East from *Single-Family Low* to *Commercial*.

SITE-SPECIFIC REQUEST #3

Staff Response: Circumstances in southwest Edgewood have changed since the adoption of the Comprehensive Plan. The market for available industrial spaces has increased as explained by the applicant for Request #1 and with the exception of the 14 parcels included in this request, all of the parcels included within the Special Land Use Study Overlay have been re-designated on the FLUM as *Industrial*. The parcels included in this request are in the center of those previously re-designated and near industrial uses to the south in neighboring Puyallup. Although there is not a request to change the zoning of the parcels, changing the land use provides an opportunity for larger-scale industrial uses and facilities.

REQUEST #4

Staff Response: The City's plan for the Special Land Use Study Overlay was to study the feasibility of changing land use designations in the area. With the processing of Requests #1 and #3, as well as the Uchida Farms, LLC request that was adopted in 2019, the land uses of all the parcels included in the Special Land Use Study area have or will be re-designated. The goal to study the feasibility of changing the land use designations of these parcels has been met and the Overlay is no longer necessary.

REQUEST #5

Staff Response: Circumstances regarding the City's transportation network have changed since the City's Comprehensive Plan was adopted. The City has identified a need for increased connectivity within the City and adjacent communities. Amendments are necessary to the Comprehensive Plan goals and policies, as well as the City's Functional Classification System and Long-Term Transportation Projects Maps to prioritize connectivity. In addition, the City's Parallel Road Network Ordinance needs amending to reconcile development that has occurred along the Meridian Avenue corridor that did not incorporate a parallel road system.

4. **Whether the assumptions upon which the City's Comprehensive Plan is based are no longer valid, or whether new information is available which was not considered during the adoption process or any annual amendments of the City's Comprehensive Plan; and**

SITE-SPECIFIC REQUEST #1

Applicant Response: The Bridge Point project would be a prime example of the validity of assumptions serving as the foundation of Edgewood's comprehensive planning effort; including the projection that 30% of future industrial growth would occur in the southwest corner of Edgewood.

Projecting possible industrial growth in an area currently zoned and planned for residential growth creates circumstances which foresee a potential need for an amendment process. Review and subsequent approval will allow the applicant's proposal to allow Edgewood to realize desired economic growth.

The source of new information supporting the need for an amendment lies within the overall assessment of industrial need put forth by the 2015 Pierce County Buildable Lands inventory; strongly emphasizing the role played by industrial growth in the regional economy. By extension, the lack of recent industrial growth in Edgewood places the community at a disadvantage in today's economy.

Staff Response: Staff concurs with the applicant's assessment - the assumptions within the City's Comprehensive Plan are valid. The Future Land Use Map of the City's 2015 Comprehensive Plan identifies a "Special Land Use Study Overlay" including the Bridge Point Edgewood site that the City intended for possible re-designation after further study to align with the industrial development in the surrounding area. The Transportation Element of the City's 2015 Comprehensive Plan already identifies within its land use forecasts the southwestern areas of the City, near the railroad corridor, accommodating 30% of the employment growth in manufacturing and industrial/warehousing uses.

SITE-SPECIFIC REQUEST #2

Staff Response: The assumptions upon which the City's Comprehensive Plan is based continue to be valid, and the Comprehensive Plan goals and policies support the proposed Comprehensive Plan amendments as shown in the analysis of the proposal in Part 4 below.

SITE-SPECIFIC REQUEST #3

Staff Response: See the Staff Response to this question (A.4) given for Site-Specific Request #1.

REQUEST #4

Staff Response: See the Staff Response to this question (A.4) given for Site-Specific Request #1.

REQUEST #5

Staff Response: Since the City's Comprehensive Plan was last updated, the City has identified increased need to improve connectivity within the City of Edgewood as well as between Edgewood and adjacent communities. The City's Parallel Road Network Ordinance, which seeks to create a parallel road system to alleviate congestion on Meridian Avenue, needs amending as through confusion over its applicability; it has not been consistently applied. In addition, there is a discrepancy in the existing Comprehensive Plan when comparing the Functional Classification System and Long-Term Transportation Projects Maps.

5. Whether the proposed amendment(s) reflects current, widely held values of the residents of the city.

SITE-SPECIFIC REQUEST #1

Applicant Response: The applicant's proposal conforms with and supports community values in two ways; first, through the collective engagement process used to debate the proposal's merits; and second, in the proposal's obvious efforts to address any and all issues which may arise from the approval of this amendment and the implementation of development (LU.V.11/Page 28).

The amendment will also increase the concentration of industrial traffic on major arterials such as Valley Avenue, restricting usage of local collectors except for deliveries and/or service needs (T.11 .c/Page 44).

In anticipation of this increased industrial usage, in recent years both Valley Avenue and Freeman Road have been substantially improved to accommodate increased traffic.

Staff Response to Site-Specific Request #1, #3, and Request #4: These criteria are difficult to determine compliance with at this stage. It is likely that the proposed amendments will reflect the values of some residents and not others. The proposed

amendments for changes to the FLUM may present some compatibility challenges along the northern and eastern boundaries. The proposed designation to *Industrial* represents a change in intensity for the areas that abut the *Single-Family Moderate* and *Mixed Residential Moderate* designations. However, the intensity change will occur along rights-of way and along rear and side lot lines of the abutting parcels, many not yet developed. Furthermore, the EMC requires buffers, landscaping, and building design solutions where higher intensity zones abut residential.

The City is soliciting for public feedback through comments, and a public hearing. Following the conclusion of these efforts, it is hoped that a consensus can be formed as to the merits of the proposals and their reflection of the community's values.

SITE-SPECIFIC REQUEST #2

Staff Response: Though the request is not consistent with the future land use map designations, it is consistent with many instances of Comprehensive Plan text, goals and policies. The Edgewood Comprehensive Plan provides land use and transportation goals and policies that support the proposed Future Land Use Plan amendment from *Single-Family Low* to *Commercial*.

REQUEST #5

Staff Response: The text amendment request is a result of discussions with the City Council that revealed a need to improve connectivity between Edgewood and adjacent communities, as well as between the hilltop and valley areas within Edgewood. Also, the request is the result of efforts to provide accurate information and guidance through amendments to correct a discrepancy in the existing Comprehensive Plan.

Like the requests to amendments to the FLUM, the proposed text amendment is being processed according to the procedures established in Chapter 18.60 EMC which includes requirements for opportunity for public comment. All public comments gathered through this process will help determine whether the proposal reflects the values of the residents of Edgewood beyond those included in the adopted Comprehensive Plan.

B. Amendments for Site-Specific Proposals. In addition to the above, any proposal for a site-specific development or amendment shall be reviewed under the following criteria:

- 1. Whether the proposed site-specific amendment(s) meets concurrency requirements for transportation and does not adversely affect adopted level of service standards for other public facilities and services (e.g., police, fire and emergency medical services, parks, fire flow and general governmental services);**

SITE-SPECIFIC REQUEST #1

Applicant Response:

Transportation: Since the applicant's initial application which included a concurrency application/evaluation and trip generation numbers, they have retained Transportation Engineering North West, Inc. (TENW) to prepare a preliminary traffic impact analysis.

The proposed Bridge Point Edgewood project is estimated to generate 2,256 weekday daily trips with 147 trips occurring during the weekday AM peak hour, and 121 trips occurring during the weekday PM peak hour. If the site were to be built out to conform with current single-family zoning, there would be 1,069 total daily trips generated with 78 trips occurring during the weekday AM peak hour, and 147 trips occurring during the weekday PM peak hour.

Public Service Demand: While new growth of any kind will add to the potential for increased demand for public services, the applicant believes the Bridge Point proposal will minimize demand by focusing development in an area where existing services are available; limiting growth in service demand, if any, to minimal levels.

Staff Response: Based on the results of the preliminary traffic analysis, staff does not expect that the proposed amendment from *Single-Family Moderate* to *Industrial* will adversely affect the adopted level of service standards for transportation and public services. The applicant has identified preliminary mitigation for the projected level of service declines at the intersection of 7th Street NW and Valley Ave NW. A more detailed operational analysis should be completed with a formal project application, which is expected to include evaluation of site access, circulation design, and peak hour queues at the various intersections.

Project SEPA environmental review will occur with developments that exceed the City's adopted thresholds for environmental review and reasonable and proportional mitigation measures may be required to offset impacts. Traffic impact analyses will be required to evaluate the impacts associated with development proposals within the amendment areas. Traffic impact fees will be required consistent with Chapter 4.30 EMC (Traffic Impact Fees). Additional point impacts may also require mitigation. Projects within the amendment areas will be required to satisfy the City's transportation concurrency requirements.

SITE-SPECIFIC REQUEST #2

Staff Response: Staff does not expect that the proposed amendment from *Single-Family Low* to *Commercial* will adversely affect the adopted level of service standards for transportation and public services. Pursuant to the Comprehensive Plan, the City's streets and parks have available capacity to accommodate future development. The City will determine other service capacity at the time of applications for zoning changes and at the time of project applications to better assess the direct impact.

SITE-SPECIFIC REQUEST #3

Staff Response: Staff does not expect that the proposed amendment from *Single-Family Moderate* to *Industrial* will adversely affect the adopted level of service standards for transportation and public services. Pursuant to the Comprehensive Plan, the City's streets and parks have available capacity to accommodate future development. The City will determine other service capacity at the time of applications for zoning changes and at the time of project applications to better assess the direct impact.

REQUEST #4

Staff Response: This is not a site-specific request, so the question does not apply.

REQUEST #5

Staff Response: This is not a site-specific request, so the question does not apply.

2. **Any proposed site-specific amendment(s) will not result in probable significant adverse impacts to the city's transportation network, capital facilities, utilities, parks and environmental features that cannot be mitigated, and will not place uncompensated burdens upon existing or planned service capabilities;**

SITE-SPECIFIC REQUEST #1

Applicant Response: The design of the proposed Bridge Point Edgewood project will not only mitigate any adverse impacts identified through a review process but will also continue a tradition of increased accessibility to improved public services dating to the sewer installation in the Meridian Corridor in 2011.

New infrastructure will not only add to land values but will also promote creative development proposals which may better integrate civic plans with future development opportunities.

A secondary impact, with the potential of tremendous benefit, is found in the City of Edgewood's Proposed Capital Improvement Plan, 2015-2020. The applicant's proposal and resulting development may help structure and accelerate a significant program element in the Transportation Category – the Railroad Frontage Road – which has feasibility expenditures scheduled for FY2019-20. Likewise, the extension of sewer service from Fife will provide benefit to properties along the frontage of Valley Avenue.

Staff Response: In correspondence to the City of Edgewood, City of Fife staff noted that there is significant capacity in its sewer system, which extends to its boundary with Edgewood along Freeman Road south of 34th Street East. The sewer line in that segment of Freeman Road is a force main. The force main extends to the west from Freeman Road to 70th Avenue East, where it discharges to a larger municipal pump station. The lines were sized for commercial and industrial development in a service area that includes substantial amounts of property subsequently acquired by the Washington State Department of Transportation for the construction of SR 167 and its interchange with Valley Avenue. Since WSDOT's uses will not generate sewage flows, Fife's system has excess capacity that is available to serve properties in Edgewood, including the Cherrywood Mobile Home Park, Cherrywood Apartments, and the potential Edgewood industrial area to the east.

Other public services such as water and sewer have the capacity to meet the utility needs associated with the amendment.

SITE-SPECIFIC REQUEST #2

Staff Response: Staff do not expect that the proposed amendment from *Single-Family Low to Commercial* will cause significant adverse impacts to the City's transportation network, capital facilities, utilities, parks, and environmental features. Services are located within proximity to the amendment area.

Future development that occurs as a result of the proposed amendment must demonstrate that proposed service demands and impacts on transportation and public services are mitigated. Applicants must mitigate these impacts on the transportation network and provide solutions where other public services are unavailable. The future analysis will consider the project's land uses, scale, and intensity.

SITE-SPECIFIC REQUEST #3

Staff Response: See response to Site-Specific Request #1.

REQUEST #4

Staff Response: This is not a site-specific request, so the question does not apply.

REQUEST #5

Staff Response: This is not a site-specific request, so the question does not apply.

3. **In the case of a site-specific amendment(s) to the Comprehensive Plan's land use map, that the subject parcels are physically suitable for the requested land use designation and the anticipated land use development, including, but not limited to, the following: (a) access; (b) provision of utilities; and (c) compatibility with existing and planned surrounding land uses;**

SITE-SPECIFIC REQUEST #1

Applicant Response: While site constraints may be identified, the overall topography of the site lends itself to development of large-scale industrial projects.

The conceptual plan for the Bridge Point site offers an initial insight into how the needs of a particular use can be accommodated on a unique site. The site's suitability for the intended industrial development is supported by the substantial amount of development in the immediate area; occurring on industrial-zoned land with strikingly similar characteristics to the Bridge Point site.

Staff Response: City staff finds that the amendment area is physically suitable for industrial uses. The property has utilities either readily available or available to extend. Access to the site is sufficiently available or can be provided. The site will also be accessible to the new SR-167 extension and an interchange, linking it to the Port of Tacoma and further supporting its designation as *Industrial*. The character of nearby development in Fife and Puyallup also supports the designation of the Bridge Point

Edgewood property as *Industrial*. Where existing uses are incompatible with the proposed use of the property as Industrial (such as existing residential uses in the area), any proposed development will be required to comply with the City's Municipal Code which requires buffers, screening, and landscaping where higher intensity zones abut residential zoned uses.

SITE-SPECIFIC REQUEST #2

Staff Response: Upon staff's review of the proposed amendment, the subject parcels appear to be physically suitable for the requested land use designation. The request for a *Commercial* designation will allow for a broad range of land uses that can be designed with the existing topography of the site. The topography allows for urban development near West Valley Highway East and its critical areas (steep slopes) appear to be located mostly along the western portions of the parcels which may contribute to natural screening of the commercial uses from nearby residential zoned properties.

The parcel has opportunities for access along West Valley Highway East. The site is located near existing utilities and service lines can be extended from previously developed portions of the amendment areas

SITE-SPECIFIC REQUEST #3

Staff Response: See response to Site-Specific Request #1.

REQUEST #4

Staff Response: This is not a site-specific request, so the question does not apply.

REQUEST #5

Staff Response: This is not a site-specific request, so the question does not apply.

4. **The proposed site-specific amendment(s) will not create pressure to change the land use designation of other properties, unless the change of land use designation for other properties is in the long-term best interests of the City as a whole;**

SITE-SPECIFIC REQUEST #1

Applicant Response: The existence of industrial properties in the immediate vicinity serve as an indicator of successful industrial demand.

Edgewood's stated goals of increased industrial growth, supported by the targeting of this area as a candidate for industrial development as evidenced by the overlay district, indicates an intent to respond to market forces. These goals will be mutually reinforced by the applicant's proposal for the Bridge Point Edgewood project – should it be approved.

Staff Response: Staff concurs with the applicant's response. The proposed amendment may create pressure to change the land use designation of other properties within the

“Special Land Use Study Overlay” (see Site-Specific Request #2). However, this is not contrary to the City’s Comprehensive Plan as the plan designated an even larger area as potentially appropriate for industrial uses. In addition, it is likely that the pressure to rezone may come from permitted development in adjacent jurisdictions (Fife and Puyallup), as a multi-city industrial center is created within the valley.

SITE-SPECIFIC REQUEST #2

Staff Response: The proposed amendment will not create pressure to change the land use designation of other properties in the vicinity.

SITE-SPECIFIC REQUEST #3

Staff Response: The proposed amendment to complete the FLUM designations of the remaining parcels in the Special Land Use Study Overlay will not create pressure to change the land use designation of other properties rather, it is completing the intended implementation of a Comprehensive Plan goal that serves the long-term best interests of the City as a whole.

REQUEST #4

Staff Response: This is not a site-specific request, so the question does not apply.

REQUEST #5

Staff Response: This is not a site-specific request, so the question does not apply.

5. The proposed site-specific amendment(s) does not materially affect the land use and population growth projections that are the bases of the Comprehensive Plan;

SITE-SPECIFIC REQUESTS #1 AND #3

For the purpose of analyzing the impacts of Comprehensive Plan amendments, staff has combined the two requests for analysis of the City’s land use and population growth projections and impacts. The Planning Commission and City staff proposed Site-Specific Request #2 so there is no applicant response listed below for that request.

Site-Specific Request #1 Applicant Response: There is no doubt that approval of this amendment and the construction of the Bridge Point Edgewood project will serve as a catalyst for additional changes in land use categories and planning designations.

Population growth may follow on a slower pace, but the development of employment centers typically provides for some increase in local populations as workers relocate to shorten their commutes and/or improve their lifestyle.

Staff Response: The City’s Comprehensive Plan strives to achieve a balance with housing, commercial, jobs, and open space. The proposed Comprehensive Plan amendments do not negatively affect the City’s ability to accommodate/achieve its growth projections. Moreover, the amendments could provide for a wider range of

employment opportunities to accommodate future populations. Staff do not expect the proposed amendments to change the basis of the Comprehensive Plan.

The Comprehensive Plan estimates a 2035 capacity surplus for both jobs and housing. Staff acknowledges that the proposed amendments (Site-Specific Request #1 and #3) may increase the employment surplus and decrease the housing surplus marginally.

The proposed amendment and zone change at the Bridge Point Edgewood site and the remainder of the Special Land Use Study Overlay from *Single-Family Moderate* to *Industrial* would lower the housing capacity for the City by approximately 182 units using the methodology described in the Pierce County Buildable Lands Report:

	Single-Family Moderate (Existing)	Industrial (Proposed)
Gross Acres	88.40	88.40
Residential Split¹	88.40	0
Public Facilities²	1.68	1.68
Adjusted Gross Acres	86.72	86.72
Plat Deductions		
Roads³	8.50	8.50
Critical Areas⁴	12.50	12.50
Parks and Open Space⁵	4.34	4.34
Net Acres	61.38	61.38
Assumed Density	3 du/ac	0
Unit Capacity	184	0
Displaced Units	2	2
Total Capacity	182	0

¹The residential/commercial split for SF-3 zoned properties is assumed to be 100% (residential).

²Public facilities are assumed to encompass 1.90% of the gross acres

³Roads are assumed to encompass 9.80% of the gross acres

⁴Critical areas were measured using the applicant's submitted site plan and include an assumption of buffers.

⁵Parks and open space are assumed to encompass 5% of the gross acres

SITE-SPECIFIC REQUEST #2

Staff Response: Similar to the response above, the City's Comprehensive Plan strives to achieve a balance with housing, commercial, jobs, and open space. The proposed Comprehensive Plan amendments do not negatively affect the City's ability to accommodate/achieve its growth projections. Moreover, the amendments could provide

for a wider range of employment opportunities to accommodate future populations. Staff do not expect the proposed amendments to change the basis of the Comprehensive Plan.

The Comprehensive Plan estimates a 2035 capacity surplus for both jobs and housing. Staff acknowledges that the proposed amendment may increase the employment surplus and decrease the housing surplus marginally.

The proposed amendment from *Single-Family Low* to *Commercial* would lower the housing capacity for the City by approximately 76 units using the methodology described in the Pierce County Buildable Lands Report:

	Single-Family Low (Existing)	Commercial (Proposed)
Gross Acres	49.24	49.24
Residential Split¹	49.24	0
Public Facilities²	0.94	0.94
Adjusted Gross Acres	48.31	48.31
Plat Deductions		
Roads³	4.73	4.73
Critical Areas	24.47	24.47
Parks and Open Space⁴	2.42	2.42
Net Acres	16.69	16.69
Assumed Density	2 du/ac	0
Unit Capacity	33	0
Displaced Units	1	1
Total Capacity	32	0

¹The residential/commercial split for SF-2 zoned properties is assumed to be 100% (residential).

²Public facilities are assumed to encompass 1.90% of the gross acres

³Roads are assumed to encompass 9.80% of the gross acres

⁴Critical areas were measured using the City's GIS data for potential wetlands and potential erosion and landslide hazard areas. Buffers were not included.

⁵Parks and open space are assumed to encompass 5% of the gross acres.

REQUEST #4

Staff Response: This is not a site-specific request, so the question does not apply.

REQUEST #5

Staff Response: This is not a site-specific request, so the question does not apply.

6. **If within an incorporated urban growth area (UGA), the proposed site-specific amendment(s) does not materially affect the adequacy or availability of urban facilities and services to the immediate area and the overall UGA;**

SITE-SPECIFIC REQUESTS #1 AND #3

For the purpose of analyzing the effects of Comprehensive Plan amendments on urban facilities and services within the UGA, staff has combined the two site-specific requests.

Applicant Response: No response.

Staff Response: As part of the Comprehensive Plan Amendment application for Site-Specific Request #1, the applicant applied for a Concurrency Reservation Certificate, which implements the concurrency provisions of the transportation and utilities elements of the City's Comprehensive Plan.

The amendment area for both site-specific requests is within proximity to urban services, including adjacency to the BNSF railway. The proposed amendment from *Single-Family Moderate* to *Industrial* will increase the development potential on the subject parcels to allow more intense land uses. The *Industrial* designation establishes opportunities for a range of industrial uses, such as regional research, manufacturing, warehousing, or other regional employment uses that will make use of the available urban services.

Staff does not anticipate that the proposed amendment will materially affect the adequacy or availability of urban facilities and services. Future development that occurs as a result of this proposed amendment will require land use review (e.g., Process I, II, or III). During this review, future projects must demonstrate that proposed service demands and impacts on transportation and public services are mitigated. The future analysis will consider the project's land uses, scale, and intensity. Currently, staff are unaware of any service deficiencies in this immediate area.

SITE-SPECIFIC REQUEST #2

The amendment area for the site-specific request is within proximity to urban services, including adjacency to W Valley Highway E and in proximity to SR 167. The proposed amendment from *Single-Family Low* to *Commercial* will increase the development potential on the subject parcels to allow more intense land uses. The *Commercial* designation establishes opportunities for a range of commercial uses, such as large-format retail, auto-oriented commercial uses, and regional scale commercial uses that will make use of the available urban services.

Staff does not anticipate that the proposed amendment will materially affect the adequacy or availability of urban facilities and services. Future development that occurs as a result of this proposed amendment will require land use review. During this review, future projects must demonstrate that proposed service demands and impacts on

transportation and public services are mitigated. The future analysis will consider the project's land uses, scale, and intensity. Currently, staff are unaware of any service deficiencies in this immediate area.

REQUEST #4

Staff Response: This is not a site-specific request, so the question does not apply.

REQUEST #5

Staff Response: This is not a site-specific request, so the question does not apply.

7. **The proposed amendment(s) is consistent with any applicable county-wide policies for the city and any other applicable interjurisdictional policies or agreements, and any other local, state or federal laws.**

SITE-SPECIFIC REQUEST #1

Applicant Response: No response.

Staff Response: Regionally, the planning process described in Vision 2040 emphasizes growth being directed towards the manufacturing distribution centers and regional growth centers as defined by the Puget Sound Regional Council (PSRC). While not a defined growth center under Vision 2040, Edgewood's strategic location within an urban growth area and adjacent to one of the region's transportation projects (Highway 167 Expansion) suggests consideration under the same growth projections used by PSRC to define said centers. Vision 2040 states that, "...Subregional centers, such as those designated through county-wide processes or identified locally, will also play important roles in accommodating planned growth according to the regional vision. (PSRC Vision 2040, Page 49)."

With the approval of the applicant's proposed map amendment and rezoning, Edgewood will significantly support this regional goal; enabling the community to complement nearby growth centers while achieving a level of diversity in both the local economy and land use inventory which can only lead to benefits being realized by every sector of Edgewood's economic base; including support for residential growth - which complies with a key goal of GMA planning. The City's expressed desire for retail and mixed-use growth, particularly in the Meridian Corridor, could also support additional residential growth from those employed on the Bridge Point Edgewood site who may consider living in the community in which they work. This could help increase residential growth.

SITE-SPECIFIC REQUEST #2

The County-wide Planning Policies (CCPs) help implement the Puget Sound Regional Council's (PSRC) Vision 2040 plan for the region. The CPPs' purpose is to achieve consistency amongst area plans on regional matters. Staff finds that the proposed amendment is consistent with the CPPs. Specifically, the following CCPs support the amendment:

- Goal EC-2. The County, and each municipality in the County, shall promote diverse economic opportunities for all citizens of the County, especially the unemployed, disadvantaged persons, minorities and small businesses. The following measures may be used in accomplishing this policy, where appropriate:
 - 2.5 Encouraging flexibility in local zoning and land use controls in order to permit a variety of economic uses, but doing so without sacrificing sound design and development standards;
- Goal Rur-9. Direct commercial, retail, and community services that serve rural residents into neighboring cities and existing activity areas to prevent the conversion of rural land into commercial uses.

SITE-SPECIFIC REQUEST #3

With the approval of the proposed map amendment and rezoning of the remaining parcels in the Special Land Use Study area, Edgewood will significantly support the regional goal of viable regional centers by creating a “subcenter” within Edgewood’s corporate boundaries, separate, but readily accessible to neighboring centers within 1½ miles and would be capable of accepting any outstanding or unique requirements the market may have. The Highway 167 Expansion project could clearly provide and enhance transportation access required for Edgewood to meet this goal. Edgewood could prepare a subarea plan for regional evaluation of the inclusion of the “subcenter” within the regional planning framework.

The County-wide Planning Policies (CCPs) help implement the Puget Sound Regional Council’s (PSRC) Vision 2040 plan for the region. The CPPs’ purpose is to achieve consistency amongst area plans on regional matters. Staff finds that the proposed amendment is consistent with the CPPs. Specifically, the following CCPs support the amendment:

- Goal EC-2. The County, and each municipality in the County, shall promote diverse economic opportunities for all citizens of the County, especially the unemployed, disadvantaged persons, minorities and small businesses. The following measures may be used in accomplishing this policy, where appropriate:
 - 2.2 Identifying urban land suitable for the accommodation of a wide range of non-residential development activities;
 - 2.5 Encouraging flexibility in local zoning and land use controls in order to permit a variety of economic uses but doing so without sacrificing sound design and development standards.

REQUEST #4

Staff Response: This is not a site-specific request, so the question does not apply.

REQUEST #5

Staff Response: This is not a site-specific request, so the question does not apply.

Part 4 – Compliance with Comprehensive Plan Goals and Policies

The following existing Comprehensive Plan goals and policies support the proposed Comprehensive Plan amendments:

1. SITE-SPECIFIC REQUEST #1

Applicant Response: Refer to criterion A.2 in Part 3 of this report for the applicant’s explanation of how the proposed amendment advances the goals and policies of the Comprehensive Plan.

Staff Response: The City of Edgewood Comprehensive Plan includes several goals and policies to help guide staff, the Planning Commission, City Council, and the public to decide whether the proposed Future Land Use amendment and rezone are appropriate at this location.

The request to amend the Comprehensive Plan FLUM to redesignate the Bridge Point Edgewood site from its existing designation of *Single-Family Moderate* to *Industrial* allows for a range of light-industrial, manufacturing, warehousing, and research uses. In 2015, the City designated this area a “Special Land Use Study Overlay” that it intended to study and potentially redesignate to accommodate industrial development (Volume I, Page 22).

Staff did not discover any goals or policies that specifically discourage this type of amendment at this location. The following goals and policies support the proposed amendment:

Land Use Element

GOAL LU.I.c: Continue to use the adopted FLUM to guide land use and development regulations; updating as needed.

Beginning in 2015, the City and the public have discussed a need for changes to the land use designations for this area within the context of supporting the City’s vision. The City held public input meetings in 2015 as part of the Comprehensive Plan update process to discuss the possibility for a FLUM designation change in this area. The Special Land Use Study Overlay was added to the FLUM at that time in order to further study the feasibility of changing the land use designations. As part of the 2019 Comprehensive Plan update process, the applicants for the Uchida Farms, LLC properties demonstrated a need to update the FLUM and the designation of the properties was changed.

The applicant’s proposal is based on the obligation to update the FLUM to reflect a need for additional industrial land use within Edgewood, as identified through an analysis of current market trends within the industrial sector.

GOAL LU.1.d: Study the potential for new land use designations within the City on an as-needed basis, in response to changing community conditions or regulatory requirements.

- Consider the following as part of the study: Potential for economic development, including recruitment of businesses that provide family-wage jobs and support for locally owned businesses

The applicant for the Bridge Point Edgewood proposal has demonstrated a need for a new land use designation. The benefits of the proposed comprehensive plan amendment and development of the Bridge Point Edgewood property to the City of Edgewood includes acceleration of job creation within the City, spurring growth within the local housing market and increased tax revenues.

GOAL LU.1.m: The Industrial designation is intended to accommodate industrial uses that provide local and regional employment opportunities, such as research, light manufacturing and warehousing. Compatible uses are also allowed.

The Bridge Point Edgewood request for an industrial designation complements and supports the City's efforts to encourage industrial economic development in the southwest corner of Edgewood. The development of the site as industrial would provide opportunities for local and regional employment when considered together with the Uchida Farms LLC site and existing industrial businesses in nearby Puyallup.

GOAL LU.III.a: Provide design flexibility to encourage the preservation and integration of existing natural site features in new development, including clusters of trees, watercourses, slopes and open spaces.

The Bridge Point Edgewood applicant included a preliminary site plan and brief narrative with their application that shows flexibility in site design and commitment to addressing the streams and buffers located on the site.

GOAL LU.VII.a: Establish opportunities for a range of industrial uses, such as regional research, manufacturing, warehousing or other regional employment uses.

GOAL LU.VII.b: Expand the number and type of industrial uses in the City through more intensive use of existing industrial lands and expansion of industrial uses in appropriate locations

The development of the site as industrial would provide opportunities for a variety of local and regional uses and employment when considered together with the Uchida Farms LLC site and existing industrial businesses in nearby Puyallup.

GOAL LU.VII.b: Expand the number and type of industrial uses in the City through more intensive use of existing industrial lands and expansion of industrial uses in appropriate locations.

The City's decision to create the Special Land Use Study Overlay as part of the FLUM and the market studies conducted indicate that industrial uses are appropriate at this location.

2. SITE-SPECIFIC REQUEST #2

Land Use Element

Goal LU.I

Establish a future land use pattern that is consistent with the City's vision.

Commercial LU.I.k: "The Commercial designation is intended to accommodate a wide range of commercial uses, including large-format retail, auto-oriented commercial uses and regional scale commercial uses. Compatible uses are also allowed."

GOAL LU.VI.e: Promote easy access to commercial corridors and centers for pedestrians, bicyclists and transit users.

A commercial corridor will essentially be created with the change from single family to commercial land uses on the parcels included in the East Side Commercial FLUM. The FLUM shows the parcels adjacent to West Valley Highway, beginning north of the proposal site and continuing north to the Pierce/King County line as having a *Commercial* land use designation. Likewise, the parcels adjacent to West Valley Highway, beginning south of the proposal site and continuing south to approximately 32nd Street East are designated as *Commercial* on the FLUM. The re-designation of land uses as proposed would lay the groundwork for the development of an easily accessible commercial corridor along West Valley Highway.

3. SITE-SPECIFIC REQUEST #3

Staff Response: See Staff Response to Site-Specific Request #1

4. REQUEST #4

Land Use Element

GOAL LU.I.c: Continue to use the adopted FLUM to guide land use and development regulations; updating as needed.

With the processing of Requests #1 and #2, as well as the Uchida Farms, LLC request that was adopted in 2019, an update to the FLUM is warranted and the City should remove the Special Land Use Study Overlay from the FLUM and delete any associated textual references to the overlay within the body of the Comprehensive Plan. The City, in processing the associated citizen-initiated and City-initiated requests, would have fulfilled its plan to study the feasibility of changing the land use designations within the overlay.

5. REQUEST #5

Staff did not discover any goals or policies that specifically discourage this type of amendment. The following goals and policies support the proposed amendment:

Land Use Element

Goal LU.I.e: Ensure that the City's sewer plan and other functional plans are supportive of the land use patterns outlined in this Element.

As stated in the application submitted on December 31, 2019, discussions with Council have revealed a need to improve connectivity between Edgewood and adjacent communities, as well as between the land uses located in the hilltop and valley areas within Edgewood.

Transportation Element

Goal T.I Develop a safe and efficient street system that accommodates all transportation modes and maximizes people-carrying capacity. Improve the operating efficiency of the existing system and maintain the capacity to adequately serve present and future travel demand.

- T.I.c: Require dedication of roadway rights-of-way as part of new development consistent with the appropriate functional classification, adopted road standards and Comprehensive Plan.
- T.I.f: Design transportation facilities to fit within the context of the built or natural environments in which these facilities are located.
- T.I.g: Assure that transportation systems are appropriately sized and designed to support the land use element, serve the surrounding land uses and minimize the negative impacts of growth.

Part 5 – Public Notices and Comment:

1. PUBLIC NOTICES:

The City received an application for Site-Specific Request #1 to amend the Comprehensive Plan Future Land Use Map (FLUM) on December 24, 2019, prior to the December 31, 2019, deadline for inclusion in the 2020 preliminary docket.

The Planning Commission voted to include City initiated requests #2-5 to amend the Comprehensive Plan Future Land Use Map (FLUM) on December 9, 2019, at a public hearing on the preliminary docket.

On May 7, 2020, the Planning Director issued a recommendation to City Council to include the proposed amendments on its final docket. The City Council at its regular meeting on June 9, 2020 adopted the 2019-2020 Comprehensive Plan Final Docket.

The Planning Commission will discuss the proposed amendment during a regularly scheduled meeting held at City Hall on October 12, 2020 in which members of the public are invited to attend. A public hearing before the Planning Commission will be held on November 9, 2020.

2. PUBLIC COMMENTS:

At the time of preparation of this staff report, no public comments have been received on the proposed comprehensive plan amendments.

Part 6 – State Environmental Policy Act Compliance and Agency Comment:

The City has prepared a non-project SEPA checklist for the proposed amendments. Once the City's SEPA Official has issued a threshold determination, summary of that decision and agency comments received will be included here.

Part 7 – Staff Recommendations:

1. SITE-SPECIFIC REQUEST #1

- Staff recommends that the City Council approve the proposed Future Land Use Amendment from *Single-Family Moderate* and *Mixed Residential Moderate* to *Industrial*.
- Staff recommends that the City Council approve the change in zone from SF-3 to I.
- Staff recommends that the City Council approve amendments to the applicable text, figures, tables, and maps in the Comprehensive Plan to reflect the Future Land Use Map amendment.

2. SITE-SPECIFIC REQUEST #2

- Staff recommends that the City Council approve the proposed Future Land Use Amendment from *Single-Family Low* to *Commercial*.
- Staff recommends that the City Council approve amendments to the applicable text, figures, tables, and maps in the Comprehensive Plan to reflect the Future Land Use Map amendment.

3. SITE-SPECIFIC REQUEST #3

- Staff recommends that the City Council approve the proposed Future Land Use Amendment from *Single-Family Moderate* to *Industrial*.
- Staff recommends that the City Council approve amendments to the applicable text, figures, tables, and maps in the Comprehensive Plan to reflect the Future Land Use Map amendment.

4. REQUEST #4

- Staff recommends that the City Council approve the proposed Future Land Use Amendment to eliminate the Special Land Use Study Overlay.
- Staff recommends that the City Council approve amendments to the applicable text, figures, tables, and maps in the Comprehensive Plan to reflect the Future Land Use Map amendment.

Staff Report
2020 Comprehensive Plan Amendments

5. REQUEST #5

- Staff recommends that the City Council approve the proposed amendments to the Transportation Goals and Policies, Mobility and Capacity section on page 44 of the Comprehensive Plan.
- Staff recommends that the City Council approve the proposed amendments to the Transportation Systems Plan, Street and Highway System, Roadway Functional Classification section.
- Staff recommends that the City Council approve amendments to the applicable text, figures, tables, and maps in the Comprehensive Plan to reflect the Future Land Use Map amendment.

STAFF PREPARING THE REPORT:



Brittany Port, AICP/Consulting Planner

October 6, 2020

Date

\\ahbl.com\data\projects\2018\2180349\30_PLN\Working_Files\2020 Comprehensive Plan Amendments\20200729_Edgewood-Comp Plan Amds
Staff Report_2180349.docx



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – Ordinance – Construction Work Hours	Agenda Item #: 2.E
	For Agenda of: 11/17/2020
	Prepared by: Darren Groth
Attachments (list): 1. PC Rec_ Construction Work Hours - Draft 2. Revision to EMC 18.90.140_ Add Section G - Construction Hours	
Approval of Materials: Darren Groth Rachel Pitzel 11/12/2020 Dave Gray 11/12/2020 Daryl Eidinger 11/12/2020	Expenditure Required: N/A Amount Budgeted: N/A Timeline: 11/17/20: Initial Study Session 11/24/20: CC Public Hearing 12/01/20: Follow-up Study Session 12/08/20: Final Action

Summary Statement:

On December 9, 2019, City staff presented the Planning Commission with the efforts being made to improve the City's development process. Through these efforts, City staff has recognized that work hours and hours of construction are a repeated issue of concern from community members. The City has a variety of ways to respond to those concerns, all of which require case-by-case review and solution. Some of those solutions include Pierce County Noise Ordinance, Site Development hours of construction limitations, and the City's general nuisance code.

On July 13, 2020, the Planning Commission had an initial discussion on regulating construction work hours as it relates to: type of construction, land disturbance thresholds, time, days, etc., in an effort to establish codified standards for development permits moving forward. On August 10, 2020, the Planning Commission discussed construction work hours and asked staff to present proposed code language at the September 14th meeting, based off of the discussion. The proposed code language was discussed on September 14th, and the Planning Commission recommended two minor changes to the proposed code language, and recommended having a public hearing.

On November 9, 2020, the Planning Commission held a public hearing. Chair Overfield open the hearing and staff presented the proposed code amendment. No public comments were received during the hearing. The Planning Commission voted 6-0 to recommend APPROVAL of the drafted EMC amendments as presented in the staff report and attachments submitted by Planning Technician Evan Hietpas for the November 9, 2020 Planning Commission agenda. This agenda item is the initial Study Session for City Council to receive the Planning Commission recommendation in anticipation for City Council's public hearing on November 24. Their recommendation is attached as Exhibit 1 and the proposed amendment is attached as Exhibit 2.

Item History:

Recommended Action:

Hold a discussion and provide staff direction to Discussion – Ordinance – Construction Work Hours

Fiscal Note/Consideration:



**CITY OF EDGEWOOD
PLANNING COMMISSION
RECOMMENDATION**

The Planning Commission voted 6-0 to recommend APPROVAL of the proposed code addition to the Edgewood Municipal Code (EMC) pertaining to Construction Work Hours, and to send their recommendation to the City Council for consideration.

It is the recommendation of the City of Edgewood Planning Commission to approve the drafted EMC amendments as presented in the staff report and attachments submitted by Planning Technician Evan Hietpas for the November 9, 2020 Planning Commission agenda.

**RECOMMENDED BY THE CITY OF EDGEWOOD PLANNING COMMISSION
ON THE 9TH DAY OF NOVEMBER 2020.**

Attest by:

Planning Commission Chair

Evan Hietpas
Planning Technician

City of Edgewood proposed code language pertaining to Construction Work Hours

EMC 18.90.140 Performance Standards

A. Performance standards deal with the operational aspects of land uses and their impacts on other adjacent uses, the community, and the general public. The intent of this section is to provide standards and regulations to minimize and mitigate the potential adverse effects to other properties, development, and people.

B. While performance standards are primarily concerned with the impact of commercial and industrial development upon the environment, performance standards shall apply to all land uses within the city. Continued compliance with the performance standards shall be required of all uses, except as otherwise provided for in this title. No land or building in any district shall be used or occupied in any manner so as to create any dangerous, injurious, noxious or otherwise objectionable condition. The following elements, if created, may become dangerous, injurious, noxious or otherwise objectionable under the circumstances, and are then referred to as dangerous or objectionable elements:

1. Noise, vibration or glare
2. Smoke, dust, odor or other form of air pollution.
3. Heat, cold or dampness.
4. Hazardous substances and wastes.

C. Uses established before the effective date of this title, which are nonconforming as to performance standards, shall be given five years from the date of adoption of this title in which to conform therewith.

D. The determination of the existence of any dangerous and objectionable elements shall be made at the location of the use creating the dangerous and/or objectionable elements and at any point where the existence of such elements may be more apparent. This is provided, however, that the measurement of performance standards for noise, vibration, odors, glare, or hazardous substances or wastes shall be taken at the property lines and/or at the buffer zone setback line for any hazardous substance land use facility, in all zoning districts.

E. Restrictions on Dangerous and Objectionable Elements.

1. The provisions of Chapter 8.76 PCC, Noise Pollution Control (as adopted in EMC Title 8), shall apply. In addition, frequent, repetitive or continuous sounds emanating from any use or facility other than transportation facilities or temporary construction work shall not exceed 75 decibels at the property lines. If the community development director or designee determines it to be necessary or has reason to believe that noise levels are being exceeded, the owner and/or operator of a use or facility shall be required to provide noise reading data for noise levels at all property lines.
2. No vibration shall be permitted which is discernible without instruments at the points of measurement specified in this section.
3. No emission shall be permitted of odorous gases or other odorous matter released from any operation or activity in such quantities so as to exceed the odor threshold beyond lot lines. The odor threshold shall be defined as the concentration in the air of a gas or vapor which will just evoke a response in the human olfactory system.
4. No direct or reflected light or glare, whether from floodlights or from high temperature processes such as combustion or welding or otherwise, so as to be visible at the property lines or skyward beyond the building height of the zone, shall be permitted.
5. The regulations of the federal occupational safety and health standards shall apply for all radioactivity and electrical disturbance unless local codes and ordinances supersede this federal regulation.

F. The community development director or designee shall have the power to authorize the following procedures prior to the issuance of an application approval:

1. An application for approval for a use subject to performance standard procedures shall be accompanied by a site plan and detailed information describing the proposed machinery, processes and products, and specifications for the mechanisms and techniques to be used in restricting the creation or emission of dangerous and objectionable elements as set forth in this section. The applicant shall also provide such supporting scientific, technical or other data and/or information as is necessary to establish that the use will comply with the performance standards set forth in this section, subject to review by expert consultants. The community development director or designee, at his or her discretion, may refer the application for review and evaluation to one or more expert consultants qualified to advise as to whether a proposed use will conform to the applicable performance standards specified in this section, in a manner set forth in the application. The applicant shall be responsible for the cost of the expert review required by the city. A deposit to cover costs prior to review is required. If the deposit is insufficient, the city will notify the applicant and discontinue further review until additional deposit funds have been applied. All unused deposits will be refunded upon completion of review. A copy of such report shall be filed with the community development department for inspection by interested persons.
2. The community development director or designee shall determine whether the proposed use will conform to the applicable performance standards, and on such basis shall authorize or refuse to authorize issuance of a zoning approval, or require a modification of the proposed equipment or operation. Any zoning approval so authorized and issued shall be conditioned upon, among other things, the applicant's completed buildings and installations application conforming to the applicable performance standards.
3. Enforcement. Violations of performance standards shall constitute civil violations subject to enforcement and penalties as prescribed in EMC Title 7, Code Enforcement, unless otherwise specified.

G. Permitted land development and construction activities

1. Unless otherwise modified by a permit decision, activities regulated under EMC Titles 12, 13, 14, 15, 16, 18 and 20 shall be limited to the following hours:
 - a. Monday through Friday: 7:00 a.m. to 7:00 p.m.
 - b. Saturday: 9:00 a.m. to 6:00 p.m.
 - c. Sunday: No construction.
 - d. City observed holidays: No construction.
2. Activities not requiring a permit that are associated with residential property upkeep and maintenance, general landscaping, and hobbyist activities shall be exempt from the hours listed above.



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – Ordinance – Notice of Application requirements	Agenda Item #: 2.F
	For Agenda of: 11/17/2020
	Prepared by: Daryl Eiding
Attachments (list): 1. PC Rec_ NOA Requirements - Draft 2. Proposed Code Language	
Approval of Materials: Daryl Eiding Rachel Pitzel 11/12/2020 Dave Gray 11/12/2020 Daryl Eiding 11/12/2020	Expenditure Required: N/A Amount Budgeted: N/A Timeline: 11/17/20: Initial Study Session 11/24/20: CC Public Hearing 12/01/20: Follow-up Study Session 12/08/20: Final Action

Summary Statement:

On December 9, 2019, city staff presented the Planning Commission with the efforts being made to improve the City's development process. In the past six months, city staff has disassembled and rebuilt permit applications and checklists to improve efficiency and transparency. City staff has also established a completely new development review process. These two improvements were set up in the Permit Portal, which allows the City to receive and process development project permits completely online. As a part of this progress, city staff has identified that the City's Notice of Application (NOA) requirements, outlined in Edgewood Municipal Code (EMC) 18.40.180, consists of a specific list, rather than simply ensuring consistency with Washington State requirements, per RCW 36.70B.110.

On August 10, 2020, the Planning Commission discussed Notice of Application requirements. The Planning Commission asked city staff to present proposed code language and the revised permit processing timelines at the September 14th meeting. On September 14, 2020, city staff explained the relationship between the permit process improvements and the proposed code amendment to EMC 18.40.180, Notice of Application requirements. The Planning Commission discussed the proposed code amendment, and recommended having a public hearing on this item.

The proposed code amendment ensures that city staff is issuing Notice of Applications consistent with Washington State requirements. The proposed change also provides clear expectations for current and future applicants and the general public.

On November 9, 2020, the Planning Commission held a public hearing. Chair Overfield open the hearing and staff presented the proposed code amendment. No public comments were received during the hearing. The Planning Commission voted 6-0 to recommend APPROVAL of the drafted EMC amendments as presented in

the staff report and attachments submitted by Planning Technician Evan Hietpas for the November 9, 2020 Planning Commission agenda. This agenda item is the initial Study Session for City Council to receive the Planning Commission recommendation in anticipation for City Council's public hearing on November 24. Their recommendation is attached as Exhibit 1 and the proposed amendment is attached as Exhibit 2.

Item History:

Recommended Action:

Hold a discussion and provide staff direction to Discussion – Ordinance – Notice of Application requirements

Fiscal Note/Consideration:



**CITY OF EDGEWOOD
PLANNING COMMISSION
RECOMMENDATION**

The Planning Commission voted 6-0 to recommend APPROVAL of the proposed code amendment to the Edgewood Municipal Code (EMC) pertaining to Notice of Application requirements, and to send their recommendation to the City Council for consideration.

It is the recommendation of the City of Edgewood Planning Commission to approve the drafted EMC amendments as presented in the staff report and attachments submitted by Planning Technician Evan Hietpas for the November 9, 2020 Planning Commission agenda.

**RECOMMENDED BY THE CITY OF EDGEWOOD PLANNING COMMISSION
ON THE 9TH DAY OF NOVEMBER 2020.**

Planning Commission Chair

Attest by:

Evan Hietpas
Planning Technician

Proposed EMC Amendments Pertaining to Notice of Application requirements

18.40.180 Notice of application (RCW 36.70B.060).

A. A notice of application shall be issued within 14 calendar days after the city has made a determination of completeness pursuant to EMC 18.40.150, Determination of completeness, for all Process I, and Process II permits that require SEPA review, and all short plats, and all Process III and Process IV applications; provided, that the notice of application shall be provided at least 15 calendar days prior to any required open record hearing. One notice of application shall be completed for all permit applications related to the same project at the time of the earliest complete permit application.

B. A notice of application shall not be required for project permits that are categorically exempt under SEPA, WAC 197-11-800(a) through (d), Categorical Exemptions, unless a public comment period or an open record hearing is required prior to the decision on the project.

C. The notice of application shall include: ~~all requirements outlined in RCW 36.70B.110, or as amended.~~

- ~~1. The case file number(s), the date of application, the date of the determination of completeness for the application and the date of the notice of application;~~
- ~~2. A description of the proposed project action and a list of the project permits included in the application and, if applicable, a list of any studies requested by the review authority pursuant to RCW 36.70B.070;~~
- ~~3. The identification of other required permits which are not included in the application, to the extent known by the city;~~
- ~~4. The identification of existing environmental documents that evaluate the proposed project, and, if not otherwise stated on the document providing notice of application, the location where the application and any studies can be reviewed;~~
- ~~5. A statement of the limits of the public comment period, which shall be not less than 14 nor more than 30 calendar days following the date of notice of application, and statement of the right of any person to comment on the application, receive notice of and participate in any hearings, request a copy of the decision once made, and any appeal rights;~~
- ~~6. The tentative date, time, place and type of hearing. The tentative hearing date is to be set at the time of the date of notice of the application;~~
- ~~7. A statement of those development regulations that will be used for project mitigation and of consistency as provided in EMC 18.30.050, Consistency with comprehensive plan, development regulations, and State Environmental Policy Act;~~
- ~~8. The name of the applicant or applicant's representative and the name, address and telephone number of a contact person for the applicant, if any;~~
- ~~9. A description of the site, including current zoning and nearest road intersections, reasonably sufficient to inform the reader of its location; and~~
- ~~10. Any other information determined appropriate by the city, such as a determination of significance, if complete at the time of issuance of the notice of application or the city's statement of intent to issue a DNS pursuant to the optional DNS process set forth in WAC 197-11-355.~~

D. The city shall mail a copy of the notice of application to the following:

- ~~1. The applicant.~~
- ~~2. Agencies with jurisdiction.~~
- ~~3. Any person who requests such notice in writing.~~
- ~~4. Parties of record.~~

E. All public comments on the notice of application must be received by the community development department or postmarked by 5:00 p.m. on the last day of the comment period. Comments may be mailed, personally delivered or sent by facsimile. Comments should be as specific as possible.

F. In addition to the mailed notice of application, the city will provide notice of application at Edgewood City Hall and posted on the subject property. The available records of the Pierce County assessor's office shall be used for determining the property taxpayer of record. Addresses for mailed notice shall be obtained from the city GIS records provided by the city. All public notices shall be deemed to have been provided or received on the date the notice is deposited in the mail or personally delivered, whichever occurs first. Failure to provide public notice as described in this chapter or irregularity in said notice shall not be grounds for invalidation of any permit decision. In addition to persons to receive notice as required by the matter under consideration, the community development director or designee shall provide notice to others he has reason to believe are affected or otherwise represent an interest that may be affected by the proposed development.

G. The applicant shall be responsible for posting a notice board (provided by the city for a fee) on the property. Public notice shall be accomplished through the use of city poster boards as follows:

1. Posting. Posting of the property for site-specific proposals shall consist of one or more notice boards as follows:

a. A single notice board shall be placed by the applicant in a conspicuous location on a street frontage bordering the subject property.

b. Each notice board shall be visible and accessible for inspection by members of the public.

c. Additional notice boards may be required when:

i. The site does not abut a public road; or

ii. Additional public notice boards are required under other provisions of the Edgewood Municipal Code; or

iii. The community development director or designee determines that additional notice boards are necessary to provide adequate public notice.

d. Notice boards should be:

i. Installed in accordance with specifications determined by the community development department, and placed securely in the ground;

ii. Maintained in good condition by the applicant during the notice period;

iii. In place at least 15 calendar days prior to the end of any required comment period; and

iv. Removed by the applicant within 10 calendar days after the end of the notice period or final hearing date.

e. Notice boards that are removed, stolen, or destroyed prior to the end of the notice period may be cause for discontinuance of the departmental review until the notice board is replaced and remains in place for the specified time period. The city shall notify the applicant when it comes to their attention that notice boards have been removed prematurely, stolen, or destroyed.

f. An affidavit of posting shall be submitted by the applicant at least seven calendar days prior to the hearing. If the affidavits are not filed as required, any scheduled hearing or date by which the public may comment on the application may be postponed in order to allow compliance with this notice requirement.

g. SEPA information shall be supplied by the city and added by the applicant to the posted sign within applicable deadlines. Applicant shall submit an affidavit of posting.

~~H. Published notice of application in an official newspaper of general circulation in the area where the proposal is located is required for Process I, and Process II permits that require SEPA review, and all short plats, and all Process III and Process IV applications, except subdivision final plats and appeals. Published notice shall include at least the following information:~~

- ~~1. Project location;~~
- ~~2. Project description;~~
- ~~3. Type of permit(s) required;~~
- ~~4. Comment period dates; and~~
- ~~5. The location where the complete application may be reviewed. (Ord. 15-448 § 2 (Exh. A); Ord. 03-203 § 1).~~



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – Preliminary 2021 Budget Draft	Agenda Item #: 2.G
	For Agenda of: 11/17/2020
	Prepared by: Dave Gray
Attachments (list):	
Approval of Materials: Dave Gray Rachel Pitzel 11/12/2020 Dave Gray 11/12/2020 Daryl Eidingen 11/12/2020	Expenditure Required: N/A
	Amount Budgeted: N/A Meeting is to discuss questions raised at First Public Hearing
	Timeline: 11/10/2020 RCM – Public Hearing – 1st Reading 11/17/2020 SS - Revisions from 1st Public Hearing 11/24/2020 RCM - Public Hearing - 2nd Reading 12/1/2020 SS - Revisions (if needed) from 2nd Public Hearing 12/8/2020 RCM - Action Item

Summary Statement:

The Agenda Item related to the 2021 Annual Budget is to allow discussion of any concerns or ask for additional information by Council or members of the public. No action is taken on the Preliminary Budget Draft until December 8th Regular Council Meeting.

Item History:

Recommended Action:

Discussion on the Preliminary 2021 Budget Draft.

