



Study Session of the Board of Directors

Pioneer Middle School 1750 Bob's Hollow Lane DuPont, WA

8/14/2019 06:00 PM

I. CALL TO ORDER (Action)

- a. Pledge of Allegiance
- b. Roll Call
- c. Approval of Agenda

II. TOPIC FOR BOARD DISCUSSION

A. Steilacoom School District Region 5 All Hazard Mitigation Plan (Discussion)

Presenter: Susanne Beauchaine

[Steilacoom School District Region 5 All Hazard Mitigation Plan 2015-2020 Edition with Board Background Final.pdf \(p. 2\)](#)

B. Long Range Capital Facilities Plan (Discussion)

Presenter: Melissa Beard

[Long Range Capital Facilities Plan with Board Background.PDF \(p. 148\)](#)

C. September 11, 2019 Study Session Agenda Items (Discussion)

1. SIP Secondary
2. Other Topics

D. Superintendent Updates (Discussion)

III. RECESS TO EXECUTIVE SESSION

IV. EXECUTIVE SESSION (Executive Session)

RCW 42.30.110(1)(b)(c) to discuss Real Estate

(b) To consider the selection of a site or the acquisition of real estate by lease or purchase when public knowledge regarding such consideration would cause a likelihood of increased price;

(c) To consider the minimum price at which real estate will be offered for sale or lease when public knowledge regarding such consideration would cause a likelihood of decreased price. However, final action selling or leasing public property shall be taken in a meeting open to the public.

V. RETURN TO REGULAR MEETING

VI. ADJOURNMENT (Action)

STEILACOOM HISTORICAL SCHOOL DISTRICT NO. 1 BOARD OF DIRECTORS

Board Meeting Date: August 14, 2019

Strategic Focus Area

- Achieve
- Support
- Connect
- Plan

BACKGROUND INFORMATION

The Hazard Mitigation Plan (2015-2020) for the district is the representation of our jurisdiction’s commitment to reduce risks from natural hazards, and serves as a guide for identifying resources to reduce the effects of natural hazards. This is a requirement to ensure the district would be eligible to apply for funds after any disaster declarations.

Our plan will expire in 2020 and the district is in the process of revising key portions in partnership with the Pierce County Emergency Management Office. The updated plan must be submitted to Pierce County Emergency Management by the end of December. Pierce County will include our district’s plan with their Region 5 submission to the Washington State Military Dept. of Emergency Management Division for approval. Once approved by the state, the state’s plan will be submitted to FEMA for final approval.

District Committee Members:

- Kathi Weight, Superintendent
- Susanne Beauchaine, Executive Director of HR and Safety
- Melissa Beard, Chief Financial Officer
- Shae Emery, Maintenance and Facilities Manager
- Shawn Powers, Director of Transportation
- Justin Hamrick, School Resource Officer
- Paul Loveless, Town of Steilacoom (community)

Timeline for Revisions:

Date	Activity
July 12, 2019	Consultation with Pierce County Emergency Management
July 24, 2019	Public sharing of plan
July 29 – 31 st	Attendance at Washington School Safety Organization Conference
August 14, 2019	Share timeline and plan with School Board
August 19, 2019	Mitigation Grant Workshop-Pierce County Emergency Management
August 28, 2019	Committee Meeting
September 18, 2019	Committee Meeting
October 16, 2019	Committee Meeting
November 8, 2019	Revised 2020-2025 Plan shared in Board Briefing
November 25, 2019	Plan submission to Pierce County for review and approval.
Pending approval from Pierce County and Washington State – the plan would be presented to the board for adoption in 2020.	

RECOMMENDED ACTION:

This background is provided as informational.

**Report prepared by:
Susanne Beauchaine, Executive Director for Human Resources**



**STEILACOOM HISTORICAL SCHOOL DISTRICT
ADDENDUM B-11
REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION**

Prepared for:

Steilacoom Historical School District
510 Chambers
Steilacoom, WA 98388

In Cooperation with:

Pierce County Department of Emergency Management
2501 S. 35th Street, Suite D
Tacoma, WA 98409

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ADDENDUM B-11

**REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
STEILACOOM HISTORICAL SCHOOL DISTRICT**

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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
2015-2020 EDITION
STEILACOOM HISTORICAL SCHOOL DISTRICT
PROCESS SECTION**

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Changes To Jurisdiction Plan in this Document

This Process Section for the Steilacoom Historical School District 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 Steilacoom Historical School District Hazard Mitigation Plan.