Fiscal Note/Consideration:

N/A



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – LID Refinance	Agenda Item #: 2.H
	For Agenda of: 11/17/2020
	Prepared by: Dave Gray
Attachments (list): 54033644-v1_City of Edgewood LID Ref Bond Ordinance 54033206-v1_Purchaser_s Receipt and Certificate_City of Edgewood_LID 1 Ref Bond 2020 54033215-v1_Legal Opinion - City of Edgewood - LID No. 1 Ref Bond 2020 - City of Edgewood Private Placement Schedule of Events for the LID Refunding Bond 10-28-2020	
Approval of Materials: Dave Gray Rachel Pitzel 11/12/2020 Dave Gray 11/12/2020 Daryl Eidinger 11/12/2020	Expenditure Required: N/A Discussion Only Amount Budgeted: Timeline: SS-11\17\2020: Discuss the attached legal documents so that Council is familiar with them prior to the November 24th Reading of the Bond Ordinance and Council Action.

Summary Statement:

The Council, when asked if they had interest in the Mayor researching and attempting to secure a refinance of the current USDA Rural loan to construct the existing sanitary sewer (2014) affirmed the effort and has been supportive of attaining a lower interest rate for the citizens of the City paying individual assessments for said construction. The City has retained DA Davidson to place the debt and Foster Garvey as Bond Council, who will be available for the November 24th Regular Council Meeting to answer Council or members of the public questions.

Item History:

Recommended Action:

Review the "boiler plate" legal documents, discuss and illuminate any questions in preparation of reading the final ordinance document when the exact known numbers are available to act upon. At this time the refinance looks to be approximately seven million dollars with a reserve fund maintained of approximately \$600,000 dollars.

Fiscal Note/Consideration:

The refinance is for the benefit of the property owners assessed to pay the bond used to construct the sewer. The City government does not benefit by the refinance and will pay some incidental refinance expenses as well as in-house staff time to manage the refinance activity on behalf of the LID property owners. The significant drop in interest rates combined with the Cities excellent financial condition and

financial operation has attracted interest in a new bond placement.

CITY OF EDGEWOOD, WASHINGTON

ORDINANCE NO. 20-XXXX

AN ORDINANCE authorizing the issuance and sale of a Local Improvement District No. 1 Refunding Bond in the principal amount of \$_____ to repay the Local Improvement District No. 1 Bonds, 2014A and 2014B; fixing certain terms and covenants of the bond; and providing for other related matters.

THE CITY COUNCIL OF THE CITY OF EDGEWOOD, WASHINGTON, DO ORDAIN as follows:

Section 1. Definitions. As used in this ordinance, the following capitalized terms shall have the following meanings:

(a) “*Bond*” means the \$_____ par value Local Improvement District No. 1 Refunding Bond, 2020 of the City issued pursuant to this ordinance.

(b) “*Bond Fund*” means the Local Improvement District No. 1 Fund, to be used for the payment of the principal of and interest on the Bond.

(c) “*Bond Counsel*” means the firm of Foster Garvey P.C., its successor, or any other attorney or firm of attorneys selected by the City with a nationally recognized standing as bond counsel in the field of municipal finance.

(d) “*Bond Register*” means the registration records for the Bond maintained by the Bond Registrar.

(e) “*Bond Registrar*” means the Finance Director of the City.

(f) “*City*” means the City of Edgewood, Washington, a municipal corporation duly organized and existing under the laws of the State.

(g) “*City Council*” means the legislative authority of the City, as duly and regularly constituted from time to time.

(h) “*Code*” means the United States Internal Revenue Code of 1986, as amended, and applicable rules and regulations promulgated thereunder.

(i) “*District*” means Local Improvement District No. 1 in the City of Edgewood, Washington.

(j) “*Issue Date*” means, with respect to the Bond, the date of initial issuance and delivery of that Bond to the Purchaser in exchange for the purchase price of that Bond.

(k) “*Purchaser*” means _____, or its successors or assigns.

(l) “*Registered Owner*” means the Purchaser.

(m) “*Refunded Bonds*” means the outstanding 2014 Bonds.

(n) “*State*” means the State of Washington.

(o) “*2014 Bonds*” means the City’s Local Improvement District No.1 Bond, 2014A and Local Improvement District No.1 Bond, 2014B of the City, both issued pursuant to Ordinance No. 14-0428, as amended by Ordinance No. 15-0432.

Section 2. Authorization and Description of Bond. The total amount of the assessment roll in Local Improvement District No. 1 in the City of Edgewood, Washington that has not been paid is \$ _____. A Local Improvement District No. 1 Refunding Bond shall be issued in the principal amount of \$ _____ to repay the 2014 Bonds. The Bond shall be designated the “City of Edgewood, Washington, Local Improvement District No. 1 Refunding Bond, 2020.”

The Bond shall be in fully registered form, shall be numbered and shall be dated the date of its delivery to the Purchaser. The Bond shall bear interest at the rate of ____% per annum (computed on the basis of a 360-day year of 12 30-day months) and interest shall accrue from the date of issuance of the Bond. Principal of and interest on the Bond shall be payable in annual amortized installments on each _____, commencing on _____, 2021, with the last payment on the Bond to be made not later than _____, 2033, except that the last payments may be more or less than the annual installment as required to pay the remaining principal and interest due. The debt service schedule is attached as Exhibit A. If any installment of principal and interest on the Bond is not paid when due, the City shall be obligated to pay interest on that installment at the same rate provided herein from and after its due date until that installment is paid in full. Regularly scheduled payments shall be applied first to interest and then to principal. [The Assistant City Manager of Administrative Services/Finance Director or City Manager is authorized to approve the final maturity schedules and other terms of the Bond consistent with this ordinance.]

Section 3. Extra Payments, Prepayments. To the extent the City’s scheduled principal and interest payment obligations on the Bond is current (or will be made current upon such payment), the City may make payments to the Purchaser, on any date, that are in addition to the regularly scheduled payments of principal and interest on the Bond. The City may designate that a prepayment be applied toward the last principal and interest payment installment on the Bond. Interest shall stop accruing on the Bond for the amount prepaid, from the date of the prepayment. In making a prepayment, the City shall complete and submit a form as attached as Exhibit B to the Purchaser. The amount of such extra payment shall be applied first to interest on the Bond accrued to the date of receipt of such extra payment, and shall be applied second to the outstanding principal of the Bond. After such extra payment is received by the Registered Owner, the amount of the annual installments of principal and interest on the Bond shall remain unchanged but shall be recalculated to reflect the reduction in the outstanding principal balance of the Bond and the resulting increase in the portion of each future installment payment credited to the principal of the Bond; the final installment payment date of the Bond, and the amount payable on such date, shall be adjusted to reflect such extra payment and the increased amount of future installment payments

that is applied to principal. Notice of any such extra payment shall be given at least 10 days prior to the installment payment date by mailing to the Registered Owner a notice specifying the amount of such extra payment.

The City may prepay the Bond, in whole [or in part,] at any time, with at least 15 days' notice to the Purchaser. [Any such prepayment will be applied to the earliest payments of principal due under the Bond. Each prepayment will be accompanied by the amount of accrued interest on the amount prepaid.]

Section 4. Bond Registrar; Registration and Transfer of the Bond. Pursuant to RCW 39.46.030(4) the City's Finance Director shall serve as initial fiscal agent for the City (the "Bond Registrar") with respect to the Bond and is authorized, on behalf of the City, to authenticate and deliver the Bond in accordance with the provisions of the Bond and this ordinance. The Bond shall be issued only in registered form as to both principal and interest and shall be recorded on books or records maintained by the Bond Registrar (the "Bond Register"). The Bond Register shall contain the name and mailing address of the owner of the Bond.

Upon a determination by the Finance Director that maintenance of the duties of the Bond Registrar is no longer convenient, the Fiscal Agent shall act as Bond Registrar.

The Bond Registrar shall keep, or cause to be kept, at its office, sufficient books for the registration, assignment or transfer of the Bond, which books shall be open to inspection by the City at all times. The Bond Registrar is authorized, on behalf of the City, to authenticate and deliver the Bond transferred or exchanged in accordance with the provisions of the Bond and this ordinance, to serve as the City's paying agent for the Bond and to carry out all of the Bond Registrar's powers and duties under this ordinance.

The Bond Registrar shall be responsible for its representations contained in the Bond Registrar's Certificate of Authentication on the Bond.

The Bond may be assigned or transferred only in whole by the Purchaser to a single investor that is a financial institution or an entity reasonably believed to be a qualified institutional buyer within the meaning of the applicable federal securities laws. The transferee shall sign a certificate substantially in the form attached to the Bond. Any transfer shall be without cost to the owner or transferee, except for governmental charges imposed on any such transfer or exchange. The Bond Registrar shall not be obligated to exchange or transfer the Bond during the 15 days preceding any payment or prepayment date. When the Bond has been paid in full, both principal and interest, the Bond shall be surrendered to the Bond Registrar, who shall cancel the Bond.

Section 5. Payment of and Security for Bond. Both principal of and interest on the Bond shall be payable solely out of the Local Improvement District No. 1 Fund (the "Bond Fund"), and from the Reserve Fund for the Bond (as described in Section 7 hereof), and shall be payable in lawful money of the United States of America. The Bond shall be payable solely from the assessments levied in the District by Ordinance No. 08-0306 (the "Assessments"). The City covenants to deposit the Assessments into the LID No. 1 Bond Fund, and use the Assessments to

pay the principal of and interest on the Bond. The Bond is not payable from assessments confirmed by Ordinance No. 14-0424.

Assessments collected in the District, together with interest and penalties, if any, are pledged to the payment of the Bond, which is payable solely out of the LID No. 1 Bond Fund and the Reserve Fund in the manner provided by law. The Bond is not secured by the City's guaranty fund. The Bond is not a general obligation of the City.

Section 6. Form and Execution of Bond. The Bond shall be prepared in a form consistent with the provisions of this ordinance and State law, shall be signed by the Mayor and the Clerk or Deputy City Clerk, either or both of whose signatures may be manual or in facsimile, and the seal of the City or a facsimile reproduction thereof shall be impressed or printed thereon.

Only a Bond bearing a Certificate of Authentication in the following form, manually signed by the Bond Registrar, shall be valid or obligatory for any purpose or entitled to the benefits of this ordinance:

CERTIFICATE OF AUTHENTICATION

This Bond is the fully registered City of Edgewood, Washington, Local Improvement District No. 1 Refunding Bond, 2020 described in the Bond Ordinance.

WASHINGTON STATE FISCAL AGENT,
Bond Registrar

By _____
Authorized Signer

The authorized signing of a Certificate of Authentication shall be conclusive evidence that the Bond so authenticated has been duly executed, authenticated and delivered and is entitled to the benefits of this ordinance.

If any officer whose facsimile signature appears on the Bond ceases to be an officer of the City authorized to sign bonds before the Bond bearing his or her facsimile signature is authenticated or delivered by the Bond Registrar or issued by the City, the Bond nevertheless may be authenticated, issued and delivered and, when authenticated, issued and delivered, shall be as binding on the City as though that person had continued to be an officer of the City authorized to sign bonds. The Bond also may be signed on behalf of the City by any person who, on the actual date of signing of the Bond, is an officer of the City authorized to sign bonds, although he or she did not hold the required office on the date of issuance of the Bond.

Section 7. Reserve Fund. There has heretofore been created a fund of the City known as the Edgewood Local Improvement Reserve Fund (the "Reserve Fund"), which is not the local improvement guaranty fund of the City, for the purpose of guaranteeing, to the extent of such Reserve Fund in the manner provided by law and this ordinance, the payment of the Bond and to

maintain the City's sewer improvements constructed by the District. The money in the Reserve Fund may be invested in any investments that are permitted for the investment of the City's money. The amount in the Reserve Fund shall be maintained at \$_____ and used to pay principal of and interest on the Bond to the extent that Assessments are insufficient. The Finance Director is authorized to transfer to the guaranty fund if such fund has a deficiency and, if no deficiency, to the general fund amounts in the Reserve Fund in excess of the amounts required to be maintained in the Reserve Fund by this ordinance.

Section 8. Refunding of the Refunded Bonds. The City will deposit the portion of the proceeds with the registered owner of the Refunded Bonds on or prior to the redemption date. The Finance Director shall call for redemption on _____, 2020, all of the Refunded Bonds at par plus accrued interest. Such call for redemption shall be irrevocable after the delivery of the Bond to the Purchaser.

The proper City officials are authorized and directed to give or cause to be given such notices as required, at the times and in the manner required, pursuant to Ordinance No. 14-0428, as amended by Ordinance No. 15-0432, in order to effect the redemption prior to their maturity of the Refunded Bonds.

Section 9. Sale of the Bond. The Bond shall be sold to the Purchaser at a price of par on the terms and conditions set forth herein; the City will furnish the Bond and the approving legal opinion of Foster Garvey P.C., municipal bond counsel, relative to the issuance of the Bond, at the City's expense.

Section 10. Reporting Requirements. While the Bond is outstanding, the City shall submit to the Purchaser its annual financial reports within 30 days after receipt of such annual financial report from the Washington State Auditor and such additional information as the Purchaser may reasonably request.

Section 11. Governing Law. The Bond shall be governed and interpreted according to the laws of Washington.

Section 12. General Authorization and Ratification. The Mayor, Finance Director, City Clerk and other appropriate officers of the City are severally authorized to take such actions and to execute such documents as in their judgment may be necessary or desirable to carry out the transactions contemplated in connection with this ordinance, and to do everything necessary for the prompt delivery of the Bond to the Purchaser thereof and for the proper application, use and investment of the proceeds of the Bond. All actions taken prior to the effective date of this ordinance in furtherance of the purposes described in this ordinance and not inconsistent with the terms of this ordinance are ratified and confirmed in all respects.

Section 13. Severability. If any one or more of the covenants or agreements provided in this ordinance to be performed on the part of the City shall be declared by any court of competent jurisdiction to be contrary to law, then such covenant or covenants, agreement or agreements, shall be null and void and shall be deemed separable from the remaining covenants and agreements in this ordinance and shall in no way affect the validity of the other provisions of this ordinance.

Section 14. Effective Date of Ordinance. This ordinance shall take effect and be in force from and after its passage and five days following its publication as required by law.

PASSED by the City Council and APPROVED by the Mayor of the City of Edgewood, Washington, at a regular open public meeting thereof this ____ day of _____, 2020.

Mayor Daryl Eiding

ATTEST:

Rachel Pitzel, City Clerk

APPROVED AS TO FORM:

Ann Marie Soto, City Attorney

CERTIFICATE

I, the undersigned, Deputy City Clerk of the City of Edgewood, Washington (the "City"), hereby certify as follows:

1. The attached copy of Ordinance No. _____ (the "Ordinance") is a full, true and correct copy of an ordinance duly passed at a regular meeting of the City Council of the City held at the regular meeting place thereof on _____, 2020, as that ordinance appears on the minute book of the City; and the Ordinance will be in full force and effect five days after publication in the City's official newspaper; and

2. A quorum of the members of the City Council was present throughout the meeting and a majority of those members present voted in the proper manner for the passage of the Ordinance.

IN WITNESS WHEREOF, I have hereunto set my hand this ____ day of _____, 2020.

CITY OF EDGEWOOD, WASHINGTON

Deputy City Clerk

EXHIBIT A
DEBT SERVICE SCHEDULE

EXHIBIT B
PREPAYMENT FORM

PURCHASER'S RECEIPT AND CERTIFICATE

I, Daryl Eidinger, Mayor of the City of Edgewood Washington (the "Purchaser") do hereby certify and acknowledge on behalf of the Purchaser as follows:

1. The Purchaser acknowledges receipt this day of the _____ principal amount Local Improvement District No. 1 Refunding Bond, 2020 (the "Bond"), of the City of Edgewood, Washington (the "City"), dated _____, 2020. The Bond is authorized pursuant to Ordinance No. 20-XXXX of the City (the "Ordinance"). The Purchaser is charging the City a fee of \$_____ for this Bond.

2. The Purchaser has made a complete investigation of the facts and circumstances furnished to it by the City relating to the issuance and delivery of the Bond. Such investigation included, without limitation, a review of: (i) the nature and purpose of the Bond and application of the proceeds of the Bond as set forth in the Ordinance, (ii) the financial condition of the City, including the assessments levied in Local Improvement District No. 1, and its ability to repay the principal of and interest on the Bond, (iii) the Purchaser's remedies in the event of default in the payment of principal of and interest on the Bond subject to applicable laws affecting creditors' rights, and (iv) the Ordinance.

3. The Purchaser acknowledges that (i) the Bond is not registered under the Securities Act of 1933 or 1934 or otherwise qualified for sale under the "blue sky" laws and regulations of any state and the Ordinance has not been qualified under the Trust Indenture Act of 1939, as amended, (ii) the Bond carries no rating from any credit rating agency, (iii) no trading market exists or is expected to exist for the Bond, (iv) no official statement or other offering material is being provided with respect to the Bond and the Purchaser has made its own inquiry and analysis with respect to the City and the Bond and the security therefor, and (v) the City's CAFR and all other information regarding the City speaks only as of its date and does not contain all material information regarding the City.

4. The Purchaser has sufficient knowledge and experience in financial and business matters, including the purchase and ownership of tax-exempt municipal obligations, to be able to evaluate the risks and merits of the purchase of the Bond. The Purchaser is satisfied that it has had access to all material information necessary to make a sound investment decision and that the City has responded fully and accurately to all requests for information, and no further information is desired.

5. The Bond will be held by the Purchaser for its own accord and will not be reoffered to the public. The Purchaser is a "qualified institutional buyer" as defined in Section 144A of the Securities Act of 1933 (the "Act") and is a bank within the meaning of Section (a)(1)(vi) of the Act. The Purchaser may only transfer the Bond to another bank within the meaning of Section (a)(1)(vi) of the Act at the time of the transfer. Any transfer of the Bond must be in accordance with the Ordinance. The transferee must sign and deliver a certificate substantially in the form of this certificate.

6. The undersigned is a duly appointed and acting representative of the Purchaser and is authorized to cause the Purchaser to make the certifications contained herein by execution of this certificate on behalf of the Purchaser.

DATED as of _____, 2020.

Mayor Daryl Eiding

[FORM OF BOND COUNSEL OPINION]

City of Edgewood, Washington

Re: City of Edgewood, Washington, \$ _____
Local Improvement District No. 1 Refunding Bond, 2020

We have served as bond counsel to the City of Edgewood, Washington (the “City”), in connection with the issuance of the above referenced Bond (the “Bond”), and in that capacity have examined such law and such certified proceedings and other documents as we have deemed necessary to render this opinion. As to matters of fact material to this opinion, we have relied upon representations contained in the certified proceedings and other certifications of public officials furnished to us, without undertaking to verify the same by independent investigation.

The Bond is issued by the City pursuant to Ordinance No. 20-XXXX (the “Bond Ordinance”) for the purpose of providing the funds necessary to refund certain of the City’s Local Improvement District No. 1 bonds and to pay the costs of issuance and sale of the Bond, all as set forth in the Bond Ordinance. The Bond is payable solely from special assessments levied in Local Improvement District No. 1 and paid into the Local Improvement Fund, District No. 1, of the City (the “Bond Fund”), and from the Local Improvement District No. 1 Reserve Fund of the City.

We express no opinion herein concerning the completeness or accuracy of any official statement, offering circular or other sales or disclosure material relating to the issuance of the Bond or otherwise used in connection with the Bond.

Under the Internal Revenue Code of 1986, as amended (the “Code”), the City is required to comply with certain requirements after the date of issuance of the Bond in order to maintain the exclusion of the interest on the Bond from gross income for federal income tax purposes, including, without limitation, requirements concerning the qualified use of Bond proceeds and the facilities financed or refinanced with Bond proceeds, limitations on investing gross proceeds of the Bond in higher yielding investments in certain circumstances and the arbitrage rebate requirement to the extent applicable to the Bond. The City has covenanted in the Bond Ordinance to comply with those requirements, but if the City fails to comply with such requirements, interest on the Bond could become taxable retroactive to the date of issuance of the Bond. We have not undertaken and do not undertake to monitor the City’s compliance with such requirements.

Based upon the foregoing, as of the date of initial delivery of the Bond to the purchaser thereof and full payment therefor, it is our opinion that under existing law:

1. The City is a duly organized and legally existing code city under the laws of the State of Washington.

2. The Bond has been duly authorized and executed by the City and is issued in full compliance with the provisions of the Constitution and laws of the State of Washington and the ordinances of the City relating thereto.

3. The Bond constitutes a valid and binding obligation of the Bond Fund and the Local Improvement District No. 1 Reserve Fund of the City, except only to the extent that enforcement of payment may be limited by bankruptcy, insolvency or other laws affecting creditors' rights and by the application of equitable principles and the exercise of judicial discretion in appropriate cases.

4. The Bond is not a general obligation of the City.

5. Assuming compliance by the City after the date of issuance of the Bond with applicable requirements of the Code, the interest on the Bond is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the alternative minimum tax applicable to individuals; however, interest on the Bond received by certain S corporations may be subject to tax, and interest on the Bond received by foreign corporations with United States branches may be subject to a foreign branch profits tax. We express no opinion regarding any other federal tax consequences of receipt of interest on the Bond.

This opinion is given as of the date hereof, and we assume no obligation to revise or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention, or any changes in law that may hereafter occur.

We bring to your attention the fact that the foregoing opinions are expressions of our professional judgment on the matters expressly addressed and do not constitute guarantees of result.

Respectfully submitted,

FOSTER GARVEY P.C.

Private Placement to a Bank

City of Edgewood

\$7,035,000*, Local Improvement District Refunding Bond, 2020

Schedule of Events

(As of October 28, 2020)

CITY: City of Edgewood (City Council meets: 2nd & 4th Tues. at 7 PM, study sessions 1st & 3rd Tues. at 7 PM)
DAD: Placement Agent (Jim Nelson of D.A. Davidson)
BC: Bond Counsel (Nancy Neraas of Foster Garvey P.C.)
BANK: _____

Date	Event	Participants
October 28	Distribute Schedule and Distribution List	DAD
October 28	Distribute 1 st draft of the refunding Bond Ordinance	BC
October 28	Send RFP to banks (with supporting information on the LID) for fixed interest rate bids with an any time call date/prepayment option	DAD
November 2	Comments due (to Bond Counsel) on 1 st draft of Bond Ordinance	ALL
November 5	Distribute 2 nd draft of the refunding Bond Ordinance	BC
November 10	Comments due on 2 nd draft of Bond Ordinance	ALL
November 13	Receive bids from banks	DAD, CITY
November 16	Present Summary of bids to the City staff and City selects the bank	DAD, CITY
November 24	First Reading of Bond Ordinance, 7:00 PM	CITY
December 1	Bank completes their credit review and approval process	BANK
December 2	Distribute draft Closing Memo and wiring instructions	DAD
December 8	Second Reading and approval of Bond Ordinance, 7:00 PM	CITY
December 9	Distribute final Closing Memo and wiring instructions	DAD
December 22	Bond Closing and distribution of proceeds	ALL

**Preliminary, subject to change.*



Structure:

Fund a redemption amount of [\$7,009,487.24 plus accrued interest to the redemption date of 12/22/2020]*

Dated and Delivered December 22, 2020

First Interest Payment November 24, 2021

First Principal Payment November 24, 2021

Last Principal Payment November 24, 2033

Structure: Level Debt

Call Date: Any time

As of September 28, 2020, the City calculated that the Reserve Fund (i.e., Guaranty Fund) had a surplus of \$600,000. A portion of the surplus will be used to pay the financing costs.

**Preliminary and subject to change*

Bond Delegation Parameters

Par amount will not exceed \$9,000,000

Term of the financing will be 16 years or less

Interest rate/coupon will not exceed 3.00%

True Interest Cost will not exceed 3.00%

Net Present Value savings percentage will be 5.00% or greater

Purchase price will not be less than 95% or more than 135% of the stated principal amount

Delegation authority to the Mayor or the Assistant City Administrator/Finance Director

Delegation to be in effect until June 1, 2021



City Of Edgewood Council Agenda Summary Sheet

Subject: Discussion – Resolution – Region 5 All Hazard Mitigation Plan – 2020-2025 Edition	Agenda Item #: 2.I
	For Agenda of: 11/17/2020
	Prepared by: Rachel Pitzel, Micah Lundborg
Attachments (list): 1. city_resolution_Mitigation Plan 2. COE Addendum to Region 5 All Hazard Mitigation Plan 2020_2025	
Approval of Materials: Rachel Pitzel, Micah Lundborg Rachel Pitzel 11/10/2020 Dave Gray 11/12/2020 Daryl Eidingen 11/12/2020	Expenditure Required: N/A
	Amount Budgeted: N/A
	Timeline: 11/17/2020 SS Discussion 11/24/2020 RCM Action Under Consent Agenda

Summary Statement:

“Hazard mitigation planning reduces loss of life and property by minimizing the impact of disasters. It begins with state, tribal and local governments identifying natural disaster risks and vulnerabilities that are common in their area. After identifying these risks, they develop long-term strategies for protecting people and property from future events . Mitigation plans are key to breaking the cycle of disaster damage, reconstruction, and repeated damage.” [-FEMA.gov](https://www.fema.gov)

Hazards may be classified as Geological, Meteorological, and/or Technological. Our Hazard Mitigation Plan considers all three. Hazard Mitigation planning is required by FEMA, if a city plans to seek federal monies to mitigate hazards in their jurisdictional boundaries. It also allows cities to seek financial relief/assistance after an event, should a disaster be declared.

Item History:

Initial review presented at 11/17/2020 Study Session

Recommended Action:

Hold a discussion and provide staff guidance regarding 2020- 2025 Region 5 All Hazard Mitigation Plan

Fiscal Note/Consideration:

N/A

RESOLUTION NO. 20- 0xxx

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EDGEWOOD, PIERCE COUNTY, WASHINGTON, ADOPTING THE REGION 5 ALL HAZARD MITIGATION PLAN – 2020-2025 EDITION AND THE EDGEWOOD ADDENDUM TO THE REGION 5 HAZARD MITIGATION PLAN

WHEREAS, the Federal Disaster Mitigation Act of 2000 requires that for all disasters declared on or after November 1, 2004, applicants for sub-grants following any disaster must have an approved Natural Hazard Mitigation Plan in accordance with 44CFR 201.6 prior to receipt of Hazard Mitigation Grant Program project funding; and

WHEREAS, the Federal Disaster Mitigation Act of 2000 requires that for Pre-Disaster Mitigation grant program project funding on or after November 1, 2003, applicants must have an approved Natural Hazard Mitigation Plan in accordance with 44CFR 201.6 prior to receipt of project funding; and

WHEREAS, the All Hazard Mitigation Plan Update represents the commitment of the City of Edgewood along with other surrounding government entities to reduce the risks from natural, man-made and technological hazards, serving as a guide for decision makers as they commit resources to reducing the affects of hazards, and it is in the public interest to proceed with the planning process in a timely manner; and

WHEREAS, the City of Edgewood has participated with the Pierce County Department of Emergency Management in the development of the City of Edgewood’s All Hazard Mitigation Plan Update, and recognizes the economic loss, personal injury, and damage that can arise from these hazards; and

WHEREAS, reduction of these impacts can be achieved through a comprehensive coordinated planning process which includes an updated risk assessment that provides the factual basis for activities proposed in the mitigation strategies to reduce losses and vulnerabilities, a five-year cycle for plan maintenance, and documentation of formal adoption by the City of Edgewood; and

WHEREAS, the 2020-2025 Region 5 All Hazard Mitigation Plan Edition has been completed and approved by the State and the Federal Emergency Management Agency; and

WHEREAS, the City of Edgewood could risk not receiving future disaster funding if the All Hazard Mitigation Plan Update is not adopted;

WHEREAS, The City of Edgewood Council reviewed the All Hazard Mitigation Plan Update; and

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF EDGEWOOD, WASHINGTON, HEREBY RESOLVES AS FOLLOWS:

Section 1. The Region 5 Hazard Mitigation Plan, 2020-2025 Edition, is hereby adopted as set forth in Exhibit A, which is attached.

Section 2. The City of Edgewood Addendum to the Region 5 Hazard Mitigation Plan, an update to the City of Edgewood Natural Hazard Mitigation Plan is hereby adopted and shall be in full force and effect upon passage and signatures hereon.

ADOPTED BY THE CITY COUNCIL THIS 24TH DAY OF, NOVEMBER, 2020.

Daryl Eiding, Mayor

ATTEST:

Rachel Pitzel, CMC
City Clerk

Approved as to forms

Ann Marie Soto, City Attorney



**CITY OF EDGEWOOD
ADDENDUM A-4
REGION 5 ALL HAZARD MITIGATION PLAN
2020-2025 EDITION**

Prepared for:

City of Edgewood
2221 Meridian East
Edgewood, WA 98371

In Cooperation with:

Pierce County Department of Emergency Management
2501 S. 35th Street, Suite D
Tacoma, WA 98409

(This page left blank intentionally)

ADDENDUM A-4

REGION 5 ALL HAZARD MITIGATION PLAN 2020-2025 EDITION CITY OF EDGEWOOD

Table of Contents

SECTION 1 – PROCESS	1-1
SECTION 2 – PROFILE.....	2-1
SECTION 3 – CAPABILITY IDENTIFICATION	3-1
SECTION 4 – RISK ASSESSMENT	4-1
SECTION 5 – MITIGATION STRATEGY	5-1
SECTION 6 – INFRASTRUCTURE	6-1
SECTION 7 – MAINTENANCE	7-1

Appendices

Plan Adoption	A
Planning Team	B
Plan Revisions	C
City of Edgewood and Pierce County Hazus-MH Scenarios	D
Documentation Records	E
Completed or Deferred Mitigation Strategies	F

(This page intentionally left blank)

Section 1

Plan Process Requirements

Planning Process---Requirement §201.6(b):

An open public involvement process is essential to the development of an effective plan.

Documentation of the Planning Process---Requirement §201.6(b):

In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process **shall** include:

- (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
- (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and
- (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

Documentation of the Planning Process---Requirement §201.6(c)(1):

[The plan **shall** document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

- Does the plan provide a narrative description of the process followed to prepare the new or updated plan?
- Does the new or updated plan indicate who was involved in the current planning process? (Who led the development at the staff level and were there any external contributors such as contractors? Who participated on the plan committee, provided information, reviewed drafts, etc.?)
- Does the new or updated plan indicate how the public was involved? (Was the public provided an opportunity to comment on the plan during the drafting stage and prior to the plan approval?)
- Does the new or updated plan discuss the opportunity for neighboring communities, agencies, businesses, academia, nonprofits, and other interested parties to be involved in the planning process?
- Does the planning process describe the review and incorporation, if appropriate, of existing plans, studies, reports, and technical information?
- Does the updated plan document how the planning team reviewed and analyzed each section of the plan and whether each section was revised as part of the update process?

SECTION 1

**REGION 5 ALL HAZARD MITIGATION PLAN
2020-2025 EDITION
CITY OF EDGEWOOD
PROCESS SECTION**

Table of Contents

PLAN PROCESS REQUIREMENTS 1

TABLE OF CONTENTS 2

CHANGES TO JURISDICTION PLAN IN THIS DOCUMENT 3

CHANGE MATRIX 3

PLAN PROCESS 7

PUBLIC INVOLVEMENT PROCESS..... 7

PLANNING TEAM..... 8

PLANNING TEAM MEETINGS 9

PUBLIC COMMENT 12

ELECTED OFFICIALS MEETINGS..... 12

JOINT PLANNING REQUIREMENT 13

ENDNOTE 14

Changes To Jurisdiction Plan in this Document

This Process Section for the City of Edgewood Hazard Mitigation Plan includes the following changes that are documented as a result of a complete review and update of the existing plan. The purpose of the following change matrix is to advise the reader of these changes updating this plan from the original document approved in November 2008.

The purpose for the changes is three-fold: 1) the Federal Law (Code of Federal Regulations (CFR), Title 44, Part 201.4) pertaining to Mitigation Planning has changed since the original Plan was undertaken; 2) the Local Mitigation Planning Requirements of the Disaster Mitigation Act of 2000 201.6 (d) (3) Plan Review states Plans **must** be reviewed, revised if appropriate, and resubmitted for approval within five years in order to continue to be eligible for HMGP project grant funding. This document when completed and approved will become the City of Edgewood Hazard Mitigation Plan.

Change Matrix

This Matrix of Changes documents the pertinent changes made from the July 2015 City of Edgewood Plan for the Region 5 All Hazard Mitigation Plan; 2020-2025 Update. Most of the changes are a matter of additional detail, more information provided, and in some cases a response to new requirements. This 2020-2025 version represents a complete review and update by City of Edgewood and Pierce County Emergency Management using a detailed process for development and following an established format. During this procedure, all web links have been verified and updated.

Table 1-1 Change Matrix – City of Edgewood Region 5 Hazard Mitigation Plan 2020-2025 Update

Section 1 – Plan Development, Process Section	
Section or Part of Plan	New in 2020 Plan
Section 1 – Process Section	Section 1 – Process Section
	The 2020 Process Section contains goals and objectives for this jurisdiction in the Mitigation Strategy.

Section 2 – Participating Jurisdiction Profiles		
Section or Part of Plan	Previous	2020 Plan
Section 2 – Profile	Information was current as of 2010 Census Data.	The 2020 version of the Profile has been reviewed and updated. The Infrastructure Summary section was updated showing a significant increase in tax parcel values. In addition, the Economic Summary was updated also showing an increase.
	Information was current as of 2010 Census Data.	The 2010 Census Data remained for population data and is the current GIS available information from Pierce County. Once the 2020 Census data becomes available in Pierce County GIS format, population data figures will be updated in the Profile Section 2 and the Risk Assessment Section 4.
		A new Demographic Analysis paragraph was added to the 2020 Mitigation Plan to elaborate on Edgewood’s demographics in more detail and capturing some of the at-risk populations. This also allowed the city to provide an updated overview of it’s growing population beyond the 2010 census which is outdated.
	2015 Edgewood Base Map	The City of Edgewood Base map and Land Use map was updated for 2020.

Section 3 – Capability Identification		
Section or Part of Plan	Previous	2020 Plan
Section 3 – Capability	The Capability Tables shown in the previous plan are in a	The 2020 Capability Section has been improved and

	similar format.	updated to show current information from the City of Edgewood.
--	-----------------	--

Section 4 – Vulnerability, Risk Analysis	
Section or Part of Plan	2020 Plan
Vulnerability and Hazard Impact Analysis	This section was added to provide a better understanding on how the identified hazards affect the City of Edgewood and its critical infrastructure.
Changes in Development	This required element was added to provide a clearer understanding and location within the plan of the changes in development that have occurred within the City of Edgewood over the past five years.
Disaster Declarations Charts.	The Geological, Meteorological and Technological Charts have been updated to reflect current changes in Pierce County’s Hazard Identification Risk Assessment (HIRA). Major changes include updating the maps, figures and table column to align with the changes in the HIRA. Technological Hazards added “Active Threat” and “Cyber Attack” under the Terrorism category.
Hazard Maps - Overview of Data Source Descriptions	This section was added to provide the reader with a better understanding of the data source that was used to produce the hazard maps.
The previous version of the plan contained hazard maps.	The 2020 Risk Section includes updated maps and contains additional hazard maps such as deep/shallow landslides susceptibility.
The previous version included specific analysis showing vulnerability of population, land and infrastructure according to Census 2010 and 2013/2014 tax parcel data.	The 2020 Risk Section includes completely updated tables showing vulnerability of population, (where different hazard maps were used) land and infrastructure using Census 2010 data and 2019/2020 tax parcel data.

Section 5 – Mitigation Strategy	
Section or Part of Plan	2020 Plan
The previous document used the standard goals as outlined for the entire project.	The 2020 Mitigation Section was drafted using specific goals and objectives written by the jurisdictions to their specific hazards and concerns.
The previous document contained a Mitigation Measure Matrix chart followed by written descriptions of each individual measure.	The new document uses the same format as the original plan with the addition of a ‘Status Update’ table under each mitigation measure. This provides the opportunity to update each mitigation strategy and track the status. New measures have been added to both the Matrix and the individual measure descriptions. Measures completed in the past five years have been moved to a historical appendix in the plan to track projects completed by the jurisdiction.

Section 6 – Infrastructure	
Section or Part of Plan	2020 Plan
The previous plan used a full table with details on each piece of critical infrastructure. In addition, a matrix summary of hazards and dependencies affecting the critical infrastructure was completed.	The 2020 plan uses the same table. The tables have been reviewed and updated by the jurisdiction. This section is only available to the jurisdiction due to the sensitivity of information contained. A disclosure statement acts as a placeholder for Section 6.

Section 7 – Plan Maintenance	
Section or Part of Plan	2020 Plan
The previous Plan Maintenance for the jurisdiction was very similar in format to the newer version for 2020.	The 2020 version of the Plan Maintenance borrows from the format and content of the original; however, the entire document has been reviewed and updated to current information.

Section 8 – Other Changes	
Section or Part of Plan	2020 Plan
The previous document contained four Appendices.	The 2020 Plan contains six Appendices including: place for the final resolution and approval letter from FEMA, list of jurisdiction’s planning team, a chart for any

	changes, 2014 HAZUS analysis, documentation records for Public Outreach events and a historical appendix for completed projects. The Acronym list appears in the Base Plan for the entire project.
--	--

Plan Process

The Region 5 Hazard Mitigation Plan Process Section is a discussion of the planning process used to update the Region 5 Hazard Mitigation Plan (Pierce County is Region 5 for Homeland Security (HLS) in Washington State), including how the process was prepared, who aided in the process, and the public involvement.

The Plan update is developed around all major components identified in 44 CFR 201.6, including:

- **Public Involvement Process;**
- **Jurisdiction Profile;**
- **Capability Identification;**
- **Risk Assessment;**
- **Mitigation Strategy;**
- **Infrastructure Section;** and,
- **Plan Maintenance Procedure.**

Below is a summary of those elements and the processes involved in their development.

Public Involvement Process

Public participation is a key component to strategic planning processes. Citizen participation offers citizens the chance to voice their ideas, interests, and opinions.

“Involving stakeholders who are not part of the core team in all stages of the process will introduce the planning team to different points of view about the needs of the community. It will also provide opportunities to educate the public about hazard mitigation, the planning process, and findings, and could be used to generate support for the mitigation plan.”¹

In order to accomplish this goal and to ensure that the updated Region 5 Hazard Mitigation Plan is comprehensive, the six planning groups in conjunction with Pierce County Emergency Management developed a public participation process of three components:

1. A Planning Team comprised of knowledgeable individual representatives of HLS Region 5 area and its hazards;

2. Hazard Meetings to target the specialized knowledge of individuals working with populations or areas at risk from all hazards; and
3. Public meetings to identify common concerns and ideas regarding hazard mitigation and to discuss specific goals, objectives and measures of the mitigation plan.

This section discusses each of these components in further detail below with public participation outlined in each. Integrating public participation into the development of the Region 5 Hazard Mitigation Plan update has helped to ensure an accurate depiction of the Region's risks, vulnerabilities, and mitigation priorities.

Planning Team

The Planning Team was organized early in 2019. The individual Region 5 Hazard Mitigation Planning Team members understand the portion of Pierce County containing their specific jurisdiction, including how residents, businesses, infrastructure, and the environment may be affected by all hazard events. The members are experienced in past and present mitigation activities and represent those entities through which many of the mitigation measures would be implemented. The Planning Team guided the update of the Plan, assisted in reviewing and updating goals and measures, identified stakeholders, and shared local expertise to create a more comprehensive plan. The Planning Team was comprised of:

Table 1-2 Planning Teams – Discipline Group

NAME	TITLE	JURISDICTION-DEPARTMENT
Woody Edvalson	Emergency Manager	City of Bonney Lake
Alan Predmore	Fire Chief/Emergency Manager	City of Buckley
Jeffrey Wilson	Director of Community Development	City of DuPont
Micah Lundborg	Chief of Police	City of Edgewood
Pete Fisher	Police Chief	City of Fife
Robert Eugley	Patrol Officer	City of Fife
John Cheesman	Chief of Police	City of Fircrest
Kelly Busey	Chief of Police	City of Gig Harbor
Carl Desimas	City Planner	City of Gig Harbor
John Unfred	Assistant Police Chief	City of Lakewood
Tony Hernandez	Police Chief	City of Milton
Mark Bethune	City Manager	City of Orting
Kirstin Hofmann	Emergency Manager	City of Puyallup
Chief Armitage	Police Chief	City of Roy
Officer Armitage	Police Officer	City of Roy
Ryan Windish	Community Development Director	City of Sumner
Ute Scofield	Emergency Manager	City of Tacoma
Jacob Rain	EM Program Coordinator	City of Tacoma
Lisa Petorak	Human Resources Manager	City of University Place
Jack Ecklund	Dir. of Engineering & Capital Projects	City of University Place
Daillene Argo	Clerk-Treasurer	Town of Carbonado

Abby Gribi	Town Administrator	Town of Eatonville
Glen Yates	Eatonville Police Department	Town of Eatonville
Emily Terrell	Consultant	Town of South Prairie
Paul Loveless	Town Administrator	Town of Steilacoom
Alan Predmore	Fire Chief	Town of Wilkeson

Table 1-3 Planning Teams – Regional Group

NAME	TITLE	JURISDICTION-DEPARTMENT
Micah Lundborg	Police Chief	City of Edgewood
Pete Fisher	Police Chief	City of Fife
Robert Eugley	Patrol Officer	City of Fife
John Cheesman	Police Chief	City of Fircrest
Tony Hernandez	Police Chief	City of Milton
Ute Scofield	EM Program Manager	City of Tacoma
Jacob Rain	EM Program Coordinator	City of Tacoma
Jim Wassall	Fire Chief	Pierce County Fire District #13
Jim Jaques	Assistant Fire Chief	East Pierce Fire & Rescue
Kira Thirkield	Fire Chief	Riverside Fire & Rescue #14
Mike Rupert	Director of Safety/Security	Tacoma School District
Jeff Rogers	Environmental Health/Safety	Tacoma School District
Bart Stepp	General Manager	Mt. View-Edgewood Water Co
Jim Oliver	Assistant Quality Improvement Manager	Community Health Care
Eileen Newton	Emergency Manager	Franciscan Health System
Heidi Rock	Emergency Management Program Manager	MultiCare Health System
Alex Truchot	Sr. HSE Manager	Kaiser Permanente
Johanna Hanson	Emergency Management Specialist	Kaiser Permanente
Alisha Peña	Senior Planner	Port of Tacoma – NW Seaport Alliance
Marty Kapsh	Port of Tacoma Patrol Officer	Port of Tacoma
Deirdre Wilson, AICP	Planning Manager	Port of Tacoma

Planning Team Meetings

The Planning Team held 7 Planning Team Meetings either in their Discipline Groups or Regional Planning Groups. Meeting in Regional Planning Groups supported a whole community planning approach which either developed new or stronger relationships amongst jurisdictions. This allowed for an integration of mitigation strategies for regions sharing the commonality in hazards. There was a total of 45 meetings from February 2019 to January 2020 between all Planning Groups. Additional working group drop-in workshops were provided for jurisdictions to continue to work on and update their plans. Two “drop-in” workshops were provided each

month from January through June alternating between morning and afternoons to accommodate work schedules.

The Planning Teams Discipline Groups: City and Town Group, Fire Group, School Group, Special Purpose Group, Utility Group, Medical Group and Unincorporated Pierce County Group. These discipline groups will continue to meet on an annual basis for the relationship building and sharing of mitigation strategies and ideas.

The Planning Team Regional Groups broken down into five geographical areas in Pierce County: West Group (all of Gig Harbor, Key Peninsula, Herron Island, Fox Island and Raft Island), SW Group (Lakewood, Anderson Island, Steilacoom), Central Group (Puyallup, Graham, Eatonville), NE Group (Buckley, Carbonado, Bonney Lake, Wilkeson), North Group (Tacoma, Fife, Edgewood, Sumner). The Regional Groups were developed based on geographic location and the commonality of hazards shared and was new with this update. This provided for better community planning, relationship building, and collaboration of mitigation strategies ultimately leading to community resiliency. These Regional groups will continue to meet on an annual basis and as sub committees are developed to work on specific projects the frequency of meetings will potentially increase.

Table 1-4 Planning Team Meetings

Planning Team Meeting #1 – Cities & Towns: PCEM Puyallup Room – February 21, 2019
Planning Team members Debbie Bailey and Wyatt Godfrey conducted the meeting and the Planning Team discussed the following items: Introduction of Planning Team, Review of the history of the Grant Application, Defining the Planning Requirements, How We Establish the In-Kind Match, Benefits of Developing a Plan, Defining the Planning Process, Establishing the Planning Team Meetings, Elected Official Meetings and Public Comment Meetings, reviewing each jurisdiction’s profile information, and defining next steps.
Planning Team Meeting #2 – North Regional Group: PCEM Puyallup Room – March 25, 2019
Planning Team members Debbie Bailey and Wyatt Godfrey conducted the meeting and the Planning Team discussed the following items: Introduction of Planning Team as this was our first Regional Planning meeting and there were new members present. We reviewed items presented at the previous meeting, Defining the Planning Requirements, Defining the Process, Establishing the Planning Team Meetings, Elected Official Meetings and Public Comment Meetings, and explaining the next steps. This meeting focused on continuing review of the Profile Section, an introduction to begin thinking about mitigation strategies to include a review of what measures from their original plan have already been completed and thinking about new measures they may like to add. In addition, this group discussed the Capability Section and how to recognize capabilities that already exist within the jurisdiction. Everyone was reminded to set up their Elected Official meetings. Everyone was given a copy of their original Section 3 – Capability Section.
There was not a Regional Planning Meeting in April of 2019
Planning Team Meeting #3 – North Regional Group: PCEM Puyallup Room – May 21, 2019

Planning Team members Debbie Bailey and Wyatt Godfrey conducted the meeting with the majority of the regional jurisdictions present. We reviewed the Profile, Capabilities, and Mitigation Strategy Sections, along with introducing the Risk Assessment Section to the group. We also talked about progress made on the In-Kind Match sheets and pre-authorization approval from jurisdictions' governing bodies. Finally, we gathered feedback about our Threat and Hazard Identification Workshop held on May 1-2, and everyone's progress with outreach events for their mitigation plans, especially in relation to fire season starting and the opportunity for communities in this region to incorporate more fire protection and mitigation elements into their planning process.

There was not a Regional Planning Meeting in June of 2019

Planning Team Meeting #4 – North Regional Group: PCEM Puyallup Room – July 16, 2019

Planning Team members Debbie Bailey and Wyatt Godfrey reviewed the Profile, Capabilities, Risk Assessment, and Mitigation Strategy Sections to see how everyone was coming along with their update process. A reminder was provided for those who had not turned in their in-kind match sheet, as well as for those who had not completed the governing body pre-approval requirement yet. Debbie offered to create jurisdictional maps for public outreach events to bring residents in to talk about hazards that can affect them and how the mitigation plan plays a role in community resilience. Lastly, Todd Kilpatrick, the former Mitigation Grant Program Manager with Washington State Emergency Management Division who now works at Pierce County Emergency Management, spoke to the group about the Hazard Mitigation Grant Program (HMGP), the Pre-Disaster Mitigation Grant (PDM), potential projects that are eligible for those grants, and the upcoming Mitigation Grant Workshop that'll be held on August 12th and 19th.

There was not a Regional Planning Meeting in August of 2019

Planning Team Meeting #5 – North Regional Group: PCEM Puyallup Room – September 24, 2019

Planning Team members Debbie Bailey and Wyatt Godfrey reviewed the Profile, Capabilities, Risk Assessment, and Mitigation Strategy Sections to check on the jurisdictions' progress. More specifically, Debbie explained the process of developing new mitigation strategies to add to their plans. This discussion covered how to select a new mitigation strategy, the required components for their strategy development, and the format required to input the strategy into the plan. Feedback was gathered about the August Mitigation Grant Workshop – unanimous positive feedback with a few recommendations to improve for next time. A reminder for the In-Kind Match Sheet and pre-authorization documentation was provided. Finally, the meeting was closed out with a discussion on the progress of meeting the public outreach requirements and ideas for those who had not completed that component yet.

Planning Team Meeting #6 – North Regional Group: PCEM Puyallup Room – October 22, 2019

Planning Team members Debbie Bailey and Wyatt Godfrey held the meeting with less participation than preferred but included a call-in option for those who couldn't attend in person. The usual review of previous sections occurred, with the introduction of the Infrastructure and Plan Maintenance Sections. Participants were taught how to fill out the potentially overwhelming tables in the Infrastructure Section and told to review the Plan Maintenance Section for any inaccurate statements or language. Like the previous meeting, a reminder for the In-Kind Match Sheet, pre-authorization documentation, and public outreach documentation was provided.

Planning Team Meeting #7 – North Regional Group: PCEM Nisqually Room – November 21, 2019

The final planning meeting was conducted by Debbie Bailey and Wyatt Godfrey. All sections of the plan were discussed and reviewed to ensure participants' questions were answered. A detailed discussion of the Mitigation Strategy Section occurred, specifically looking at the integration of new strategies into the plan and how to reorder them by priority. Like the previous meeting, a reminder for the In-Kind Match Sheet, pre-authorization documentation, and public outreach documentation was provided. Participants were informed that in the new year, Pierce County DEM would be hosting two "workshops" a month where jurisdictions can walk in and get help with their plan on an individual basis, instead of only in the previously used group format. The goal is to refine the work that participants have done thus far and craft it into a well-rounded, comprehensive, and usable Hazard Mitigation Plan.

Public Comment

Date	Location	Time
1/15/2019	Edgewood City Hall – 2224 104 th Ave E, Edgewood, WA	7:00pm
10/16/2019 – 11/22/2019	Online survey to community members	N/A

Elected Officials Meetings

On January 15, 2019, Debbie Bailey presented in front of the Edgewood City Council with the assistance of Police Chief Micah Lundborg. She first explained the overarching project of updating local jurisdictions' mitigation plans and then went into detail about the purpose, components, and processes involved in this update. Debbie provided reading material to the Council – in particular, a list of all jurisdictions participating in this update, as well as a short brochure explaining the mitigation plan and how it benefits the whole community. Once she was finished presenting, the Council had the opportunity to ask questions and provide comments. Many Councilmembers provided positive feedback regarding Edgewood's involvement in this planning process, while others asked questions about the project timeline, grant funding opportunities, and the applicability of specific mitigation projects for their jurisdiction. After the commentary period ended, the Council unanimously voted to approve the City of Edgewood's participation in the update of their Hazard Mitigation Plan.

Joint Planning Requirement

The City of Edgewood has the following identified plan which must collaborate with the mitigation plan; these plans are identified in the table below and must be updated within the predetermined timeline.

Plan	Next Update
Comprehensive Plan	June 2020

Endnote

¹State and Local Mitigation Planning How-to Guide, Getting Started: building support for mitigation planning, FEMA 386-1, September 2002, p. 3-1.

SECTION 2

REGION 5 ALL HAZARD MITIGATION PLAN
2020-2025 EDITION
CITY OF EDGEWOOD
PROFILE SECTION

Table of Contents

TABLE OF CONTENTS..... 1

VISION STATEMENT 2

VISION STATEMENT 2

SERVICES SUMMARY..... 2

GEO-POLITICAL SUMMARY 3

POPULATION SUMMARY 5

 DEMOGRAPHICS.....5

 SPECIAL POPULATIONS5

 DEMOGRAPHIC ANALYSIS5

INFRASTRUCTURE SUMMARY 6

 GENERAL6

 JURISDICTION INFRASTRUCTURE6

ECONOMIC SUMMARY 8

RESOURCE DIRECTORY 9

 REGIONAL9

 NATIONAL9

ENDNOTES..... 10

Vision Statement

A unique, safe, and prosperous community of neighbors.

Services Summary

The City of Edgewood was incorporated in the year 1996.

The jurisdiction provides the following services through their own capabilities:

Table 2-1 City Services¹

CITY SERVICES			
Service	Yes	Service	Yes
Mayor	Yes	Municipal Airport	No
City Attorney	Yes	Municipal Court	No
City Clerk	Yes	Public Works/Improvements	No
City Treasurer	Yes	Comprehensive Planning	Yes
Sheriff or Police	Yes	Parking Meter Revenue	No
Parks Board	Yes	Construction and Operation of Boat Harbors, Marinas, Docks, etc.	No
City Council	Yes	Issue Bonds and Levies of General Tax	Yes
License and Tax Fees	Yes	Fire Department/EMS	No
Non-Polluting Power Generation	No	Parking, Off-street Facilities	No
Hydroelectric Resources	No	Sanitary Landfill/Refuse Service	No
Radio Communications	No	Sidewalks	Yes
Streets	Yes	Storm Drains	Yes
Wastewater Treatment	No	Streets/Alleys	Yes
Water Utility	No	Parks and Parkways	Yes
Public Transportation Systems	No	Water Pollution Abatement	No
Residential Care Facilities	No	Local Improvement Districts	Yes
Child Care Facilities	No		

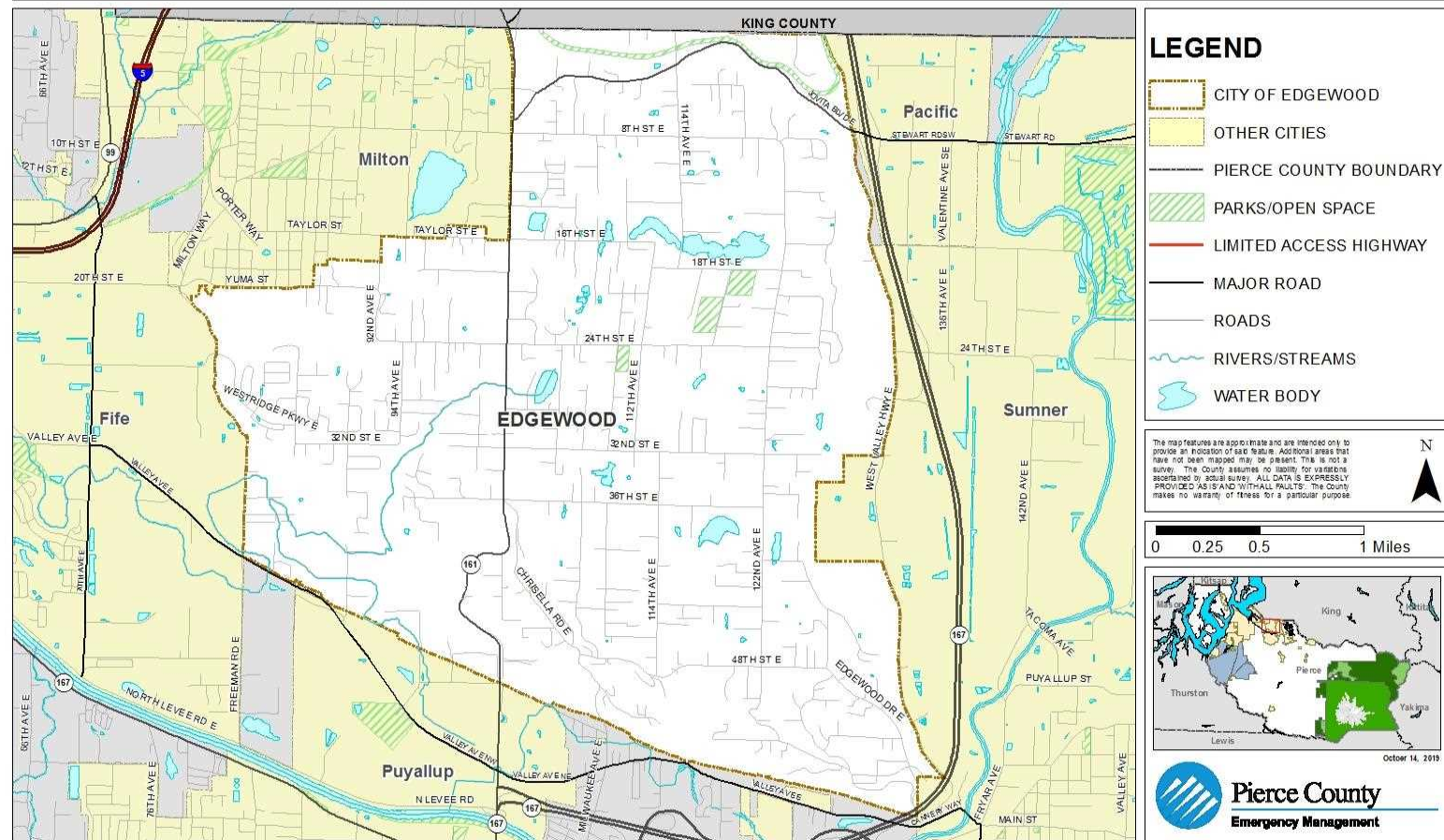
Geo-Political Summary

Table 2-2 Geo-Political Summary²

Jurisdiction	Area (sq mi)	Elevation Range (ft)	Major Water Features	Regional Partners	
				Shared Borders	Land Use Authorities
City of Edgewood	8.36	40-480	• Puyallup Watershed • 4-Hylebos Basin • 15-Lower White River Basin	• Fife • Milton • Pacific • Sumner • Puyallup • Unincorporated Pierce County • Unincorporated King County • Puyallup Tribe	• Edgewood • Fife • Milton • Pacific • Sumner • Puyallup • Unincorporated Pierce County • Unincorporated King County • Puyallup Tribe

Map 2- 1 City of Edgewood - Basemap

CITY OF EDGEWOOD - BASEMAP



Population Summary

Demographics

Table 2-1 Population^{3,4,5,6}

Jurisdiction	Population	Population Density (people/sq mi)	Population Served	Projected Year 2022 Population Change (%)	Projected Population Density	Projected 2022 Population Served
City of Edgewood	9,391	1,123	9,391	45.88%	1,639	13,700
Region 5	795,147	440	795,147	-13.41%	381	688,495

Special Populations

Table 2-2 Special Populations⁷

Jurisdiction	Population	Population 65 Plus	% of Total	Population Under 20	% of Total
City of Edgewood	9,391	1,314	14%	2,285	24%
Region 5	795,147	87,770	11%	220,351	28%

Demographic Analysis

In comparison to the last update, the overall population in the City of Edgewood has increased significantly to a rough estimate of 10,990 for 2018 and it is continuing to rise. Development of single-family residences and multi-family homes are rapidly increasing as well. Edgewood has also seen a slight increase in the population of its vulnerable residents too. Currently recorded in the city are three adult family homes and one memory care facility that hold a combined 77 beds. Additionally, the city limits of Edgewood are covered by two zip codes (98371 and 98372) which share coverage with the City of Puyallup. There are a combined 316 Electricity-Dependent Beneficiaries within those two zip codes.

Edgewood Country Retreat Inc	9823 29 th SCE, EW 98371 (253) 864-3022	6 beds
Edgewood Manor AFH	11115 Karshner Rd E, EW 98371 (253) 904-8006	5 beds
The Ashley House	11306 8 th St E, EW 98371 (253) 533-9050	6 beds
The Cottages at Edgewood Senior Living (Memory Care)	2510 Meridian Av E EW 98371 (253) 881-1435	60 beds

Infrastructure Summary

General

Table 2-5 Parcel Summary⁸

Jurisdiction	# Parcels	Land Value	Average Land Value	Improved Value	Average Improved Value
City of Edgewood	4,805	\$852,052,600	\$177,326	\$1,206,803,600	\$251,156
Region 5	328,831	\$55,032,560,799	\$167,358	\$82,766,510,038	\$251,699

Jurisdiction	Total Assessed Value	Average Assessed Value
City of Edgewood	\$2,058,856,200	\$428,482
Region 5	\$137,799,070,837	\$419,057

Table 2-6 Housing Summary⁹

Jurisdiction	# Houses	Housing Density	Avg Year Built	Avg Year Built (%)
City of Edgewood	4,576	547	• <1939: 433 • 1940 – 1979: 2,230 • 1980 – 2004: 1,182 • 2005>139	• <1939: 10.9% • 1940 – 1979: 55.9% • 1980 – 2004: 29.6% • 2005>: 3.5%
Region 5	353,089	195	• <1939: 34,368 • 1940 – 1979: 126,363 • 1980 – 2004: 139,894 • 2005> 22,830	• <1939: 10.6% • 1940 – 1979: 39% • 1980 – 2004: 43.2% • 2005> 7.1%

Jurisdiction Infrastructure

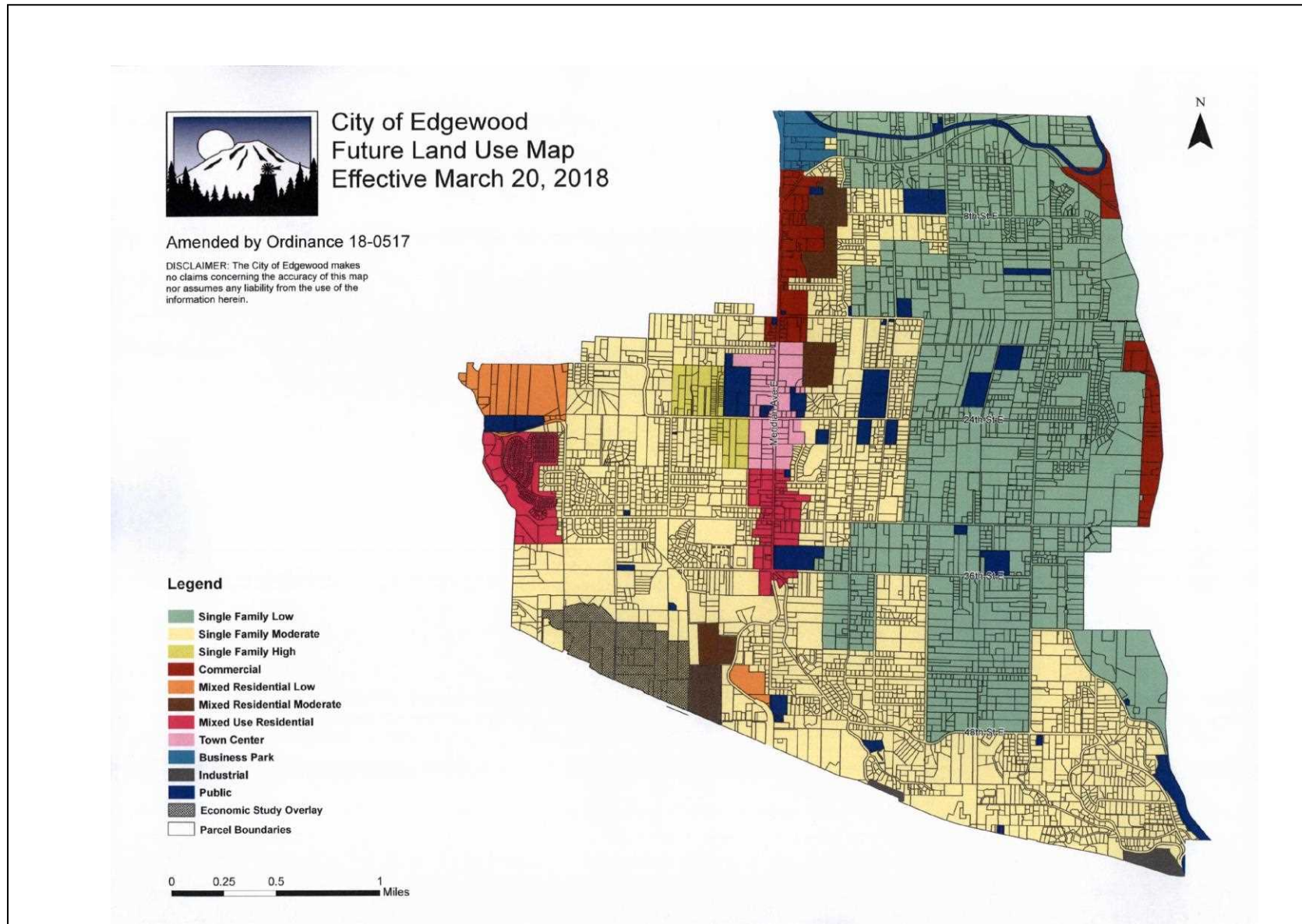
The following table shows the overview of infrastructure owned by the City of Edgewood. The infrastructure is categorized according to the infrastructure sectors as designated by the Department of Homeland Security. This chart is intended as a summary only.

For further details on Department of Homeland Security infrastructure sectors, please see the Process Section 1.

Table 2-7 Owned Infrastructure¹⁰

Total Infrastructure	Emerg. Services	Tele-comm	Transportation	Water	Energy	Government	Commercial	Total Value (\$)
12	0	0	0	0	0	12	0	\$28,260,416

Map 2- 2 City of Edgewood – Official Land Use Map



Economic Summary

Table 2-8 Fiscal Summary¹¹

Jurisdiction	Operating Costs (per month)	Operating Budgeted Revenues ¹²	Operating Budgeted Expenditures ¹³	Fund Balance as % of Operating Cost	Avg Fund Balance (5 yrs)
City of Edgewood	\$588,475	\$7,061,700	\$7,126,943	50%	\$3,082,122

Table 2-10 Unemployment Rate¹⁵

Jurisdiction	Unemployment Rate
Region 5 (Pierce County)	4.8%
WA State	4.3%

Resource Directory

Regional

- **City of Edgewood**
<http://cityofedgewood.org/>
- **Pierce County Government**
<https://www.co.pierce.wa.us/>
- **Pierce County DEM**
<https://www.co.pierce.wa.us/104/Emergency-Management>
- **Pierce County Planning and Public Works (PPW)**
<https://www.co.pierce.wa.us/4999/Planning-Public-Works>
- **Municipal Research & Services Center of Washington (MRSC)**
<http://www.mrsc.org/>

National

- **US Census**
<http://www.census.gov/>

Endnotes

¹ Information from a survey compiled by the City.

² Information from Pierce County GIS application, CountyView Pro (2019).

³ “Population” from Census 2010, Office of Financial Management. It should be noted that current (as of December 2019) population of City of Edgewood is reported by the Office of Financial Management as 9,391.

⁴ “Projected Population Change (%)” from Pierce County Buildable Lands Report, Dec. 2019.

⁵ “Projected Population Density” is based on an assumption of the jurisdiction maintaining the same geographic area and boundaries. It does not consider changes in annexation, district mergers, etc.

⁶ “Projected 2022 Population” from Pierce County Buildable Lands Report, Dec. 2019.

⁷ Information from Pierce County GIS application, CountyView Pro, based on 2010 Census Block data.

⁸ Information from Pierce County GIS application, CountyView Pro, based on August 2019 tax parcel data.

⁹ Information from Census 2010, Office of Financial Management.

¹⁰ Information obtained from Jurisdiction from the Homeland Security Sector Infrastructure.

¹¹ Information obtained from the Budget of the Jurisdiction.

¹² Non-Capital

¹³ Non-Capital

¹⁵ Information from Washington State Employment Security Department, December 2019 Monthly Employment Report.

Section 3

Capability Identification Requirements

Planning Process---Requirement §201.6(b):

An open public involvement process is essential to the development of an effective plan.

Documentation of the Planning Process---Requirements §201.6(b):

In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process **shall** include:

(3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

- Does the planning process describe the review and incorporation, if appropriate, of existing plans, studies, reports, and technical information?

Assessing Vulnerability: Analyzing Development Trends---Requirement §201.6(c)(2) (ii)(C):

[The plan **should** describe vulnerability in terms of] providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.]

- Does the plan describe land uses and development trends?

Identification and Analysis of Mitigation Actions: National Flood Insurance Program (NFIP) Compliance--Requirement §201.6(c)(3)(ii):

[The mitigation strategy] must also address the jurisdiction's participation in the National Flood Insurance Program (NFIP), and continued compliance with NFIP requirements, as appropriate.

- Does the new or updated plan describe the jurisdiction(s) participation in the NFIP?

SECTION 3

REGION 5 ALL HAZARD MITIGATION PLAN 2020-2025 EDITION CITY OF EDGEWOOD CAPABILITY IDENTIFICATION SECTION

Table of Contents

CAPABILITY IDENTIFICATION REQUIREMENTS.....	1
TABLE OF CONTENTS	2
LEGAL AND REGULATORY.....	3
ADMINISTRATIVE CAPABILITY	4
TECHNICAL CAPABILITY	6
FISCAL CAPABILITY.....	7
SPECIFIC CAPABILITIES	8

Legal and Regulatory

Table 3-1 Legal and Regulatory

Regulatory Tools (Ordinances and Codes)	Yes or No
<u>Jurisdiction Capabilities</u>	
Building Construction/Design Construction Codes	Yes
Flood Damage Prevention Ordinance	Yes
Growth Management Ordinance	Yes
Critical Area Ordinance	Yes
Hazard Setback Requirements	Yes
Hillside and Steep Slope Ordinance	Yes
Land Use and Regulatory Codes	Yes
Mechanical Codes	Yes
Plan Review Requirements	Yes
Plumbing Codes	Yes
Real Estate Disclosure Requirements	Yes
Storm Water Management	Yes
Subdivision Ordinance or Regulations	Yes
Tax and License Codes	Yes
Wildfire Ordinance	Yes
Zoning Ordinance	Yes

Administrative Capability

Table 3-2 Administrative Capability

Administrative Tools (Agency, Departments or Programs)	Yes or No
<u>Jurisdiction Capabilities</u>	
Architectural Review Board/Historic Review	No
Board of Adjustments/Hearing Examiner	Yes
Building Official	Yes
Chamber of Commerce	Yes
City/Town Website	Yes
Commercial Fire Safety/Code Inspection Program	No
Community CPR/First Aid Program	No
Community Emergency Response Teams	No
Downtown Revitalization Committee	No
Economic Development Board	Yes
Emergency Manager	Yes
Engineers	Yes
Families First Coalition	No
Fire and Injury Prevention Program	No
Fire Chief	Yes
Fire Safety & Disaster Classes in Schools	No
Flood Plan Manager	No
Government TV Access	No
Grant Writers	No
Home Safety Council	No
Information included in Utility Bills	No
Lahar Warning System	No
Planners	Yes
Planning Commission	Yes
Police Chief	Yes
Police Department	Yes
Public Utility	No
Public Works Department	Yes
Safe Streets Program	Yes
Safety Fairs	Yes
Stream Team	No
Surveyors	No
City/Town Council	Yes
City/Town Meetings	Yes
City/Town Planning Commission	Yes

Table 3-3 Administrative Capability (Cont'd)

Administrative Tools (Agency, Departments or Programs)	Yes or No
<u>Regional Capabilities</u>	
Local Business Districts	No
Local Department of Emergency Management	No
Local Fire Agencies plus Mutual Aid with others	Yes
Local Hospitals	No
Local Law Enforcement Agencies and Mutual Aid with others	Yes
Local Neighborhood Associations	Yes
Local Neighborhood Emergency Teams (NET)	Yes
Local Newspapers	Yes
Local Parks Commission/Board	Yes
Local Power Companies	No
Local Parent Teacher's Association	Yes
Neighboring Counties	Yes
Pierce County ALERT	Yes
Pierce County Department of Emergency Management	Yes
Pierce County Fire Chiefs Association	No
Pierce County Neighborhood Emergency Teams (PCNET)	Yes
Pierce County Police Chiefs Association	Yes
Pierce County Safe Kids Coalition	No
Pierce County Sheriffs Department	Yes
Puget Sound Clean Air Agency	Yes
Puget Sound Energy	Yes
Puget Sound Regional Council	Yes
Puget Sound Water Quality Management Plan	Yes
Service Organizations	No
Tacoma/Pierce County Health Department	Yes
Tribes	Yes

Technical Capability

Table 3-4 Technical Capability

Technical Tools (Plans and Other)	Yes or No
<u>Jurisdiction Capabilities</u>	
After Action Reports of Any Incident	Yes
Capital Improvement Plan	Yes
Comprehensive Emergency Management Plan	Yes
Comprehensive Plan	Yes
Continuity of Governmental Services and Operations Plan (COOP and COG)	Yes
Critical Facilities Plan	No
Drainage Master Plan	No
Economic Development Plan	No
Emergency Evacuation Plan	No
Emergency Response Plan	Yes
Generator Placement Plan	No
Habitat Plan	Yes
Hazardous Materials Response Plan	No
Lahar Evacuation Plan	Yes
Pandemic Flu Plan	Yes
Post-Disaster Recovery Plan	No
Sewer/Wastewater Comprehensive Plan	Yes
Storm Comprehensive Plan	No
Water Comprehensive Plan	No
<u>Regional Capabilities</u>	
Local and Regional Emergency Exercises – All Types	Yes

Fiscal Capability

Table 3-5 Fiscal Capability

Fiscal Tools (Taxes, Bonds, Fees, and Funds)	Yes or No
<u>Jurisdiction Capabilities</u>	
TAXES:	
Authority to Levy Taxes	Yes
BONDS:	
Authority to Issue Bonds	Yes
FEES:	
Fees for Water, Sewer, Gas or Electric Service	Yes
Impact Fees for Homebuyers/Developers for New Developments/Homes	Yes
Local Improvement District (LID)	Yes
FUNDS:	
Capital Improvement Project Funds	Yes
Enterprise Funds	No
General Government Fund (Departments)	No
Internal Service Funds	No
Special Revenue Funds	No
Withhold Spending in Hazard-Prone Areas	Yes
<u>Regional Capabilities</u>	
Pierce County Land Conservancy	No
Cascade Land Conservancy	No

Specific Capabilities

Table 3-6 Specific Capabilities

Jurisdiction Specific Capabilities
<u>Legal & Regulatory</u>
<u>Administrative & Technical</u>
Edgemont Parent Teacher's Association
Edgewood Parks Board
Emergency Management Tabletop Exercises
Edgewood Newsletter
<u>Fiscal</u>

Section 4

Risk Assessment Requirements

Identifying Hazards--- Requirement §201.6(c)(2)(i):

[The risk assessment **shall** include a] description of the type ... of all natural hazards that can affect the jurisdiction.

- Does the new or updated plan include a **description** of the types of **all natural hazards** that affect the jurisdiction?

Profiling Hazards---Requirement §201.6(c)(2)(i):

[The risk assessment **shall** include a] description of the ... location and extent of all natural hazards that can affect the jurisdiction. The plan **shall** include information on previous occurrences of hazard events and on the probability of future hazard events.

- Does the risk assessment identify (i.e., geographic area affected) of each hazard being addressed in the new or updated plan?
- Does the risk assessment identify the extent (i.e., magnitude or severity) of each hazard addressed in the new or updated plan?
- Does the plan provide information on previous occurrences of each hazard addressed in the new or updated plan?
- Does the plan include the probability of future events (i.e., chance of occurrence) for each hazard addressed in the new or updated plan?

Assessing Vulnerability: Overview---Requirement §201.6(c)(2) (ii):

[The risk assessment **shall** include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description **shall** include an overall summary of each hazard and its impact on the community.

- Does the new or updated plan include an overall summary description of the jurisdiction's vulnerability to each hazard?
- Does the new or updated plan address the impacts of each hazard on the jurisdiction?

Assessing Vulnerability: Addressing Repetitive Loss Properties---Requirement §201.6(c)(2) (ii):

[The risk assessment] **must** also address the National Flood Insurance Program (NFIP) insured structures that have been repetitively damaged by floods.

- Does the new or updated plan describe vulnerability in terms of the types and numbers of repetitive loss properties located in the identified hazard areas?

Assessing Vulnerability: Identifying Structures---Requirement §201.6(c)(2) (ii)(A):

The plan **should** describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas...

- Does the new or updated plan describe vulnerability in terms of the types and numbers of existing buildings, infrastructure, and critical facilities located in the identified hazard areas?
- Does the new or updated plan describe vulnerability in terms of the types and numbers of future buildings, infrastructure, and critical facilities located in the identified hazard areas?

Assessing Vulnerability: Estimating Potential Losses---Requirement §201.6(c)(2) (ii)(B):

[The plan **should** describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate...

- Does the new or updated plan estimate potential dollar losses for vulnerable structures?
- Does the new or updated plan describe the methodology used to prepare the estimate?

Assessing Vulnerability: Analyzing Development Trends---Requirement §201.6(c)(2) (ii)(c):

[The plan **should** describe vulnerability in terms of] providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

- Does the new or updated plan describe land uses and development trends?

SECTION 4

**REGION 5 ALL HAZARD MITIGATION PLAN
2020-2025 EDITION
CITY OF EDGEWOOD
RISK ASSESSMENT SECTION**

Table of Contents

RISK ASSESSMENT REQUIREMENTS 1

TABLE OF CONTENTS 3

VULNERABILITY AND HAZARD IMPACT ANALYSIS 5

 IDENTIFIED HAZARDS AFFECTING THE CITY OF EDGEWOOD5

 METEOROLOGICAL6

 TECHNOLOGICAL7

CHANGES IN DEVELOPMENT 7

**CITY OF EDGEWOOD HAZARD MAPS AND OVERVIEW OF DATA SOURCE
DESCRIPTIONS 14**

 REGULATED FLOODPLAIN14

 LANDSLIDE SUSCEPTIBILITY - DEEP15

 LANDSLIDE SUSCEPTIBILITY - SHALLOW16

 LIQUEFACTION POTENTIAL16

 VOLCANIC – LAHAR18

 HAZARDOUS MATERIAL18

 TRANSPORTATION ACCIDENTS / INCIDENTS.....19

 DROUGHT, SEVERE WEATHER, CIVIL DISTURBANCE, ENERGY EMERGENCY, EPIDEMIC, AND TERRORISM.....19

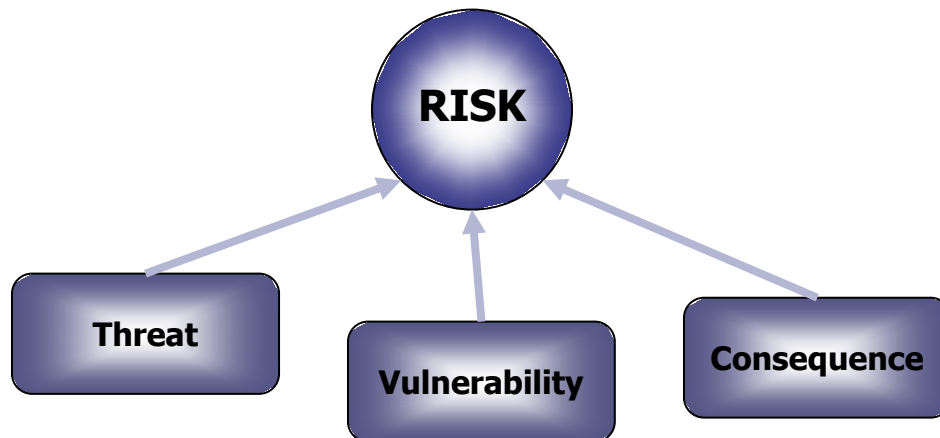
 VULNERABILITY ANALYSIS DATA19

VULNERABILITY ANALYSIS 31

ENDNOTES 39

Section Overview

The Risk Assessment portrays the threats of natural hazards, the vulnerabilities of a jurisdiction to the hazards, and the consequences of hazards impacting communities. Each hazard is addressed as a threat and is identified and profiled in the Hazard Identification. The vulnerabilities to and consequences of a given hazard are addressed in the Vulnerability Analysis. Vulnerability is analyzed in terms of exposure of both population and infrastructure to each hazard. Consequences are identified as anticipated, predicted, or documented impacts caused by a given hazard when considering the vulnerability analysis and the characteristics of the hazard as outlined in its identification.



The WA Region 5 **Hazard Identification** was used for this plan. Each jurisdiction's Vulnerability and Consequence Analysis are based on the Region 5 Hazard Identification. The Region 5 Hazard Identification can be found in the Base Plan. Each hazard is identified in subsections. The subsections are grouped by hazard-type (i.e., geological, meteorological, and technological hazards) and then alphabetically within each type. A summary table of the WA Region 5 Hazard Identification is included in this section as Table 4-1a, Table 4-1b, and Table 4-1c.

The **Vulnerability Analysis** is displayed in these six tables:

- Table 4-2 General Exposure
- Table 4-3 Population Exposure
- Table 4-4 General Infrastructure Exposure
- Table 4-5a Consequence Analysis Chart – Geological
- Table 4-5b Consequence Analysis Chart – Meteorological
- Table 4-5c Consequence Analysis Chart – Technological

Each jurisdiction has its own Vulnerability Analysis, and it is included in this section.

The **Consequence Identification** is organized by Threat. Each threat page summarizes the hazard, graphically illustrates exposures from the Vulnerability Analysis, and lists corresponding Consequences. Each jurisdiction has its own Consequence Identification and it is included in this section: avalanche, earthquake, landslide, tsunami, volcanic, drought, flood, severe weather, wildland/urban interface fire, abandoned mines, civil disturbance, dam failure, energy

emergency, epidemic, hazardous materials, pipeline, terrorism / active threat, and transportation accident.

Specific information and analysis of the City of Edgewood's owned (public) infrastructure is addressed in the Infrastructure Section of its Plan.

Vulnerability and Hazard Impact Analysis

Identified Hazards Affecting the City of Edgewood

Through the Mitigation, Hazard Identification Risk Assessment (HIRA) and Comprehensive Emergency Management Plan (CEMP) planning processes, the City of Edgewood has identified seven major hazards that significantly affect the region. These hazards were chosen based on multiple criteria including high frequency and potential impact. The most common hazards are earthquake, flood, winter/severe storms, volcano eruption/lahar, hazardous materials, and terrorism / active threat / attack tactics¹. They have been identified in all three plans and the likelihood of (re)occurrence and potential damage to life and property is illustrated. Additionally, certain man-made hazards such as fire, hazmat, and terrorism have been accounted for in the mitigation strategies and can be found in Section 5 of this plan.

The City of Edgewood sits atop a small plateau at an altitude of approximately three hundred fifty feet. A great portion of the population and its buildings are situated above sea level with many residential areas constructed atop steep hills in order to maximize the views provided by the elevated location. Overlooking the valleys below, the eastern and southern edges of the city face Mt. Rainier. The western side of the city, also elevated, looks towards the Puyallup River Delta and the Port of Tacoma on Commencement Bay. In other words, the geography of Edgewood indicates the obvious vulnerabilities facing the city.

Geological:

- Earthquake
- Landslide
- Volcanic

Meteorological:

- Flood
- Severe Weather

Technological:

- Hazardous Materials
- Terrorism / Active Threat / Attack Tactics

Geological

Earthquake

The two main geological threats to the city are, Earthquakes and Landslides. Historical records indicate earthquakes occur in the area approximately every 40 years or less with “intraplate” quakes occurring about every 23 years. In 2001, three quakes were recorded with magnitudes between 4.3 and 6.8.

Landslide

As previously mentioned, the eastern, southern, and western sides of the city are atop steep hills with a small percentage of the population living at the base of the hillsides. Landslides have been recorded throughout areas of the city temporarily blocking traffic and transportation on 25th Street, Jovita Blvd, Chrisella Road, and Meridian. In 1997, a landslide on Caldwell Road ultimately led to a permanent closure of the road removing one route into and out of the city. Fortunately, there have been no reported injuries caused by any of the slides but there has been some minor property damage. Of great concern is the potential for a large landslide similar to Landslide SR 530 slide in 2014.

Volcanic

Finally, due to the fact the City of Edgewood is part of designated evacuation routes from the valley floor, Edgewood will be impacted should there be a volcanic eruption, a lahar, or tsunami. People fleeing from potential pyroclastic flows or incoming ocean waters, will race up the hills of Edgewood. Dealing with a mass influx of citizens who may have just lost all their belongings will take a toll on the city and its residents as well.

Meteorological

Flood

Globally speaking, it seems the climates throughout the world are changing. Extended periods of drought, torrential flooding, earlier, later, longer and stronger storm seasons, heavy snowfalls or no snow at all, seem to be concerns shared across the nation and the world. The City of Edgewood is no different and is subject to this climate change too. Meteorological Hazards are an ever-present threat to Edgewood. However, the most common reoccurring threat we tend to see relates to storms and flooding. Roughly 35% of the city is tributary to closed depressions throughout our borders. Water pools without anywhere for it to go. There are no streams, creeks, or drainage systems to remove the water from these areas. As a result, rains create flooded areas and heavy or excessive precipitation quickly increase the amount of flooding to the surrounding properties. Valley flooding, from swollen creeks and rivers can also impact a small percentage of properties on the lower, southwestern edge of the city too.

Severe Weather

Severe storms, whether they are just wind, rain, snow, and/or ice impact the city with downed trees, toppled power systems, debris slides, and closed roads. Traffic and transportation through the city can be impacted heavily as a result. With limited ingress and egress routes to and from the city, getting help into or out of the city can be a challenge.

Technological

Hazardous Materials

The US Department of Transportation (DOT) collects data on hazardous materials incidents occurring in the US during transportation.

No significant incidents have occurred within the City of Edgewood although it is within the main thoroughfares of the larger urban areas of Pierce and King Counties, thus dangerous materials are frequently passing through the city. There is a railroad that touches the city's southern line with three points that intersect with major transportation routes: SR 161, SR 167, and Valley Ave E.

Fixed locations are the most frequent for accidents, but the transportation accidents are often riskier because they happen in uncontained spaces. They can be in close proximity to people and responders who usually have less information about the materials involved.

Areas up to one-half mile downwind from an accident site are considered vulnerable, according to US DOT. An incident could affect thousands of people in Edgewood.

Other hazards, such as earthquakes and landslides could produce hazardous material incidents.

Terrorism and Active Threat / Attack Tactics

Attacks can be perpetrated by many different actors with different motivations, such as terrorists, violent extremists, the mentally ill, and targeted violent offenders. All use violent attack tactics to harm people and/or property. Attack tactics can include active shooter, bombings, arson, murder, kidnapping, and vehicle ramming.

Incidents of terrorism and active threats have increased in the United States. In 2019 Edgewood experienced an active shooter threat at the junior high school and in addition a resident of Edgewood was charged with threatening to shoot up a school in Anacortes, WA.

Edgewood's greatest threat probably comes from a school shooting type incident. Our police department trains regularly for this type of incident.

Changes in Development

The City of Edgewood incorporated in 1996 and has slowly grown through the years. However, since the completion of the sewer system through the Meridian corridor, around the 2010 census, the city has grown nearly 21%. Approximately 17% of that growth has occurred in just the last three years. While there has been a small increase in the number of commercial properties and

businesses in the city, the greatest growth has been in the development of residential and multi-family properties. In the past five years, five multi-family housing development projects with approximately 788 housing units have been added to the city. There have also been 18 approved residential land division projects which have created 464 new buildable lots. Currently, there are still 27 division projects in process which means the city may soon have an additional 425 buildable lots. The residential population is growing rapidly in the city and the potential for more growth appears inevitable.

The City of Edgewood adopted FEMA's most current flood maps in the first quarter of 2017. Along with the adoption of the maps, the City updated Title 14 of the Edgewood Municipal Code which established more control over the development on the valley floor. The City continues to work with landowners to establish Base Flood Elevation (BFE) for the closed depressional areas with the adoption of the Critical Areas Ordinance in 2018.

As development continues and more people are moving into the City of Edgewood, the risk of identified hazards impacting the population continues to increase as well. The City of Edgewood continues to monitor its infrastructure, incorporates elements of the mitigation plan into existing plans and ordinances and is evaluating and re-evaluating mitigation strategies as time and resources allow.

Table 4-1a WA Region 5 Hazard Identification: Summary – Geological

HAZARD		DECLARATION # DATE/PLACE	PROBABILITY/ RECURRENCE	MAPS, FIGURES AND TABLES
<u>Geological</u>	<u>AVALANCHE</u>	Not Applicable	Yearly in the mountainous areas of the County including Mt. Rainier National Park and the Cascades.	Slab Avalanche Areas Vulnerable to Avalanche Pierce County Avalanches of Record
	<u>EARTHQUAKE</u>	N/A--7/22/2001 Nisqually Delta N/A--6/10/2001 Satsop DR-1361-WA--2/2001 Nisqually N/A--7/2/1999 Satsop DR-196-WA--4/29/1965 Maury Island, South Puget Sound N/A--4/13/1949 South Puget Sound N/A--2/14/1946 Maury Island	40 years or less occurrence Historical record—about every 23 years for intraplate earthquakes.	Types of Earthquakes Major Faults in the Puget Sound Basin Seattle and Tacoma Fault Segments Pierce County Seismic Hazard Major Pacific Northwest Earthquakes Notable Earthquakes Felt in Pierce County Salmon Beach, Tacoma Washington following Feb 2001 Earthquake Liquefaction Niigata Japan-1964 Lateral Spreading – March 2001
	<u>LANDSLIDE</u>	DR-1671-WA--2006 DR-1361-WA--2001 DR-1159-WA--12/96-2/1997 DR-852-WA--1/1990 DR-545-WA--12/1977 State proclamations: 17-08 –05/18/2017 SR 410	Slides with minor impact (damage to five or less developed properties or \$1,000,000 or less damage) 10 years or less. Slides with significant impact (damage to six or more developed properties or \$1,000,000 or greater damage) 100 years or less.	Northeast Tacoma Landslide January 2007 Pierce County Landslide Deposits, Scarps and Flanks, and Susceptibility Landslide Facts for Pierce County – Shallow Landslide Susceptibility Pierce County Deep Landslide Hazard Area Pierce County Shallow Landslide Hazard Area Pierce County Slope Stability Areas Pierce County Comparison of Landslide Susceptible Areas Notable Landslides in Pierce County Ski Park Road – Landslide January 2003 SR-165 Bridge Along Carbon River – Landslide February 1996 Aldercrest Drive – Landslide
	<u>Tsunami</u>	N/A--A.D. 900 Seattle Fault EQ Sourced Tsunami N/A--1894 Puyallup River Delta N/A--1949 Tacoma Narrows	Due to the limited historic record, until further research can provide a better estimate a recurrence rate of plus or minus 100-200 years will be used.	Hawaii 1957 – Residents Explore Ocean Floor Before Tsunami Hawaii 1949 – Wave Overtakes a Seawall Tsunamis in Washington State Tsunami Inundation and Current Based on Earthquake Scenario Notable Tsunamis in Pierce County Salmon Beach, Pierce County 1949 – Tsunamigenic Subaerial Landslide Salmon Beach, Pierce County 1949 – Tsunamigenic Subaerial Landslide Damage in Tacoma from 1894 Tsunami
	<u>VOLCANIC</u>	DR-623-WA--5/1980	The recurrence rate for either a major lahar (Case I or Case II) or a major tephra eruption is 500 to 1000 years. The recurrence rate for either a major lahar (Case I or Case II) or a major tephra eruption is 500 to 1000 years.	Volcano Hazards Tephra Types and Sizes Lahars, Lava Flows and Pyroclastic Hazards of Mt. Rainier Estimated Lahar Travel Times for Lahars 10 ⁷ to 10 ⁸ Cubic Meters in Volume Pierce County Eruptive Events and Lahars

Table 4-1b WA Region 5 Hazard Identification: Summary – Meteorological

HAZARD		DECLARATION # DATE/PLACE	PROBABILITY/ RECURRENCE	MAPS, FIGURES AND TABLES
<u>Meteorological</u>	<u>CLIMATE CHANGE</u>	Not Applicable	Not Applicable	IPCC Models on Global Temperature Change: 1900 to 2100 Recent and Projected Temperatures for the Pacific Northwest Puget Sound Projected Warming Puget Sound Projected Precipitation Change Projected Decline in Snowpack Projected Sea Level Risk – Tacoma Sea Level Rise Inundation Area in 2100 Tacoma Tideflats Climate Impacts and Natural Hazards Comparison of the South Cascade Glacier: 1928 to 2003 Lower Nisqually Glacier Retreat: 1912 to 2001
	<u>DROUGHT</u>	Many dry seasons but no declarations State proclamations: 18-05--7/31/2018	50 years or less occurrence	Sequence of Drought Impacts Palmer Drought Severity Index Pierce County Watersheds %Area of Basin in Drought Conditions Since 1895 %Time in Severe to Extreme Drought: 1895-2004 %Time in Severe to Extreme Drought: 1985-1995 Notable Droughts Affecting Pierce County Columbia River Basin USDA Climate Zones – Washington State
	<u>FLOOD</u>	DR-WA 1817--01/2009 DR-1734-WA--12/2007 DR-1671-WA--11/2006 DR-1499-WA--10/2003 DR-1159-WA--12/96-2/97 DR-1100-WA--1-2/1996 DR-1079-WA--11-12/1995 DR-896-WA--12/1990 DR-883-WA--11/1990 DR-852-WA--1/1990 DR-784-WA--11/1986 DR-545-WA--12/1977 DR-492-WA--12/1975 DR-328-WA--2/1972 DR-185-WA--12/1964	5 years or less occurrence Best available science--the frequency of the repetitive loss claims indicates there is approximately a 33 percent chance of flooding occurring each year.	Lower Puyallup River Historical Flooding in Lower Puyallup River Levees and Revetments in the Lower Puyallup River Summary of Damages to Lower Puyallup River Facilities Middle Puyallup River Historical Flooding in Middle Puyallup River Levees and Revetments in the Middle Puyallup River Summary of Damages to Lower Middle River Facilities Upper Puyallup River Historical Flooding in Upper Puyallup River Levees and Revetments in the Upper Puyallup River Summary of Damages to Upper Puyallup River Facilities Lower White River Historical Flooding in Lower White River Levees and Revetments in the Lower White River Summary of Damages to Lower White River Facilities Upper White River Historical Flooding in Upper White River Levees and Revetments in the Upper White River Summary of Damages to Upper White River Facilities Greenwater River Historical Flooding in Greenwater River Carbon River Historical Flooding in Carbon River South Prairie Creek Historical Flooding in South Prairie Creek Middle Nisqually River Historical Flooding in Middle Nisqually River Upper Nisqually River Historical Flooding in Upper Nisqually River

<u>Meteorological</u>				Levees and Revetments in the Upper Nisqually River Summary of Damages to Upper Nisqually River Facilities Mashel River Historical Flooding in Mashel River Nov 2006 Flooding River Park Estates – Along Puyallup River
	<u>SEVERE WEATHER</u>	DR-4056-WA – 01/2012 DR-1825- WA – 12/2008 – 01/2009 DR-1682-WA--12/2006 DR-1159-WA--12/96-2/1997 DR-1152-WA--11/19/1996 DR-981-WA--1/1993 Inauguration Day Storm DR-137-WA--10/1962 Columbus Day Storm State proclamations: 19-06--02/15/2019 (Dec. 2018 Winter Storm) 19-05--02/14/2019 Winter Storm Maya 17-08--5/18/2017 Severe rain 17-03--3/14/2017 17-02--1/19/2017 Winter Storm 15-18--12/24/2015 Windstorms and Flooding	The recurrence rate for all types of severe storms is 5 years or less.	Fujita Tornado Damage Scale Windstorm Tracks Pierce County Severe Weather Wind Hazard – South Wind Event Pierce County Severe Weather Wind Hazard – Enumclaw East Wind Event Notable Severe Weather in Pierce County Snowstorm January 2004 Downtown Tacoma Satellite Image – Hanukkah Eve Windstorm Before/After Tornado Damage Greensburg KS May 2007 County Road December 2006 Windstorm Tacoma Narrows Bridge – November 1940 Windstorm
	<u>WUI FIRE</u>	EM-3372-WA Aug-Sept. 2015 State proclamations: 17-12--9/2/2017 Norse Peak Fire 15-11--6/26/2015	Based on information from WA DNR the probability of recurrence for WUI fire hazard to Pierce County is 5 years or less.	Washington State Fire Hazard Map Pierce County Forest Canopy Industrial Fire Precaution Level Shutdown Zones Carbon Copy Fire August 2006 Washington State DNR Wildland Fire Statistics: 1973-2007 DNR Wildland Response South Puget Sound Region: 2002-2007 Pierce County DNR Fires

Table 4-2c WA Region 5 Hazard Identification Summary – Technological

HAZARD		DECLARATION # DATE/PLACE	PROBABILITY/ RECURRENCE	MAPS, FIGURES AND TABLES
Technological	<u>ABANDONED MINES</u>	Not Applicable	Based on information from WA DNR. The Pierce County Sheriff's Department reports that they have had very few incidents of citizens entering the abandoned mines in east Pierce Co. Isolated issues of minor subsidence have occurred, typically following flood events i.e. 2009/2010.	Pierce County – Mine Hazard Areas Map Based on WA DNR Information Schasse, Koler, Eberle, and Christie, <u>The Washington State Coal Mine Map Collection: A Catalog, Index, and User's Guide</u> , Open File Report 94-7, June 1984 Pierce County 2014 HIRA
	<u>CIVIL DISTURBANCE</u>	Not Applicable	In the past 150 + years there have been eleven major incidents giving a recurrence rate of every seven years.	Pierce County Civil Disturbance High Probability Locations Map Pierce County Civil Disturbance High Probability Locations Zoomed In Map
	<u>DAM FAILURE</u>	Not Applicable	No occurrences in Pierce County 50+ years recurrence for WA State	Reasons for Dam Failures Nationally PC Dams that Pose a High or Significant Risk to the Public Pierce County High and Significant Risk Dams Dam Failures in WA State Mud Mt. Dam Intake
	<u>ENERGY EMERGENCY</u>	Not Applicable	Power outages are the most frequent energy incident, via natural hazards (storms, ice) Recurrence rate – every five years (storms) Recurrence rate – 50+ years (major)	Tacoma Power Outage 1929, USS Lexington provides power
	<u>EPIDEMIC / PANDEMIC</u>	EM-3507-WA 03/12/2020	Epidemic: • 1976-2014 Ebola outbreaks • Flu occurs annually Pandemics: • 2009-2010 “Swine Flu” recurrence rate – 20 years	Individuals hoping to avoid contacting disease
	<u>HAZARDOUS MATERIALS</u>	Not Applicable	• Dalco Passage oil spill of October 13, 2004 • Chlorine Spill Port of Tacoma February 12, 2007 Large incidents five-year recurrence Small incidents one-week recurrence	List of constituents or ingredients found in Bakken crude oil Environmental Protection Agency's Identified Top Five Facilities Exxon Valdez Oil Spill, 1989 Pierce County Spill data from May 2018 to May 2019 Dalco Passage oil spill (October 13, 2004)
	<u>PIPELINE FAILURE</u>	Not Applicable	• Northwest Pipeline Corporation natural gas incident May 1st, 2003, in Sumner 10 years recurrence	Cities and Towns with interstate pipelines within, or within 1 mile of city limits Olympic Pipeline Rupture 06/10/99 Pierce County Pipelines Whatcom Falls Park, 2003
	<u>TERRORISM ACTIVE THREAT CYBER ATTACK</u>	Not Applicable	Minor incident –recurrence 1-year Major Incident – recurrence 10 years	250 Active Shooter Incidents in the U.S. from 2000-2017: Incidents per year 250 Active Shooter Incidents in the U.S. from 2000-2017: Casualty Breakdown per year 250 Active Shooter Incidents in the U.S. from 2000-2017: Location Categories Occurrences in the Puget Sound

	<u>TRANSPORTATION</u> <u>ACCIDENT</u>	Not Applicable State proclamations: 17-13--12/18/2017 Amtrak derailment 15-05--4/16/2015 SR 410 Bridge 15-04--3/11/15 Damage to I-5 Overpass	Minor incidents – recurrence daily Major incidents - recurrence 10 years	Airports in Pierce County Ferry Services in Pierce County Transportation Accidents/Catastrophic Failures in Pierce County
--	--	--	---	---

City of Edgewood Hazard Maps and Overview of Data Source Descriptions

Regulated Floodplain²

Summary:

The flood hazard map delineates the flood hazard risk of the City of Edgewood. This map uses the new FEMA Flood Insurance Study (FIS) and Digital Flood Insurance Rate Map (DFIRM) for Pierce County, Washington and Incorporated Areas effective on March 7, 2017. These mapping products replace the FIS & FIRM issued to Unincorporated Pierce County in 1987 and the other incorporated communities between 1980 and 1985. The new DFIRM is a seamless countywide product adopted by every community participating in the National Flood Insurance Program (NFIP).

The intended purposes of this data are to support the National Flood Insurance Program so that flood insurance policies can be written for any qualifying structure in the community. In areas identified as Special Flood Hazard Areas (SFHA), a structure with a federally backed loan is required to purchase flood insurance. SFHA are designated as Zones beginning with the letter A or V (e.g. AE, AH and VE). Areas of moderate risk or areas suspected to be at risk of flooding but where no detailed flood study has been completed are shown as Zone X (Shaded). It is also to inform development in or near flood hazard areas so that new construction and redevelopment meets the purposes of the flood hazards areas described in Pierce County Code Title 18E.70.

Description:

The DFIRM is a composite of several flood studies, some dating back to the 1970s and as recent as 2016 that represent the best available date at the production deadline. The exception to this is the "secluded areas" that are near significant levees that effect the floodplain do not meet the federal standard (44 Code of Federal Regulations 65.10) to show an area protected by the levee. The secluded areas, in the lower Puyallup River and the Carbon River and Puyallup River near the City of Orting, continue to show the understanding of risk prior to the establishment of 44CFR65.10 as shown on the first FIRM. There are more recent hydraulic studies that show a better understanding of flood risk and Unincorporated Pierce County regulates to this better data which has been added to the Regulated Floodplain 2017 feature class. In areas where the regulated flood hazard varies from the DFIRM there are attributions indicating a different "insurance zone" or "insurance BFE".

The Digital Flood Insurance Rate Map (DFIRM) Database depicts flood risk information and supporting data used to develop the risk data. The primary risk classifications used are the 1-percent-annual-chance flood event, the 0.2-percent-annual- chance flood event, and areas of minimal flood risk. The DFIRM Database is derived from Flood Insurance Studies (FISs), previously published Flood Insurance Rate Maps (FIRMs), and flood hazard analyses performed in support of the FISs and FIRMs, and new mapping data, where available. The FISs and FIRMs are published by the Federal Emergency Management Agency (FEMA).

The FIRM is the basis for floodplain management, mitigation, and insurance activities for the National Flood Insurance Program (NFIP). Insurance applications include enforcement of the

mandatory purchase requirement of the Flood Disaster Protection Act, which "... requires the purchase of flood insurance by property owners who are being assisted by Federal programs or by Federally supervised, regulated or insured agencies or institutions in the acquisition or improvement of land facilities located or to be located in identified areas having special flood hazards, " Section 2 (b) (4) of the Flood Disaster Protection Act of 1973. In addition to the identification of Special Flood Hazard Areas (SFHAs), the risk zones shown on the FIRMs are the basis for the establishment of premium rates for flood coverage offered through the NFIP. The DFIRM Database presents the flood risk information depicted on the FIRM in a digital format suitable for use in electronic mapping applications. The DFIRM database is a subset of the Digital FIS database that serves to archive the information collected during the FIS.

Updates:

The October 2019 update to the Regulated Floodplain 2017 shows the changed flood hazard areas modified by FEMA in two Letter of Map Revisions (LOMR).

Some coastal areas of Puget Sound were modified by LOMR 19-10-0588P that became effective 4/22/2019.

A new flood study of Deer Creek within the City of Puyallup modified the flood hazard areas with LOMR 18-10-0841P that became effective 4/4/2019.

Landslide Susceptibility - Deep³

Summary:

These data sets were produced to provide attribute and spatial information on deep-seated landslide susceptibility in Pierce County, by the Washington State Department of Natural Resources, Washington Division of Geology and Earth Resources (DGER). The goal of this data is to estimate the extent of deep-seated landslide susceptible areas. This data is only an estimate of deep-seated landslide susceptible areas and can occur outside of the bounds of these polygons. This data is nonregulatory and is intended for informational purposes. It may not be suitable for legal, engineering, forestry, or surveying purposes; but it is intended to assist planners, homeowners, regulators, and others by identifying areas to seek further geologic investigation before developing, or areas to avoid. Users of this information should consider their intended application, and review or consult the accompanying documentation, to determine the usability of the data for themselves.

Description:

This is a polygon feature class intended to estimate areas susceptible to deep-seated landslides. To create this susceptibility dataset a landslide inventory was first created by using the methods described in the report accompanying these data. The constructed landslide inventory was then used, along with other necessary datasets, to create this deep-seated landslide susceptibility dataset by following protocol from Special Paper 48 (Burns and Mickelson, 2016). This feature class is part of a larger landslide susceptibility dataset for Pierce County, Washington.

Use Limitations:

The Washington Division of Geology and Earth Resources (DGER) shall not be held liable for improper or incorrect use of the data described and/or contained herein. This product is provided

'as is' without warranty of any kind, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular use. The Washington State Department of Natural Resources and the authors of this product will not be liable to the user of this product for any activity involving the product with respect to the following: (a) lost profits, lost savings, or any other consequential damages; (b) the fitness of the product for a particular purpose; or (c) use of the product or results obtained from use of the product. Although these data have been processed successfully on computers of DGER, no warranty, expressed or implied, is made by DGER regarding the use of these data on any other system, nor does the fact of distribution constitute or imply any such warranty.

Landslide Susceptibility - Shallow⁴

Summary:

These data sets were produced to provide attribute and spatial information on shallow landslide susceptibility in Pierce County, by the Washington State Department of Natural Resources, Washington Division of Geology and Earth Resources (DGER). The goal of this data is to estimate the extent of shallow landslide susceptible areas. This data is only an estimate of shallow landslide susceptible areas and can occur outside of the bounds of these polygons. This data is non-regulatory and is intended for informational purposes. It may not be suitable for legal, engineering, forestry, or surveying purposes; but it is intended to assist planners, homeowners, regulators, and others by identifying areas to seek further geologic investigation before developing, or areas to avoid. Users of this information should consider their intended application, and review or consult the accompanying documentation, to determine the usability of the data for themselves.

Description:

This is a polygon feature class intended to estimate areas susceptible to shallow landslides. To create this susceptibility dataset, the data listed in Special Paper 45 (Burns and others, 2012) as necessary data was obtained, and the Factor of Safety (FOS) portion of that protocol was followed. This feature class is part of a larger landslide susceptibility dataset for Pierce County, Washington.

Use Limitations:

The Washington Division of Geology and Earth Resources (DGER) shall not be held liable for improper or incorrect use of the data described and/or contained herein. This product is provided 'as is' without warranty of any kind, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular use. The Washington State Department of Natural Resources and the authors of this product will not be liable to the user of this product for any activity involving the product with respect to the following: (a) lost profits, lost savings, or any other consequential damages; (b) the fitness of the product for a particular purpose; or (c) use of the product or results obtained from use of the product. Although these data have been processed successfully on computers of DGER, no warranty, expressed or implied, is made by DGER regarding the use of these data on any other system, nor does the fact of distribution constitute or imply any such warranty.

Liquefaction Potential⁵

Summary:

This is a subset of the original data clipped to Pierce County. The liquefaction susceptibility map details the risk potential throughout the City of Edgewood in a color gradient map.

The Washington State Department of Natural Resources, Division of Geology and Earth Resources received grant funding through the Hazard Mitigation Grant Program (HMGP) following the Nisqually earthquake of February 2001 (FEMA-1361-DRWA). This grant required the Division of Geology and Earth Resources to develop statewide liquefaction susceptibility and NEHRP (National Earthquake Hazards Reduction Program) site class maps.

Regional and local earthquake hazard maps such as these support hazard mitigation, emergency planning and response, planning of local zoning ordinances, and building code enforcement. The primary reason for producing this series of earthquake hazard maps is to support revisions to the State Hazard Mitigation Plan required in the implementation of final rules 44CFR201.4 and 44CFR201.6. These Federal code regulations require both state and local agencies to describe the location and extent of earthquake hazards that affect their jurisdictions. Additionally, these maps will serve a great variety of end-users that are crucial partners in earthquake hazard mitigation.