Change Matrix

This Matrix of Changes documents the pertinent changes made from the November 2008 Steilacoom Historical School District Plan for the Region 5 All Hazard Mitigation Plan; 2015-2020 Edition. Most of the changes are a matter of additional detail, more information provided, some reformatting to the current Pierce County DEM format and in some cases a response to new requirements. This 2015 version represents a complete review and update by Pierce County Department of Emergency Management using a detailed process for development and following an established format. During this procedure, all web links have been verified and updated.

Change Matrix – Steilacoom Historical School District Region 5 Hazard Mitigation Plan 2015 Update

Section 1 – Plan Development, Process Section	
Section or Part of Plan	New in 2015 Plan
Section 1 – Process Section	Section 1 – Process Section
	The 2015 Process Section contains this Change Matrix Table.
	The 2015 Process Section contains a revised Risk Section to include nine (9) Technological Hazards.
	The 2015 Process Section contains a description of the new process to define goals and objectives for this jurisdiction in the Mitigation Strategy.

Section 1 – Plan Development, Process Section (Continued)	
	The 2015 Process Section contains a Mitigation Measure Matrix that reviews all the

	prior Mitigation Measures and shows those complete, those still viable and those no longer retained for further action.
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Section 2 – Participating Jurisdiction Profiles		
Section or Part of Plan	Previous	2015 Plan
Section 2 – Profile	Information was current as of 2000 Census Data.	The 2015 version of the Profile has been updated using 2010 Census Data and most current GIS information from Pierce County.

Section 3 – Capability Identification		
Section or Part of Plan	Previous	2015 Plan
Section 3 – Capability	The Capability Tables shown in the previous plan are in a similar format.	The 2015 Capability Section has been improved and updated to show current information from the jurisdiction.

Section 4 – Vulnerability, Risk Analysis	
Section or Part of Plan	2015 Plan
The previous version of the plan contained a chart for previous history of disaster declarations broken down into Geological and Meteorological Hazards.	The 2015 Risk Section includes this same chart but it has been updated to show all additional declarations and expanded to include Technological Hazards as well.
The previous version of the plan contained four hazard maps.	The 2015 Risk Section includes updated maps and may contain additional hazard maps according to the specific jurisdiction’s hazards.
The previous version included specific analysis showing vulnerability of population, land and infrastructure according to Census 2000.	The 2015 Risk Section includes completely updated tables showing vulnerability of population, land and infrastructure using Census 2010 data.

Section 5 – Mitigation Strategy	
Section or Part of Plan	2015 Plan

The previous document used the standard goals as outlined for the entire project.	The 2015 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 but with emphasis on new goals and objectives. New measures have been added to both the Matrix and the individual measure descriptions. Measures completed in the past five years have been deleted with explanation of same in the Process Section.

Section 6 – Infrastructure	
Section or Part of Plan	2015 Plan
The previous plan used a full table with detail on each piece of infrastructure as well as summary information on hazards and dependencies.	The 2015 plan uses the same table but with additional technological hazards now included. This table has been completely updated as have the accompanying tables.

Section 7 – Plan Maintenance	
Section or Part of Plan	2015 Plan
The previous Plan Maintenance for the jurisdiction was very similar in format to the newer version for 2015.	The 2015 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	2015 Plan
The previous document contained three Appendices.	The 2015 Plan contains three Appendices including place for the final resolution and approval letter from FEMA and also the team members for the jurisdiction and a chart for any changes. 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 be comprehensive, the seven planning groups in conjunction with Pierce County Department of 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 2012. The individual Region 5 Hazards Mitigation Planning Team members have an understanding of 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 1-1 Planning Teams – School Group