Description:

These data contain polygons that provide information regarding the relative liquefaction potential for Pierce County, Washington. This feature class is part of a geodatabase that contains statewide ground response data for Washington State. Liquefaction is a natural phenomenon in which saturated, sandy soils lose their strength and behave as liquid. Liquefaction is caused by severe ground shaking during earthquake events. Polygons are classified as having 'very low' to 'high' relative liquefaction susceptibility. Areas underlain by bedrock or peat are mapped separately as these earth materials are not liquefiable, although peat deposits may be subject to permanent ground deformation caused by earthquake shaking and require site-specific analysis under the International Building Code. Water and ice are also separately designated.

Use Limitations:

The Washington Division of Geology and Earth Resources (DGER) shall not be held liable for improper or incorrect use of the data described and/or contained herein. This product is provided 'as is' without warranty of any kind, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular use. The Washington State Department of Natural Resources and the authors of this product will not be liable to the user of this product for any activity involving the product with respect to the following: (a) lost profits, lost savings, or any other consequential damages; (b) the fitness of the product for a particular purpose; or (c) use of the product or results obtained from use of the product. Although these data have been processed successfully on computers of DGER, no warranty, expressed or implied, is made by DGER regarding the use of these data on any other system, nor does the fact of distribution constitute or imply any such warranty. Appropriate use of these map data is the responsibility of each user. - Users must acknowledge the originators when using the data set as a source. - Data should not be used beyond the limits of the source scale. - The data set is not a survey document and should not be utilized as such. This map is meant only as a general guide to delineate areas prone to liquefaction. It is not a substitute for site-specific investigation to assess the potential for liquefaction for any development project. Because the data used in the

liquefaction susceptibility assessment have been subdivided based on regional geologic mapping, this map cannot be used to determine the presence or absence of liquefiable soils beneath any specific locality. This determination requires a site-specific geotechnical investigation performed by a qualified practitioner.

Volcanic – Lahar⁸

Summary

This volcanic hazard zone is intended for use by public and private agencies to view, overlay with other Geographic Information System (GIS) datasets, and make maps of volcanic hazards from potential future eruptions of Mount Rainier, Washington. It is critical to understand the nature of the boundaries of the volcanic hazard zones. Although arcs serve as boundaries of hazard zones, the degree of hazard does not change abruptly at these boundaries. Rather, a volcanic hazard decreases gradually with increased distance from the volcano and above the valley floor. These volcanic hazards also span a range of size and recurrence. The hazard zones delineated in this data set portray volcanic events believed most likely from future activity at Mount Rainier, Washington. Areas outside the hazard zones, especially those having low relief, should not be regarded as hazard-free. Too many uncertainties exist in source, size, and mobility of future events to locate boundaries of zero-hazard zones with confidence.

Description

This is a combined dataset of a Case I, Case II and Case III lahar scenario into one dataset and does not include a pyroclastic dataset. Please contact Washington Division of Geology and Earth Resources to obtain these datasets or more information. For the planning purposes and identification of lahar risk within jurisdictions, the Case I scenario dataset is used to identify the worst-case scenario potentially possible, although again, areas outside the hazard zones, especially those having low relief, should not be regarded as hazard-free.

This dataset contains inundation zones for Case I lahars which are defined as areas that could be affected by cohesive lahars that originate as enormous avalanches of weak, chemically altered rock from the volcano. Case I lahars can occur with or without eruptive activity. The average time interval between Case I lahars on Mount Rainier is about 500 to 1000 years.

Hazardous Material

The Hazardous Material map has outlined the main arterial routes, railroad lines, airports, marine ferry routes and Tier II sites for which the GIS spatial analysis was taken where there is the potential risk for hazardous materials to be located at any given time. A 2,500-foot buffer was placed around these identified areas, in accordance with the Emergency Response Guidebook (ERG) for potential contaminated zones. This zone does not go into detail of identifying 3 control zones during a hazmat incident. It is intended for general planning purposes only. If an actual incident were to occur instructions would be given by the Incident Commander on site and buffer zones would be determined by the type of hazardous material released. To reduce clutter and overlapping of data the 2,500-buffer zone was not included on the map, but data was analyzed from within those perimeters.

2017 Tier II Sites

The Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 was created to help communities plan for chemical emergencies. It also requires industry to report on the storage, use and releases of hazardous substances to federal, state, and local governments. EPCRA requires state and local governments, and Indian tribes to use this information to prepare for and protect their communities from potential risks. In 2017 Pierce County Emergency Management secured a project to identify reported 2017 Tier II Sites within Pierce County. These sites were mapped based on their geographical location of identified hazardous substances reported. There were only a couple of reported Tier II sites identified within the City of Edgewood.

Transportation Accidents / Incidents

The Transportation Accident map, like the Hazardous Material Map has also outlined the main arterial routes, railroad lines, airports, marine ferry routes for which the GIS spatial analysis was taken where there is the potential risk for transportation accidents/incidents to occur at any given time. A 2,500-foot buffer was placed around these identified areas also for potential hazard risks related to the accident/incident. It is intended for general planning purposes only. If an actual accident/incident were to occur instructions would be given by the Incident Commander on site and traffic control zones, barriers or alternate routes would be determined by the type of accident/incident. To reduce clutter and overlapping of data the 2,500-buffer zone was not included on the map, but data was analyzed from within those perimeters.

Drought, Severe Weather, Civil Disturbance, Energy Emergency, Epidemic, and Terrorism

Due to the nature of these potential natural and human-caused hazards occurring anywhere within Pierce County or within a local jurisdiction, their total boundary figures are used when calculating the risk factors. These numbers will match their Base number's and will show the percent risk at 100% on the Vulnerability Analysis Tables for General Exposure, Population Exposure and General Infrastructure Exposure.

Hazard maps are not created for each of these hazards and for reference the Base map is in Profile Section 2 of this Mitigation Plan.

Vulnerability Analysis Data

A vulnerability analysis was conducted on each hazard map to determine the General Exposure, Population Exposure, and general Infrastructure Exposure risk.

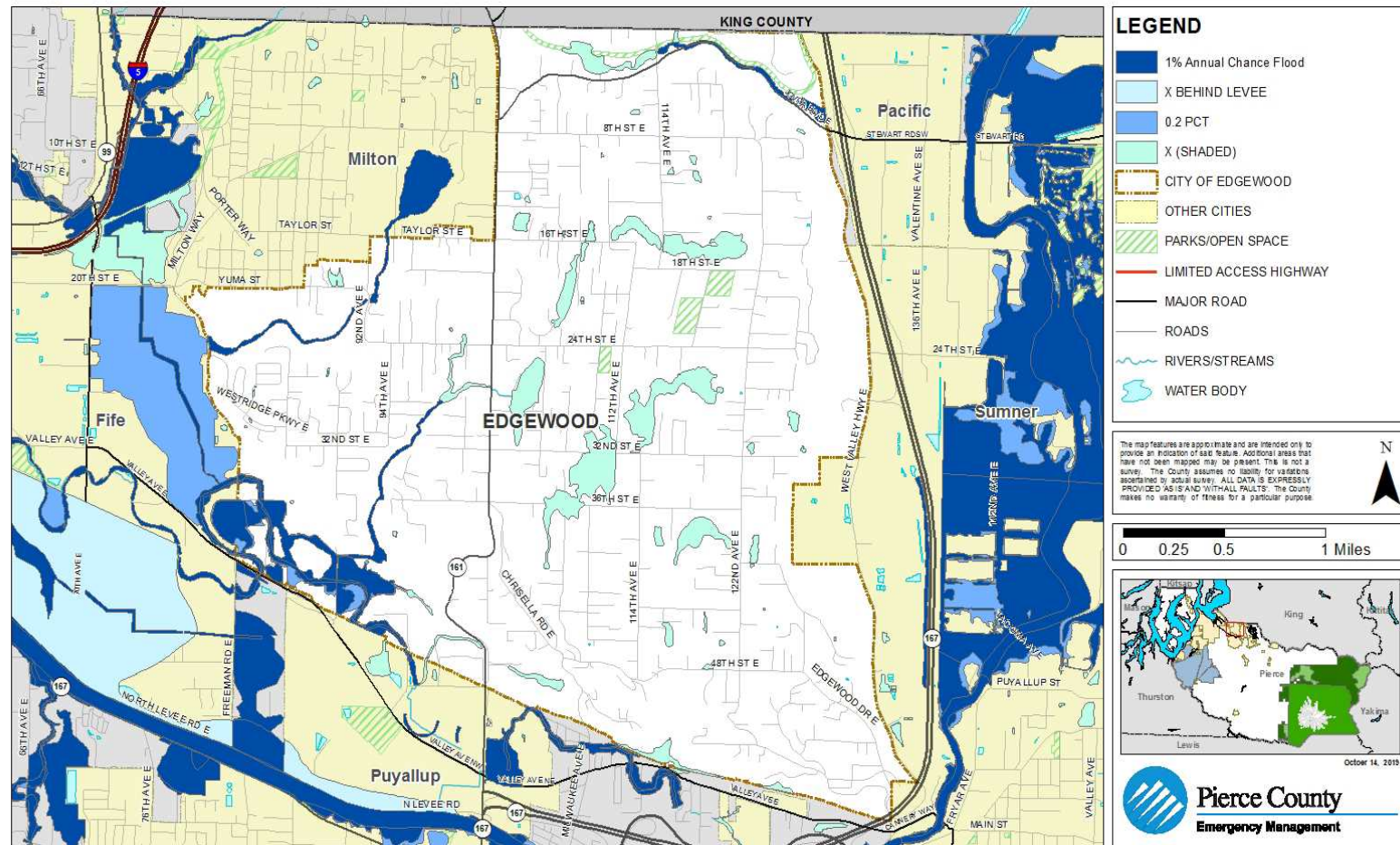
The Pierce County parcel geodatabase is derived from the Pierce County Assessor-Treasurer's Office and they edit and maintain their "parcel" geodatabases daily. The GIS polygon data includes condominium parcel information but does not include mobile home data. A "Total Base" value is determined for each jurisdiction based on their boundaries and then an analysis is performed to determine the risk percent of each hazard within those boundaries. The tax parcel geodatabase provides information for the square miles, parcels, land value, improved value and total assessed values for the analysis and is identified in Tables 4-3 and 4-4.

The original 2010 census data was downloaded by Pierce County GIS via the US Census Bureau server ftp and was available on October 14, 2011. All population base and hazard exposure data are derived from this dataset in determining the population exposure. At the current time with the mitigation plan updates this is the best available data that is county wide. As hazards do not have jurisdictional boundaries, a dataset is required that is county wide for analysis purposes. It is acknowledged that this population data is 10 years old and outdated and will be replaced within the plan once the 2020 census data becomes available sometime in 2021. Profile Section 2 provides a heading “Demographic Analysis” for jurisdictions to identify their current populations as best described by them.

The population density figures from Table 4-3 Vulnerability Analysis, Population Exposure calculate the total population density within each hazard area to identify the vulnerable population at risk. The population density is not calculated from the entire jurisdictional boundary.

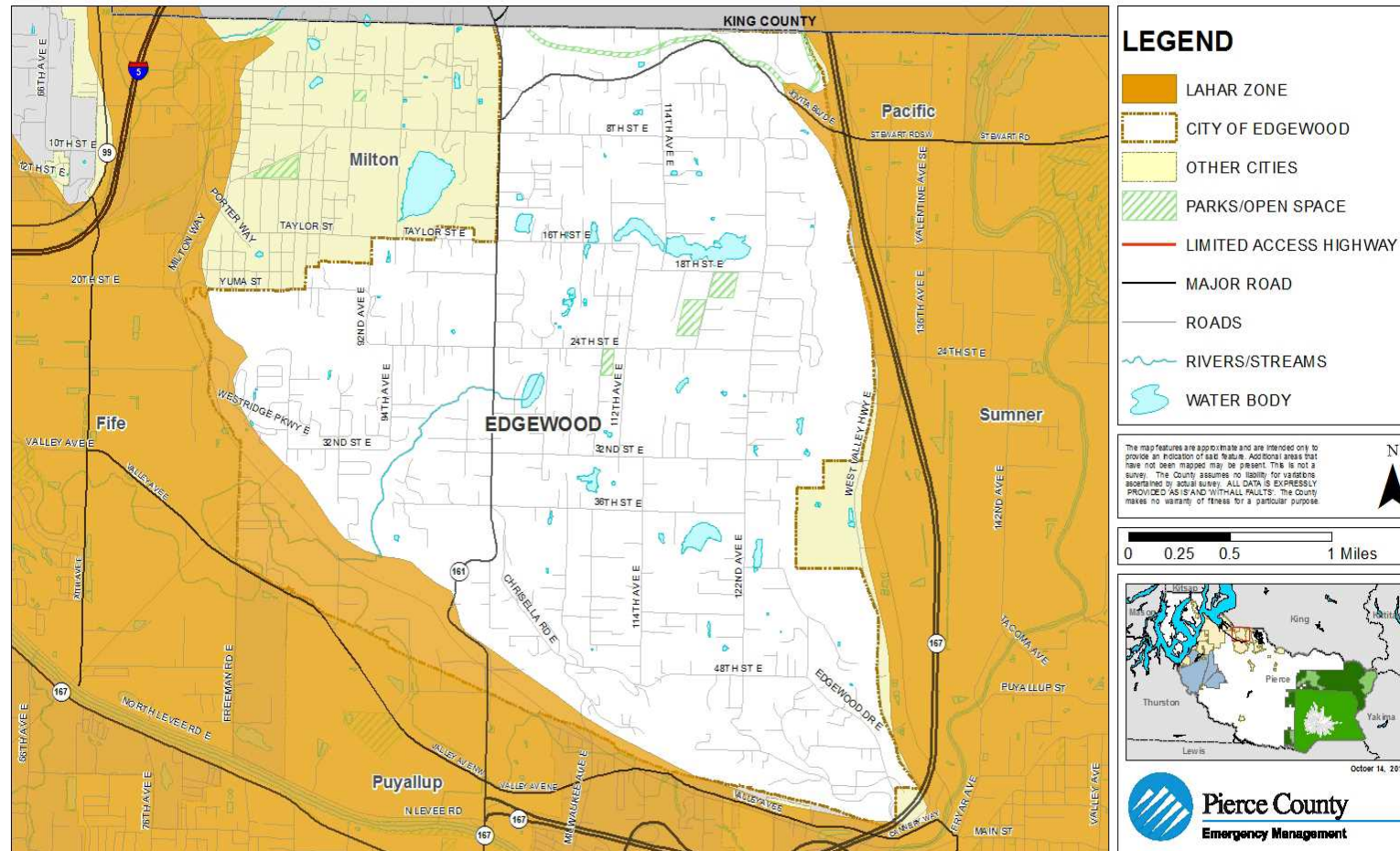
Map 4-1 City of Edgewood – Flood Hazard Map

CITY OF EDGEWOOD - FLOOD HAZARD AREA

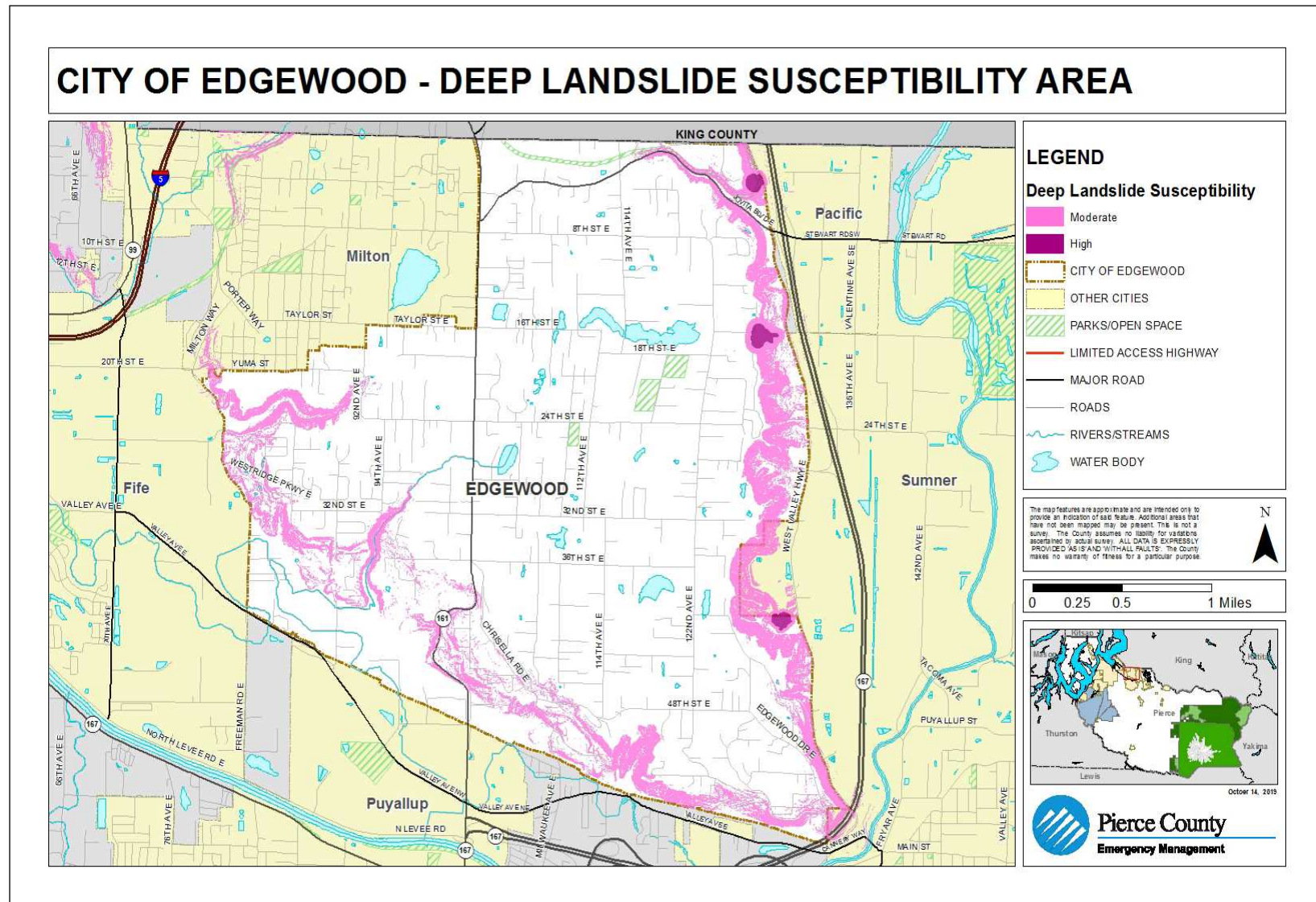


Map 4-2 City of Edgewood – Lahar Hazard Map

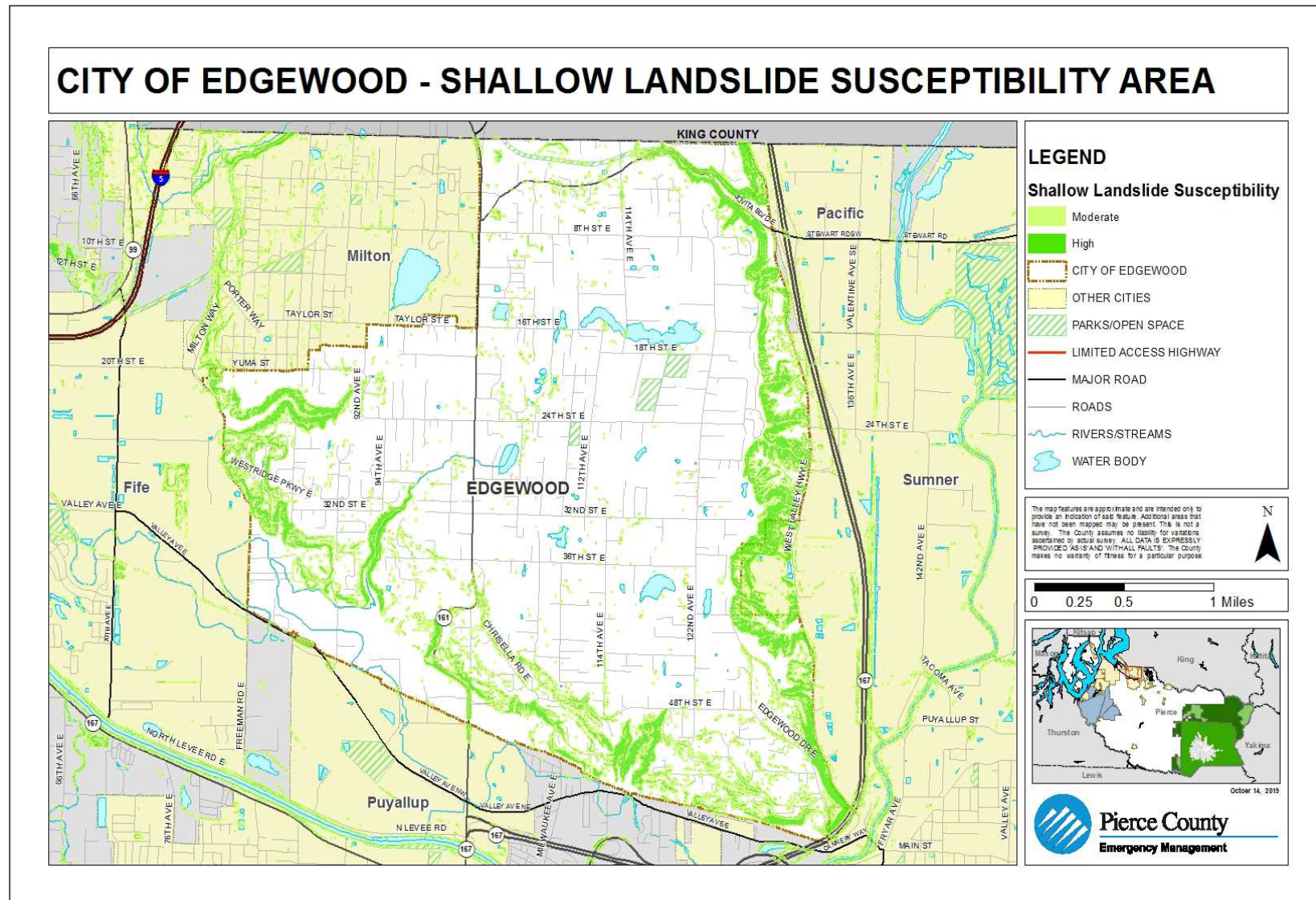
CITY OF EDGEWOOD - LAHAR HAZARD AREA



Map 4-3 City of Edgewood – Deep Landslide Hazard Map

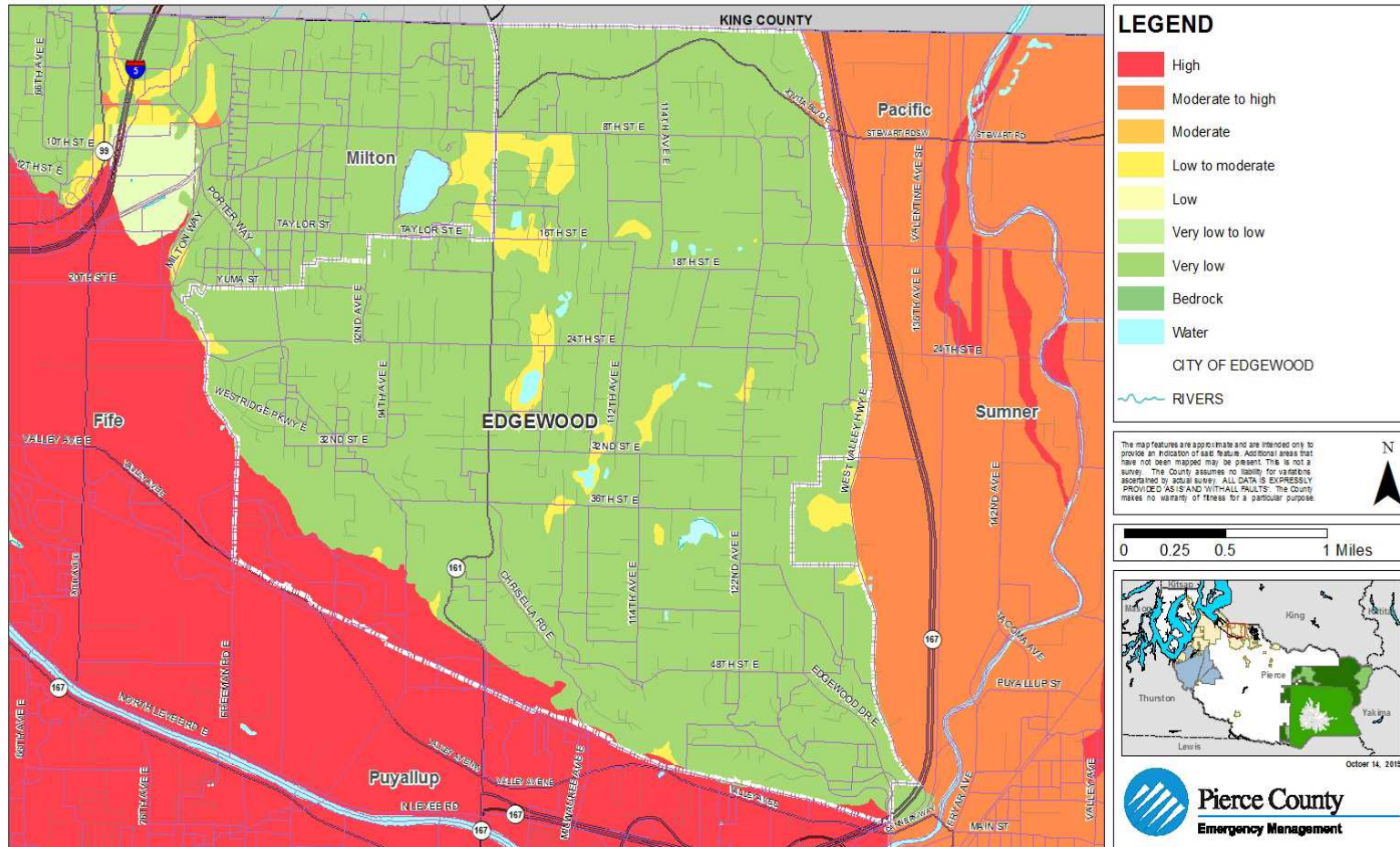


Map 4-4 City of Edgewood – Shallow Landslide Hazard Map



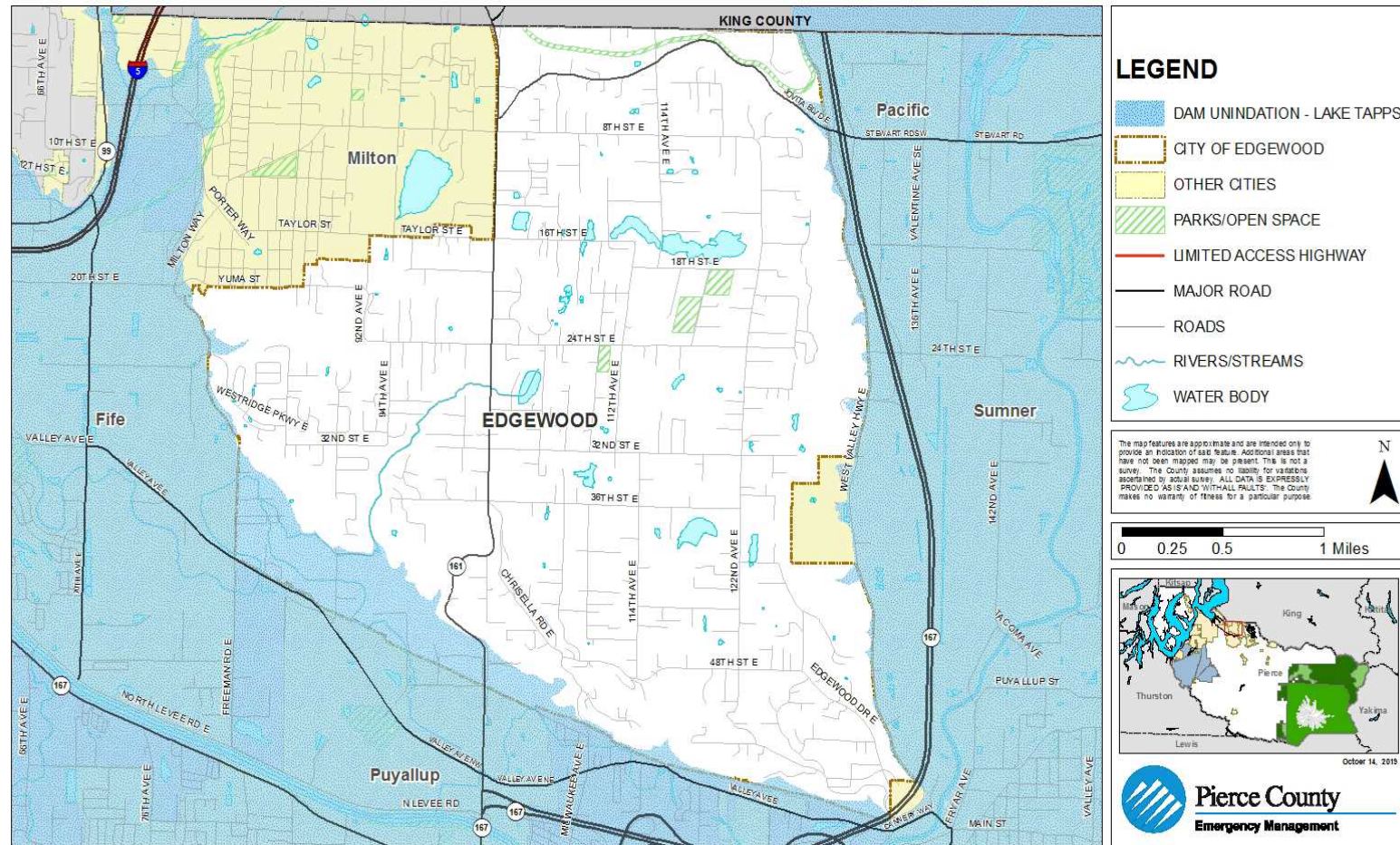
Map 4-5 City of Edgewood – Liquefaction Hazard Map

CITY OF EDGEWOOD - LIQUEFACTION SUSCEPTIBILITY



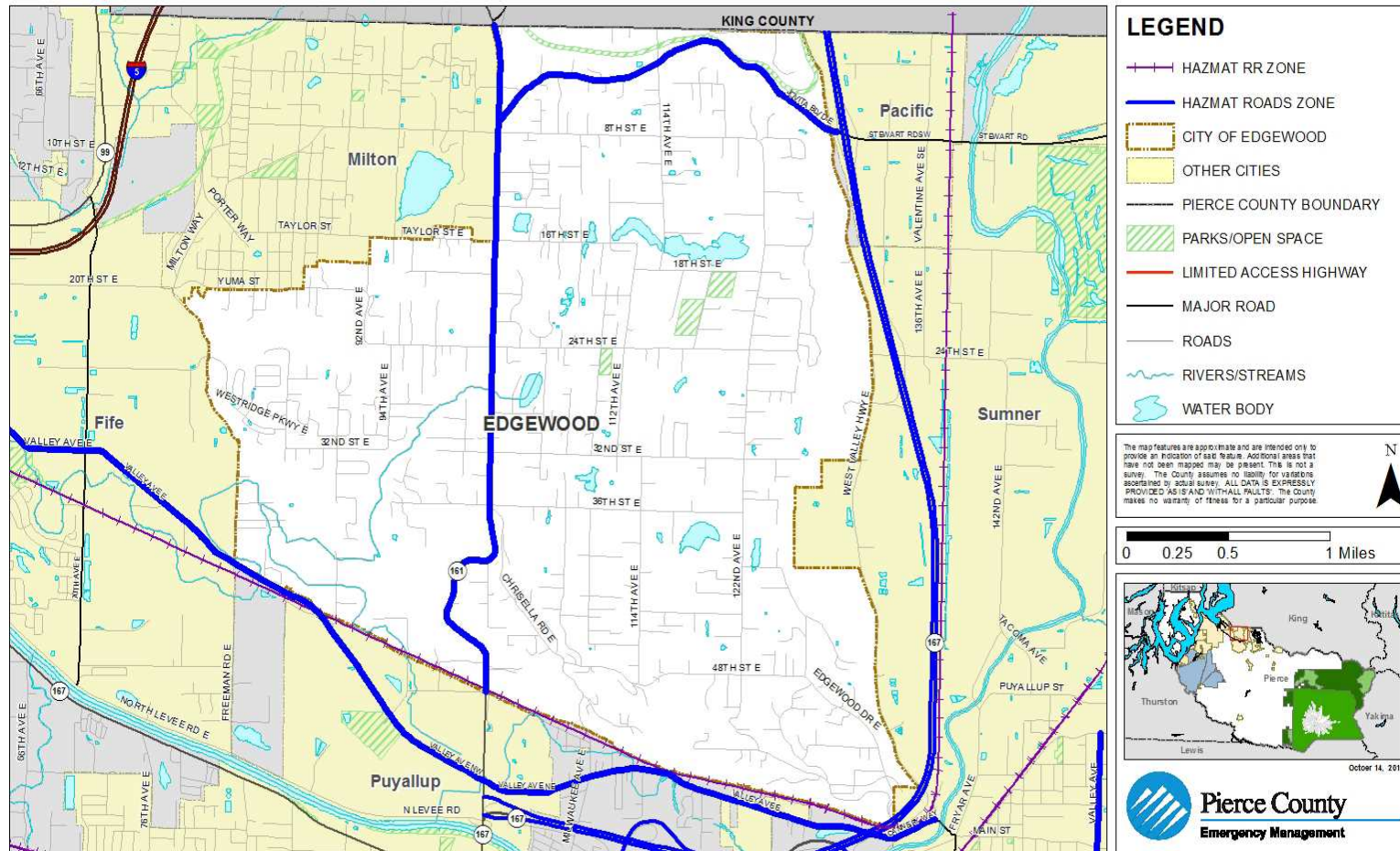
Map 4-6 City of Edgewood – Dam Failure Hazard Map

CITY OF EDGEWOOD - DAM FAILURE-LAKE TAPPS HAZARD AREA

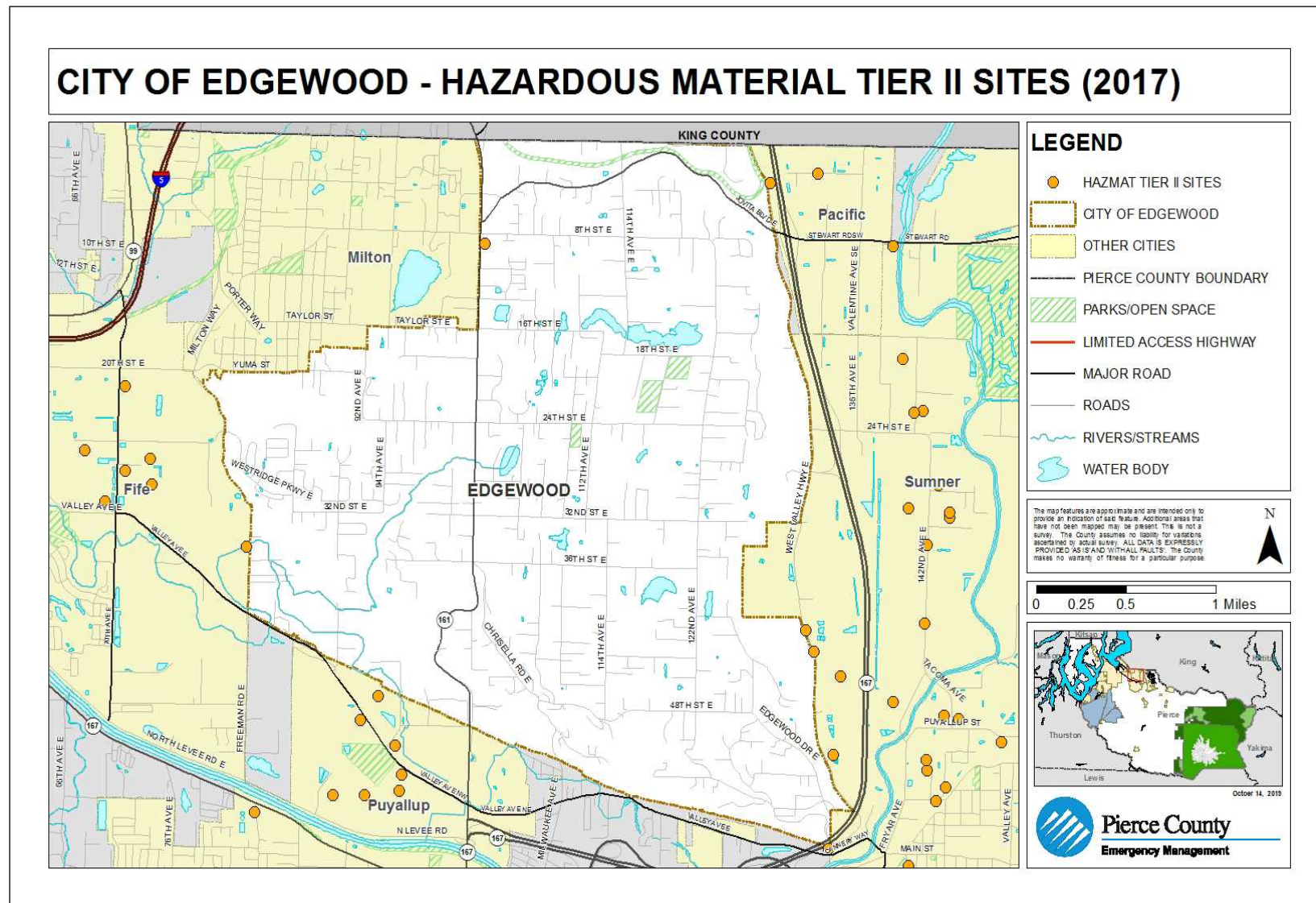


Map 4-7 City of Edgewood – Hazardous Material Hazard Area Map

CITY OF EDGEWOOD - HAZARDOUS MATERIAL HAZARD AREA



Map 4-8 City of Edgewood – Hazardous Material Tier II Sites (2017) Hazard Area Map



CITY OF EDGEWOOD - TRANSPORTATION EMERGENCY HAZARD AREA

LEGEND

- TRANSPORTATION EMERGENCY RR ZONE
- TRANSPORTATION EMERGENCY ROADS ZONE
- CITY OF EDGEWOOD
- OTHER CITIES
- PIERCE COUNTY BOUNDARY
- PARKS/OPEN SPACE
- LIMITED ACCESS HIGHWAY
- MAJOR ROAD
- ROADS
- RIVERS/STREAMS
- WATER BODY

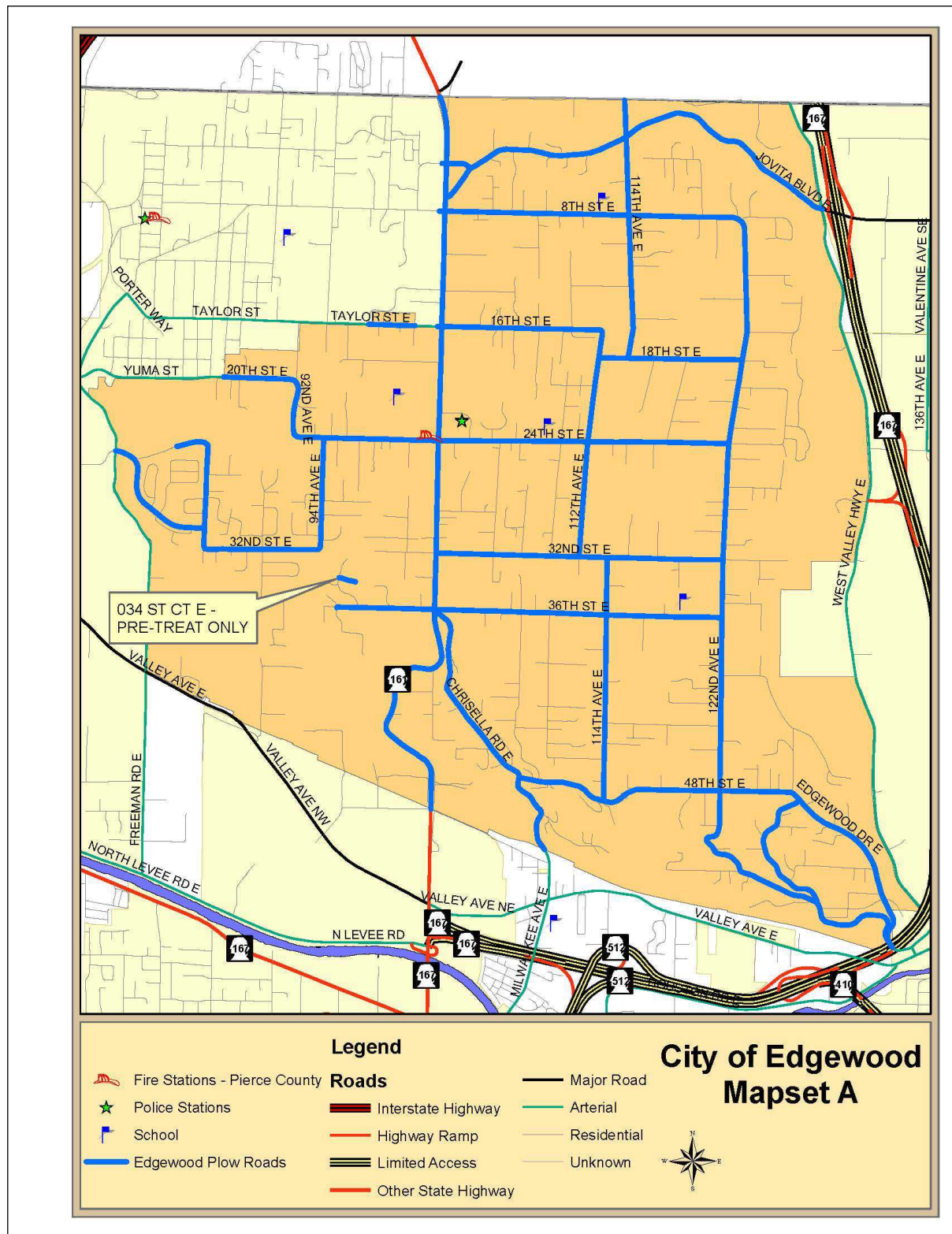
The map features are approximate and are intended only to provide an indication of site feature. Additional areas that have not been mapped may be present. This is not a survey. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED AS IS AND WITH ALL FAULTS. The County makes no warranty of fitness for a particular purpose.

0 0.25 0.5 1 Miles

October 14, 2019

Pierce County
Emergency Management

Map 4-10 City of Edgewood – Severe Weather – Snow Routes Map



Vulnerability Analysis

Table 4-2 Vulnerability Analysis: General Exposure¹⁰

THREAT ¹¹		AREA (SQ MI)		PARCELS	
		Total	% Base	Total	% Base
BASE		7.65	100%	4,805	100%
Geological	Avalanche ¹²	NA	NA	NA	NA
	Liquefaction Susceptibility ¹³	.72	9.2%	429	10.1%
	Landslide-Deep	.81	10.5%	289	6%
	Landslide-Shallow	1.35	17.6%	771	16%
	Tsunami	NA	NA	NA	NA
	Volcanic ¹⁴	1.07	13.7%	250	5.2%
Meteorological	Drought ¹⁵	7.65	100%	4,805	100%
	Flood	2	26.14%	432	9%
	Severe Weather	7.65	100%	4,805	100%
	WUI Fire ¹⁶	NA	NA	NA	NA
Technological	Abandoned Mines ¹⁷	NA	NA	NA	NA
	Civil Disturbance ¹⁸	7.65	100%	4,805	100%
	Dam Failure ¹⁹	1.23	16.07%	213	4.43%
	Energy Emergency ²⁰	7.65	100%	4,805	100%
	Epidemic ²¹	7.65	100%	4,805	100%
	Hazardous Material ²²	5.10	66%	2,915	60.7%
	Pipeline Hazard ²³	NA	NA	NA	NA
	Terrorism ²⁴ / Active Threat	7.65	100%	4,805	100%
	Transportation Accidents ²⁵	6.99	90%	3,641	85.4%

Table 4-3 Vulnerability Analysis: Population Exposure

THREAT ²		POPULATION			SPECIAL POPULATIONS (OF TOTAL EXPOSED POPULATION)			
		Total	% Base	Density (pop/sq mi)	65+ yrs		20- yrs	
					#	%	#	%
BASE		9,391	100%	1,228	1,314	14%	2,285	24%
Geological	Avalanche	NA	NA	NA	NA	NA	NA	NA
	Liquefaction Susceptibility	1,633	17.4%	2,281.62	178	1.8%	437	4.6%
	Landslide-Deep	610	6.5%	752.89	75	.79%	146	1.5%
	Landslide-Shallow	1,094	11.6%	809.77	166	1.76%	262	2.78%
	Tsunami	NA	NA	NA	NA	NA	NA	NA
	Volcanic	1,416	15.1%	1,318	300	3.19%	526	5.6%
Meteorological	Drought	9,391	100%	1,228	1,314	14%	2,285	24%
	Flood	6,844	73%	3,416	894	9.51%	1,697	18.07%
	Severe Weather	9,391	100%	1,228	1,314	14%	2,285	24%
	WUI Fire	NA	NA	NA	NA	NA	NA	NA
Technological	Abandoned Mines	NA	NA	NA	NA	NA	NA	NA
	Civil Disturbance	9,391	100%	1,228	1,314	14%	2,285	24%
	Dam Failure	389	4.1%	668.87	67	5.1%	76	3.3%
	Energy Emergency	9,391	100%	1,228	1,314	14%	2,285	24%
	Epidemic	9,391	100%	1,228	1,314	14%	2,285	24%
	Hazardous Material	7,337	78.1%	1,439	1,037	11.04%	1,755	18.68%
	Pipeline Hazard	NA	NA	NA	NA	NA	NA	NA
	Terrorism / Active Threat	9,391	100%	1,228	1,314	14%	2,285	24%
	Transportation Accidents	7,337	78.1%	1,538	1,037	11.04%	1,755	18.68%

Table 4-4 Vulnerability Analysis: General Infrastructure Exposure

THREAT ²		LAND VALUE			IMPROVED VALUE			TOTAL ASSESSED VALUE		
		Total (\$)	% Base	Avg. Value (\$)	Total (\$)	% Base	Avg. Value (\$)	Total (\$)	% Base	Avg. Value (\$)
BASE		\$852,052,600	100%	\$177,326	\$1,206,803,600	100%	\$251,156	\$2,058,856,200	100%	\$428,482
Geological	Avalanche	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Liquefaction Susceptibility	\$30,155,600	6.9%	\$119,665	\$25,490,600	4.6%	\$101,153	\$55,646,200	5.6%	\$129,711
	Landslide-Deep	\$43,978,100	5.2%	\$152,173	\$57,606,600	4.8%	\$199,331	\$101,584,700	4.9%	\$351,504
	Landslide-Shallow	\$118,846,200	13.9%	\$154,146	\$171,892,700	14.2%	\$104,425	\$290,738,900	14.1%	\$377,093
	Tsunami	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Volcanic	\$46,750,100	5.5%	\$187,000	\$47,298,500	3.9%	\$189,194	\$94,048,600	4.6%	\$376,194
Meteorological	Drought	\$852,052,600	100%	\$177,326	\$1,206,803,600	100%	\$251,156	\$2,058,856,200	100%	\$428,482
	Flood	\$94,425,400	11.1%	\$218,577	\$95,783,700	7.9%	\$221,722	\$190,209,100	9%	\$440,299
	Severe Weather	\$852,052,600	100%	\$177,326	\$1,206,803,600	100%	\$251,156	\$2,058,856,200	100%	\$428,482
	WUI Fire	NA	NA	NA	NA	NA	NA	NA	NA	NA
Technological	Abandoned Mines	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Civil Disturbance	\$852,052,600	100%	\$177,326	\$1,206,803,600	100%	\$251,156	\$2,058,856,200	100%	\$428,482
	Dam Failure	\$41,785,400	4.9%	\$196,176	\$24,617,200	2.04%	\$115,574	\$28,007,600	3.23%	\$311,749
	Energy Emergency	\$852,052,600	100%	\$177,326	\$1,206,803,600	100%	\$251,156	\$2,058,856,200	100%	\$428,482

	Epidemic	\$852,052,600	100%	\$177,326	\$1,206,803,600	100%	\$251,156	\$2,058,856,200	100%	\$428,482
	Hazardous Material	\$572,679,800	67.2%	\$196,460	\$807,802,000	66.9%	\$277,119	\$1,380,481,800	67.1%	\$473,578.66
	Pipeline Hazard	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Terrorism / Active Threat	\$852,052,600	100%	\$177,326	\$1,206,803,600	100%	\$251,156	\$2,058,856,200	100%	\$428,482
	Transportation Accidents	\$572,679,800	67.2%	\$196,460	\$807,802,000	66.9%	\$277,119	\$1,380,481,800	67.1%	\$473,578.66

Table 4-5a Consequence Analysis Chart – Geological^{26,27}

THREAT ²		CONSEQUENCE	YES OR NO
<i>Geological</i>	Avalanche	Impact to the Public	No
		Impact to the Responders	No
		Impact to COG and/or COOP in the Jurisdiction	No
		Impact to Property, Facilities and Infrastructure	No
		Impact to the Environment	No
		Impact to the Jurisdiction Economic Condition	No
		Impact to Reputation or Confidence in Jurisdiction	No
	Liquefaction Susceptibility	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	Yes
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	Yes
	Landslide	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	No
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	Yes
	Tsunami	Impact to the Public	No
		Impact to the Responders	No
		Impact to COG and/or COOP in the Jurisdiction	No
		Impact to Property, Facilities and Infrastructure	No
		Impact to the Environment	No
		Impact to the Jurisdiction Economic Condition	No
		Impact to Reputation or Confidence in Jurisdiction	No
	Volcanic²⁸	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	No
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	No
		Impact to Reputation or Confidence in Jurisdiction	No

Table 4-5b Consequence Analysis Chart – Meteorological

THREAT		CONSEQUENCE	YES OR NO
<i>Meteorological</i>	Drought	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	No
		Impact to Property, Facilities and Infrastructure	No
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	No
		Impact to Reputation or Confidence in Jurisdiction	No
	Flood	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	No
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	No
	Severe Weather	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	Yes
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	Yes
	WUI Fire	Impact to the Public	No
		Impact to the Responders	No
		Impact to COG and/or COOP in the Jurisdiction	No
		Impact to Property, Facilities and Infrastructure	No
		Impact to the Environment	No
		Impact to the Jurisdiction Economic Condition	No
		Impact to Reputation or Confidence in Jurisdiction	No

Table 4-5c Consequence Analysis Chart – Technological²⁹

THREAT		CONSEQUENCE	YES OR NO
Technological	Abandoned Mines	Impact to the Public	No
		Impact to the Responders	No
		Impact to COG and/or COOP in the Jurisdiction	No
		Impact to Property, Facilities and Infrastructure	No
		Impact to the Environment	No
		Impact to the Jurisdiction Economic Condition	No
		Impact to Reputation or Confidence in Jurisdiction	No
	Civil Disturbance	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	No
		Impact to Property, Facilities and Infrastructure	No
		Impact to the Environment	No
		Impact to the Jurisdiction Economic Condition	No
		Impact to Reputation or Confidence in Jurisdiction	No
	Dam Failure	Impact to the Public	No
		Impact to the Responders	No
		Impact to COG and/or COOP in the Jurisdiction	No
		Impact to Property, Facilities and Infrastructure	No
		Impact to the Environment	No
		Impact to the Jurisdiction Economic Condition	No
		Impact to Reputation or Confidence in Jurisdiction	No
	Energy Emergency	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	No
		Impact to Property, Facilities and Infrastructure	No
		Impact to the Environment	No
		Impact to the Jurisdiction Economic Condition	No
		Impact to Reputation or Confidence in Jurisdiction	No
	Epidemic	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	Yes
		Impact to Property, Facilities and Infrastructure	No
		Impact to the Environment	No
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	No
	Hazardous Materials	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	Yes
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	Yes
	Pipeline Hazards	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	Yes
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	Yes
	Terrorism / Active Threat	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	Yes
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes

		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	Yes
	Transportation Accident	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	Yes
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	Yes

Endnotes

¹ The Terrorism and Active Threat / Attack Tactics chapters have many similarities and can even be connected in an incident. For this edition of the mitigation plan terrorism and active threat / attack tactics are discussed as one. For the remainder of this risk assessment Terrorism and Attack Tactics are discussed as one due to the many comparisons. Although Cyber Attack is another new chapter in this update, there was not enough time to assess the jurisdictions individually and will be expanded upon in the next update.

² Data source information for the Regulated Floodplain 2017 GIS Feature Class hazard layer is from the Metadata. For additional information contact Dennis Dixon with Pierce County, Planning and Public Works, Surface Water Management Division.

³ Data source information for the Deep Landslide Susceptibility GIS Feature Class hazard layer is from the Metadata. For additional information contact the Washington Geological Survey.

⁴ Data source information for the Shallow Landslide Susceptibility GIS Feature Class hazard layer is from the Metadata. For additional information contact the Washington Geological Survey.

⁵ Liquefaction susceptibility is assigned based on criteria described in: Palmer, Stephen P.; Magsino, Sammantha L.; Bilderback, Eric L.; Poelstra, James L.; Folger, Derek S.; Niggemann, Rebecca A., 2007, Liquefaction susceptibility and site class maps of Washington State, by county: Washington Division of Geology and Earth Resources Open File Report 2004-20, 78 plates, with 45 p. text.

[http://www.dnr.wa.gov/ResearchScience/Topics/GeologyPublicationsLibrary/Pages/pub_ofr04-20.aspx]

Data source information for the Liquefaction Susceptibility GIS Feature Class hazard layer is from the Metadata. For additional information contact the Washington Geological Survey, Washington Division of Geology and Earth Resources. Last updates to this data set on 2017-01-03.

⁸ Lahar parcel and lahar study area were added by The Washington Division of Geology and Earth Resources.

Lahar_case_1, Lahar_case_2, lahar_case_3, postlahar, and pyroclastic originated from USGS Open-File Report 2007-2005: Schilling, S. P.; Doelger, S.; Hoblitt, R. P.; Walder, J. S.; Driedger, C. L.; Scott, K. M.; Pringle, P. T.; Vallance, J. W., 2008, Digital data for volcano hazards from Mount Rainier, Washington; Revised 1998: U.S. Geological Survey Open-File Report 2007-1220, ArcInfo coverages and shapefiles.

[<http://pubs.usgs.gov/of/2007/1220/data.html>]. This digital data accompanies Volcano Hazards from Mount Rainier, Washington; Revised 1998 (U.S. Geological Survey Open-File Report 98-428): Hoblitt, R. P.; Walder, J. S.; Driedger, C. L.; Scott, K. M.; Pringle, P. T.; Vallance, J. W., 1998, Volcano Hazards from Mount Rainier, Washington; Revised 1998: U.S. Geological Survey Open-File Report 98-428

[<http://vulcan.wr.usgs.gov/Volcanoes/Rainier/Hazards/OFR98-428/OFR98-428.pdf>]

¹⁰ Info obtained from Pierce County GIS application, CountyView Pro (10/2019).

¹¹ Currently the expanding body of empirical data on climate change supports its basic premise that the long-term average temperature of the earth's atmosphere has been increasing for decades (1850 to 2019). This trend is continuing and will create dramatic changes in the local environment of Pierce County. Today, questions revolve around the overall increase in local temperature and its long-term effects. Climate change today refers to variations in either regional or global environments over time. Time can refer to periods ranging in length from a few decades to other periods covering millions of years. Several circumstances can cause climate change. Included herein are such diverse factors as solar cycles, volcanic eruptions, changing ocean current patterns, or even something as unusual as a methane release from the ocean floor. Over the past 150 years good temperature records have allowed comparisons to be made of global temperatures from year-to-year. This has shown an overall increase of approximately 0.7° C during this period. An increasing body of scientific evidence implies that the primary impetus driving climate change today is an increase in atmospheric green house gases.

¹² Jurisdiction is not vulnerable to this hazard; therefore, it is marked NA or not-applicable.

¹³ It should be noted here that although all residents, all property and all infrastructure of the City of Edgewood are vulnerable to earthquake shaking, not all are subject to the affects of liquefaction and liquefiable soils which is what is represented here.

¹⁴ The threat of volcanic ashfall affects the entire Region 5 however some jurisdictions are specifically threatened by lahar flows directly from Mt. Rainier; an active volcano.

¹⁵ The entire jurisdiction is vulnerable to Drought. There are three things that must be understood about the affect of Drought on the jurisdiction: 1) Drought is a Region wide event. When it does affect Pierce County, it will affect

every jurisdiction, 2) Drought will gradually develop over time. It is a gradually escalating emergency that may take from months to years to affect the jurisdiction. Initially lack of water may not even be noticed by the citizens.

However, as the Drought continues, its effects will be noticed by a continually expanding portion of the community until it is felt by all, and 3) jurisdictions will be affected differently at different times as a drought develops. This will vary depending on the needs of each local jurisdiction. Some examples are jurisdictions that have industry that requires a continuous supply of a large quantity of water; others have agriculture that requires water but may only require it at certain times of the year; and, some jurisdictions have a backup source of water while others do not.

¹⁶ According to the most recent information from the Department of Natural Resources, the City of Edgewood while undergoing development does not have large areas of forested land that could develop into a wildland/urban interface fire. Further study is needed to determine the extent of the area that could be affected.

¹⁷ The definition of Abandoned Mines comes from the 2020 Pierce County HIRA: Abandoned mines are any excavation under the surface of the earth, formerly used to extract metallic ores, coal, or other minerals, and that are no longer in production.

¹⁸ The definition of Civil Disturbance comes from the 2020 Pierce County HIRA: Civil Disturbance (unrest) is the result of groups or individuals within the population feeling, rightly or wrongly, that their needs or rights are not being met, either by the society at large, a segment thereof, or the current overriding political system. When this results in community disruption of a nature where intervention is required to maintain public safety it has become a civil disturbance. Additionally, the Region 5 Strategic Plan includes Operational Objectives 3 & 4: Intelligence Gathering, Indicators, Warnings, etc; and Intelligence and Information Sharing.

¹⁹ The definition of Dam Failure comes from the 2020 Pierce County HIRA: A dam is any “barrier built across a watercourse for impounding water.”¹⁹ Dam failures are catastrophic events “characterized by the sudden, rapid, and uncontrolled release of impounded water.” The vulnerability analysis was based on the potential dam failure from Mud Mountain Dam and Lake Tapps using Pierce County’s GIS data which originated from each of the dams emergency plans inundation maps.

²⁰ The definition of an Energy Emergency comes from the 2020 Pierce County HIRA: Energy emergency refers to an out-of-the-ordinary disruption, or shortage, of an energy resource for a lengthy period. Additionally, the Region 5 Strategic Plan addresses Energy Emergencies in its Operational Objective 32, Restoration of Lifelines which addresses the restoration of critical services such as oil, gas, natural gas, electric, etc.

²¹ The definition of epidemic comes from the Centers for Disease Control: A Pandemic is an epidemic occurring over a very wide area and usually affecting a large proportion of the population. Pandemics occur when a wholly new subtype of influenza A virus emerges. A “novel” virus can develop when a virulent flu strain that normally infects birds or animals infects a human who has influenza; the two viruses can exchange genetic material, creating a new, virulent flu virus that can be spread easily from person-to-person. Unlike the flu we see yearly, no one would be immune to this new flu virus, which would spread quickly, resulting in widespread epidemic disease – a pandemic.

²² The definition of Hazardous Materials comes from the 2020 Pierce County HIRA: Hazardous materials are materials, which because of their chemical, physical or biological properties, pose a potential risk to life, health, the environment, or property when not properly contained. A hazardous materials release then is the release of the material from its container into the local environment. A general rule of thumb for safety from exposure to hazardous material releases is 1000ft; the Emergency Response Guidebook 2016, established by the US Dept of Transportation, contains advice per specific materials. The vulnerability analysis was broken into two sub sections for a better understanding of the hazard using Pierce County’s GIS data with a 500 foot buffer on either side of the railroads and major roadways.

²³ The definition of Pipeline Emergency comes from the 2020 Pierce County HIRA: While there are many different substances transported through pipelines including sewage, water and even beer, pipelines, for the purpose of this chapter, are transportation arteries carrying liquid and gaseous fuels. They may be buried or above ground

²⁴ The definition of Terrorism comes from the 2020 Pierce County HIRA: Terrorism has been defined by the Federal Bureau of Investigation as, “the unlawful use of force or violence against persons or property to intimidate or coerce a Government, the civilian population or any segment thereof, in furtherance of political or social objectives.” These acts can vary considerably in their scope and not all are related to Terrorism which is why Active Threat / Attack Tactics has been added to the Pierce County HIRA as its own chapter.

²⁵ The definition of Transportation Accident comes from the 2020 Pierce County HIRA: Transportation accidents as used in this assessment include accidents involving a method of transportation on the road, rail, air, and maritime

systems within the confines of Pierce County. The vulnerability analysis was broken into three sub sections for a better understanding of the hazard using Pierce County’s GIS data; Commencement Bay to include inland rivers and streams, railroads, and roads. A 200-foot buffer was applied to all the shorelines and a 500-foot buffer on either side of the railroads and roadways.

²⁶ In the Impact to Property, Facilities and Infrastructure, both Tables 4-5a and 4-5b, look at the impact to all property, facilities and infrastructure existing in the jurisdiction, not just to that owned by the jurisdiction.

²⁷ The consideration for each of these hazards, in both Tables 4-5a and 4-5b, as to whether an individual hazard’s consequences exist or not, is based on a possible worst-case scenario. It must also be understood that a “yes” means that there is a good possibility that the consequence it refers to could happen as a result of the hazard, not that it will. Conversely “No” means that it is highly unlikely that consequence will have a major impact, not that there will be no impact at all.

²⁸ While the major volcanic hazard from Mt. Rainier is from a lahar descending the main river valleys surrounding the mountain, it is not the only problem. Most jurisdictions could receive tephra in greater or lesser amounts, sometimes with damaging results. Consequence analyses in this section consider the possibility of tephra deposition in addition to a lahar.

²⁹ The Technological Consequences are added herein to acknowledge the role of human-caused hazards in the health and safety of unincorporated Pierce County. The consequences noted are under the same criteria as natural hazards given their impacts to the departmental assets.

(This page left blank intentionally)

Section 5

Mitigation Strategy Requirements

Mitigation Strategy---Requirement §201.6(c)(3):

The plan **shall** include a strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.

Local Hazard Mitigation Goals---Requirement §201.6(c)(3)(i):

[The hazard mitigation strategy **shall** include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

- Does the new or updated plan include a description of mitigation **goals** to reduce or avoid long-term vulnerabilities to the identified hazards?

Identification and Analysis of Mitigation Actions---Requirement §201.6(c)(3) (ii):

[The mitigation strategy **shall** include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

Identification and Analysis of Mitigation Actions: National Flood Insurance Program (NFIP) Compliance--Requirement §201.6(c)(3)(ii):

[The mitigation strategy] must also address the jurisdiction's participation in the National Flood Insurance Program (NFIP), and continued compliance with NFIP requirements, as appropriate.

- Does the new or updated plan identify and analyze a **comprehensive range** of specific mitigation actions and projects for each hazard?
- Do the identified actions and projects address reducing the effects of hazards on **new** buildings and infrastructure?
- Do the identified actions and projects address reducing the effects of hazards on **existing** buildings and infrastructure?
- Does the new or updated plan describe the jurisdiction(s) participation in the NFIP?
- Does the mitigation strategy identify, analyze and prioritize actions related to continued compliance with the NFIP?

Implementation of Mitigation Actions---Requirement: §201.6(c)(3) (iii):

[The mitigation strategy section **shall** include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization **shall** include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

- Does the new or updated mitigation strategy include how the actions are **prioritized**? (For example, is there a discussion of the process and criteria used?)
- Does the new or updated mitigation strategy address how the actions will be **implemented and administered**, including the responsible department, existing and potential resources and the timeframe to complete each action?
- Does the new or updated prioritization process include an emphasis on the use of **cost-benefit review** to maximize benefits?
- Does the updated plan identify the completed, deleted or deferred mitigation actions as a benchmark for progress, and if activities are unchanged (i.e., deferred), does the updated plan describe why no changes occurred?

SECTION 5

REGION 5 ALL HAZARD MITIGATION PLAN 2020-2025 EDITION CITY OF EDGEWOOD MITIGATION STRATEGY SECTION

Table of Contents

MITIGATION STRATEGY REQUIREMENTS.....	1
TABLE OF CONTENTS	2
MITIGATION MEASURE OVERVIEW	3
PRIORITIZATION OF MEASURES.....	3
STARTUP MITIGATION MEASURES	6
EXISTING MITIGATION ACTIONS	6
PLAN MAINTENANCE	6
HAZARD MITIGATION FORUM.....	7
PIERCE COUNTY HAZARD MITIGATION FORUM.....	7
CITY GOVERNMENT MITIGATION MEASURES	9
CAPABILITY IDENTIFICATION AND EVALUATION.....	9
IMPLEMENT INFRASTRUCTURE IMPROVEMENTS ON STATE ROUTE 161	9
IDENTIFY AND MITIGATE FLOOD PRONE PROPERTY.....	10
CONDUCT ASSESSMENT AND DEVELOP STRATEGY FOR CITY ROADS IMPACTED BY FLOODING.....	11
DEVELOP AND MAINTAIN A CONTINUITY OF GOVERNMENT PLAN FOR THE CITY (COG)	12
CONTINUE DEVELOPMENT OF SHELTER PROGRAM IN CITY	12
DEVELOP COVERAGE AREAS FOR REVERSE 911 SYSTEM (CIVIC READY).....	13
MAINTAIN AND UPDATE CRITICAL AREA REGULATIONS	14
DEVELOP EMERGENCY PLANNING TRANSPORTATION OVERLAYS.....	15
IMPLEMENT JOVITA CORRIDOR IMPROVEMENTS—CULVERT REPLACEMENT	15
SEISMIC REPLACEMENT/RETROFIT OF CITY OWNED INFRASTRUCTURE.....	16
DEVELOP CONTRACT WITH REGIONAL PARTNERS FOR DISASTER RESOURCES.....	17
PUBLIC EDUCATION MITIGATION MEASURES.....	18
CONTINUE HAZARD RELATED TRAINING FOR CITY STAFF	18
CONTINUE HAZARD RELATED TRAINING FOR CITY CHIEF ELECTED OFFICIALS.....	18
CREATE AND PUBLISH HAZARD ARTICLES IN CITY QUARTERLY NEWSLETTER	19
CONDUCT ANNUAL PUBLIC SAFETY INFORMATIONAL BRIEFINGS	20
CONTINUE AND EXPAND PC-NET PROGRAM IN CITY.....	20
HAZARD RELATED EDUCATION AND TRAINING FOR CITY BUSINESSES	21
NATIONAL FLOOD INSURANCE PROGRAM.....	22
ENDNOTES	24

Mitigation Measure Overview

The measures having been identified, defined, and evaluated, the rest of the process involved prioritization. The process relied upon the identified risks and vulnerabilities, the planning team's local expertise, public participation, each organization's needs and capabilities, a cost/benefit review, and input from the chief elected officials. In order to promote implementation of the measures, they were grouped based on the level at which they would be implemented, as described in the Plan Maintenance Section. These levels were:

- **Startup Mitigation Measures:** Those mitigation measures already in existence within the organization and including the maintenance of the Mitigation Plan.
- **Hazard Mitigation Forum (HMF):** Multi-organizational implementation mechanism.
- **Organization-Wide Mitigation Measures:** Mechanism depends on organization.
- **Public Education Mitigation Measures:** Localized level based on targeted communities and their needs and vulnerabilities.

The measures are prioritized within each implementation category. In order to provide consistency, the evaluation process including the eight categories, was used as the basis for the prioritization of measures. This allows for emphasis on the extent to which each measure is cost-effective.

The planning team members from each organization prioritized their organization's potential mitigation measures based on goals addressed with special attention paid to the measure's benefit-cost review, its ability to be implemented, and the extent to which it would mitigate one or multiple relevant hazards.

Prioritization of Measures

The list was prioritized based on the ongoing work and projects within the city. Development is occurring at a rapid pace within the city and the inevitable growth that follows helps and hinders some of the projects and mitigation strategies. We based the city's mitigation measures on what seemed reasonable, possible, and plausible given the abilities and time of the city and its staff members.

Table 5-1 City of Edgewood Mitigation Strategy Matrix

Implementation Mechanism	Mitigation Measure (<i>Hazard(s)</i>) ¹	Lead Jurisdiction(s) / Department(s)	Timeline (years)	Plan Goals					
				Life and Property	Operations Continuity	Partnerships	Natural Resources	Preparedness	Sustainable Economy
<u>Startup</u>	1. Existing Mitigation Actions (<i>E,L,T,V,D,F,WUI,SW,MM</i>)	Edgewood - Administration	Ongoing	✓	✓	✓	✓	✓	✓
	2. Plan Maintenance (<i>E,L,T,V,D,F,WUI,SW,MM</i>)	Edgewood - Administration	Ongoing	✓	✓	✓	✓	✓	✓
<u>HMF</u>	1. Pierce County Hazard Mitigation Forum (<i>E,L,T,V,D,F,WUI,SW,MM</i>)	PC DEM; Edgewood - Administration	Ongoing	✓	✓	✓	✓	✓	✓
<u>City Government</u>	1. Capability Identification and Evaluation - (<i>E,L,T,V,D,F,WUI,SW,MM</i>)	Edgewood	Ongoing	N/A					
	2. Implement Infrastructure Improvements on State Route 161 (<i>E,L,V,F,SW</i>)	Washington State Department of Transportation with Edgewood	Ongoing	✓	✓	✓			✓
	3. Identify and Mitigate Flood Prone Properties (<i>F,SW</i>)	Edgewood	Ongoing	✓		✓	✓		✓
	4. Conduct Assessment and Develop Strategy for City Roads Impacted by Flooding (<i>F,SW</i>)	Edgewood	5	✓	✓	✓	✓		✓
	5. Develop and Maintain a Continuity of Government Plan for the City (COG) (<i>E,L,V,D,F,WUI,SW,MM</i>)	Edgewood with Regional Partners	Ongoing	✓	✓	✓		✓	✓
	6. Continue Development of Shelter Program in the City (<i>E,L,V,F,WUI,SW,MM</i>)	Edgewood and PC DEM	Ongoing	✓	✓	✓		✓	
	7. Develop Coverage Areas for Reverse 911 System (Civic Ready) (<i>E,L,V,F,WUI,SW,MM</i>)	Edgewood	Ongoing	✓	✓	✓	✓	✓	✓
	8. Maintain and Update Critical Area Regulations (<i>E,L,V,F,SW,MM</i>)	Edgewood	Ongoing	✓		✓	✓	✓	✓
	9. Develop Emergency Planning Transportation Overlays (<i>E,L,T,V,F,WUI,SW,MM</i>)	Edgewood and Regional Partners (Fire, County, School)	1-2	✓	✓	✓			✓
	10. Implement Jovita Corridor Improvements- Culvert Replacement -(<i>L,F,SW</i>)	Edgewood	5	✓	✓	✓	✓		✓
	11. Seismic Replacement/Retrofit of City Owned Infrastructure (<i>E,SW</i>)	Edgewood	5	✓	✓	✓			✓
	12. Develop Contract with Regional Partners for Disaster Resources (<i>E,L,V,F,WUI,SW,MM</i>)	Edgewood	5	✓	✓	✓		✓	✓
<u>Public Education</u>	1. Continue Hazard Related Training for City Staff (<i>E,L,V,F,WUI,SW,MM</i>)	Edgewood	Ongoing	✓	✓	✓		✓	✓
	2. Continue Hazard Related Training for City Chief Elected Officials (<i>E,L,V,F,WUI,SW,MM</i>)	Edgewood	Ongoing	✓	✓	✓		✓	✓

Implementation Mechanism	Mitigation Measure <i>(Hazard(s))</i> ¹	Lead Jurisdiction(s) / Department(s)	Timeline (years)	Plan Goals					
				Life and Property	Operations Continuity	Partnerships	Natural Resources	Preparedness	Sustainable Economy
	3. Create and Publish Hazard Articles in City Quarterly Newsletter <i>(E,L,V,D,F,WUI,SW,MM)</i>	Edgewood	Ongoing	✓	✓	✓			
	4. Conduct Annual Public Safety Informational Briefings <i>(E,L,V,F,WUI,SW,MM)</i>	Edgewood	Ongoing	✓	✓	✓		✓	
	5. Continue and Expand PC-NET Program in City of Edgewood <i>(E,L,V,F,WUI,SW,MM)</i>	Edgewood and PC DEM	Ongoing	✓	✓	✓		✓	
	6. Hazard Related Education and Training for City Businesses <i>(E,L,V,F,WUI,SW,MM)</i>	Edgewood with Regional Partners	5	✓	✓	✓		✓	
	7. National Flood Insurance Program	Edgewood and PC DEM	Ongoing	✓	✓	✓	✓	✓	

Startup Mitigation Measures

Existing Mitigation Actions

Hazards: E, L, T, V, D, F, WUI, SW¹, MMError! Bookmark not defined.

The City of Edgewood will integrate the hazard mitigation plan into existing plans, ordinances, and programs to dictate land uses within the jurisdiction. Further, Edgewood will continue to implement existing programs, policies, and regulations as identified in the Capability Identification Section of this Plan. This includes such actions as updating the Critical Area Regulations and any ensuing land use policies with best available science. It also includes continuing those programs that are identified as technical capabilities.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Preserve or Restore Natural Resources; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be accomplished with local budgets or grants.
4. **Lead Jurisdiction(s)** = City of Edgewood - Administration
5. **Timeline** = Ongoing
6. **Benefit** = City-Wide
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
This plan is ongoing.			

Origin

Previous Plan	Current Plan
X	X

Plan Maintenance

Hazards: E, L, T, V, D, F, WUI, SW¹, MMError! Bookmark not defined.

Edgewood will adopt those processes outlined in the Plan Maintenance Section of this Plan.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Preserve or Restore Natural Resources; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD

3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Edgewood - Administration
5. **Timeline** = Ongoing
6. **Benefit** = City-Wide
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
This plan is ongoing.			

Origin

Previous Plan	Current Plan
X	X

Hazard Mitigation Forum

Pierce County Hazard Mitigation Forum

Hazards: E, L, T, V, D, F, WUI, SW¹, MMErrors! Bookmark not defined.

Edgewood will work in conjunction with the County through the Pierce County Hazard Mitigation Forum (HMF). The Forum will continue as a means of coordinating mitigation planning efforts among all jurisdictions within the County that have completed a mitigation plan. This ensures efficient use of resources and a more cooperative approach to making a disaster resistant county. The HMF meets annually; every October. This is addressed in the Plan Maintenance Section of this Plan.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Preserve or Restore Natural Resources; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = Minor
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = PC DEM; City of Edgewood
5. **Timeline** = Ongoing
6. **Benefit** = Regional
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		

Comments
This is a continuous work-in-progress.

Origin

Previous Plan	Current Plan
X	X

City Government Mitigation Measures

Capability Identification and Evaluation

Hazards: E, L, T, V, D, F, WUI, SW¹, MMError! Bookmark not defined.

Edgewood will develop a consistent and replicable system for evaluating the City's capabilities. A comprehensive evaluation will lead to specific policy recommendations to more effectively achieve disaster resistant communities. Further, a capability evaluation involves measurable variables so that capabilities may eventually be tracked in conjunction with the implementation of all mitigation measures. This is a key component in evaluating the success of the City's overall mitigation strategy.

1. **Goal(s) Addressed** = N/A. Goals addressed are contingent upon the mitigation measures resulting from this priority.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s)** = City of Edgewood
5. **Timeline** = Short-term
6. **Benefit** = City-Wide
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
This is a work-in-progress.			

Origin

Previous Plan	Current Plan
X	X

Implement Infrastructure Improvements on State Route 161

Hazards: E, L, V, F, SW¹

Edgewood will implement improvements to State Route 161 (Meridian Street) in southern areas of the City. The project will widen the road coming up out of Puyallup Valley to include pedestrian access. Once completed, this project will create more evacuation routes out of the valley and at the same time reduce the vulnerability of the existing transportation infrastructure to the landslide hazard.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Promote A Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s)** = Washington State Department of Transportation with City of Edgewood
5. **Timeline** = Long-term
6. **Benefit** = City of Edgewood, surrounding communities, Regional partners
7. **Life of Measure** = 50 years
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
Traffic flow to and from the city is important for residents of the county and city. Improvements to the existing HWY 161 will help traffic flow for both vehicular traffic and pedestrians. This is a plan for the future with an undetermined time frame.			

Origin

Previous Plan	Current Plan
X	X

Identify and Mitigate Flood Prone Property

Hazards: F, SW¹

Edgewood will identify and mitigate flood prone property. The City has several areas that experience closed depression flooding. Over past few decades, properties within these areas have been flooded. The City will catalog the properties and develop a strategy to mitigate the flooding. The strategy could include such measures as purchasing structures and turning the property back to its natural state or elevating structures on the property.

1. **Goal(s) Addressed** = Protect Life and Property; Establish and Strengthen Partnerships for Implementation; Preserve or Restore Natural Resources; Promote a Sustainable Economy.
2. **Cost of Measure** = Minor
3. **Funding Source and Situation** = Funding could be obtained through local budgets or grants.
4. **Lead Jurisdiction(s)** = City of Edgewood
5. **Timeline** = Long-term
6. **Benefit** = City of Edgewood and Impacted Parcels and other Regional Partners
7. **Life of Measure** = Perpetual for buyout
8. **Community Reaction** = the proposal would be strongly opposed by most.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		

Comments
This mitigation strategy is ongoing.

Origin

Previous Plan	Current Plan
X	X

Conduct Assessment and Develop Strategy for City Roads Impacted by Flooding

Hazards: F, SW¹

Edgewood will identify roads in the City that are impacted by flooding. Once the roads have been identified (such as 114th Street and 36th Street), the City will develop a strategy to mitigate the flooding. This could be done through a number of techniques, such as creating compensatory storage by raising roads, creating retention ponds, or buying out property.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Preserve or Restore Natural Resources; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s)** = City of Edgewood
5. **Timeline** = Long-term
6. **Benefit** = City of Edgewood, Regional Partners, residents in impacted areas.
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
The city's comprehensive plans, various stormwater plans, and various public and private developments will help identify those areas that are in greatest need of mitigation.			

Origin

Previous Plan	Current Plan
X	X

Develop and Maintain a Continuity of Government Plan for the City (COG)

Hazards: E, L, V, D, F, WUI, SW¹, MMError! Bookmark not defined.

Edgewood will develop a Continuity of Government Plan for the City.

The purpose of this Plan will be to provide guidance for the protection of the City Government's officials and documents, with or without warning of a wide range of potential emergencies, while outlining the City's viable and executable contingency plans for Continuity of Government (COG).

This COG is planted in the foundations of existing fundamentals of Continuity of Government (COG) (i.e., the continued performance of essential department functions and support of the City during emergency or disaster situations.) and Continuity of Operations (COOP) (i.e., providing essential functions to customers from a different location, due to the primary facility becoming unusable, for long or short periods of time). COG is dependent on effective implementation of COOP plans and capabilities by the City.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations, Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budgets.
4. **Lead Jurisdiction(s)** = City of Edgewood with Regional Partners
5. **Timeline** = Long-Term
6. **Benefit** = City of Edgewood, residents and businesses
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
This is a work-in-progress and is subject to change(s) based on staffing and training.			

Origin

Previous Plan	Current Plan
X	X

Continue Development of Shelter Program in City

Hazards: E, L, V, F, WUI, SW¹, MMError! Bookmark not defined.

Edgewood will continue the development of the Shelter Program in the City.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Edgewood and PCDEM
5. **Timeline** = Ongoing
6. **Benefit** = City of Edgewood Residents and Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal would be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
The City of Edgewood has worked with the American Red Cross to identify shelter locations within the city boundaries and continues to do so.			

Origin

Previous Plan	Current Plan
X	X

Develop Coverage Areas for Reverse 911 System (Civic Ready)

Hazards: E, L, V, F, WUI, SW¹, MMError! Bookmark not defined.

The measure will involve installing software (Civic Ready) which will allow communications to be sent to defined geographic areas within the city. Similar to Reverse 911 systems, these information sharing programs have proven to be invaluable to citizens in areas affected by disasters.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Preserve or Restore Natural Resources; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Edgewood
5. **Timeline** = Ongoing
6. **Benefit** = City of Edgewood Residents and Businesses, and Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
----------	---------	--------------------	----------

		X	
Comments			
The software has been purchased but not yet installed.			

Origin

Previous Plan	Current Plan
X	X

Maintain and Update Critical Area Regulations

Hazards: E, L, V, F, SW¹, MM²

Edgewood will maintain and update the City's Critical Area Regulations. The City is required to adopt and implement land use regulations that protect critical or environmentally sensitive areas in the City under the State Growth Management Act. These areas coincide with many natural hazards that impact the City, such as flood hazard areas, volcanic lahar areas, landslide hazard areas, and seismic hazard areas. By protecting these areas and limiting the people and infrastructure in the areas, the vulnerability of the City is reduced, and the environment is protected. As an education component of this process, the City will continue educating the land users of hazards that they are building in. The checklist is developed when a developer goes in for a permit to develop property, and the critical areas are identified. Through the use of the of the critical area's checklist, the City will take the opportunity to educate developers on the hazards that may impact them.

Priority Updates:

- As part of the updating, the City will hire geographic information systems technician to incorporate wetland buffers into City's critical areas, and
 - Partner with water suppliers (Milton, Mt. View, etc.) to develop GIS dataset to incorporate into their water sources in critical areas.
1. **Goal(s) Addressed** = Protect Life and Property; Establish and Strengthen Partnerships for Implementation; Preserve or Restore Natural Resources; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
 2. **Cost of Measure** = TBD
 3. **Funding Source and Situation** = Funding could be obtained through local budget.
 4. **Lead Jurisdiction(s)** = City of Edgewood
 5. **Timeline** = Ongoing
 6. **Benefit** = City of Edgewood Residents and businesses and Regional Partners
 7. **Life of Measure** = Varies
 8. **Community Reaction** = the proposal would be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			

Origin

Previous Plan	Current Plan
X	X

Develop Emergency Planning Transportation Overlays

Hazards: E, L, T, V, F, SW, WUI¹, MMError! Bookmark not defined.

Edgewood will identify various emergency transportation routes throughout the City and map them for planning purposes. Due to the heavy reliance on other jurisdictions for services, this measure will involve input from the City, the Utility Providers, the County, the School Districts and the Fire District to name a few. The routes could include: snow clearing, valley evacuation routes, etc. This measure will build on the Regional Evacuation Plans that are being developed with input from the City.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Edgewood and Regional Partners (Fire, County, School)
5. **Timeline** = Short-term
6. **Benefit** = City of Edgewood and other Regional Partners
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
The City of Edgewood is currently looking at all transportation matters throughout the city to include improvement of existing roadways and the planning and development of new possible routes to and from the city.			

Origin

Previous Plan	Current Plan
X	X

Implement Jovita Corridor Improvements—Culvert Replacement

Hazards: L, F, SW¹

Edgewood will implement improvements to Jovita Road in north-eastern area of the City. The project will replace a culvert along the road coming up out of Sumner Area. The culvert will be of a type which will upgrade the current capacity from 12 inches. This project will reduce the flooding in the area, which in turn will reduce the landslide threat. Furthermore, this project will allow for further salmon restoration in the area.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Preserve or Restore Natural Resources; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget, WSDOT Funds or Salmon Recovery Funds
4. **Lead Jurisdiction(s)** = City of Edgewood
5. **Timeline** = Long-term
6. **Benefit** = City of Edgewood and Regional Partners
7. **Life of Measure** = 50 years
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X	X	
Comments			
A portion of Jovita has been improved but there is more work yet to be done.			

Origin

Previous Plan	Current Plan
X	X

Seismic Replacement/Retrofit of City Owned Infrastructure

Hazards: E, SW¹

Edgewood will identify and mitigate City owned infrastructure that is in need of a seismic replacement/retrofit. The current City Hall is one such candidate, which would be a good candidate for a seismic replacement.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s)** = City of Edgewood
5. **Timeline** = Long-term
6. **Benefit** = City of Edgewood, Regional Partners, Various by infrastructure
7. **Life of Measure** = 5 years for assessment portion.
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
Working in a seismically safe building (i.e. City Hall) is important for the city and its employees. In order to ensure city operations can continue to operate following a disaster, it is equally important for the residents of the city that they have a seismically safe/sound building too. Retrofitting and/or safety improvements are needed to ensure this safety and a continuity of operations.			

Origin

Previous Plan	Current Plan
X	X

Develop Contract with Regional Partners for Disaster Resources

Hazards: E, L, V, F, WUI, SW¹, MMError! Bookmark not defined.

Edgewood will develop a memorandum of understanding, contract or agreement with Regional Partners for use of resources in an emergency or disaster. The City shares responsibilities with several Regional Partners when emergencies occur. The local fire district, water companies, school districts, county departments, etc. all have resources that could be leveraged in times of emergency or disaster, and this memorandum would formalize this process.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations, Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Edgewood
5. **Timeline** = Long-term
6. **Benefit** = City of Edgewood, residents and businesses
7. **Life of Measure** = Various
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
This is a work-in-progress with a current focus on “Communications” and a continuation of operations.			

Origin

Previous Plan	Current Plan
X	X

Public Education Mitigation Measures

Continue Hazard Related Training for City Staff

Hazards: E, L, V, F, WUI, SW¹, MMError! Bookmark not defined.

Edgewood will continue the Hazard Related Disaster Training for City Staff. This will build on such classes that involve: Preparedness at work, home and on the road; NIMS training; ATC-20 training; and Hazard Awareness Training. Having employees prepared will help ensure City Operations and provide a faster response and recovery when hazards threaten the City.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations, Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = Varies
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Edgewood
5. **Timeline** = Ongoing
6. **Benefit** = City of Edgewood employees, residents and businesses
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
This is a work-in-progress.			

Origin

Previous Plan	Current Plan
X	X

Continue Hazard Related Training for City Chief Elected Officials

Hazards: E, L, V, F, WUI, SW¹, MMError! Bookmark not defined.

Edgewood will continue the Hazard Related Disaster Preparedness Training for City Chief Elected Officials. This will build on such classes that involve: Preparedness at work, home, and on the road, NIMS training, and Hazard Awareness Training. Having chief elected officials prepared will help ensure City Operations and provide a faster response and recovery when hazards threaten the City.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations, Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Edgewood
5. **Timeline** = Short-term
6. **Benefit** = City of Edgewood, residents and businesses
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
This is a work-in-progress.			

Origin

Previous Plan	Current Plan
X	X

Create and Publish Hazard Articles in City Quarterly Newsletter

Hazards: E, L, V, D, F, WUI, SW¹, MMErrors! Bookmark not defined.

Edgewood will continue the practice of using the City Quarterly Newsletter to educate the public about the hazards in the City. This could include articles about structural renovations of structures, basic preparedness, etc. This is an effective tool in connecting with citizens.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = Minimal
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Edgewood
5. **Timeline** = Ongoing
6. **Benefit** = City of Edgewood citizens and Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
When needed/possible and as space allows. It will not be utilized quarterly, though.			

Origin

Previous Plan	Current Plan
X	X

Conduct Annual Public Safety Informational Briefings

Hazards: E, L, V, F, WUI, SW¹, MMError! Bookmark not defined.

Edgewood will conduct an Annual Public Safety Fair. This Fair could be tied into an existing event in the Region or a new event. Regional partners such as Water Companies, the Fire District, the School Districts and others could be involved. The main messages could include educating the public on the hazards in the City, the responsibilities of given jurisdictions, and how to prepare. This message should build on the 3 Days 3 Ways Message listed on the City Website and that is used throughout the Puget Sound.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Edgewood
5. **Timeline** = Short-term
6. **Benefit** = City of Edgewood residents and Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
The City of Edgewood and its Police Department will continue to discuss emergency preparedness at various Community Outreach events. The Edgewood Community Picnic is an annual event which allows for DEM and others to set up booths that may provide information to citizens. National Night Out also allows for DEM personnel to distribute emergency preparedness information.			

Origin

Previous Plan	Current Plan
X	X

Continue and Expand PC-NET Program in City

Hazards: E, L, V, F, WUI, SW¹, MMError! Bookmark not defined.

Edgewood will continue to expand the PC-NET (Pierce County Neighborhood Emergency Teams) in the City.

PCNET is a neighborhood-oriented approach to emergency preparedness and homeland security. It is based on the belief that a cooperative effort between a county and its citizens is the only sure way to protect a neighborhood and to prepare for a major disaster. The program helps individuals and their neighborhoods prepare to mutually assist each other so that lives can be saved, property can be spared, and emergency services can be freed to respond to the most devastated areas. This will be accomplished by organizing block groups into a variety of disaster response teams, each of which has a simple one-page list that clearly outlines necessary tasks. No special skills or equipment are required to participate—and only a minimal time commitment is needed. Such programs are critical to reminding the public of the hazards in Pierce County, and of the necessity of having on hand the supplies and materials to survive independently for a minimum of 72 hours. These programs will be continued and expanded upon.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Edgewood and PCDEM
5. **Timeline** = Ongoing
6. **Benefit** = City of Edgewood, residents, businesses and Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
This program will continue to be discussed at Community Outreach Events along with other Emergency Preparedness topics.			

Origin

Previous Plan	Current Plan
X	X

Hazard Related Education and Training for City Businesses

Hazards: E, L, V, F, WUI, SW¹, MMError! Bookmark not defined.

Edgewood will conduct hazard related education and training for City Businesses. The City businesses play a vital role in the future of the City. By partnering with other regional governmental partners (Fire District, Cities, County, etc.) the businesses will be provided an awareness level introduction to the hazards in the area. Working with local business groups or

the chambers of commerce, this will help build a level of sustainability into the City along with providing a mechanism for leveraging resources before and after an emergency or disaster.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations, Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Edgewood with Regional Partners
5. **Timeline** = Short-term
6. **Benefit** = City of Edgewood businesses and residents, Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
This has not been occurring but the benefit to begin doing so is there.			

Origin

Previous Plan	Current Plan
X	X

National Flood Insurance Program

Hazards: F

Edgewood will ensure that the City is compliant with the National Flood Insurance Program by updating floodplain identification and mapping, enforcing the flood damage prevention ordinance, and providing public education on floodplain requirements and impacts. The City of Edgewood will be an active participant in the Pierce County Flood Control District.

1. **Goal(s) Addressed** = Protect life and property; Ensure Continuity of Operations; Increase Public Preparedness; Increase and Strengthen Partnerships; Protect the Environment; Increase Public Preparedness
2. **Cost of Measure** = Staff time, special materials required, permits
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants
4. **Lead Jurisdiction(s)** = Edgewood (Community Development); PC PWU
5. **Timeline** = On-going
6. **Benefit** = City-wide; Regional
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
	X		
Comments			
This is an ongoing process.			

Origin

Previous Plan	Current Plan
X	X

Endnotes

¹ Hazard Codes:

Where necessary, the specific hazards addressed are noted as follows:

A:	Avalanche
E:	Earthquake
F:	Flood
D:	Drought
T:	Tsunami
V (L OR T):	Volcanic (lahar or tephra-specific)
SW:	Severe Storm (wind-specific)
L:	Landslide
WUI:	Wildland/Urban Interface Fire
MM:	Manmade to include terrorism
ALL:	All hazards, including some man made. Where only natural hazards are addressed, it is noted.

² While this Plan is strictly a *Natural* hazard mitigation plan, where a measure stems from a facility recommendation (Infrastructure Section) that deals specifically with terrorism, the mitigation strategy will use that analysis. Other measures, such as those that deal with multi-hazard community preparedness or recovery planning, mitigate man-made hazards and are noted as such. It is not the intent of this notation to imply that all measures were analyzed with regards to man-made hazards or that measures were identified with that in mind. Rather, the notation merely illustrates the potential on this template for the inclusion of man-made hazard analysis.

Section 6

Infrastructure Requirements

Assessing Vulnerability: Identifying Structures---Requirement §201.6(c)(2) (ii)(A):

The plan **should** describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas.

- Does the new or updated plan describe vulnerability in terms of the **types and numbers** of **existing** buildings, infrastructure, and critical facilities located in the identified hazard areas?
- Does the new or updated plan describe vulnerability in terms of the **types and numbers** of **future** buildings, infrastructure, and critical facilities located in the identified hazard areas?

Assessing Vulnerability: Estimating Potential Losses---Requirement §201.6(c)(2) (ii)(B):

The plan **should** describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate.

- Does the new or updated plan estimate **potential dollar losses** to vulnerable structures?
- Does the new or updated plan describe the **methodology** used to prepare the estimate?

SECTION 6

REGION 5 ALL HAZARD MITIGATION PLAN 2020-2025 EDITION CITY OF EDGEWOOD INFRASTRUCTURE SECTION

The Infrastructure Section is exempt from public disclosure pursuant to RCW 42.56.420. Request for public disclosure of this document or parts thereof should be referred immediately to the City of Edgewood's Mayor.

Distribution or changes to this document without the express written consent of the City of Edgewood's Mayor is prohibited.

(This page intentionally left blank)

Section 7

Plan Maintenance Procedures Requirements

Monitoring, Evaluating, and Updating the Plan---Requirement §201.6(c)(4)(I):

[The plan maintenance process **shall** include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

- Does the new or updated plan describe the method and schedule for **monitoring** the plan, including the responsible department?
- Does the new or updated plan describe the method and schedule for **evaluating** the plan, including how, when and by whom (i.e. the responsible department)?
- Does the new or updated plan describe the method and schedule for **updating** the plan within the five-year cycle?

Incorporation into Existing Planning Mechanisms---Requirement §201.6(c)(4) (ii):

[The plan **shall** include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate...

- Does the new or updated plan identify other local planning mechanisms available for incorporating the mitigation requirements of the mitigation plan?
- Does the new or updated plan include a process by which the local government will incorporate the mitigation strategy and other information contained in the plan (e.g., risk assessment) into other planning mechanisms, when appropriate?
- Does the updated plan explain how the local government incorporated the mitigation strategy and other information contained in the plan (e.g., risk assessment) into other planning mechanisms, when appropriate?

Continued Public Involvement---Requirement §201.6(c)(4) (iii):

[The plan maintenance process **shall** include a] discussion on how the community will continue public participation in the plan maintenance process.

- Does the new or updated plan explain how continued public participation will be obtained? (For example, will there be public notices, an on-going mitigation plan committee, or annual review meetings with stakeholders?)

SECTION 7

REGION 5 HAZARD MITIGATION PLAN 2020-2025 EDITION CITY OF EDGEWOOD PLAN MAINTENANCE SECTION

Table of Contents

PLAN MAINTENANCE PROCEDURES REQUIREMENTS.....	1
TABLE OF CONTENTS	2
PLAN ADOPTION	3
MAINTENANCE STRATEGY	3
IMPLEMENTATION	4
PLAN EVALUATION AND UPDATE	7
CONTINUED PUBLIC INVOLVEMENT	9
ENDNOTES	10

The planning update process began in the spring of 2019 and continues building on the foundation of breaking the disaster cycle by planning for a disaster resistant City of Edgewood and Pierce County Region 5. This Section details the formal process that will ensure the City of Edgewood Hazard Mitigation Plan remains an active and relevant document. The Plan Maintenance Section includes a description of the documentation citing the Plan's formal adoption by the Edgewood City Council. The Section also describes: the method and schedule of monitoring, evaluating, and updating within a five-year cycle; the process for incorporating the mitigation strategy into existing mechanisms; and, the process for integrating public participation throughout the plan maintenance. The Section serves as a guide for implementation of the hazard mitigation strategy.

Plan Adoption

Upon completion of the Edgewood Plan it will be submitted to Washington State Emergency Management Division (EMD) for a Pre-Adoption Review. The EMD has 30 days to then act on the Plan and forward it to the Federal Emergency Management Agency (FEMA) Region X for review. This review, which is allowed 45 days by law, will address the federal criteria outlined in FEMA Interim Final Rule 44 CFR Part 201.6. In completing this review there may be revisions requested by the EMD and/or FEMA. Revisions could include changes to background information, editorial comments, and the alteration of technical content. Pierce County Department of Emergency Management (PC DEM) will call a Planning Team Meeting to address any revisions needed and resubmit the changes.

The Edgewood City Council is responsible for the adoption of the Plan after the Pre-Adoption Review by the EMD and the FEMA Region X. Once the City adopts the Plan, the City Manager will be responsible for submitting it, with a copy of the resolution, to the State Hazard Mitigation Officer at the Washington State EMD. EMD will then act on the Plan and forward it to the FEMA Region X for final approval. Upon approval by FEMA, the City will gain eligibility for both Hazard Mitigation Grant Program and Pre-Disaster Mitigation Grant Program funds.

Appendix A will list the dates and include a copy of the signed Resolution from the jurisdiction as well as a copy of the FEMA approval of the jurisdiction's Plan. In future updates of the Plan, Appendix C will be used to track changes and/or updates. This plan will have to be re-adopted and re-approved prior to the five-year deadline of July 2025.

Maintenance Strategy

The City of Edgewood's maintenance strategy for implementing, monitoring, and evaluating the plan provides a structure that encourages collaboration, information transference, and innovation. Through a multi-tiered implementation method, the City will provide its citizens a localized approach to loss reduction while serving their needs through coordinated policies and programs. The method's emphasis on all levels of participation promotes public involvement and adaptability to changing risks and vulnerabilities. Finally, it will provide a tangible link between staff, students and the various levels of government service, ranging

from community action to the Department of Homeland Security. Through this strategy, the City of Edgewood will continue to achieve a more disaster resistant community.

Implementation

As noted in Section 4, in the first quarter of 2017, the City of Edgewood adopted FEMA's most current flood maps. Along with the adoption of the maps, the City also updated Title 14 of the Edgewood Municipal Code which established more control over the development on the valley floor. Additionally, the adoption of the Critical Areas Ordinance in 2018 allowed the city to continue to work with landowners to establish Base Flood Elevation (BFE) for properties with closed depression areas. The City of Edgewood is regularly evaluating and monitoring the need for future updates to their plan.

Historically, the City of Edgewood's Comprehensive Plan made passive reference to a Hazard Mitigation Plan; but current capital improvement needs identified here are considered during the City's annual Six-Year Capital Improvement Plan update process.

In order to ensure efficient and effective implementation, the City of Edgewood will make use of its capabilities, infrastructure, and dedicated population. The City will implement its mitigation strategy over the next five years primarily through its annual budget process and varying grant application processes. All programs and entities identified in the Capability Identification Section will serve as the implementing mechanisms within those processes.

Under the direction of the Edgewood City Council, the Mayor will work in conjunction with those departments/agencies/entities identified in both the Capability Identification Section and under each mitigation measure to initiate the mitigation strategy. For example, any infrastructure-related measures will be implemented through the Capital Improvement Plan and the various departments involved through their normal budget schedules. Regulatory and land use measures will continue to be implemented by the City. Through collaboration with the City Planning Department any updates or amendments to the City's Comprehensive Plan will include hazard mitigation, as necessary. Other measures will be implemented through collaboration with the identified jurisdictions/departments listed under each measure's evaluation and through the mechanisms and funding sources identified in the Capability Identification Section.

These efforts fall under a broader implementation strategy that represents a county-wide effort. This strategy must be adaptable to change while being consistent in its delivery.

The mitigation implementation strategy is a three-tiered method that emphasizes localized needs and vulnerabilities while addressing the City of Edgewood's as well as multi-jurisdictional policies and programs. The first tier is implementation through individual citizen level Public Education Programs already existing in the City of Edgewood (for example, at the individual level through Community outreach events, like the Edgewood Community Picnic in conjunction with the Pierce County Emergency Management and at the neighborhood level through PC NET). The second is the City-Wide mechanism for

implementation, in this case the City of Edgewood's Administration. The third tier is a more external and multi-jurisdictional mechanism, the Hazard Mitigation Forum (HMF).

This method ensures that implementation speaks to unique vulnerabilities at the most local level, allows for coordination among and between levels, and promotes collaboration and innovation. Further, it provides a structured system of monitoring implementation. Finally, it is a method that can adapt to the changing vulnerabilities of the City, the region, and the times. These three levels and their means of implementation and collaboration are described below.

Public Education Programs

At the individual citizen level, public education programs provide the City of Edgewood with a localized mechanism for implementation. This approach to mitigation can adapt to the varying vulnerabilities and needs within the growing City and region. Public education programs are also a means for involving the public in mitigation policy development. Departments conducting mitigation-related programs will provide the existing targeted neighborhoods and special-needs populations a catalogue of mitigation measures from which individuals can choose those that would be most effective in their neighborhood. For example, currently the City is working with PC DEM in forming the Edgewood's PC NETs to better prepare for, and respond to, disasters. PC NETs provide a coordinated group of communities through which individuals can implement home and neighborhood level mitigation measures.

Jurisdiction-Wide: City Mayor

Under the policy direction of the Edgewood City Council, the City Mayor will be responsible for implementing the plan. The City Mayor of Edgewood is responsible to the City Council for the day-to-day operations of the City, its departments, the annual budget, and personnel, including the selection, evaluation, and training of all city staff. The City Mayor oversees, coordinates, and administers the activities of all city departments and offices consistent with ordinances, laws, rules and regulations.

Initially, the Edgewood City Council will be responsible for the overall review of the plan and the City Mayor will designate mitigation measures to those departments responsible for their implementation. This will be done with assistance from both the Edgewood Police Chief and Edgewood's Senior Planner. The City Mayor will address the Plan on an annual basis. The Police Chief and the Senior Planner will monitor the plan's implementation throughout the year and report to the City Mayor of Edgewood at this annual meeting. Evaluation and updates will be completed at this meeting. Recommendations will be made to coincide with the normal budgeting processes and provide an ample time period for review and adoption of any necessary changes to the implementation schedule.

Eventually, the City Mayor may choose to cede this responsibility to a Hazard Mitigation/Public Safety Committee. This committee would be composed of representatives from the departments identified in the Capability Identification Section as having a role in hazard mitigation. The Committee would ultimately provide a mechanism for coordination

among those departments engaged in mitigation to ensure that a comprehensive and efficient approach be undertaken in the City's efforts at all-hazards mitigation.

Hazard Mitigation Forum

The PC Hazard Mitigation Forum (HMF) represents a broader and multi-jurisdictional approach to mitigation implementation. The PC HMF will be comprised of representatives from Pierce County and all jurisdictions partially or wholly within its borders that have undertaken mitigation planning efforts. The PC HMF will serve as coordinating body for projects of a multi-jurisdictional nature and will provide a mechanism to share successes and increase the cooperation necessary to break the disaster cycle and achieve a disaster resistant Pierce County. Members of the PC HMF will include the following jurisdictions who have completed, or who have begun the process of completing, DMA 2000 compliant plans:

- City of Bonney Lake
- City of DuPont
- City of Fife
- City of Gig Harbor
- City of Milton
- City of Puyallup
- City of Sumner
- City of University Place
- Town of Eatonville
- Town of Steilacoom
- Unincorporated Pierce County
- East Pierce Fire and Rescue #22
- Graham Fire and Rescue #21
- Orting Valley Fire and Rescue #18
- Riverside Fire and Rescue #14
- Anderson Island Fire and Rescue #27
- West Pierce Fire and Rescue #3
- Clover Park School District
- Eatonville School District
- Franklin Pierce School District
- Pacific Lutheran University
- Puyallup School District
- Sumner School District
- University Place School District
- Crystal River Ranch HOA
- Pierce Transit
- Riviera Community Club
- Clear Lake Water District
- City of Buckley
- City of Edgewood
- City of Fircrest
- City of Lakewood
- City of Orting
- City of Roy
- City of Tacoma
- Town of Carbonado
- Town of South Prairie
- Town of Wilkeson
- Central Pierce Fire and Rescue #6
- Gig Harbor Fire and Medic One #5
- Key Peninsula Fire Department #16
- Browns Point Fire Department #13
- Ashford Elbe Fire District #23
- South Pierce Fire and Rescue #17
- Carbonado School District
- Dieringer School District
- Fife School District
- Orting School District
- Peninsula School District
- Steilacoom School District
- Tacoma School District
- Crystal Village HOA
- Metropolitan Park District
- Port of Tacoma
- Taylor Bay Beach Club
- Firgrove Mutual Water Company

- Fruitland Mutual Water Company
- Lakeview Light and Power
- Mt. View-Edgewood Water Company
- Parkland Light and Water Company
- Spanaway Water Company
- Valley Water District
- Community Health Care
- Kaiser Permanente
- Western State Hospital
- Tacoma Pierce County Health Dept.
- Graham Hill Mutual Water Company
- Lakewood Water District
- Ohop Mutual Light Company
- Peninsula Light Company
- Summit Water and Supply Company
- Cascade Regional Blood Services
- Franciscan Health System
- MultiCare Health System
- Puyallup Tribe of Indians
- Bethel School District

PC HMF will meet annually in November and will be coordinated by PC DEM. The City of Edgewood will be an active participant in the PC HMF and will be represented by the city appointed staff. Only through this level of cooperation can these jurisdictions meet all their mitigation goals.

Regional Mitigation Planning

Pierce County, Region 5 was configured into 5 planning groups based on a commonality in geographical hazards for the 2020-2025 mitigation plan update to foster relationship building and resiliency planning amongst jurisdictions. Although much of the meeting and planning time focused on plan updates and fostered relationship building the resiliency planning component will continue within multi-jurisdictional groups working together to further reduce risk. This provides another opportunity for continued collaboration planning amongst jurisdictions working and partnering together. The meeting frequency will be driven by the mitigation implementation strategy and combines the three-tiered approach. The City of Edgewood will continue to engage within the “north group” geographical planning area and will provide the specific department representative to engage in and implement mitigation activities within this geographical group.

Plan Evaluation and Update

It should be noted this planning process began in early 2019 following the then current CFR 201.6 Hazard Mitigation Planning Requirements. Based on new requirements in the Stafford Act, the City of Edgewood will evaluate and update the plan to incorporate these new requirements as necessary. Furthermore, if there are additional Stafford Act changes affecting CFR 201.6 in the coming years, the planning process will incorporate those as well.

The Edgewood Plan will guide the City of Edgewood’s mitigation efforts for the foreseeable future. The City of Edgewood’s representatives on the Planning Team have developed a method to ensure that regular review and update of the Plan occur within a five-year cycle. The City Mayor of Edgewood will coordinate any reviews through the annual meeting noted above.

PC DEM will collaborate with the City Mayor and the PC HMF to monitor and evaluate the mitigation strategy implementation. PC DEM will track this implementation through Pierce County's GIS database. Findings will be presented and discussed at the annual meeting.