NAME	TITLE	JURISDICTION-DEPARTMENT
Scott Hubbard	Superintendent	Carbonado School District
Hal Longan	Loss Control Specialist	Clover Park School District
Kirsten Parker	Director of Human Resources	Dieringer School District
Clay Jamerson	Manager of Pupil Transportation	Eatonville School District
Daniel Lea	Manager of Maintenance	Fife School District
John McCrossin	Director of Student Programs	Fife School District
Willie Painter	Public Information Officer	Franklin Pierce School District
Kristin Heather	Director of Finance and Operations	Orting School District
Jennifer Wamboldt	Emergency Programs Manager	Pacific Lutheran University
Joseph Bell	Environmental Health & Safety Officer	Pacific Lutheran University
Ernie Elton	Director of Facilities	Peninsula School District
Brian Devereux	Director of Facilities Planning	Puyallup School District
Bruce Parker	Maintenance Supervisor	Steilacoom School District No. 1
Peggy Uglick	Facilities Operations Manager	Steilacoom School District No. 1
Cheryl Collins	Risk Manager	Sumner School District
Ken Wilson	Safety and Environmental Manager	Tacoma Public Schools
Mike Patterson	Director of Maintenance	University Place School District
Michelle Martinez	Prevention Specialist	White River School District

Planning Team Meetings

The Planning Team held 10 Planning Team Meetings for the following Planning Groups: City and Town Group, Fire Group, School Group, Special Purpose Group, and Utility Group for a total of 50 meetings from March of 2012 to February of 2013.

Table 1-8 Planning Team Meetings – School Group

Planning Team Meeting #1 - Pierce County Library Administration Bldg-April 12, 2012
Planning Team members Katie Gillespie and Debbie Bailey 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 – Franklin Pierce School Admin Bldg-May 18, 2012
Planning Team members Katie Gillespie and Debbie Bailey conducted the meeting and the Planning Team discussed the following items: Introduction of Planning Team as there were new members present, review of items presented at 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, and a review of existing infrastructure for accuracy or necessary changes. It was explained how the Homeland Security sectors correlate with the information on the Infrastructure Forms and the potential uses of the information as a means of populating a database of resources for future use. There was also information handed out on dependencies and how important it is to know who depends on you and who you depend on. 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 6 – Infrastructure Information and Section 3 – Capability Section.
THERE WERE NO PLANNING TEAM MEETINGS IN JUNE OF 2012
Planning Team Meeting #4 – Franklin Pierce School Admin Bldg-July 20, 2012
Planning Team Members Katie Gillespie and Debbie Bailey conducted the meeting and the Planning Team discussed the following items: Reminder to set up Elected Official meetings as well as a review of the sections discussed thus far. The primary focus of the meeting was an explanation of the Risk Assessment and beginning to look at the local hazards for each jurisdiction. There was also some discussion about hazard maps and jurisdiction hazard maps were shown for the first time since they were updated.
Planning Team Meeting #5 – Franklin Pierce School Admin Bldg-August 17, 2012
Planning Team members Katie Gillespie and Debbie Bailey, along with special guest Casey Broom from State EMD, conducted the meeting and the Planning Team discussed the following items: State EMD Mitigation Coordinator, Casey Broom was present at this meeting to lead the discussion on goals and objectives. The primary discussion for this meeting was a review of how to write goals and how to move forward in developing objectives to address the goals as a part of the Mitigation Strategy for the project.
Planning Team Meeting #6 – Franklin Pierce School Admin Bldg-September 21, 2012

Planning Team members Katie Gillespie and Debbie Bailey, along with Casey Broom, conducted the meeting and the Planning Team discussed the following items: Casey led the discussion continuing with Goals and Objectives for each jurisdiction. There was also a lot of discussion regarding good mitigation measures and how they need to address the objectives identified.

Planning Team Meeting #7 – Franklin Pierce School Admin Bldg-October 19, 2012

Planning Team members Katie Gillespie and Debbie Bailey, along with Casey Broom, conducted the meeting and the Planning Team discussed the following items: The jurisdiction hazard maps (base map as well as hazard maps) and other administrative items were discussed. The majority of the meeting was dedicated to a discussion revolving around developing new mitigation measures and having ‘shovel-ready’ projects included in all plans. A general discussion was productive in finding new measures that others might also be able to include.

Planning Team Meeting #8 – Franklin Pierce School Admin Bldg-November 16, 2012

Planning Team members Katie Gillespie and Debbie Bailey conducted the meeting and the Planning Team discussed the following items: There was a call for questions on all sections completed thus far and any final cleanup of sections as necessary. The majority of the meeting was dedicated to continuing discussions about mitigation measures and answering all the questions regarding new measures and how they will be added to the plans. The jurisdictions were briefed and given guidance on how to prioritize their mitigation measures.