The Police and Planning Departments will provide a report of the Plan's implementation to the Edgewood City Mayor at the annual meeting. This report will drive the meeting agendas and will include the following:

- Updates on implementation throughout the City of Edgewood;
- Updates on the PC HMF and mitigation activities undertaken by neighboring jurisdictions;
- Changes or anticipated changes in hazard risk and vulnerability at the City, county, regional, State, FEMA and Homeland Security levels;
- Problems encountered or success stories;
- Any technical or scientific advances that may alter, make easier, or create measures.

The City Mayor of Edgewood and local experts will decide on updates to the strategy based on the above information and a discussion of:

- The various resources available through budgetary means as well as any relevant grants;
- The current and expected political environment and public opinion;
- Meeting the mitigation goals with regards to changing conditions.

PC DEM will work with the City Mayor of Edgewood to review the Risk Assessment Section to determine if the current assessment should be updated or modified based on new information. This will be done during the regularly scheduled reviews of the Hazard Identification and Vulnerability Assessment and the Comprehensive Emergency Management Plan.

Additional reviews of this Plan will be required following disaster events and will not substitute for the annual meeting. Within ninety days following a significant disaster or an emergency event impacting the City of Edgewood, the City Mayor will provide an assessment that captures any "success stories" and/or "lessons learned." The assessment will detail direct and indirect damages to the City of Edgewood and its infrastructure, response and recovery costs, as part of the standard recovery procedures that use EMD Forms 129, 130, and 140. This process will help determine any new mitigation initiatives that should be incorporated into the Plan to avoid or reduce similar losses due to future hazard events. In this manner, recovery efforts and data will be used to analyze mitigation activities and spawn the development of new measures that better address any changed vulnerabilities or capabilities. Any updates to the Plan will be addressed at the annual November meeting.

As per 44 CFR 201.6, the City of Edgewood must re-submit the Plan to the State and FEMA with any updates every five years. This process will be coordinated by PC DEM through the Pierce County Hazard Mitigation Forum. In 2025 and every five years following at the

Hazard Mitigation Forum, the City Mayor of Edgewood will submit the updated plan to PC DEM. PC DEM's Mitigation and Recovery Program Manager will collect updates from the Region 5 Plan jurisdictions and submit them to the State EMD and FEMA.

Continued Public Involvement

The City of Edgewood is dedicated to continued public involvement and education in review and updates of the Plan. The City Mayor of Edgewood will retain copies of the Plan and will post it on the City of Edgewood's website¹.

The three-tiered implementation method provides an opportunity for continuous public involvement. Public Education campaigns are a means of informing the public on updates and implementation activities. Further, prior to submitting the Plan to WA EMD and FEMA for the five-year review, the City of Edgewood will hold public information and comment meeting. This meeting will provide the public a forum during which they can express their concerns, opinions, or ideas about the Plan. This meeting will be advertised in the City of Edgewood through a variety of media, including the City Newsletter and a posting on the website.

The City of Edgewood will conduct a review on a yearly basis to ensure all elements of the mitigation plan are updated and accurate. Each of the jurisdictions are tasked with providing documentation on public involvement including a brief description for each public hearing held, a summary on attendance, any feedback received from the public and the an overall description of what was accomplished. Even further, the City of Edgewood will provide proof of their attempts for public involvement such as screenshots of websites including date ranges, flyers and other relevant material documenting the public involvement process. Lastly, the City of Edgewood will look for new innovative ways for public involvement.

Endnotes

¹ <http://cityofedgewood.org>

APPENDIX A

REGION 5 ALL HAZARD MITIGATION PLAN 2020-2025 EDITION CITY OF EDGEWOOD

Plan Adoption

The “Region 5 Hazard Mitigation Plan” was adopted by the City of Edgewood’s City Council on XXX by resolution number XXX. The following page shows a copy of that resolution.

(Placeholder for Resolution)

(Placeholder for Resolution)

The plan was reviewed and approved as follows:

AGENCY	REPRESENTATIVE	DATE
Washington State Military Dept., Emergency Management Division	Tim Cook Hazard Mitigation Programs Manager	Approved—
FEMA Region X	Tamra Biasco Chief, Risk Analysis Branch Mitigation Division	Approved—

FEMA letter of pre-approval and letter of approval follows below.

(Placeholder for FEMA-Approval Letter)

(Placeholder for FEMA-Approval Letter, page 2)

(Placeholder for FEMA-Approval Letter, page 3)

APPENDIX A

REGION 5 ALL HAZARD MITIGATION PLAN 2015-2020 EDITION CITY OF EDGEWOOD

Plan Adoption

The “Region 5 Hazard Mitigation Plan” was adopted by the City of Edgewood’s City Council on February 24, 2015 by resolution number 15-0324. The following page shows a copy of that resolution.

RESOLUTION NO. 15-0324

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EDGEWOOD, WASHINGTON, ADOPTING THE REGION 5 ALL HAZARD MITIGATION PLAN – 2015-2020 EDITION AND THE CITY OF EDGEWOOD'S ADDENDUM TO THE REGION 5 HAZARD MITIGATION PLAN; AND UPDATING THE 2004 PIERCE COUNTY NATURAL HAZARD MITIGATION PLAN.

WHEREAS, the Federal Disaster Mitigation Act of 2000 requires that for all disasters declared on or after November 1, 2004, applicants for sub-grants following any disaster must have an approved Natural Hazard Mitigation Plan in accordance with 44CFR 201.6 prior to receipt of Hazard Mitigation Grant Program project funding; and

WHEREAS, the Federal Disaster Mitigation Act of 2000 requires that for Pre-Disaster Mitigation grant program project funding on or after November 1, 2003, applicants must have an approved Natural Hazard Mitigation Plan in accordance with 44CFR 201.6 prior to receipt of project funding; and

WHEREAS, the All Hazard Mitigation Plan Update represents the commitment of the City of Edgewood along with other surrounding government entities to reduce the risks from natural, man-made and technological hazards, serving as a guide for decision makers as they commit resources to reducing the affects of hazards, and it is in the public interest to proceed with the planning process in a timely manner; and

WHEREAS, the City of Edgewood has participated with the Pierce County Department of Emergency Management in the development of the City of Edgewood's All Hazard Mitigation Plan Update, and recognizes the economic loss, personal injury, and damage that can arise from these hazards; and

WHEREAS, reduction of these impacts can be achieved through a comprehensive coordinated planning process which includes an updated risk assessment that provides the factual basis for activities proposed in the mitigation strategies to reduce losses and vulnerabilities, a five-year cycle for plan maintenance, and documentation of formal adoption by the City of Edgewood; and

WHEREAS, the 2015-2020 Region 5 All Hazard Mitigation Plan Edition has been completed and approved by the State and the Federal Emergency Management Agency; and

WHEREAS, the City of Edgewood could risk not receiving future disaster funding if the All Hazard Mitigation Plan Update is not adopted;

WHEREAS, the City of Edgewood's City Council reviewed the All Hazard Mitigation Plan Update;

NOW, THEREFORE THE CITY COUNCIL OF THE CITY OF EDGEWOOD, WASHINGTON, HEREBY RESOLVES AS FOLLOWS:

Section 1. The Region 5 Hazard Mitigation Plan, 2015-2020 Edition, is hereby adopted as set forth in Exhibit A, which is attached.

Section 2. The City of Edgewood's Addendum to the Region 5 Hazard Mitigation Plan, an update to the City of Edgewood's Natural Hazard Mitigation Plan is hereby adopted and shall be in full force and effect upon passage and signatures hereon.

Section 3. Effective Date: This resolution will take effect immediately upon passage by the City Council.

ADOPTED THIS 24th DAY OF February, 2015.


Daryl Eidinger, Mayor

ATTEST:


Jane Montgomery, Acting City Clerk

Approved as to form


Zach Leil, City Attorney

The plan was reviewed and approved as follows:

AGENCY	REPRESENTATIVE	DATE
Washington State Military Dept., Emergency Management Division	Tim Cook Hazard Mitigation Programs Manager	Approved—
FEMA Region X	Tamra Biasco Chief, Risk Analysis Branch Mitigation Division	Approved— February 2, 2015

FEMA letter of pre-approval and letter of approval follows below.

U.S. Department of Homeland Security
FEMA Region X
Federal Regional Center
130 228th Street, SW
Bothell, WA 98021-8627



FEMA

February 2, 2015

Mr. Tim Cook
Hazard Mitigation Programs Manager
Washington State Emergency Management Division
Building 20, MS TA-20
Camp Murray, Washington 98430-5122

Dear Mr. Cook:

As requested, the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) has completed a pre-adoption review of the *Region 5 Hazard Mitigation Plan*. The plan successfully contains the required criteria, excluding the adoption, for hazard mitigation plans, as outlined in 44 CFR Part 201. This letter serves as Region 10's commitment to approve the plan upon receiving documentation of its adoption by the participating jurisdictions.

The plan will not be formally approved by FEMA until it is adopted. Each jurisdiction is not eligible for mitigation project grants until the plan is formally approved by FEMA.

Please contact our Regional Mitigation Planning Manager, Kristen Meyers, at (425) 487-4543 with any questions.

Sincerely,

Tamra Biasco
Chief, Risk Analysis Branch
Mitigation Division

KM:bb

www.fema.gov



FEMA

October 9, 2018

The Honorable Douglas Richardson
Chair, Pierce County Council
930 Tacoma Avenue South
Tacoma, Washington 98402

Dear Chair Richardson:

On July 23, 2015, the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) Region 10, approved the *Region 5 (Pierce County) Hazard Mitigation Plan* as a multi-jurisdictional local plan as outlined in Code of Federal Regulations Title 44 Part 201. This approval provides the below jurisdictions eligibility to apply for the Robert T. Stafford Disaster Relief and Emergency Assistance Act's, Hazard Mitigation Assistance grants through July 22, 2020, through your state.

COUNTY / CITIES / TOWNS

City of Bonney Lake	City of Lakewood	Town of Eatonville
City of Buckley	City of Milton	Town of Carbonado
City of DuPont	City of Orting	Town of South Prairie
City of Edgewood	City of Roy	Town of Steilacoom
City of Fife	City of Sumner	Town of Wilkeson
City of Fircrest	City of Tacoma	Pierce County
City of Gig Harbor	City of Puyallup	

FIRE PROTECTION DISTRICTS

Anderson Island Fire & Rescue (PCFD #27)-	East Pierce Fire and Rescue	Orting Valley Fire & Rescue (PCFD #18)
Ashford Fire (PCFD #23)-	Gig Harbor Fire & Medic One (PCFD #5)	South Pierce Fire & Rescue (PCFD #17)
Browns Point – Dash Point Fire (PCFD #13)	Graham Fire & Rescue (PCFD #21)	Riverside Fire & Rescue (PCFD #14)
Central Pierce Fire & Rescue (PCFD #6)	Key Peninsula Fire (PCFD #16)	West Pierce Fire & Rescue (PCFD #3)

SCHOOL AND PARK DISTRICTS

Carbonado SD	Franklin Pierce SD	Steilacoom Historic SD No. 1
Clover Park SD	Metro Parks Tacoma	Sumner SD
Dieringer SD	Orting SD	Tacoma SD #10
Eatonville SD	Peninsula SD	University Place SD
Fife SD	Puyallup SD	White River SD

WATER DISTRICTS AND OTHERS

Clear Lake WD	Lakewood Water District	Pierce Transit
Port of Tacoma	Community Health Care	

www.fema.gov

Chair Richardson
October 9, 2018
Page 2

The updated list of approved jurisdictions includes the City of Puyallup and Community Health Care that recently adopted the City of Puyallup Addendum to the *Region 5 (Pierce County) Hazard Mitigation Plan*. To continue eligibility, jurisdictions must review, revise as appropriate, and resubmit the plan within five years of the original approval date.

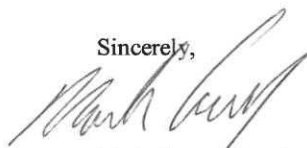
Additionally, this letter acknowledges that the following organizations, while not local governments, participated in, and adopted the plan. These organizations may be eligible to apply for the Hazard Mitigation Grant Program as private non-profits.

OTHER PLAN PARTICIPANTS

Pacific Lutheran University	Firgrove Mutual Inc.	Fruitland Mutual Water Company
Graham Hill Mutual Water Co., Inc.	Mt. View-Edgewood Water Company	Ohop Mutual Light Company
Spanaway Water Company	Summit Water & Supply Company	Tanner Electric Company
Herron Island Homeowners Association	Crystal Village Homeowners Association	Taylor Bay Beach Club
Raft Island Improvement Association	Riviera Community Club	Crystal River Ranch Association
Cascade Regional Blood Services	Dynamic Partners	Group Health Cooperative
Western State Hospital	Lakeview Light & Power	Franciscan Health System

If you have questions regarding your plan's approval or FEMA's mitigation grant programs, please contact Derrick Hiebert, State Mitigation Strategist with Washington Emergency Management Division, at (253) 512-7142, who coordinates and administers these efforts for local entities.

Sincerely,



Mark Carey, Director
Mitigation Division

Enclosures

cc: Tim Cook, Washington Emergency Management Division

KS:rg

APPENDIX A

REGION 5 HAZARD MITIGATION PLAN 2008-2013 EDITION CITY OF EDGEWOOD

Plan Adoption

The “Region 5 Hazard Mitigation Plan” was adopted by the City of Edgewood’s City Council on October 28, 2008 by resolution number 08-245. The following page shows a copy of that resolution.

RESOLUTION NO. 08-245

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EDGEWOOD,
WASHINGTON, ADOPTING A NATURAL HAZARD MITIGATION PLAN FOR THE
CITY**

WHEREAS, The City of Edgewood's geology and natural history demonstrate its vulnerability to natural hazards and disasters arising from physical features;

WHEREAS, The City Council recognizes the economic loss, personal injury and damage that can arise from these natural hazards;

WHEREAS, The Federal Emergency Management Agency (FEMA), pursuant to the disaster Mitigation Act of 2000 (DMA2K) requires that local governments prepare natural hazard mitigation plans as a condition of future project funding; and

WHEREAS, The City of Edgewood cooperated with Pierce County to develop a joint Natural Hazard Mitigation Plan for the City of Edgewood;

**NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF EDGEWOOD,
WASHINGTON, HEREBY RESOLVES AS FOLLOWS:**

Section 1. Contract Authorization. The City Council of the City of Edgewood hereby adopts the "Natural Hazard Mitigation Plan" set forth in exhibit "A" which is attached hereto and incorporated herein by reference.

Section 2. Effective Date. This Resolution will take effect immediately upon passage by the City Council.

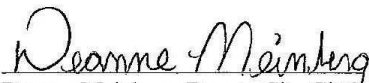
Presented to Council on October 28, 2008

ADOPTED this 28th day of October, 2008.



Jeff Hogan, Mayor

ATTEST:



Deanne Meinberg, Deputy City Clerk

The plan was reviewed and approved as follows:

AGENCY	REPRESENTATIVE	DATE
FEMA Region X	Mark Carey Mitigation Division Director	Approved—November 24, 2008

Letter of approval follows below.



FEMA

January 30, 2009

Mr. Steven C. Bailey, Director
Pierce County Department of Emergency Management
2501 South 35th Street
Tacoma, Washington 98409-7405

Dear Mr. Bailey:

On November 28, 2008, the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) approved the **Region 5 Hazard Mitigation Plan** as a multi-jurisdictional local plan as outlined in 44 CFR Part 201. With approval of this plan, the following entities are now eligible to apply for the Robert T. Stafford Disaster Relief and Emergency Assistance Act's hazard mitigation project grants through November 28, 2013:

Cities and Towns:	Fire Districts:	School Districts:	Utilities:
City of Buckley	Lakewood Fire Department (PCFD #2)	Carbonado SD	Clear Lake Water District
City of Dupont	Gig Harbor Fire & Medic One (PCFD #5)	Dieringer SD	Fruitland Mutual Water Company
City of Edgewood	Central Pierce Fire & Rescue (PCFD #6)	Eatonville SD	Graham Hill Mutual Water Company
City of Fife	PCFD #8	Fife SD	Lakeview Light and Power
City of Fircrest	PCFD #13	Franklin Pierce SD	Lakewood Water District
City of Gig Harbor	South Pierce Fire & Rescue (PCFD #15)	Orting SD	Mt. View-Edgewood Water Company
City of Orting	Key Peninsula Fire Department (PDEFD #16)	Peninsula SD	Port of Tacoma
Town of Eatonville	Graham Fire and Rescue (PCFD #21)	University Place SD	Summit Water and Supply Company
Town of South Prairie	PCFD #23	White River SD	
Town of Wilkeson		Pacific Lutheran University	

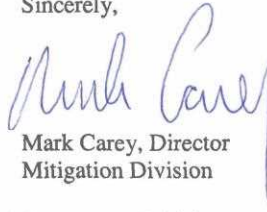
The list of approved jurisdictions has been updated to include the jurisdictions in italics above, which have recently adopted the Region 5 Hazard Mitigation Plan. To continue eligibility, the plan must be reviewed, revised as appropriate, and resubmitted within five years of the original approval date.

www.fema.gov

Mr. Steven C. Bailey, Director
January 30, 2009
Page 2

If you have questions regarding your plan's approval or FEMA's mitigation grant programs, please contact our State counterpart, Washington Emergency Management Division, which coordinates and administers these efforts for local entities.

Sincerely,



Mark Carey, Director
Mitigation Division

cc: Mark Stewart, Washington Emergency Management Division

KM:bb

(This page intentionally left blank)

APPENDIX B

REGION 5 ALL HAZARD MITIGATION PLAN 2020-2025 EDITION CITY OF EDGEWOOD

Region 5 Hazard Mitigation Planning Team

City of Edgewood

NAME	TITLE	JURISDICTION-DEPARTMENT
Micah Lundborg	Police Chief	City of Edgewood – Police Department
Daryl Eidingen	Mayor	City of Edgewood
Dave Gray	Assistant City Administrator	City of Edgewood
Jeremy Metzler	Public Works Director	City of Edgewood – Public Works

(This page intentionally left blank)

APPENDIX C

REGION 5 ALL HAZARD MITIGATION PLAN 2020-2025 EDITION CITY OF EDGEWOOD

Plan Revisions

RECORD OF CHANGES			
Change Number	Description of Change (with page numbers)	Date	Authorized by:

(This page intentionally left blank)

APPENDIX D

REGION 5 ALL HAZARD MITIGATION PLAN

2020-2025 EDITION

CITY OF EDGEWOOD AND PIERCE COUNTY SCENARIO

OVERVIEW

This appendix contains the spatial results from the Hazus Earthquake Scenario results showing the Essential Facilities for 90% functionality for Day 1 and Day 7 following an earthquake event based on three earthquakes scenarios. Information was based on ShakeMaps developed by U.S. Geological Survey for a 7.1M earthquake occurring on the Tacoma Fault, 7.2M earthquake on the Nisqually Fault and a 7.2M earthquake on the SeaTac Fault. There was a total of four Essential Facilities that were modeled; fire stations, police stations, schools and hospitals. Additional information can be found in the Risk Assessment Section of the Pierce County All Hazard Mitigation Plan.

Inherent Errors

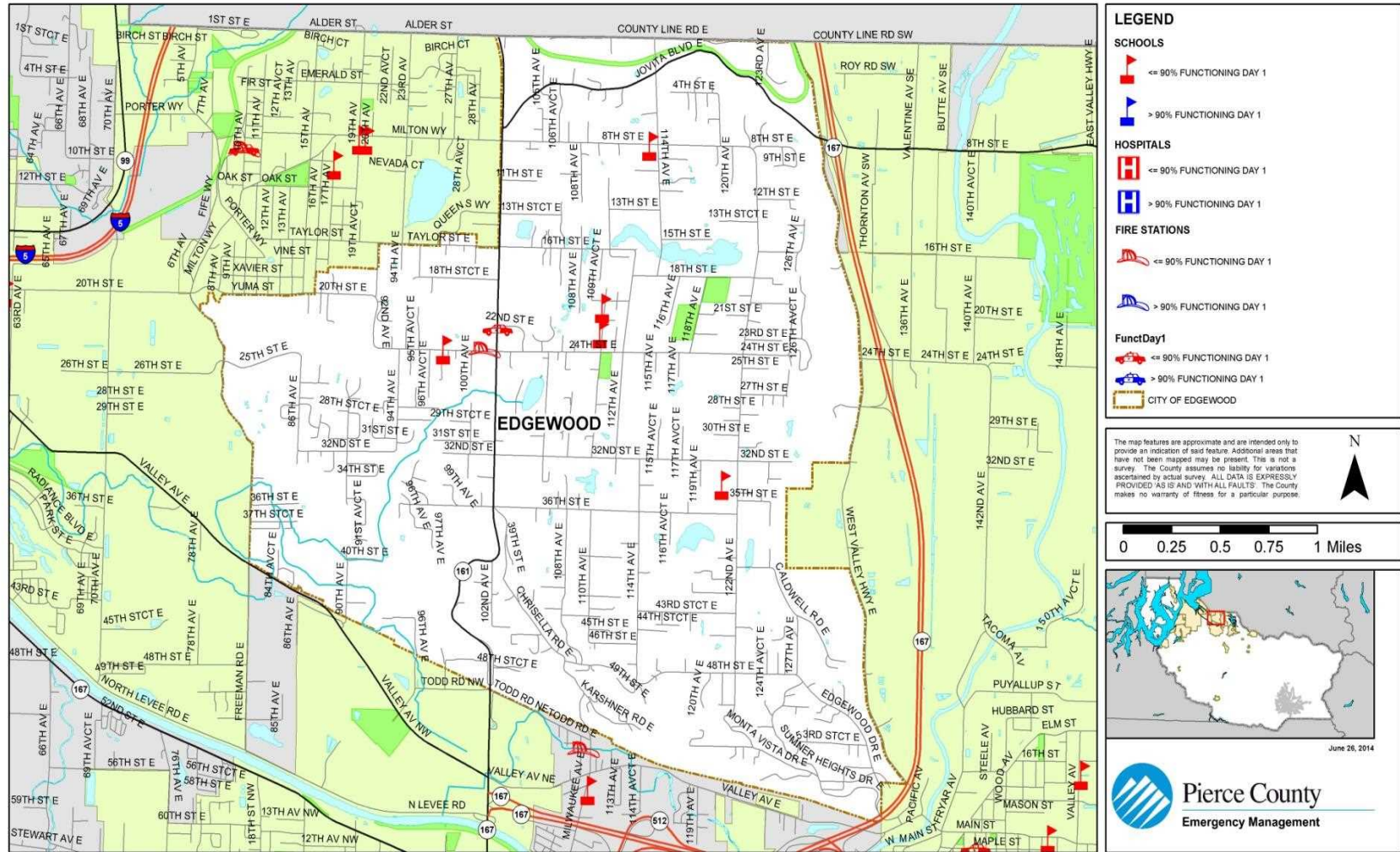
As a special note to the Gig Harbor and Key Peninsula areas St. Anthony's Hospital is not identified on Maps D-12, D-13, D-21, D-22, D-30 or D-31 due to the recent construction of St. Anthony's Hospital and lack of data. With future updates of the Region 5 All Hazard Mitigation Plan, St. Anthony's Hospital will be included in the scenario analysis. If this information becomes available prior to the five-year update in 2020, revised analysis will be done and the revised maps will be distributed to the City of Gig Harbor, Gig Harbor Fire & Medic One and the Key Peninsula Fire Department.

It has been identified that the police station located to the west side of Orting is not in the correct location as seen on Maps: D-10, D-11, D-19, D-20, D-28 and D-29. The police department shares a building with the Fire District #18 at 401 Washington Ave S, which is located in the middle of town. As Hazus-MH is updated the police station will show a co-location with the fire station at this same location. If this information becomes available prior to the five-year update in 2020, revised analysis will be done and the revised maps will be distributed to the City of Orting and to Pierce County Fire District #18.

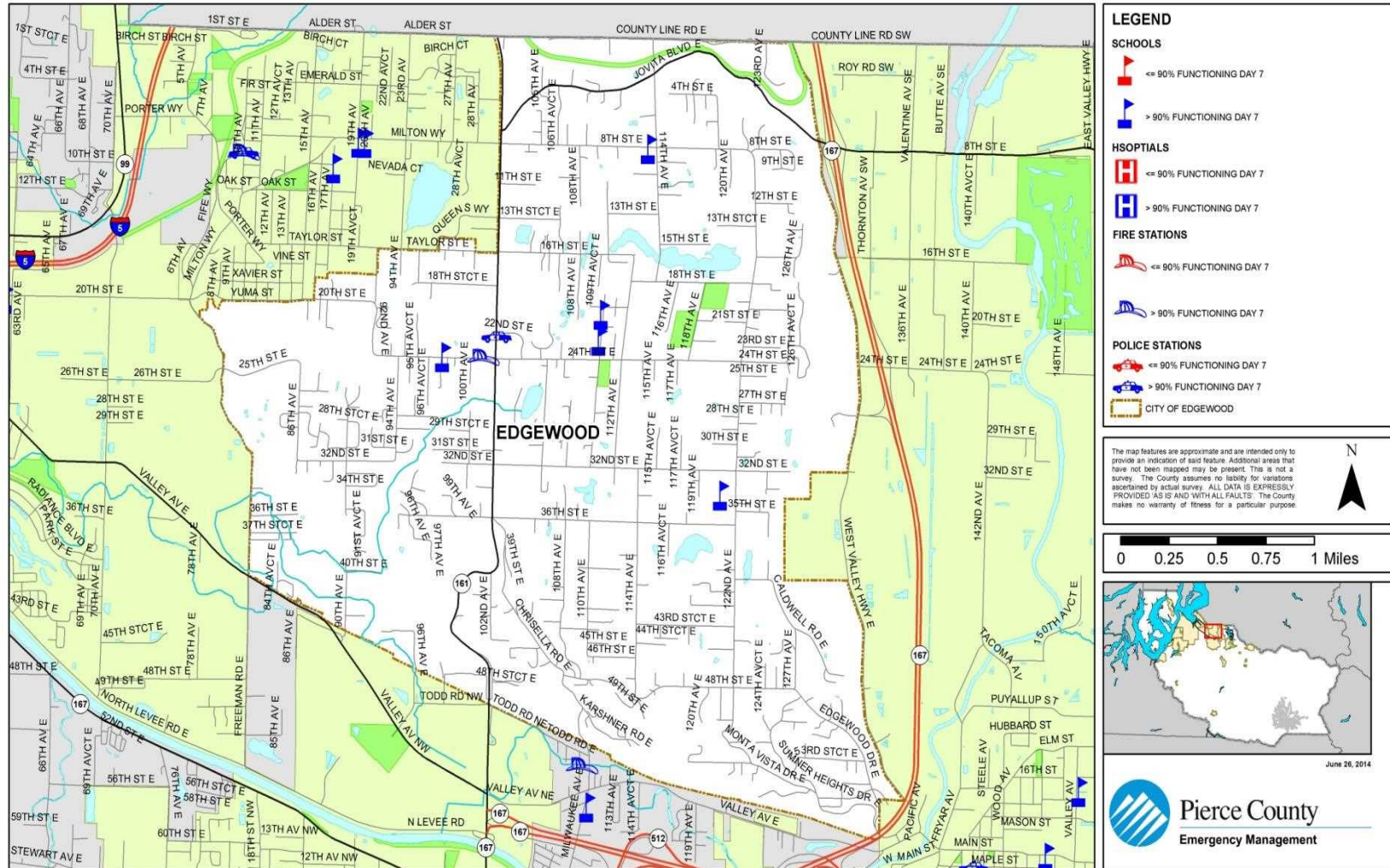
(This page left blank intentionally)

Map D-1 City of Edgewood Tacoma Fault Scenario Essential Facilities Day 1

CITY OF EDGEWOOD - 7.1M TACOMA EARTHQUAKE SCENARIO - ESSENTIAL FACILITIES



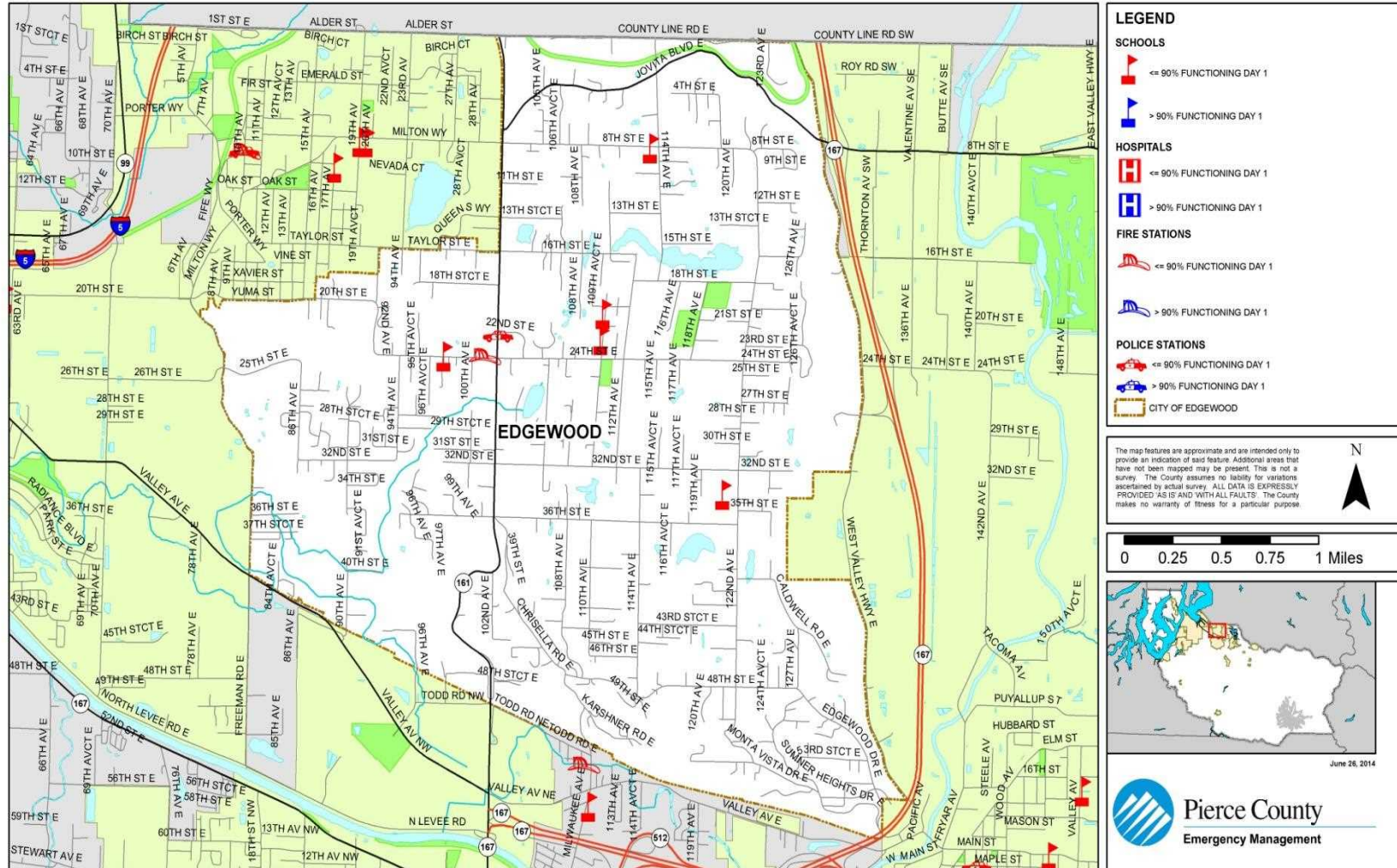
CITY OF EDGEWOOD - 7.1M TACOMA EARTHQUAKE SCENARIO - ESSENTIAL FACILITIES



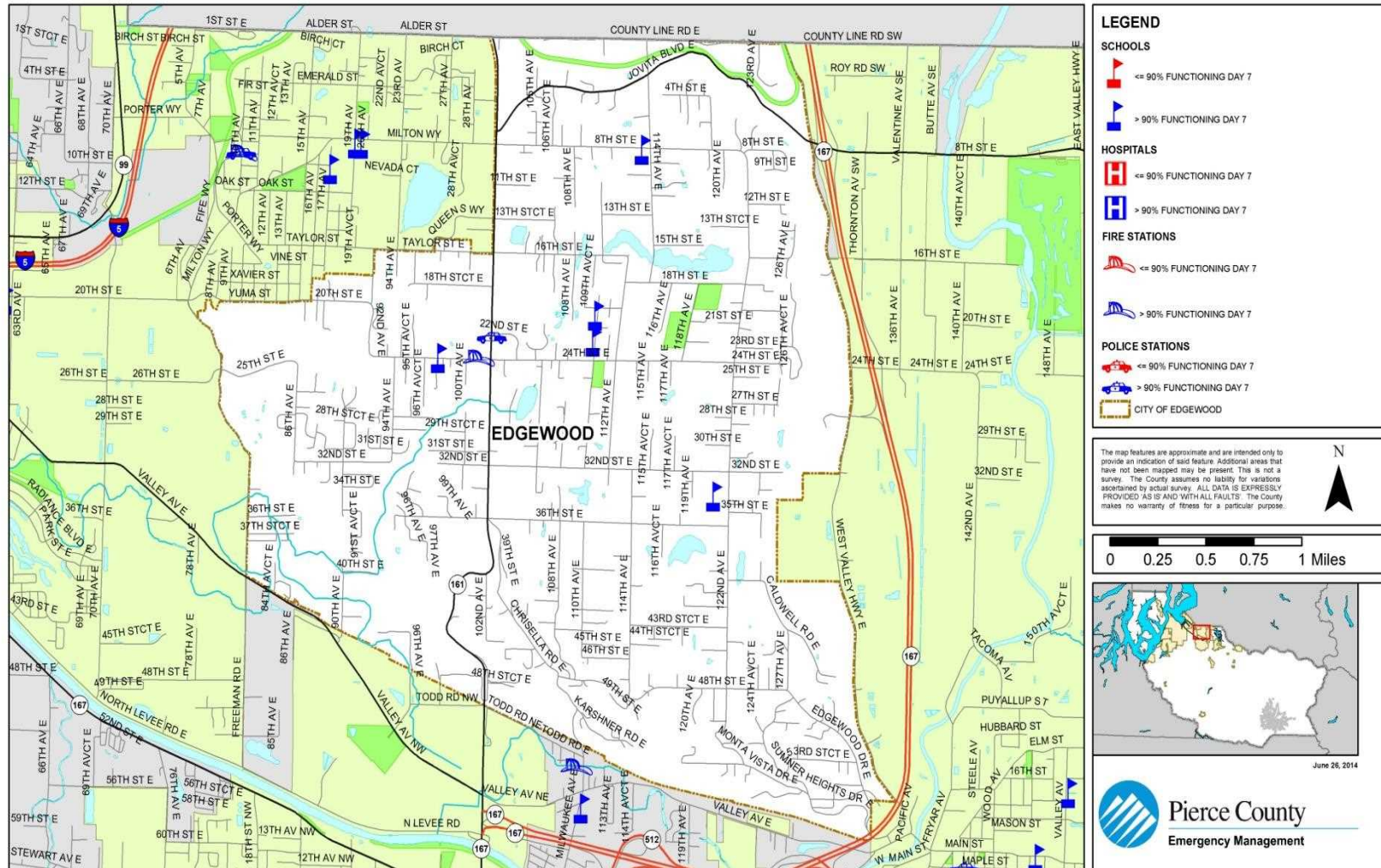
APPENDIX D-4

REGION 5 ALL HAZARD MITIGATION PLAN – 2020-2025 EDITION CITY OF EDGEWOOD ADDENDUM

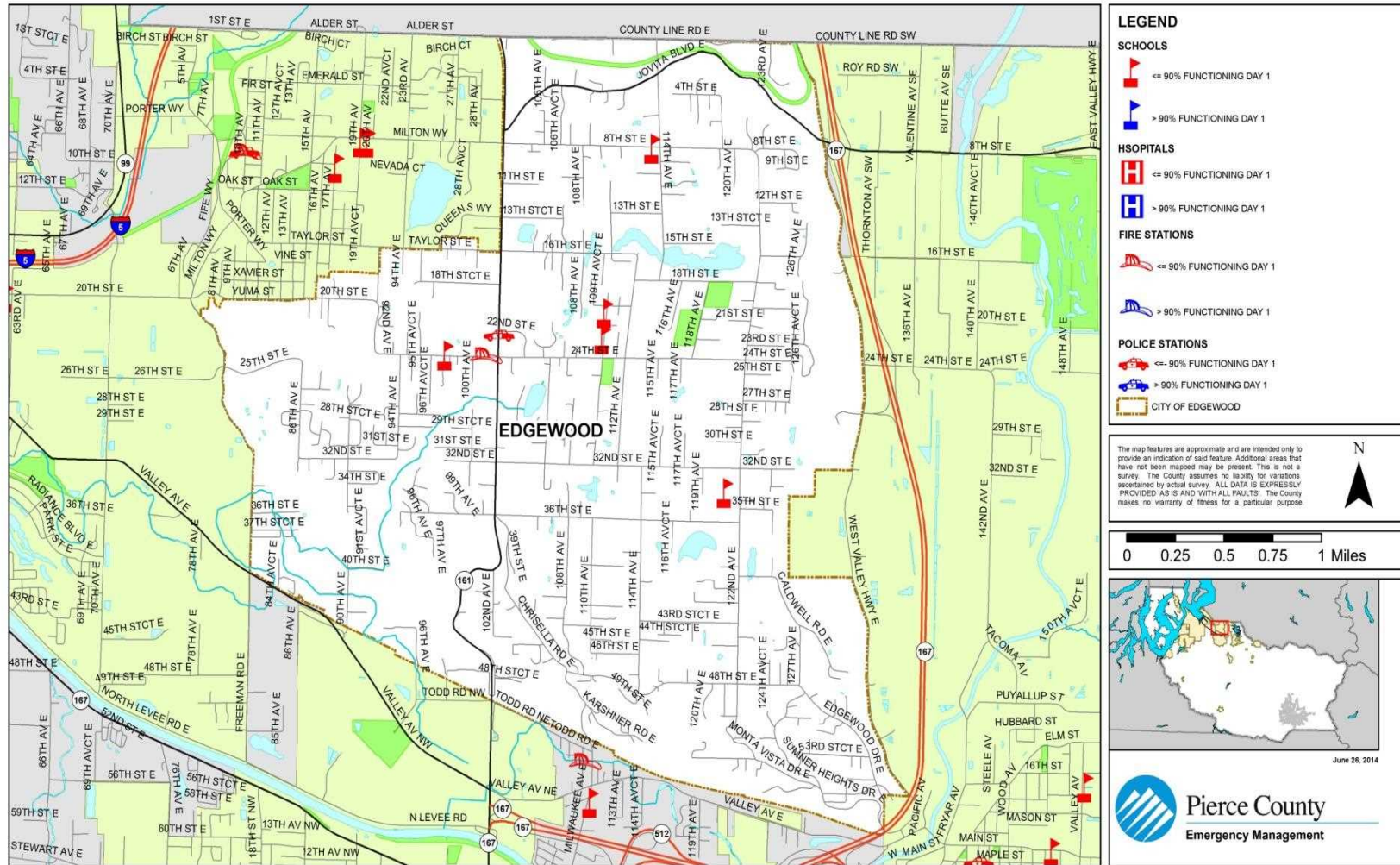
CITY OF EDGEWOOD - 7.2M NISQUALLY EARTHQUAKE SCENARIO - ESSENTIAL FACILITIES



CITY OF EDGEWOOD - 7.2M NISQUALLY EARTHQUAKE SCENARIO - ESSENTIAL FACILITIES

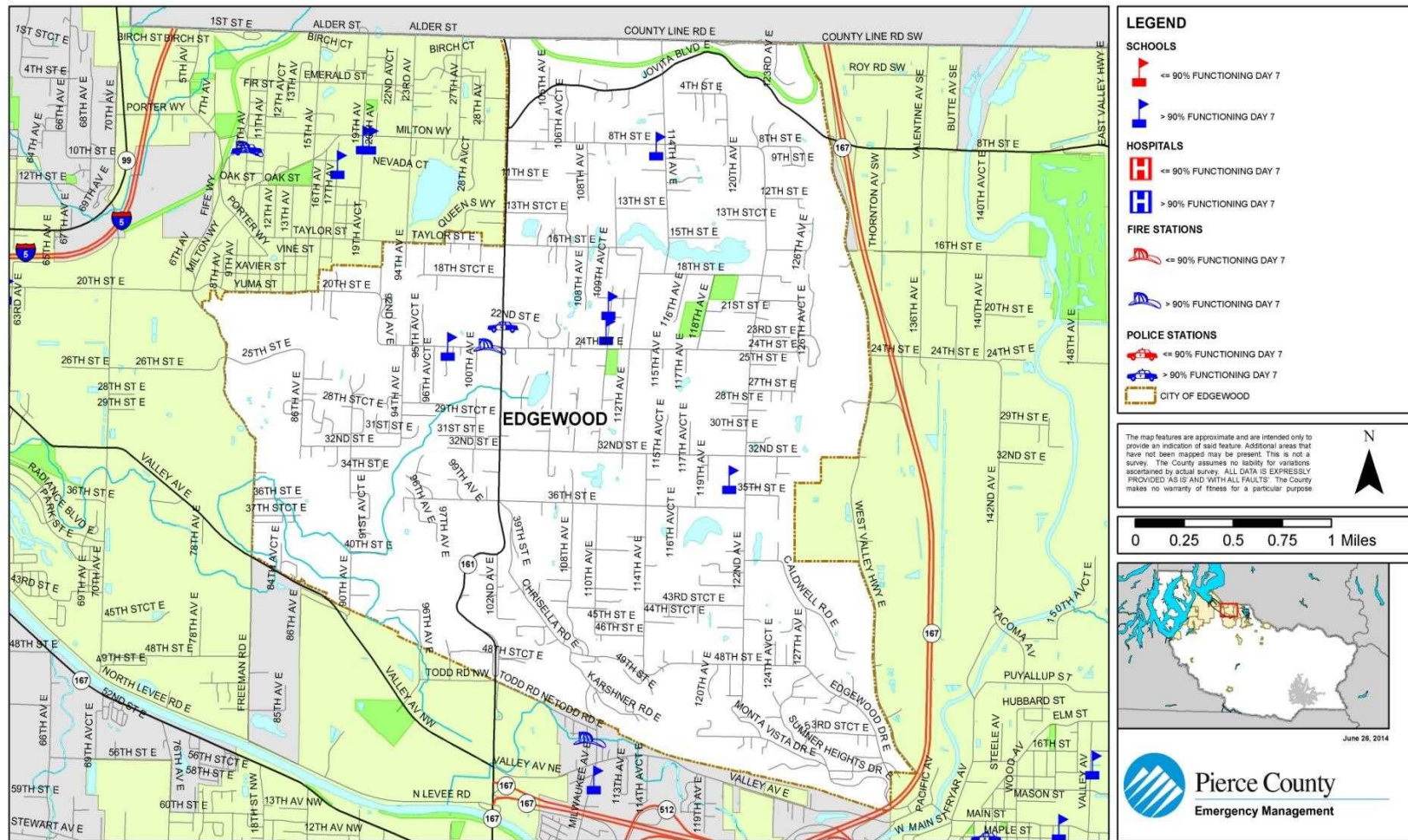


CITY OF EDGEWOOD - 7.1M SEATAC EARTHQUAKE SCENARIO - ESSENTIAL FACILITIES

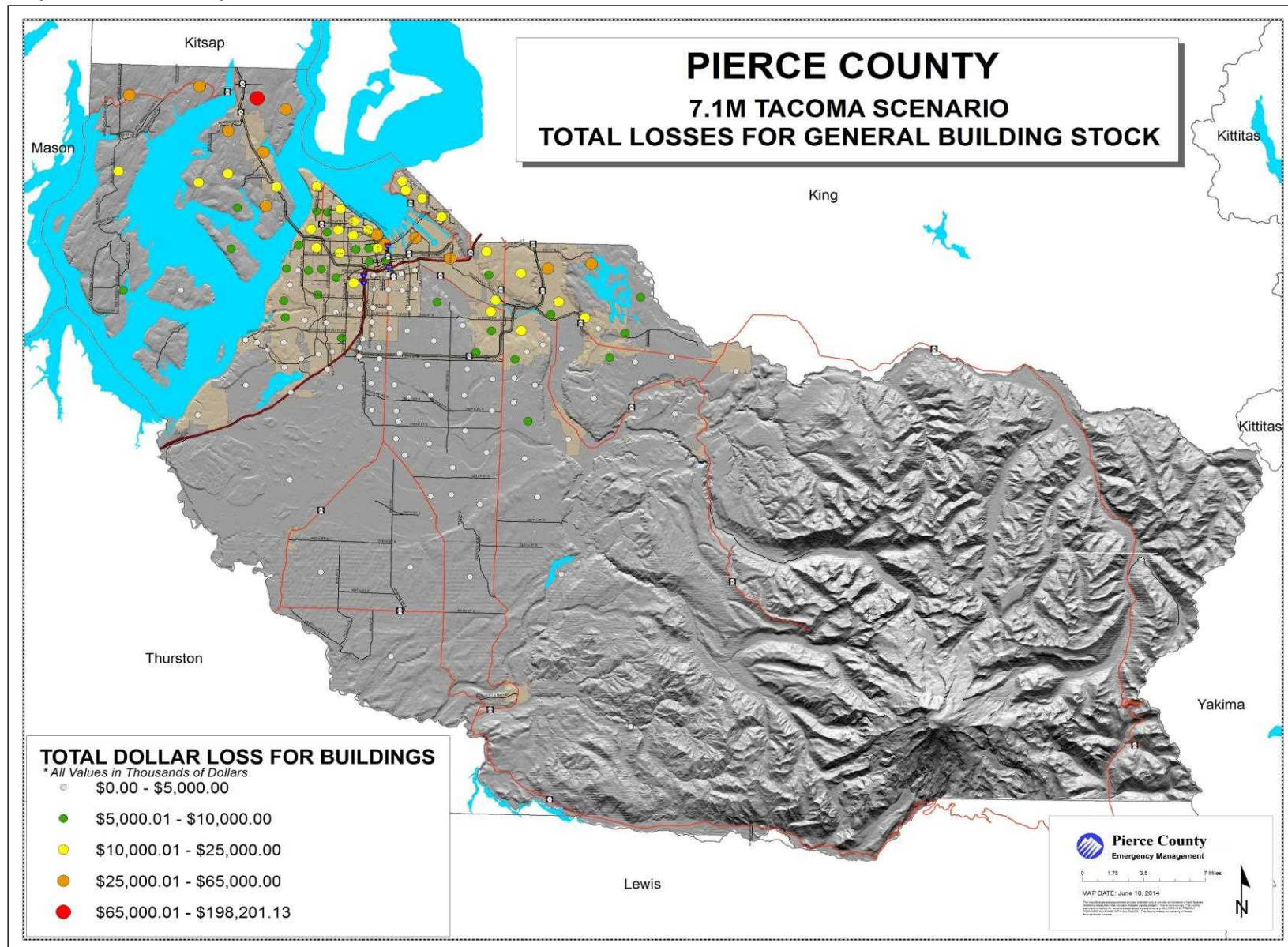


Map D-6 City of Edgewood SEATAC Fault Scenario Essential Facilities Day 7

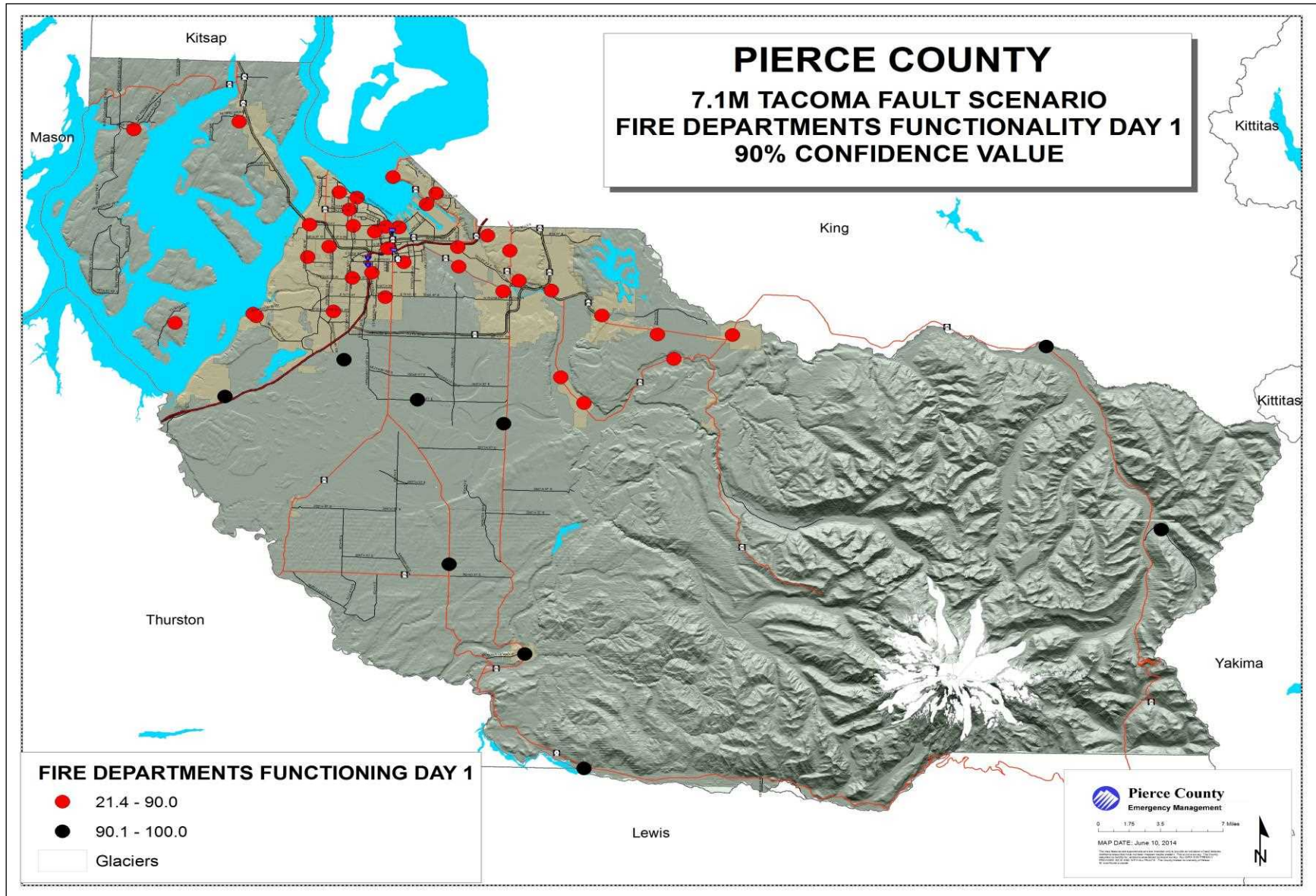
CITY OF EDGEWOOD - 7.1M SEATAC EARTHQUAKE SCENARIO - ESSENTIAL FACILITIES



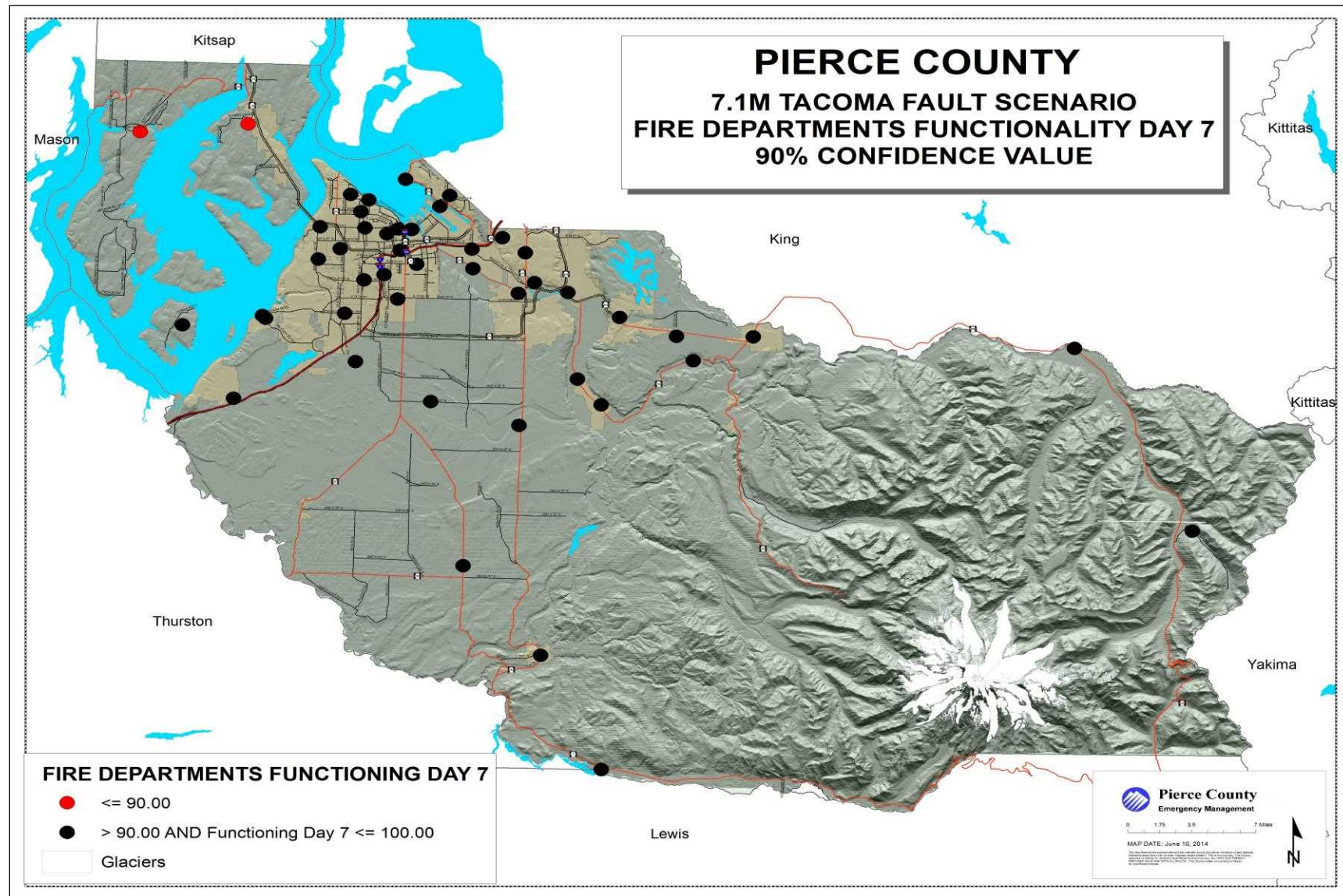
Map D-7 Pierce County Tacoma Fault Scenario Total Losses