THERE WERE NO PLANNING TEAM MEETINGS IN DECEMBER OF 2012

The month of December was dedicated allowing the Plan Coordinators time to catch up on documentation for the 78 jurisdictions.

REGIONAL PLANNING MEETINGS WERE HELD IN JANUARY OF 2013

(See Table 1-15)

The month of January was dedicated to eight Regional Meetings where the groups were divided into geographical districts rather than their normal groups in order to develop potential regional measures together.

Planning Team Meeting #9 – Franklin Pierce School Admin Bldg-February 22, 2012

Planning Team members Katie Gillespie and Debbie Bailey conducted the meeting and the Planning Team discussed the following items: The primary discussion, besides a general review once more, was about the Plan Maintenance section and how that will be updated by the jurisdictions. Each jurisdiction was given copies of their existing section and we discussed possible changes and improvements. Those jurisdictions that still had outstanding sections of documentation brought those forward at this time.

Planning Team Meeting #10 – Franklin Pierce School Admin Bldg-March 22, 2012

Planning team members Katie Gillespie and Debbie Bailey conducted the meeting and the Planning Team was able to discuss any final questions or concerns regarding the final sections of the plans and any updates or changes that will still need to be made before the plans are complete.

Joint Planning Requirement

Steilacoom Historical School District has not identified plans which must collaborate with the mitigation plan at time of publication.

Endnotes

ⁱ State and Local Mitigation Planning How-to Guide, Getting Started: building support for mitigation planning, FEMA 386-1, September 2002, p. 3-1.

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SECTION 2

REGION 5 ALL HAZARD MITIGATION PLAN 2015-2020 EDITION STEILACOOM HISTORICAL SCHOOL DISTRICT PROFILE SECTION

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Mission Statement

The mission of the Steilacoom Historical School District is as follows:

Steilacoom Historical School District #1, in partnership with our communities, is to educate and prepare responsible citizens who can contribute and adapt in a changing world.

Services Summary

The Steilacoom Historical School District was incorporated in the year 1856.

The District provides the following services:

Basic Education Act — Goal

The goal of the Basic Education Act for the schools of the state of Washington set forth in this chapter shall be to provide students with the opportunity to become responsible citizens, to contribute to their own economic well-being and to that of their families and communities, and to enjoy productive and satisfying lives. To these ends, the goals of each school district, with the involvement of parents and community members, shall be to provide opportunities for all students to develop the knowledge and skills essential to:

- (1) Read with comprehension, write with skill, and communicate effectively and responsibly in a variety of ways and settings;
- (2) Know and apply the core concepts and principles of mathematics; social, physical, and life sciences; civics and history; geography; arts; and health and fitness;
- (3) Think analytically, logically, and creatively, and to integrate experience and knowledge to form reasoned judgments and solve problems; and
- (4) Understand the importance of work and how performance, effort, and decisions directly affect future career and educational opportunities. (RCW 28A.150.210)

Basic Education Act — Program requirements — Program accessibility — Rules

(a) Each school district shall make available to students enrolled in kindergarten at least a total instructional offering of four hundred fifty hours. The program shall include instruction in the essential academic learning requirements under *RCW 28A.630.885 and such other subjects and such activities as the school district shall determine to be appropriate for the education of the school district's students enrolled in such program;

(b) Each school district shall make available to students enrolled in grades one through twelve, at least a district-wide annual average total instructional hour offering of one thousand hours.

Geo-Political Summary

Table 2-1 Geo-Political Summary¹

Jurisdiction	Area (sq mi)	Elevation Range (ft.)	Major Environmental Features		Regional Partners	
			Water	Geographic	Shared Borders	Land Use Authorities
Steilacoom Historical School District	26.93	0-360	<ul style="list-style-type: none"> • Chambers Clover Creek Watershed • 2-Chambers Bay Basin • 9-American Lake Basin • 18-Tacoma West Basin • Kitsap Watershed • 17-Islands Basin • Nisqually Watershed • 8-Lower Nisqually Watershed 	<ul style="list-style-type: none"> • Anderson Island • McNeil Island 	<ul style="list-style-type: none"> • Clover Park SD • University Place SD 	<ul style="list-style-type: none"> • DuPont • Lakewood • Steilacoom • University Place • Unincorporated Pierce County • Unincorporated Thurston County • Nisqually Tribe • WA Corrections (McNeil Island) • WA DNR • WA DSHS (Western State Hospital) • US DoD (JBLM)