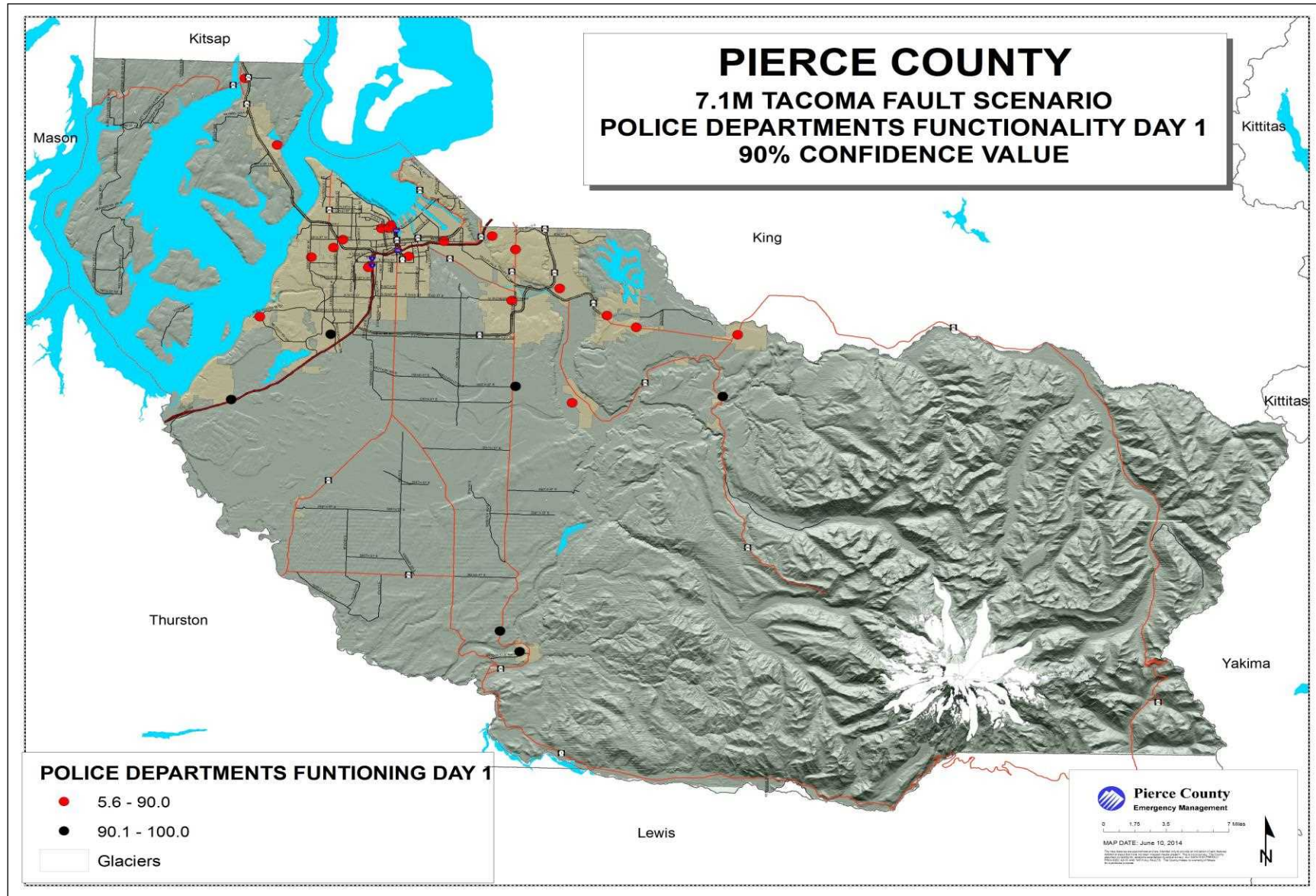
Map D-8 Pierce County Tacoma Fault Scenario Fire Department Functionality Day 1



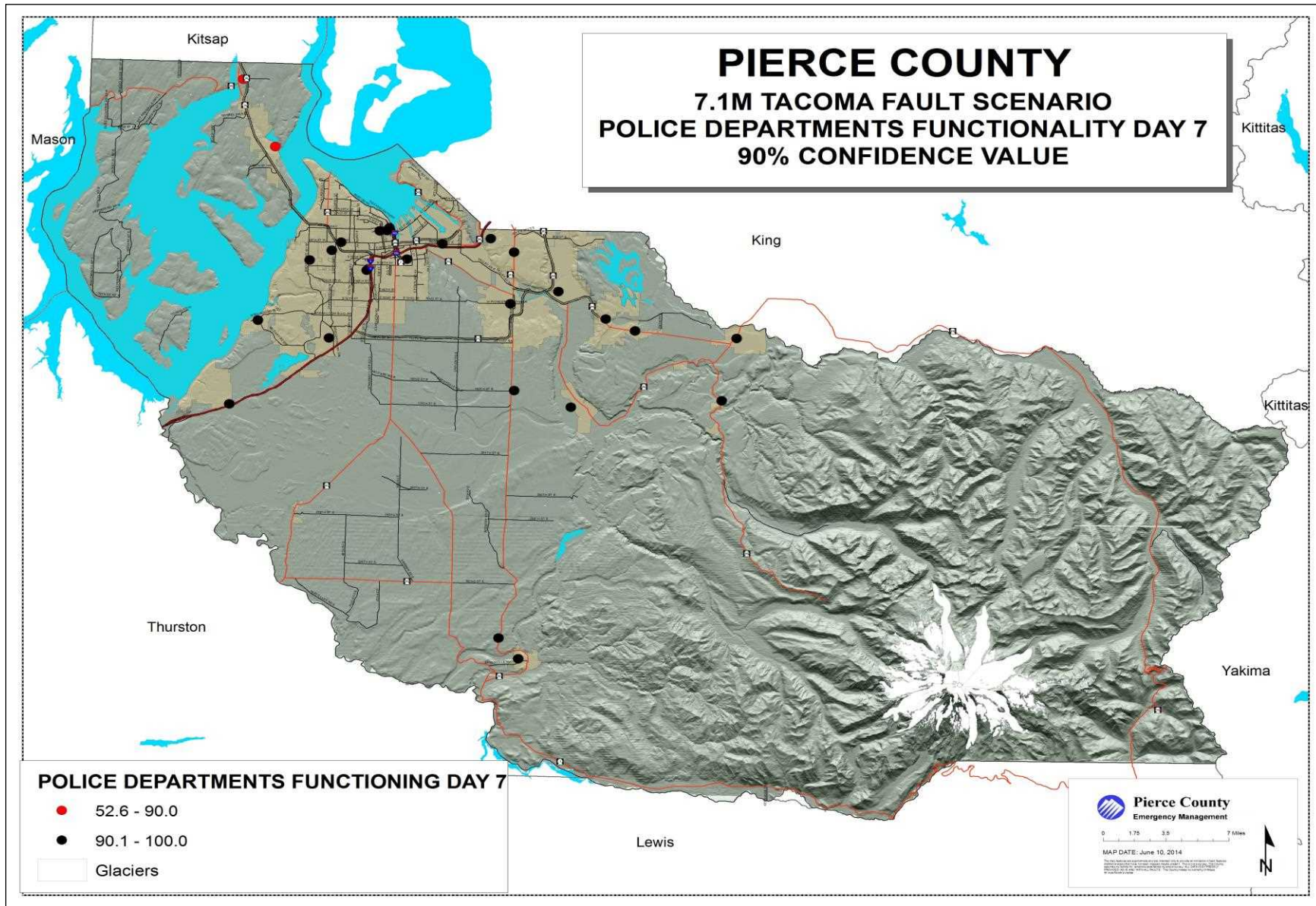
Map D-9 Pierce County Tacoma Fault Scenario Fire Department Functionality Day 7



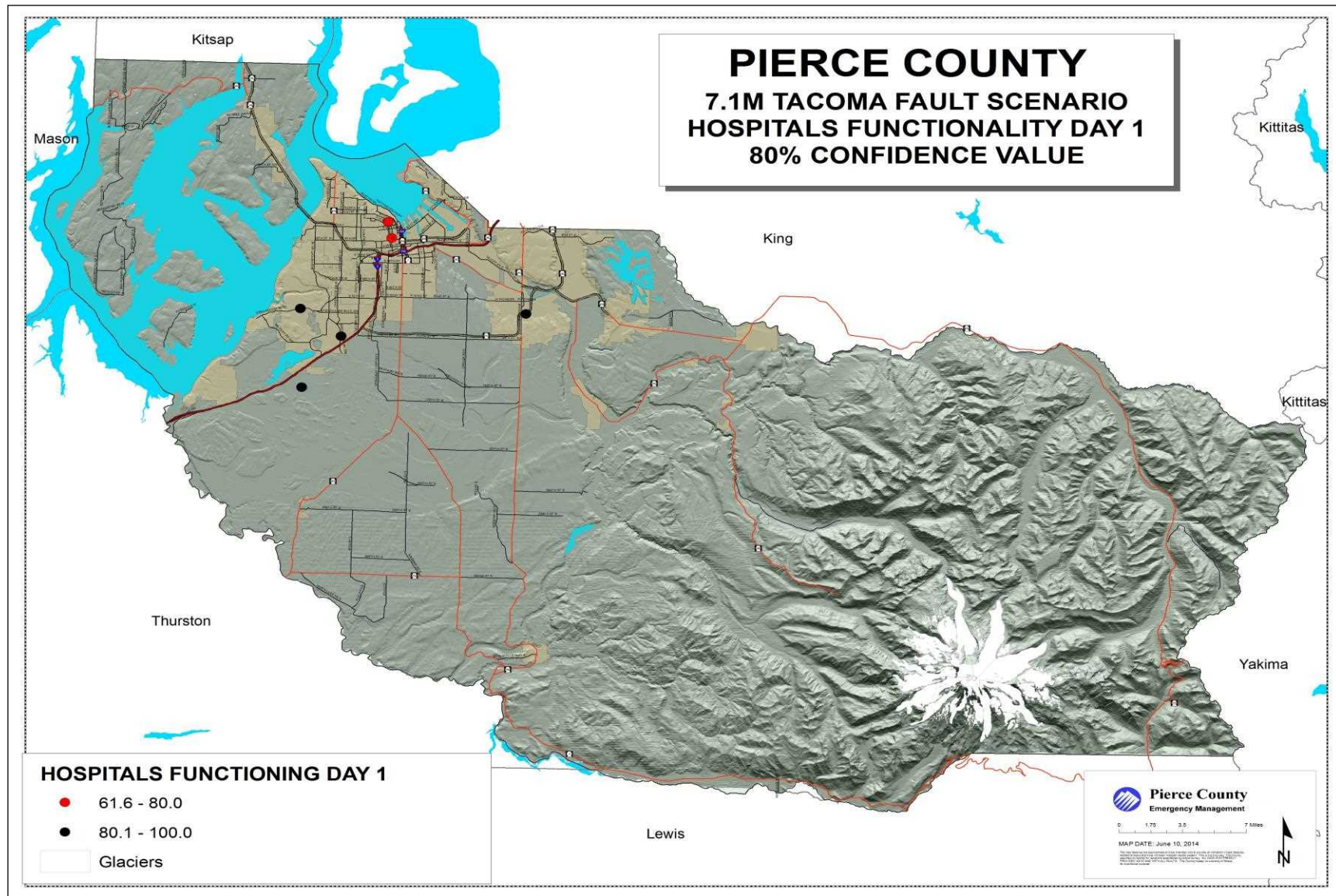
Map D-10 Pierce County Tacoma Fault Scenario Police Department Functionality Day 1¹



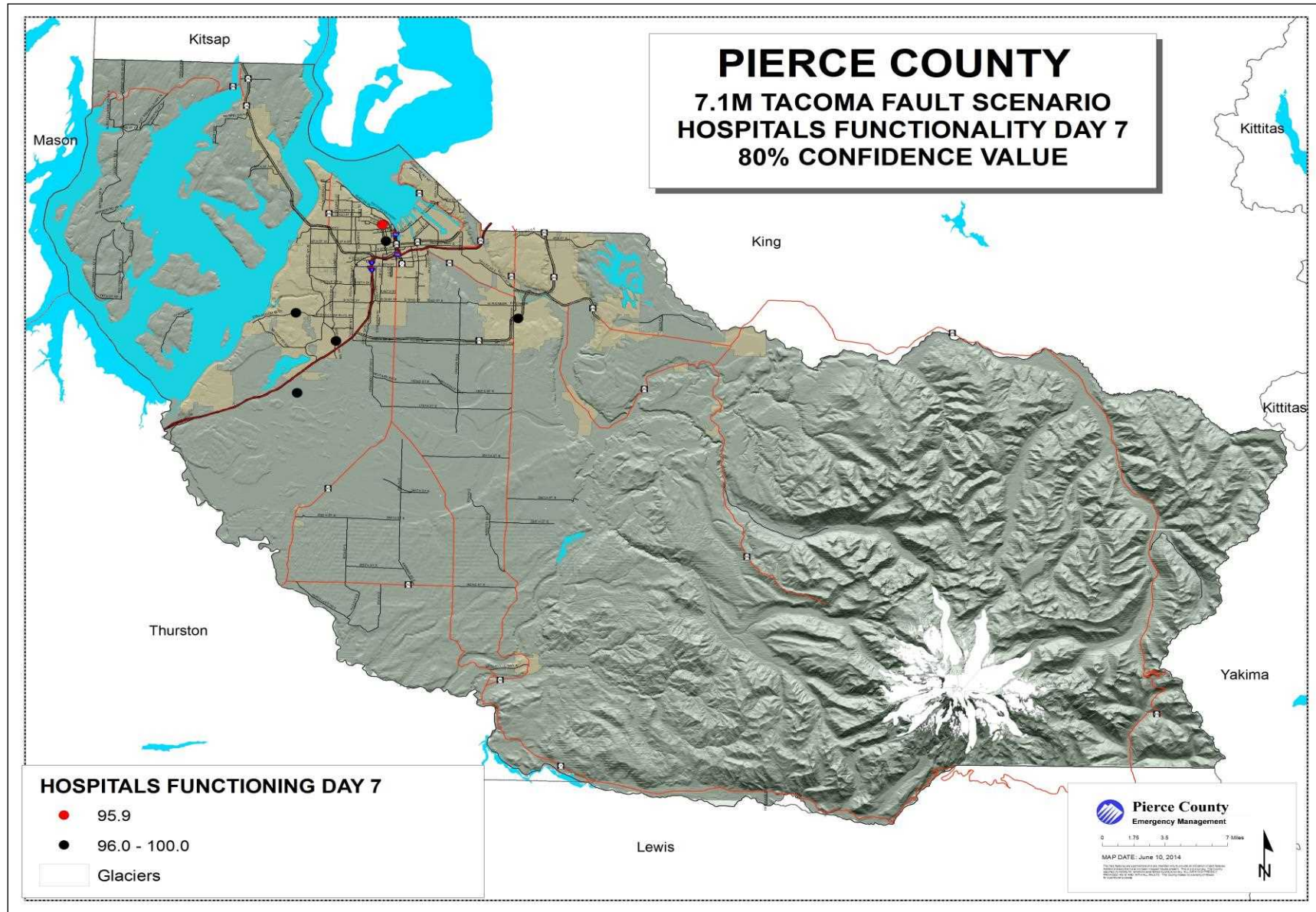
Map D-11 Pierce County Tacoma Fault Scenario Police Department Functionality Day 7²



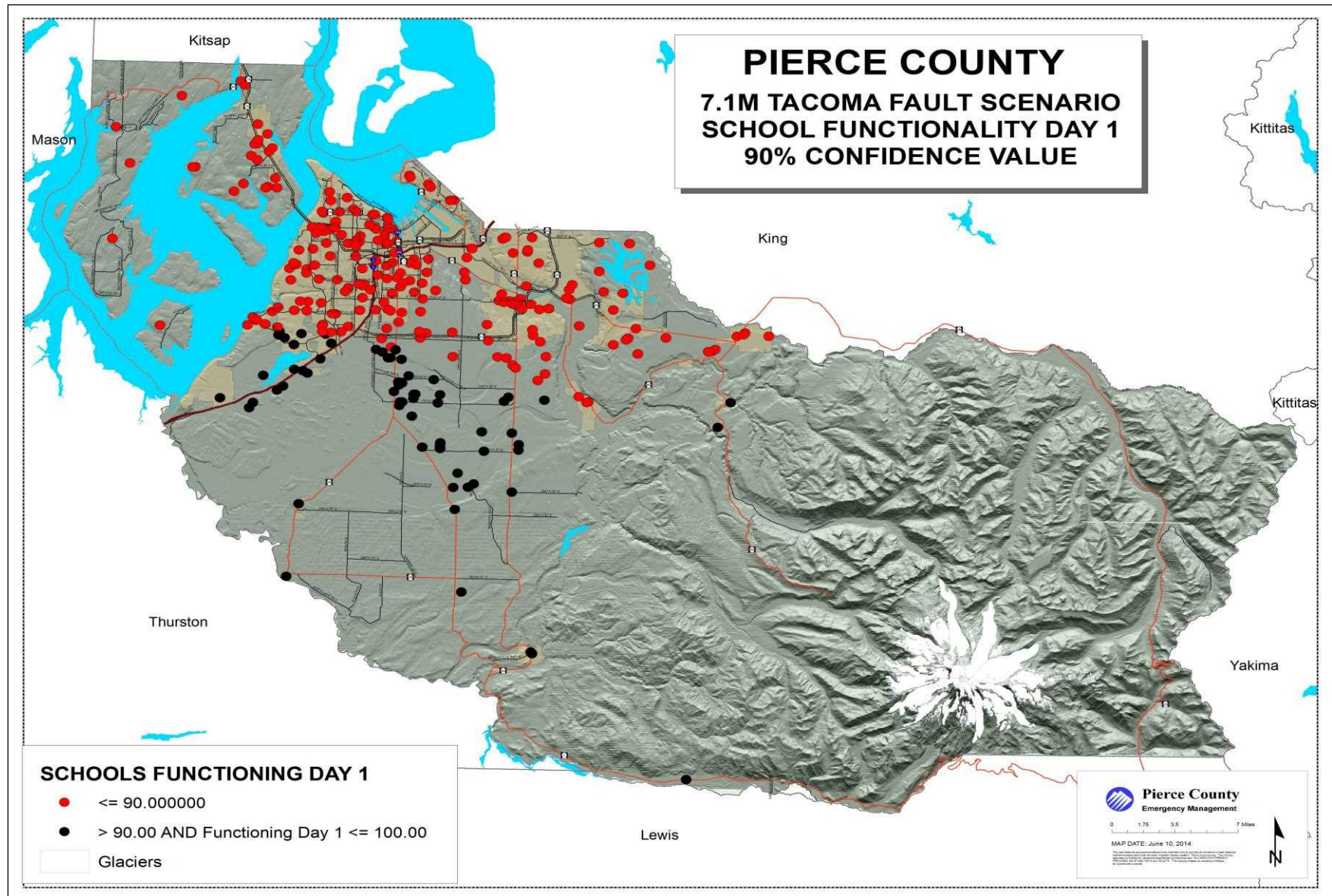
Map D-12 Pierce County Tacoma Fault Scenario Hospitals Functionality Day 1³



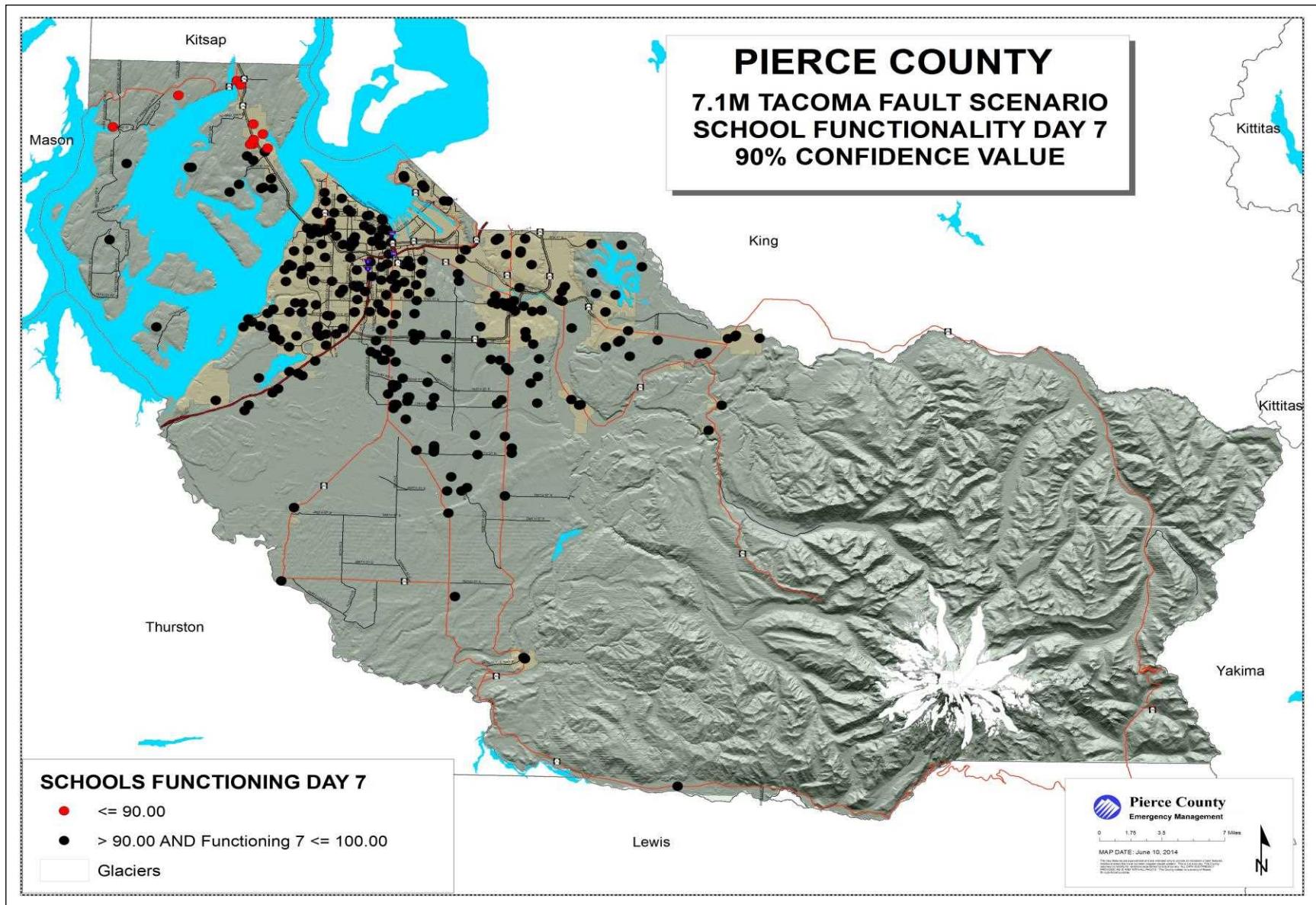
Map D-13 Pierce County Tacoma Fault Scenario Hospitals Functionality Day 7⁴



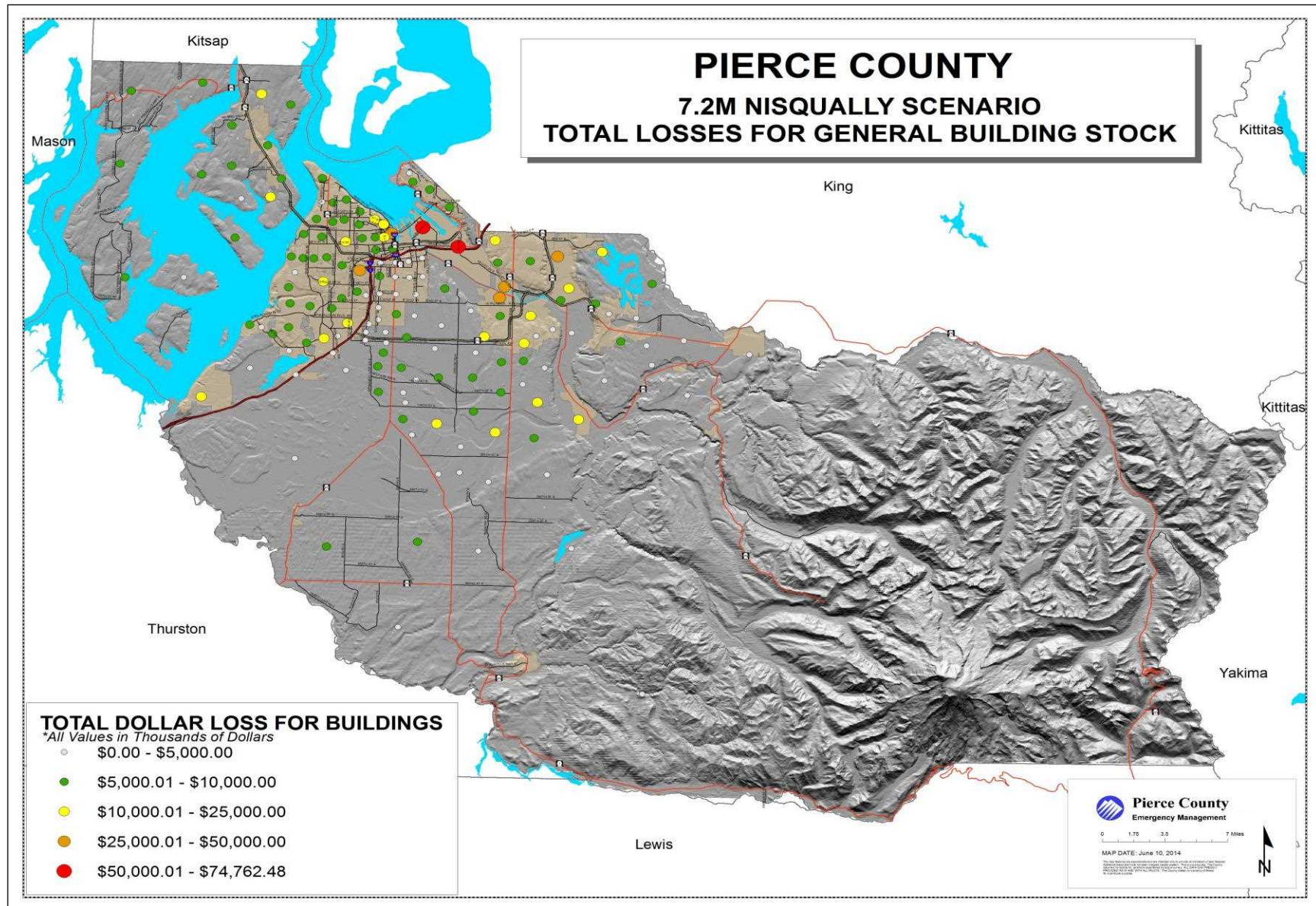
Map D-14 Pierce County Tacoma Fault Scenario School Functionality Day 1



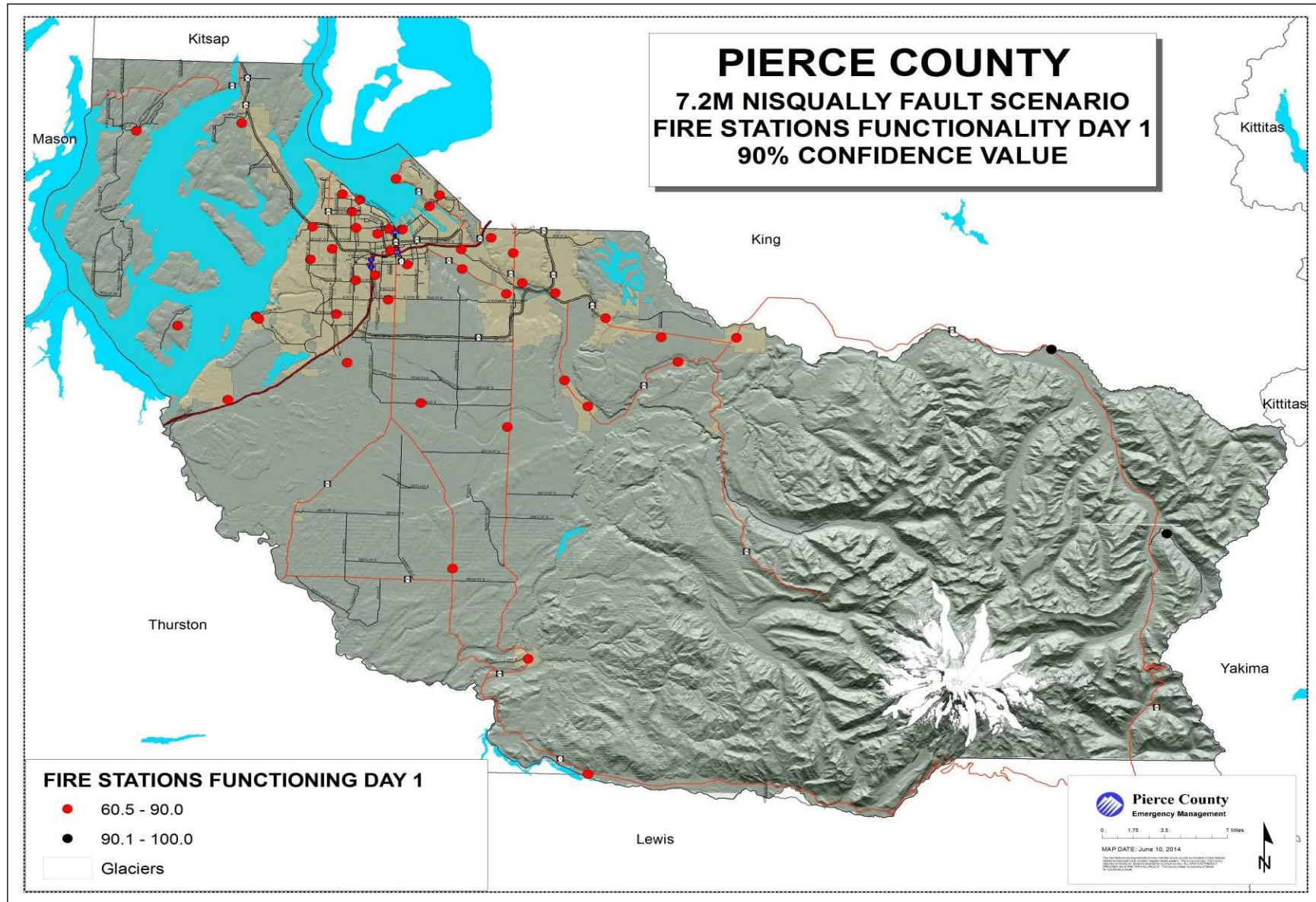
Map D-15 Pierce County Tacoma Fault Scenario School Functionality Day 7



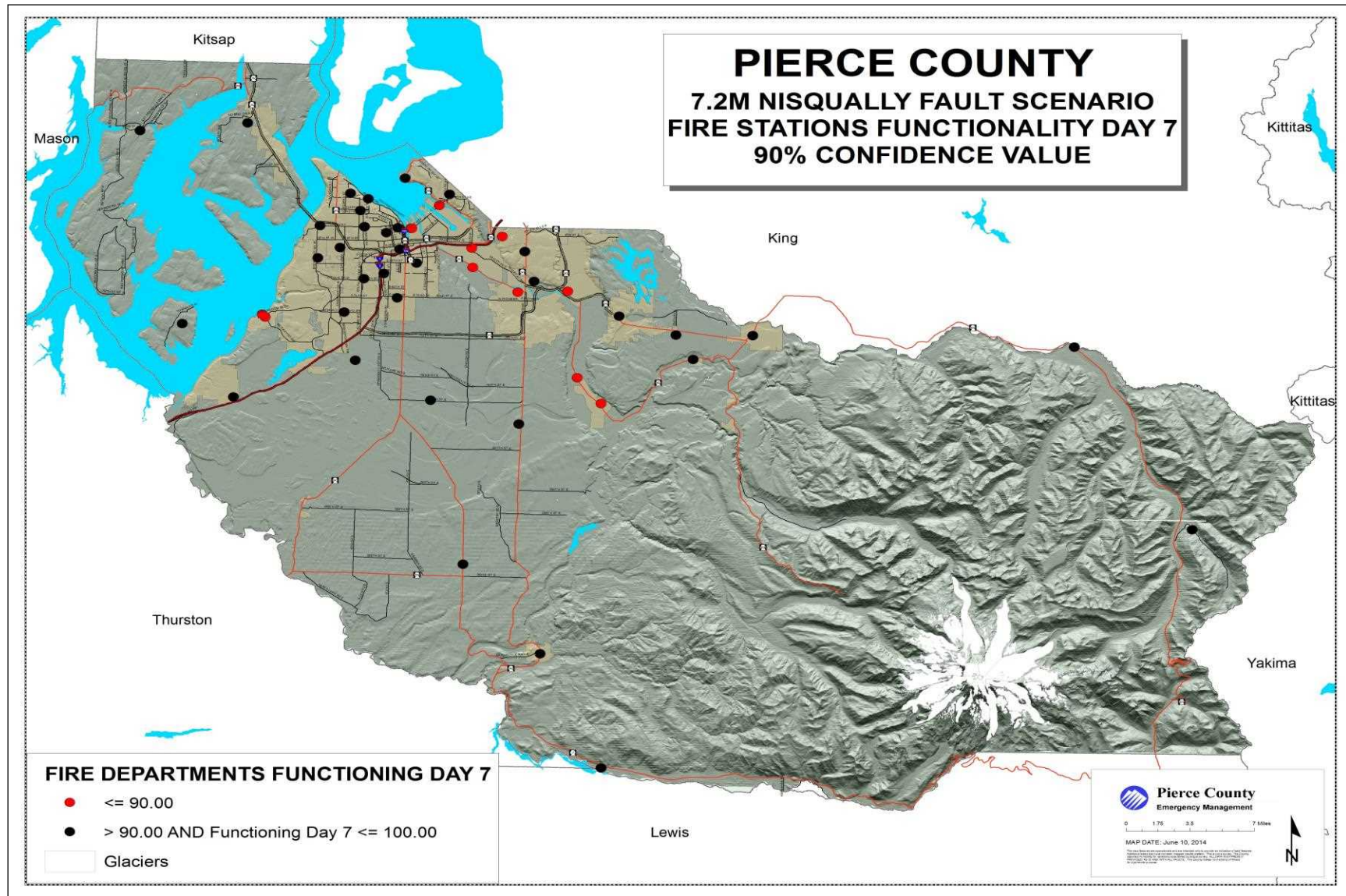
Map D-16 Pierce County Nisqually Fault Scenario Total Losses



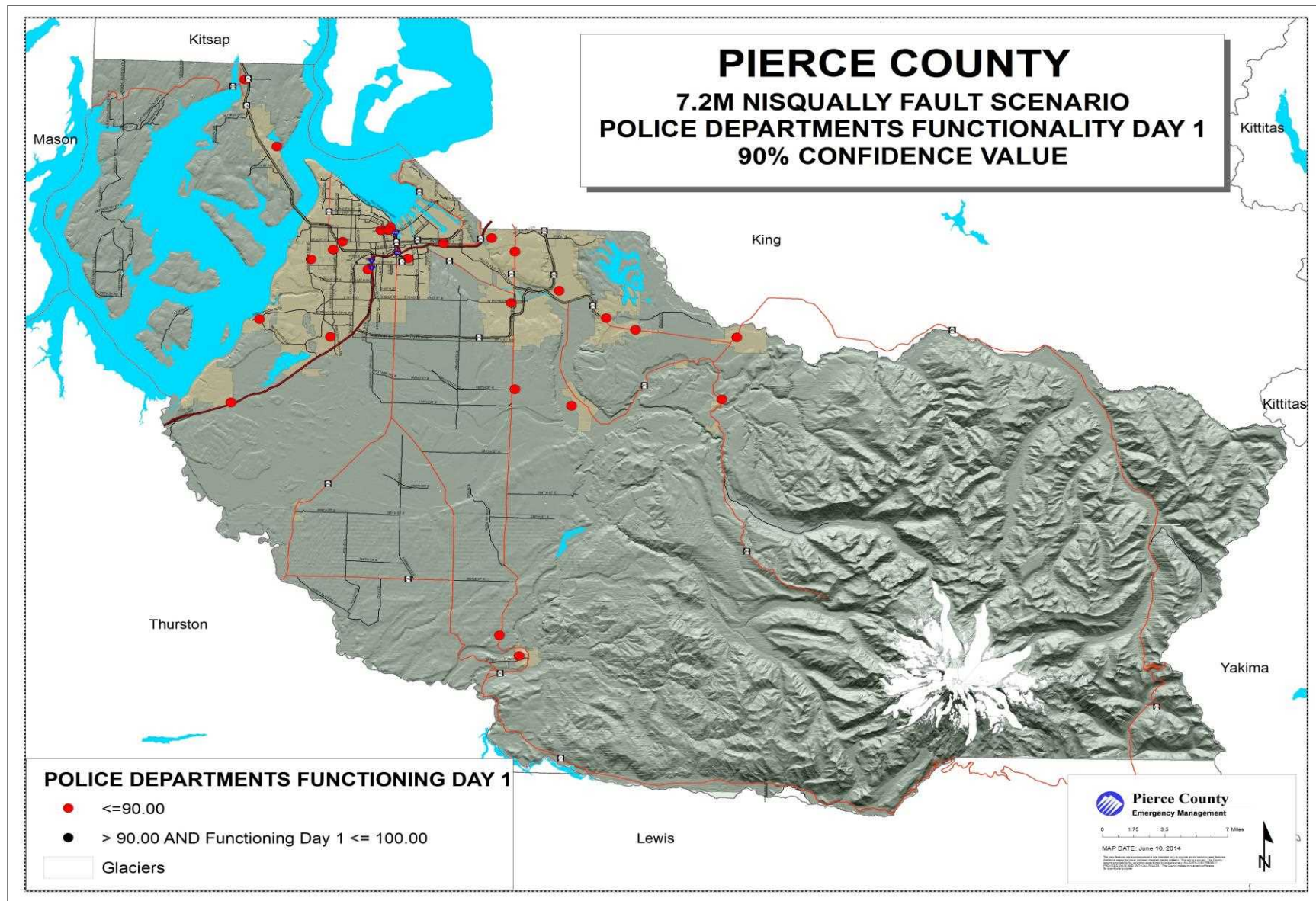
Map D-17 Pierce County Nisqually Fault Scenario Fire Stations Functionality Day 1



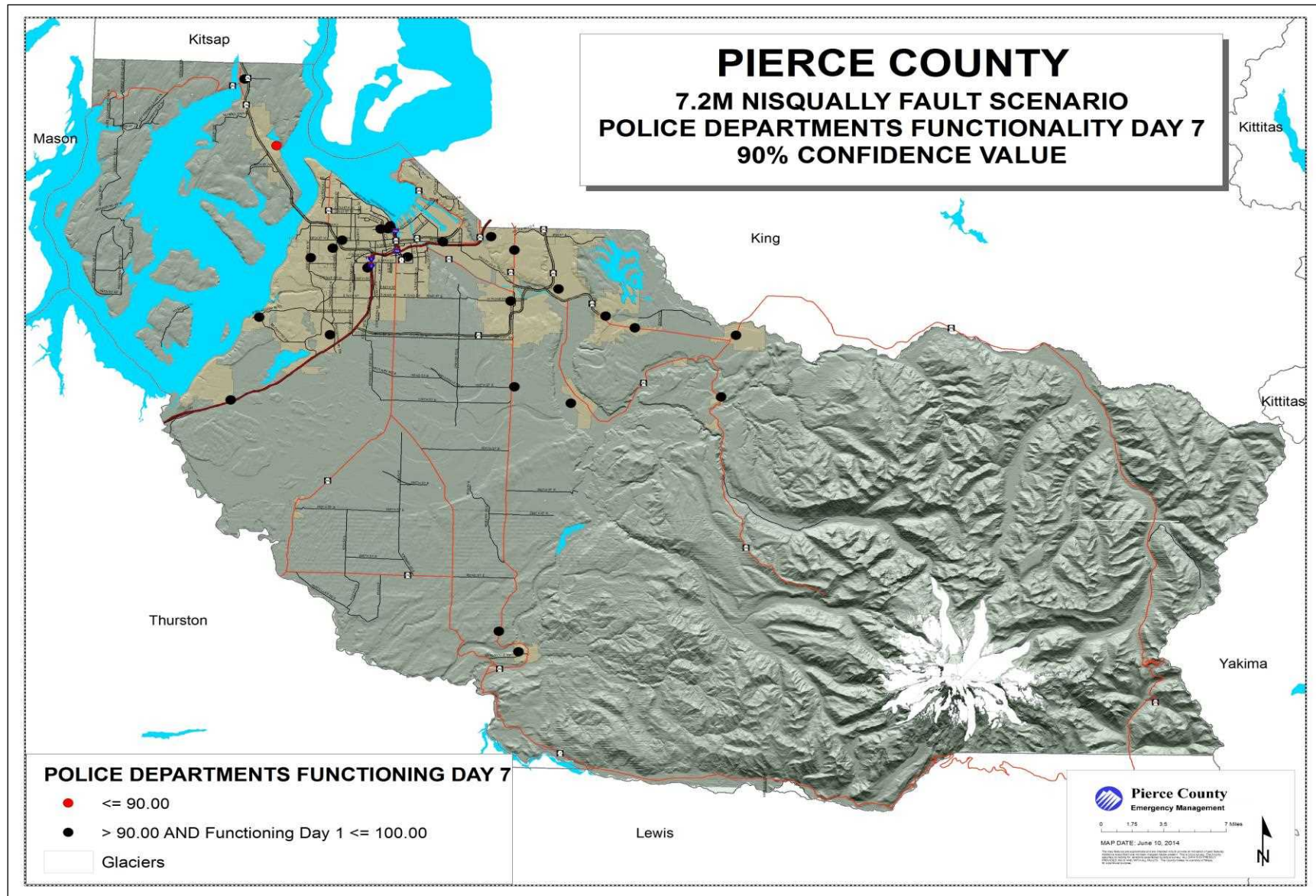
Map D-18 Pierce County Nisqually Fault Scenario Fire Stations Functionality Day 7



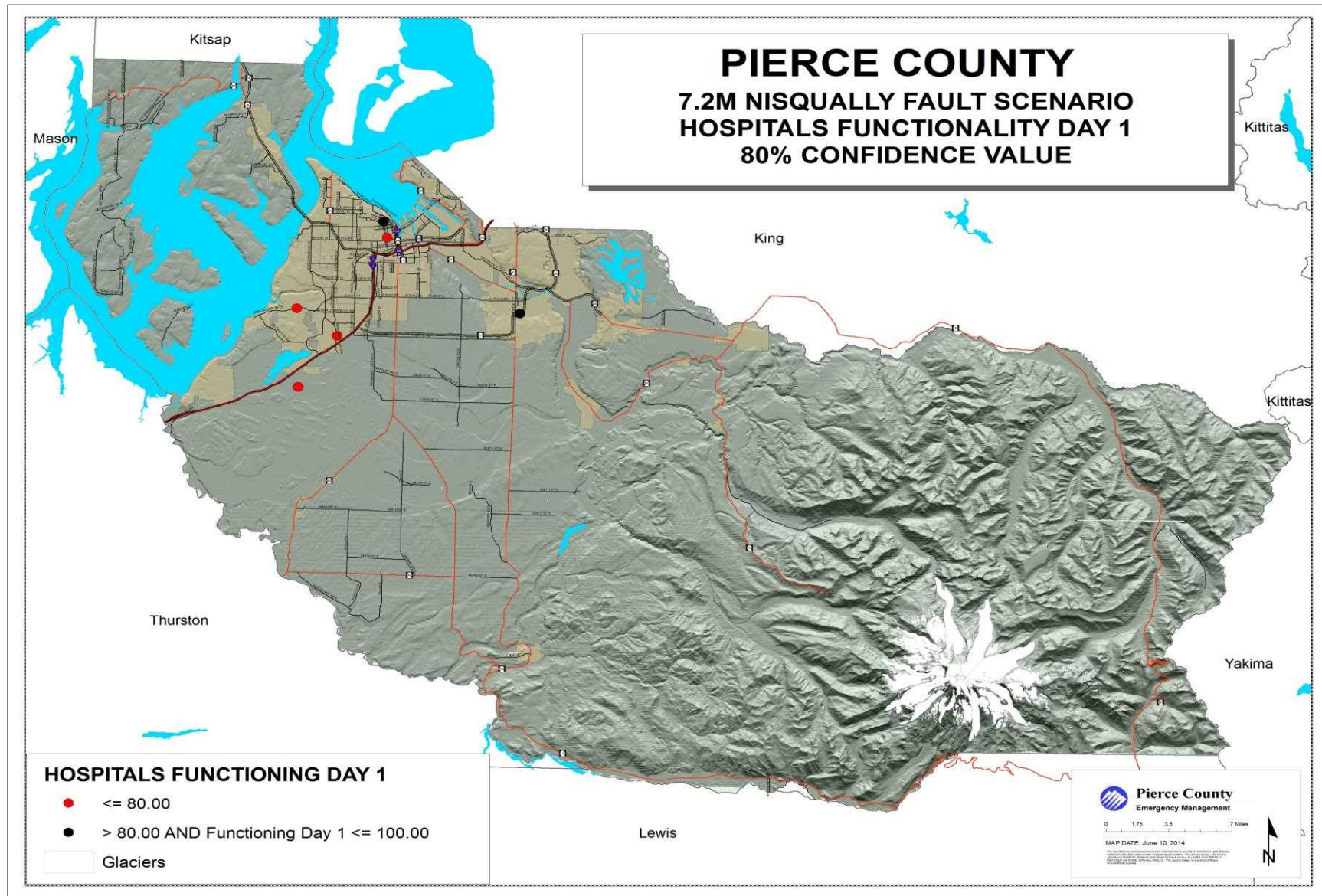
Map D-19 Pierce County Nisqually Fault Scenario Police Departments Functionality Day 1 ⁵



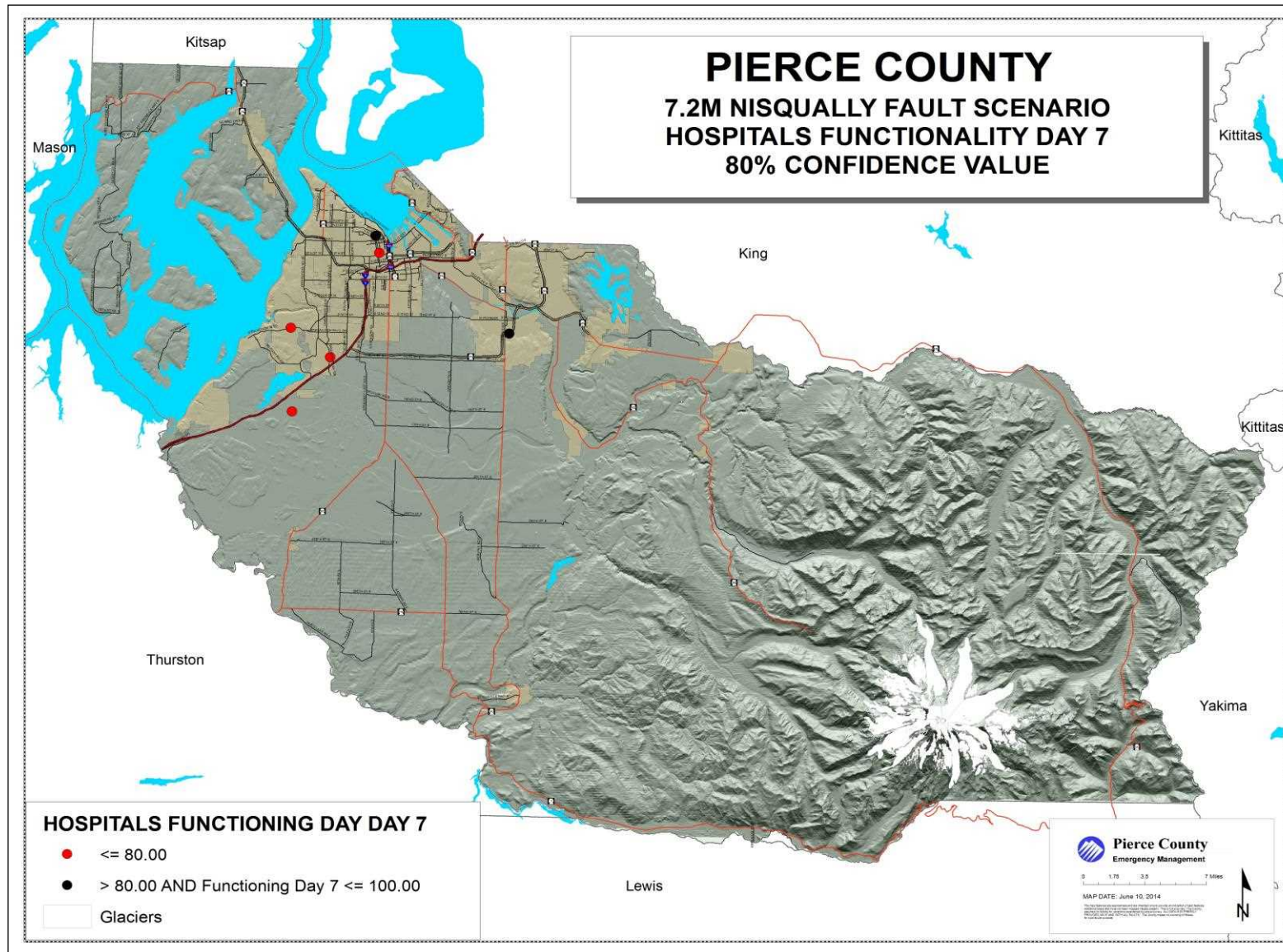
Map D-20 Pierce County Nisqually Fault Scenario Police Departments Functionality Day 7⁶



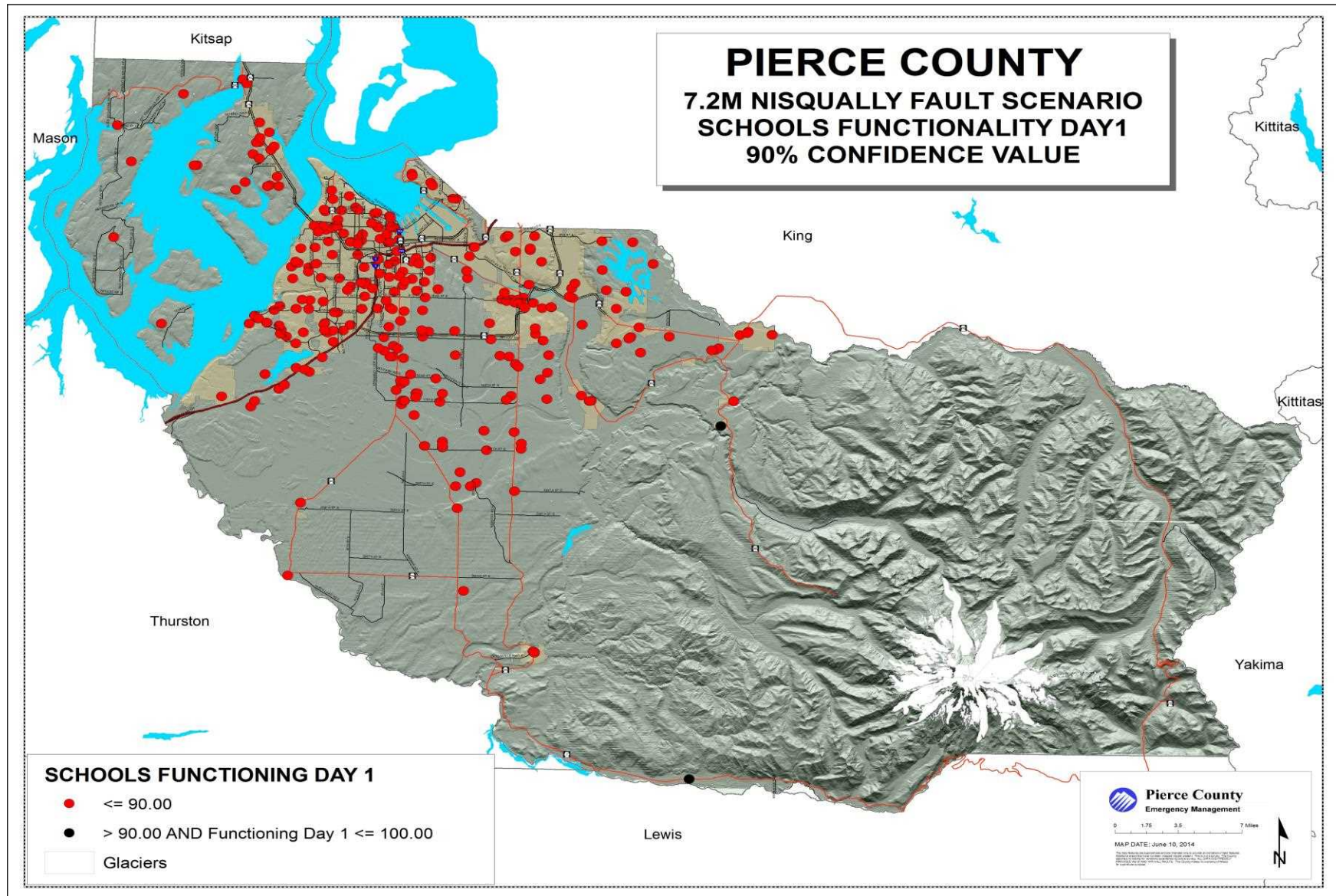
Map D-21 Pierce County Nisqually Fault Scenario Hospital Functionality Day 1 ⁷



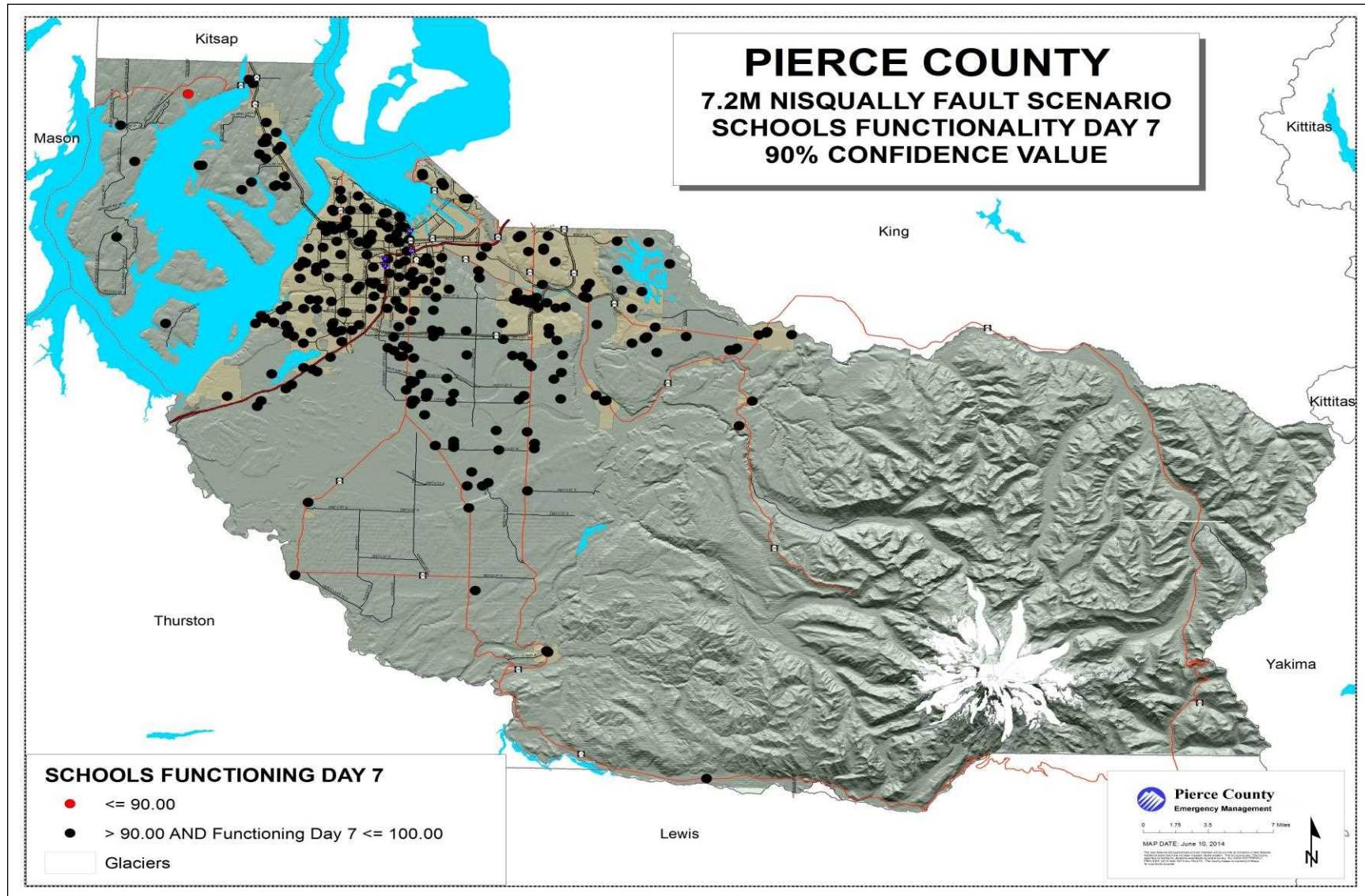
Map D-22 Pierce County Nisqually Fault Scenario Hospital Functionality Day 7⁸



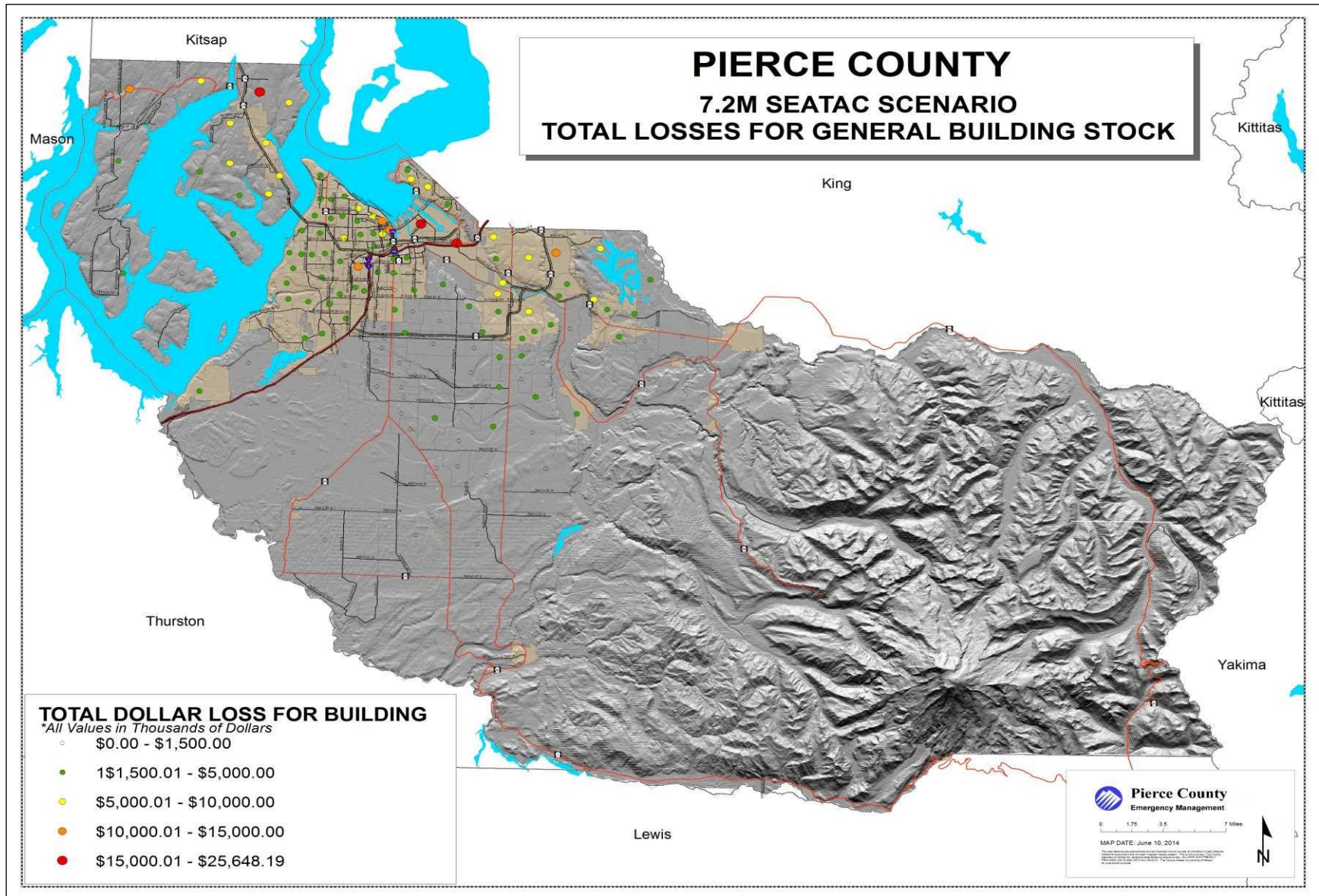
Map D-23 Pierce County Nisqually Fault Scenario Schools Functionality Day 1



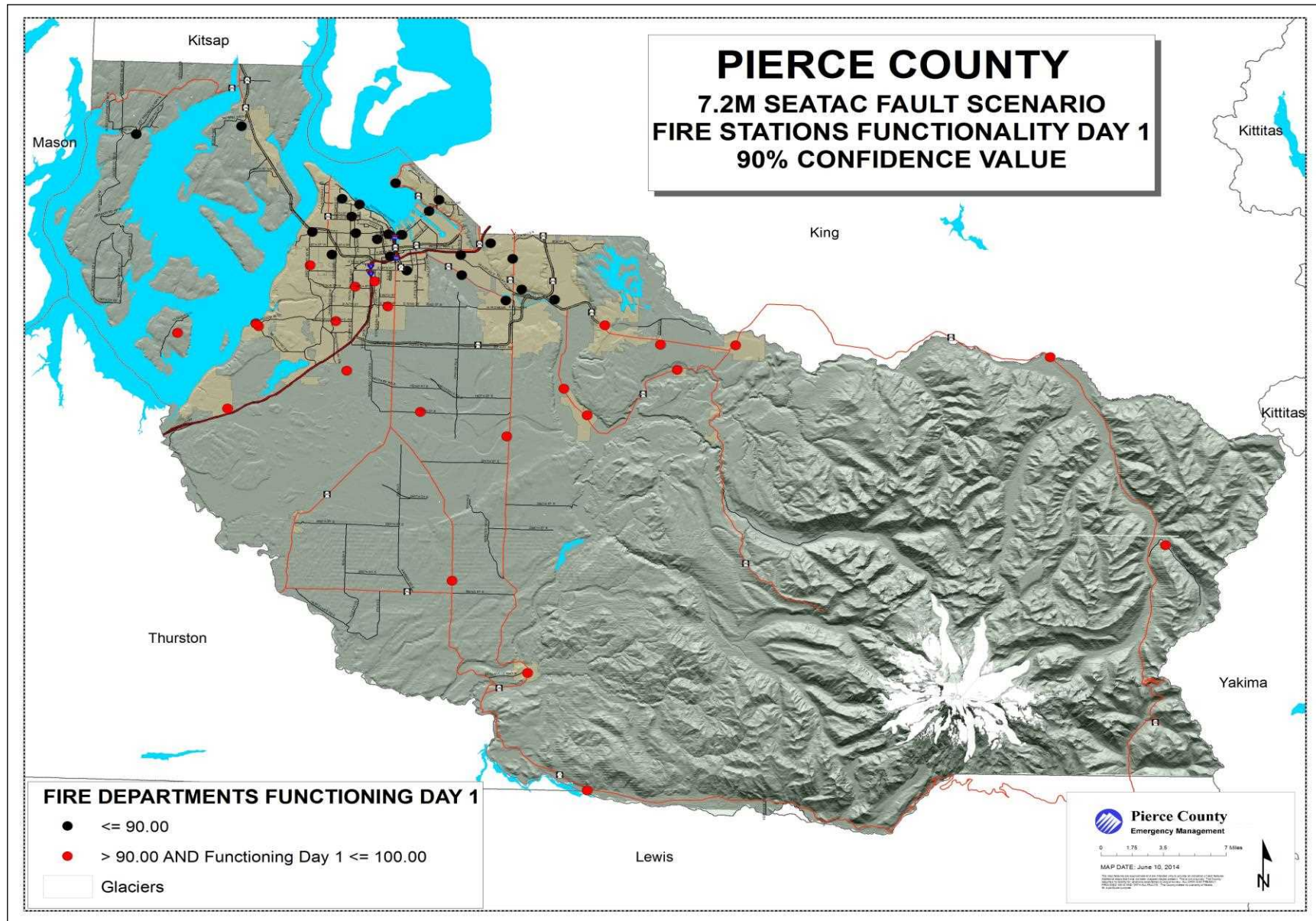
Map D-24 Pierce County Nisqually Fault Scenario Schools Functionality Day 7



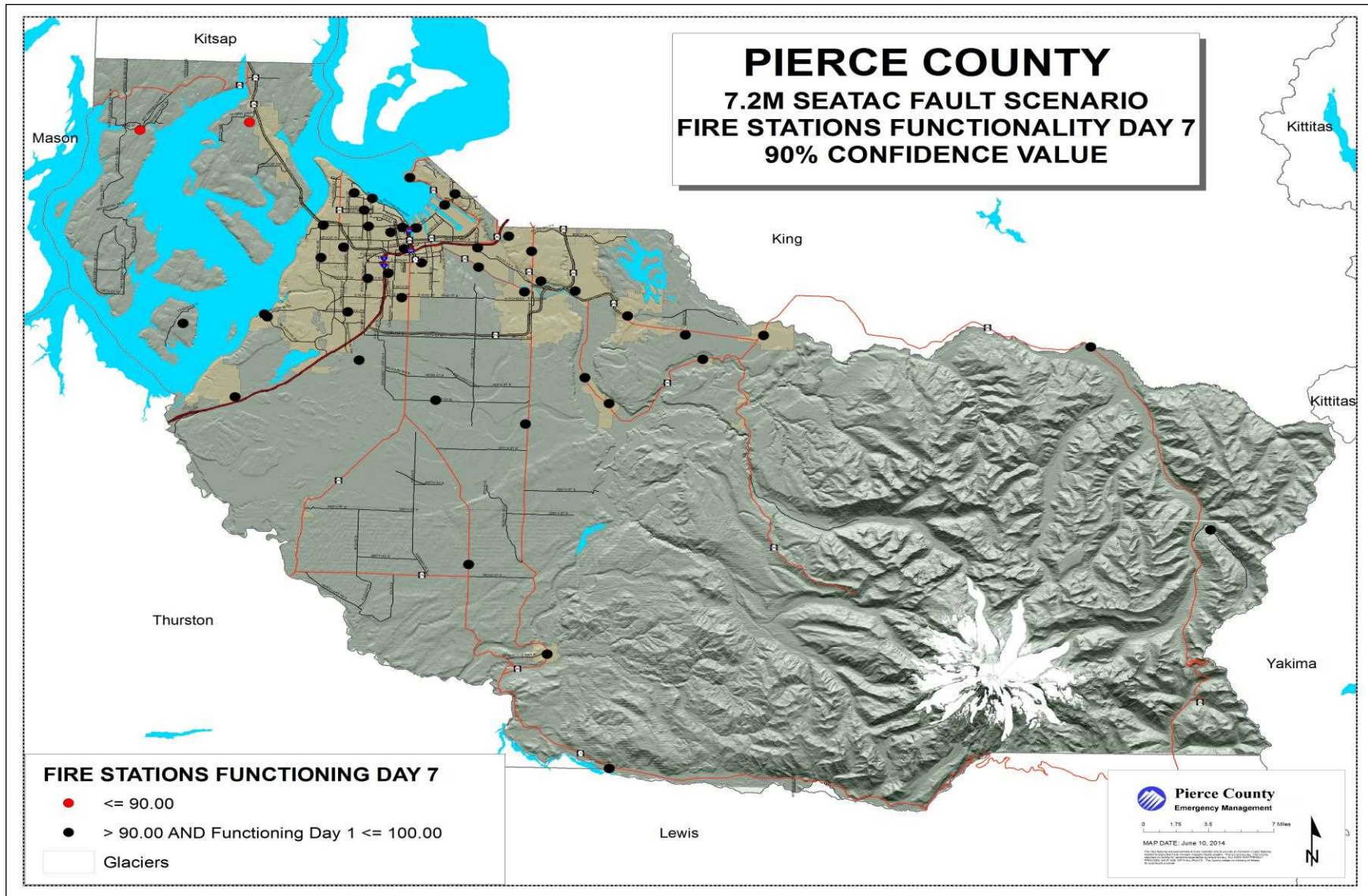
Map D-25 Pierce County SEATAC Fault Scenario Total Losses



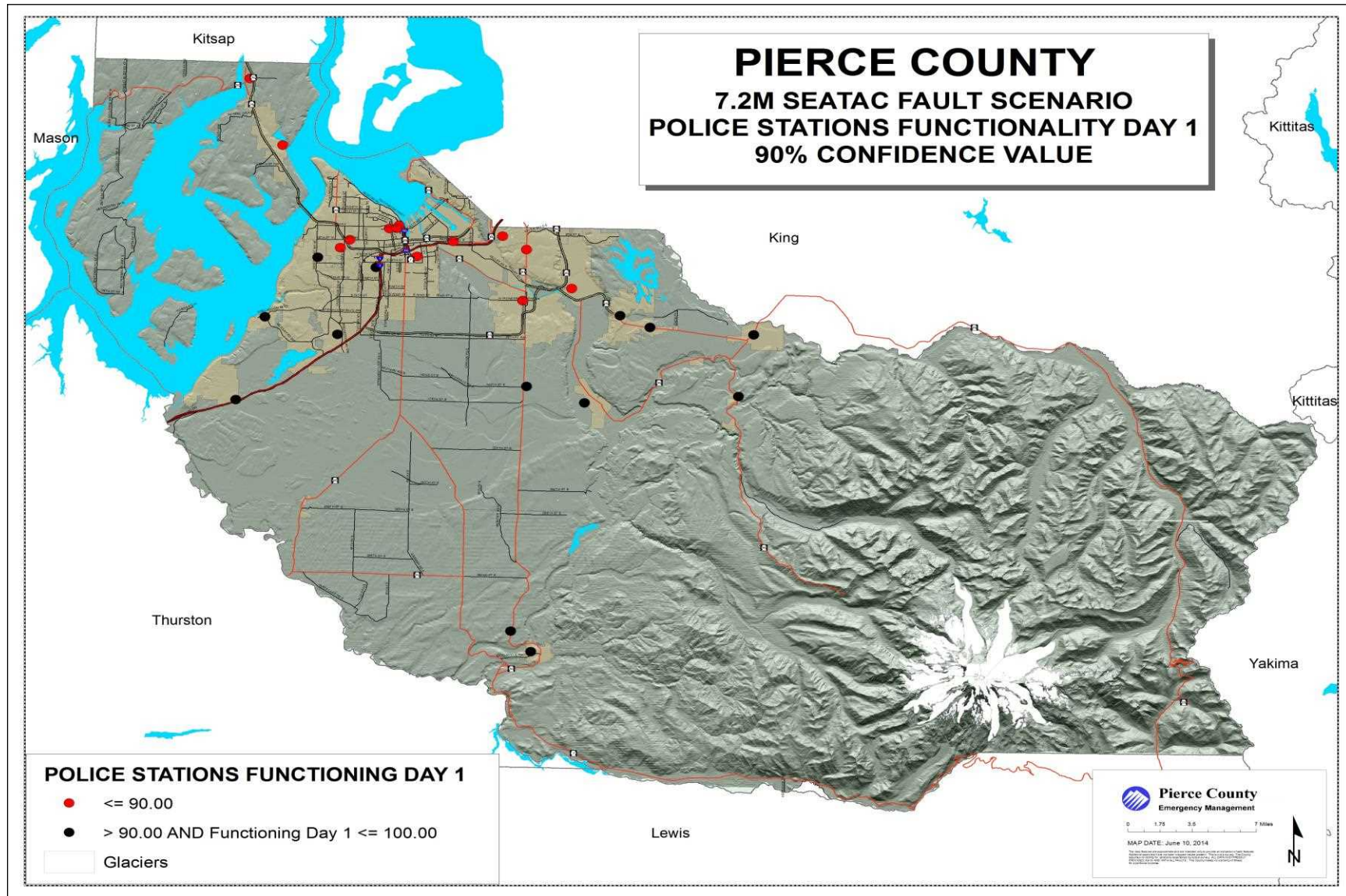
Map D-26 Pierce County SEATAC Fault Scenario Fire Stations Functionality Day 1



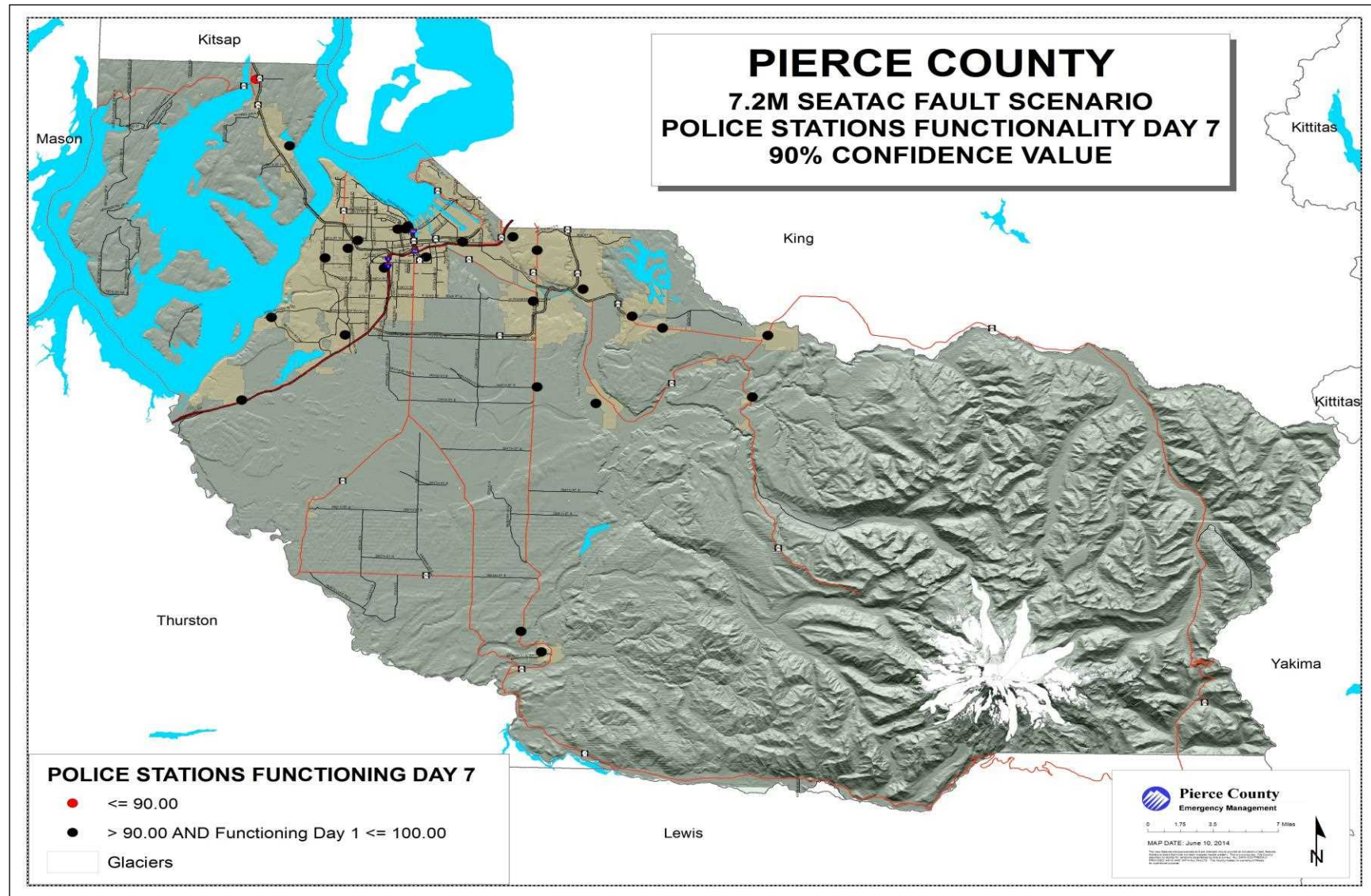
Map D-27 Pierce County SEATAC Fault Scenario Fire Stations Functionality Day 7



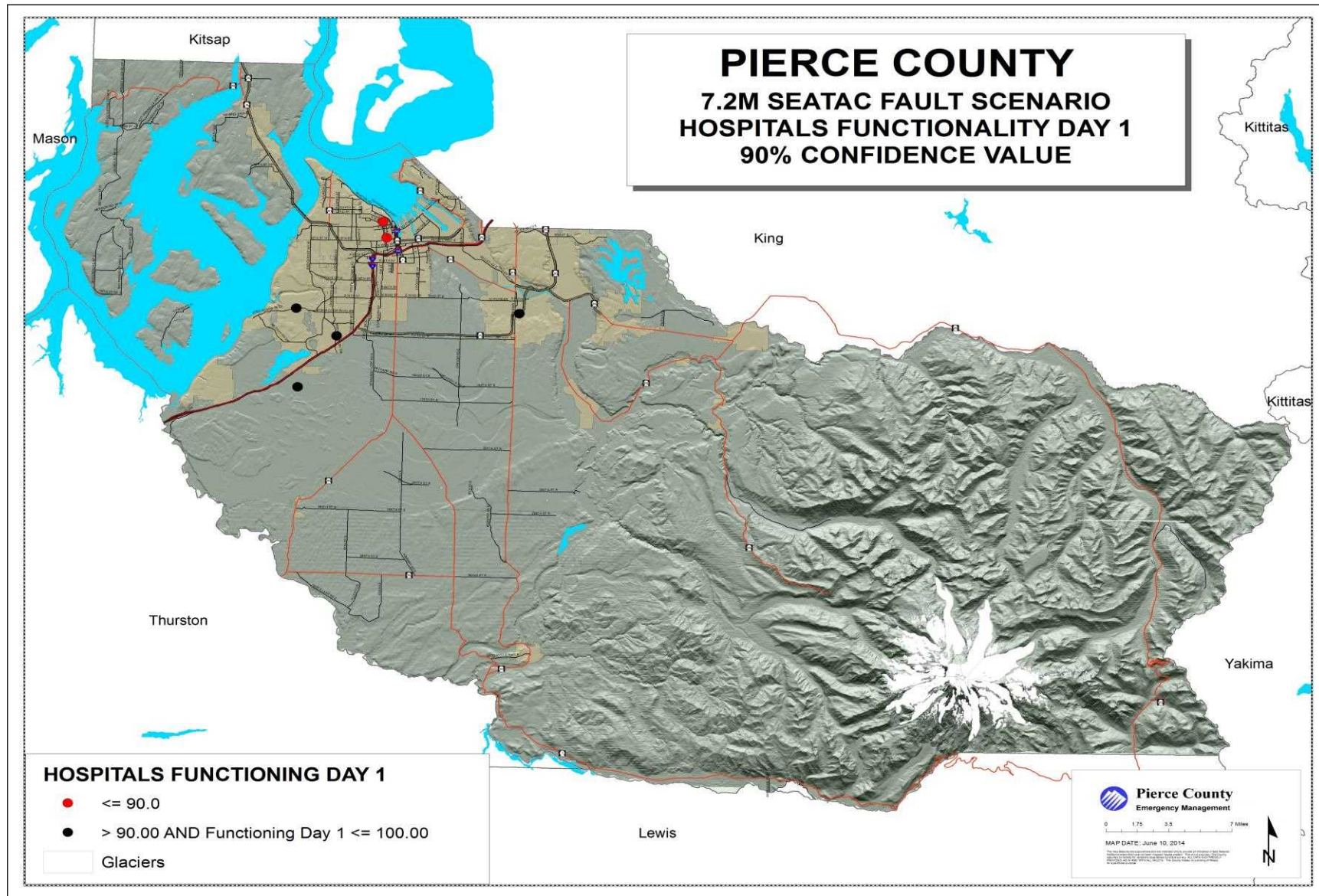
Map D-28 Pierce County SEATAC Fault Scenario Police Department Functionality Day 1 ⁹



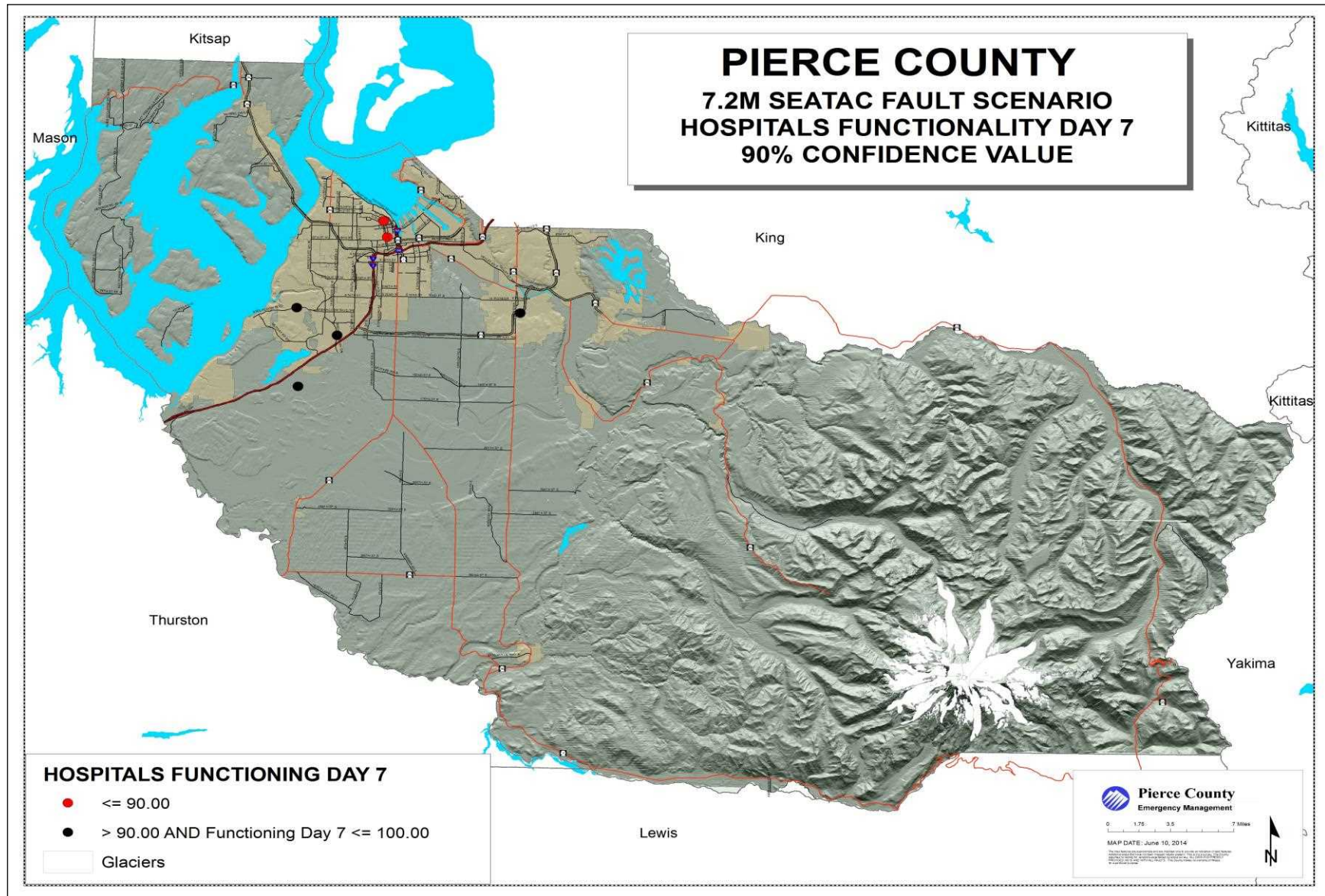
Map D-29 Pierce County SEATAC Fault Scenario Police Department Functionality Day 7¹⁰



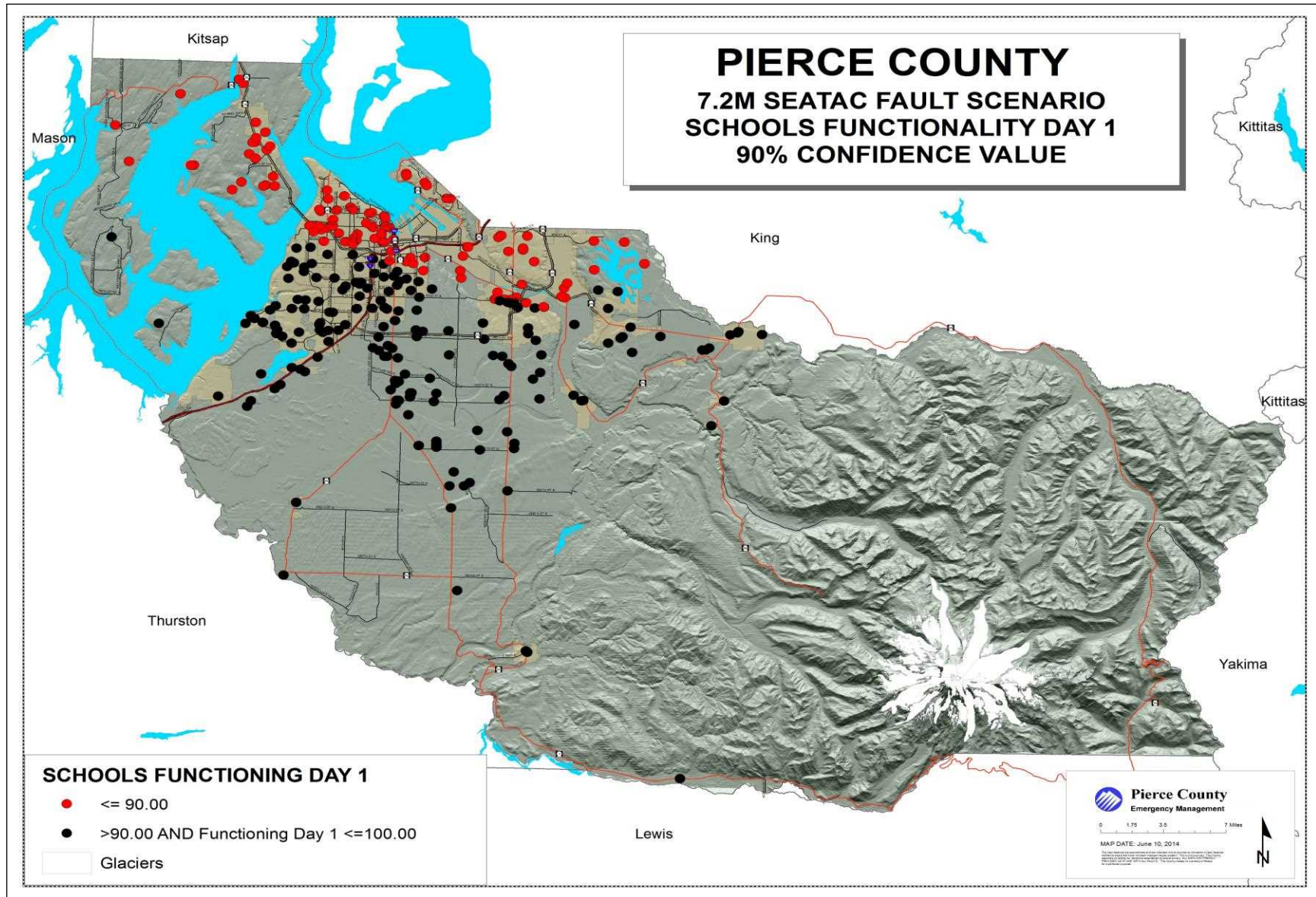
Map D-30 Pierce County SEATAC Fault Scenario Hospital Functionality Day 1 Map¹¹



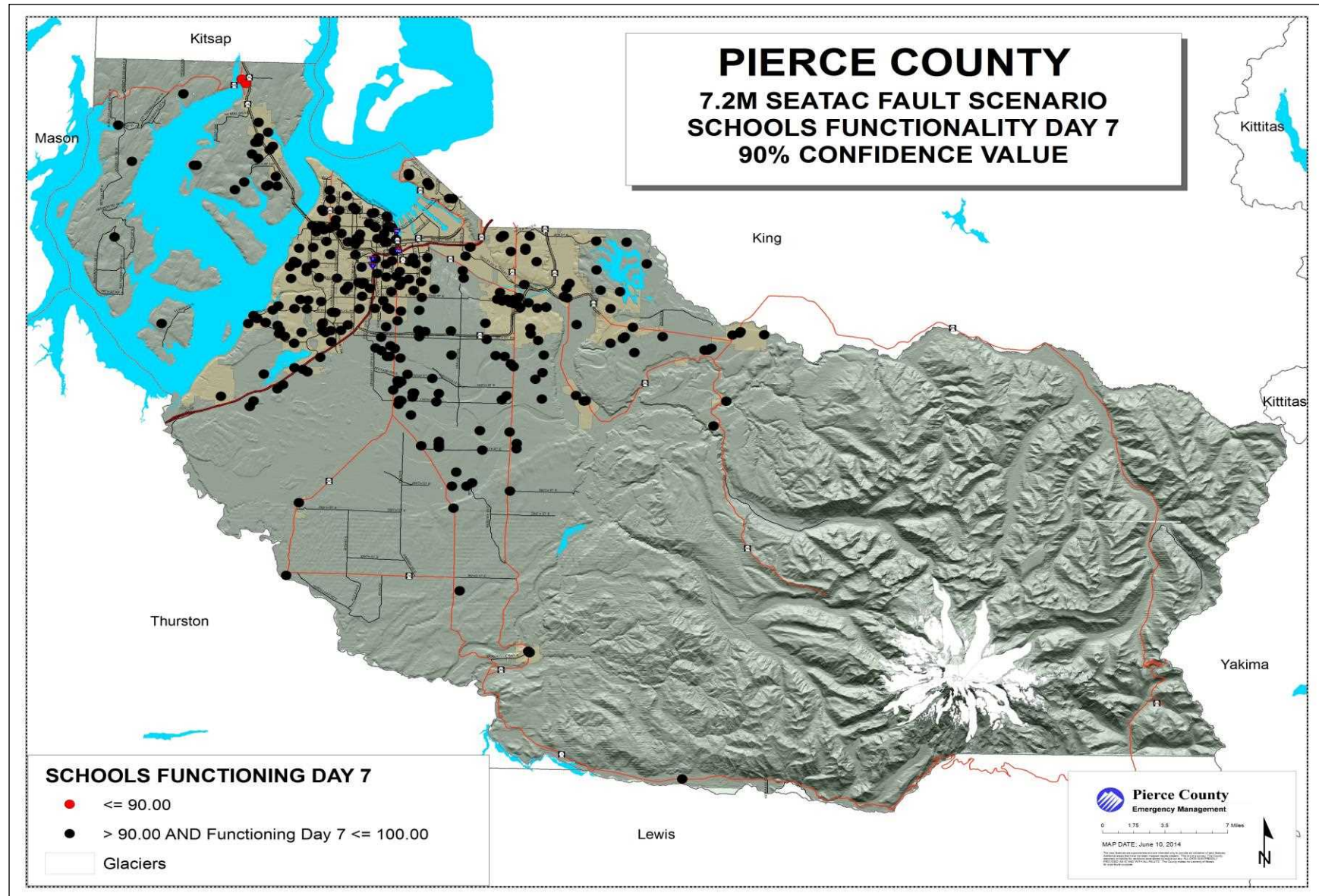
Map D-31 Pierce County SEATAC Fault Scenario Hospital Functionality Day 7¹²



Map D-32 Pierce County SEATAC Fault Scenario Schools Functionality Day 1



Map D-33 Pierce County SEATAC Fault Scenario Schools Functionality Day 7



Endnotes

¹ Hazus has placed the police station location incorrectly for the City of Orting. It should be located in the middle of the city with Fire District #18 as they share the same building.

² Hazus has placed the police station location incorrectly for the City of Orting. It should be located in the middle of the city with Fire District #18 as they share the same building.

³ St. Anthony's Hospital is not included on the map due to the recent construction of the hospital lack of data at the time the analysis was done.

⁴ St. Anthony's Hospital is not included on the map due to the recent construction of the hospital lack of data at the time the analysis was done.

⁵ Hazus has placed the police station location incorrectly for the City of Orting. It should be located in the middle of the city with Fire District #18 as they share the same building.

⁶ Hazus has placed the police station location incorrectly for the City of Orting. It should be located in the middle of the city with Fire District #18 as they share the same building.

⁷ St. Anthony's Hospital is not included on the map due to the recent construction of the hospital lack of data at the time the analysis was done.

⁸ St. Anthony's Hospital is not included on the map due to the recent construction of the hospital lack of data at the time the analysis was done.

⁹ Hazus has placed the police station location incorrectly for the City of Orting. It should be located in the middle of the city with Fire District #18 as they share the same building.

¹⁰ Hazus has placed the police station location incorrectly for the City of Orting. It should be located in the middle of the city with Fire District #18 as they share the same building.

¹¹ St. Anthony's Hospital is not included on the map due to the recent construction of the hospital lack of data at the time the analysis was done.

¹² St. Anthony's Hospital is not included on the map due to the recent construction of the hospital lack of data at the time the analysis was done.

APPENDIX E

**REGION 5 ALL HAZARD MITIGATION PLAN
2020-2025 EDITION
CITY OF EDGEWOOD
DOCUMENTATION RECORDS**

TABLE OF CONTENTS

TABLE OF CONTENTS	1
PUBLIC COMMENT DOCUMENTATION.....	3
PUBLIC MEETINGS FOR 2020-2025 EDITION.....	3

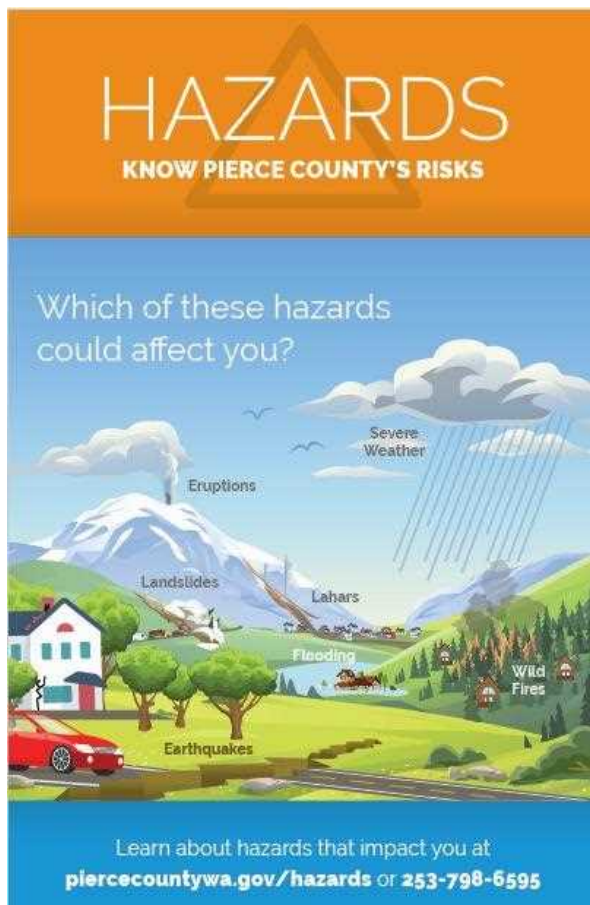
(This page left blank intentionally)

PUBLIC COMMENT DOCUMENTATION

Public Meetings for 2020-2025 Edition

The City of Edgewood held its first Public Involvement and Comment Meeting on January 15, 2019 for the update of the current All Hazard Mitigation Plan at the City of Edgewood's City Hall from 7:00pm to 8:00pm. The meeting capitalized on the City Council's Study Session and was therefore open to the public and City Council for comments and questions regarding the Hazard Mitigation Plan and discussing the hazards the City of Edgewood faces. For efficiency, the Hazard Mitigation Plan was presented to the City Council at this meeting to acquire pre-approval from the jurisdiction's governing body. Additionally, preparedness information was also available to the public as a public outreach component to the meeting. The City of Edgewood had representation from the Police Department and assistance from Pierce County Department of Emergency Management. The citizens that attended the meeting were engaged and understood the hazards the City of Edgewood faces. The meeting was posted on the City's website for further outreach. The Planning Team will evaluate their methodologies to see ways to increase public participation with future Public Comment Meetings.

Figure E-1 Preparedness Handout at Meeting



The City of Edgewood provided a second opportunity to the public to gather feedback for the final review of the plan through an online survey. The Community Preparedness Survey was developed to determine how prepared a jurisdiction's citizens are and collect any suggestions provided for mitigating local hazards. The City of Edgewood posted the survey link to their website and several residents participated, mostly ranging from age 46-55, with a few over 55 years old. All respondents were aware of their local hazards; everyone was mainly concerned with earthquakes, but also listed lahars, landslides, severe winter storms, and wildfires as hazards that posed a threat to their community. All but one resident said they had discussed an emergency plan with their family and collected important documents in a safe location. The main sources of emergency information for the community are internet, television, radio, and social media apps. These respondents chose not to provide suggestions or feedback for mitigation strategies for the City, but the option was available to them. A screenshot of two survey questions and the results are shown on the following page.

The Community Preparedness Survey has been available November 11, 2019 through May 31, 2020 to all residents of Pierce County. The first question in the survey asks residents what jurisdiction they live in so that individual's responses can be counted for a specific jurisdiction. Pierce County Department of Emergency Management has access to the database of survey results and monitors them regularly to provide updates to jurisdictions that have advertised the link on their website and/or social media. This method of public outreach provides a more inclusive approach to communities that may not be able to attend in-person meetings like traditional outreach events that have been held in the past. Providing both a physical meeting and an online option ensures that the whole community is being involved in the planning process for the City of Edgewood's All Hazard Mitigation Plan.

CONTINUED PUBLIC INVOLVEMENT

The City of Edgewood continues with Public Involvement with outreach events planned during 2020. A picnic scheduled for July 18th will include Pierce County Emergency Management and another Emergency Preparedness community meeting scheduled for September 26th. These events provide a great opportunity to bring the community together to learn, collaborate on ideas and strengthening community relationships.

Figure E-2 Example Survey Results

3) Have you or a member of your household:

 [Graph this question](#)

	Yes	No	Total
Attended meetings or received information on disasters/emergency preparedness?	132 (44.15%)	167 (55.85%)	299
Discussed an emergency plan?	204 (68.00%)	96 (32.00%)	300
Started or completed an emergency supply kit?	182 (61.69%)	113 (38.31%)	295
Been trained on First Aid or Cardio-Pulmonary Resuscitation (CPR) during this last year?	170 (57.43%)	126 (42.57%)	296
Been trained in the last 3 years in Disaster First Aid or Wilderness First Aid?	46 (15.65%)	248 (84.35%)	294
Collected important documents in a safe location?	205 (68.11%)	96 (31.89%)	301
Signed up for Pierce County ALERT?	129 (43.14%)	170 (56.86%)	299
2 skipped this question [View]	Total responses 303		99.34%

4) Have you or a member of your household:

 [Graph this question](#)

	Yes	No	Does Not Apply	Total
Fit your gas appliances with flexible connections?	98 (32.89%)	67 (22.48%)	133 (44.63%)	298
Used fire-resistant building or roofing materials?	142 (47.97%)	92 (31.08%)	62 (20.95%)	296
Secured your home to its foundation?	147 (50.17%)	72 (24.57%)	74 (25.26%)	293
Braced unreinforced masonry, concrete walls, and chimney?	74 (25.26%)	89 (30.38%)	130 (44.37%)	293
Elevated your home in preparation for floods?	31 (10.58%)	117 (39.93%)	145 (49.49%)	293
Secured your water heater, cabinets, bookcases, and pictures to the wall?	149 (50.17%)	131 (44.11%)	17 (5.72%)	297
2 skipped this question [View]	Total responses 303			99.34%

(This page left blank intentionally)

APPENDIX F
COMPLETED/DEFERRED MITIGATION STRATEGIES

REGION 5 ALL HAZARD MITIGATION PLAN
2020-2025 EDITION
CITY OF EDGEWOOD
MITIGATION STRATEGY SECTION

Table of Contents

DEFERRED MITIGATION MEASURES4

 JOIN NATIONAL FLOOD INSURANCE PROGRAM COMMUNITY RATING SYSTEM4

 IDENTIFY AND IMPLEMENT CHRISSELLA ROAD EAST IMPROVEMENTS5

 IDENTIFY AND IMPLEMENT EDGEWOOD DRIVE AND SUMNER HEIGHTS ROAD IMPROVEMENTS.....5

ENDNOTES.....7

Deferred or Completed Mitigation Strategies

The following mitigation strategies were removed from the Section 5 Mitigation Plan and placed in Appendix F to retain them. They have either been deferred or completed. In the future as mitigation strategies are completed, they will be moved to this location to provide a history of accomplishments. Deferred mitigation strategies can be moved back into the “working” mitigation strategies of Section 5 at any time.

Table 5-1 City of Edgewood Mitigation Strategy Matrix

Implementation Mechanism	Mitigation Measure (<i>Hazard(s)</i>) ¹	Lead Jurisdiction(s) / Department(s)	Timeline (years)	Plan Goals					
				Life and Property	Operations Continuity	Partnerships	Natural Resources	Preparedness	Sustainable Economy
<u>City Government</u>	1. Join National Flood Insurance Program Community Rating System (CRS) (<i>E,L,V,D,F,SW,WUI</i>)	Edgewood	Ongoing	✓		✓	✓	✓	✓
	2. Identify and Implement Chrisella Road East Improvements (<i>E,L,T,V,F,SW</i>)	Port of Tacoma, Edgewood, Regional Partners	5	✓	✓	✓			✓
	3. Identify and Implement Edgewood Drive and Sumner Heights Road Improvements (<i>E,L,F,SW</i>)	Edgewood	6-8	✓	✓	✓	✓		✓

Deferred Mitigation Measures

Join National Flood Insurance Program Community Rating System

Hazards: E, L, V, D, F, WUI, SW¹

This will involve the City joining the National Flood Insurance Program's (NFIP) Community Rating System (CRS). This is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS: 1) reduce flood losses; 2) facilitate accurate insurance rating; and 3) promote the awareness of flood insurance.

For CRS participating communities, flood insurance premium rates are discounted in increments of 5%; i.e., a Class 1 community would receive a 45% premium discount, while a Class 9 community would receive a 5% discount (a Class 10 is not participating in the CRS and receives no discount). The CRS classes for local communities are based on 18 creditable activities, organized under four categories: i) Public Information, ii) Mapping and Regulations, iii) Flood Damage Reduction, and iv) Flood Preparedness.

1. **Goal(s) Addressed** = Protect Life and Property; Establish and Strengthen Partnerships for Implementation; Preserve or Restore Natural Resources; Increase Public Preparedness for Disasters; Promote A Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s)** = City of Edgewood
5. **Timeline** = Long-term
6. **Benefit** = City of Edgewood, Residents, Businesses
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal would be endorsed by the entire community.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
			X
Comments			
This project is deferred at this time.			

Origin

Previous Plan	Current Plan
X	X

Identify and Implement Chrisella Road East Improvements

Hazards: E, L, T, V, F, SW¹

Edgewood will identify and implement improvements to Chrisella Road East in southern area of the City. This project will look at elevating the road above the railroad tracks and other structural improvements as the road leaves the valley and climbs the plateau of the City. This project will be a joint project under the Freight Action Strategy (FAST) Corridor Program.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budgets or FAST Program grants.
4. **Lead Jurisdiction(s)** = Port of Tacoma, City of Edgewood, Regional Partners
5. **Timeline** = Long-Term
6. **Benefit** = City of Edgewood and Regional Partners
7. **Life of Measure** = 50 years
8. **Community Reaction** = the proposal would be somewhat controversial.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
			X
Comments			
Conversations with the Port of Tacoma and other stakeholders may occur as time and resources allow.			

Origin

Previous Plan	Current Plan
X	X

Identify and Implement Edgewood Drive and Sumner Heights Road Improvements

Hazards: E, L, F, SW¹

Edgewood will identify and implement improvements to Edgewood Drive and Sumner Heights Road in south-eastern area of the City. The project will look at such issues involving landslide and flood related vulnerabilities along with improving the area as a pedestrian evacuation route from the valley floor. This project will improve these roads in order to continue to provide the services needed.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Preserve or Restore Natural Resources; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget and grants.
4. **Lead Jurisdiction(s)** = City of Edgewood
5. **Timeline** = Long-Term
6. **Benefit** = City of Edgewood and Regional Partners
7. **Life of Measure** = 50 years
8. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Status Update: 2020 – 2025 Edition

Complete	Ongoing	Partially Complete	Deferred
			X
Comments			
A portion of this plan is part of the Comprehensive Plan for the city. Some work is tentatively planned for 2026.			

Origin

Previous Plan	Current Plan
X	X

Endnotes

¹ Hazard Codes:

Where necessary, the specific hazards addressed are noted as follows:

A:	Avalanche
E:	Earthquake
F:	Flood
D:	Drought
T:	Tsunami
V (l or t):	Volcanic (lahar or tephra-specific)
SW:	Severe Storm (wind-specific)
L:	Landslide
WUI:	Wildland/Urban Interface Fire
MM:	Manmade to include terrorism
All:	All hazards, including some man made. Where only natural hazards are addressed, it is noted.

(This page left blank intentionally)