Map 2- 1 Steilacoom Historical School District Basemap

SD #001 STEILACOOM HISTORICAL - BASEMAP



Population Summary

Demographics

Table 2-2 Population²

Jurisdiction	Population	Population Density (people/sq mi)	Population Served
Steilacoom Historical School District	20,885	775	20,885
Region 5	795,225	440	795,225

Table 2-3 Special Populations³

Jurisdiction	Population	Population 65 Plus	% of Total	Population Under 20	% of Total
Steilacoom School District	20,885	2,632	13%	5,360	26%
Region 5	795,225	89,860	11.3%	193,240	24.3%

Demographic Analysis

Steilacoom School Districts’ total population has increased by 5,201 to a total of 20,885 people while the population density has decreased from 1,051 to 775 people per square mile. The 65+ population represents 13% of the total population while the population ages 20 and under has significantly increased to represent 26% of the total population. The Steilacoom School District has an identified growing population with a large special populations group which increases their population vulnerability while the decrease in population density reduces their vulnerability in comparison to the last update.

Infrastructure Summary

General

Table 2-4 Parcel Summary⁴

Jurisdiction	# Parcels	Land Value	Average Land Value	Improved Value	Average Improved Value
Steilacoom Historical School District	12,577	\$945,637,900	\$75,206	\$1,502,899,100	\$149,981
Region 5	317,585	\$35,866,441,702	\$112,963	\$48,093,548,852	\$151,490

Jurisdiction	Total Assessed Value	Average Assessed Value
Steilacoom Historical School District	\$2,448,537,000	\$194,730
Region 5	\$83,959,990,554	\$264,370

Jurisdiction Infrastructure

The following table shows the overview of infrastructure owned by the Steilacoom Historical School District. The infrastructure is categorized according to the infrastructure sectors as designated by the Department of Homeland Security. This table is intended as a summary only.

For further details on Department of Homeland Security infrastructure sectors, please see the Process Section 1.

Table 2-5 Owned Infrastructure⁵

Total Infrastructure	Schools	Maintenance	Other	Total Value (\$)
11	6	1	4	\$61,069,102

Economic Summary

Table 2-6 Fiscal Summary⁶

Jurisdiction	Operating Costs (per month)	Operating Budgeted Revenues ⁷	Operating Budgeted Expenditures ⁸	Fund Balance as % of Operating Cost	Avg Fund Balance (5 yrs)
Steilacoom Historical School District	Not Available	Not Available	Not Available	Not Available	Not Available

Resource Directory

Regional

- **Steilacoom Historical School District**
<http://www.steilacoom.k12.wa.us/site/default.aspx?PageID=1>
- **Pierce County Government**
<http://www.piercecountywa.org/PC/>
- **Pierce County DEM**
<http://www.piercecountywa.org/pc/abtus/ourorg/dem/abtusdem.htm>
- **Pierce County PALS**
<http://www.co.pierce.wa.us/pc/abtus/ourorg/pals/palshome.htm>
- **Municipal Research & Services Center of Washington (MRSC)**
<http://www.mrsc.org/>

National

- **US Census**
www.census.gov/

Endnotes

¹ Information from Pierce County GIS application, CountyView Pro (2013/14).

² Derived from Pierce County GIS parcel information and extraction and Office of Superintendent of Public Instruction (OSPI).

³ Information from Pierce County GIS application, CountyView Pro (2013/14).

⁴ Information from Pierce County GIS application, CountyView Pro (2013/14). Numbers derived from tax parcels whose centers are within selected jurisdictions.

⁵ Information obtained from Jurisdiction from Infrastructure Matrix.

⁶ Information not available at time of publication.

⁷ Non-Capital

⁸ Non-Capital

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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
2015-2020 EDITION
STEILACOOM HISTORICAL SCHOOL DISTRICT
CAPABILITY IDENTIFICATION SECTION**

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Legal and Regulatory

Table 3-1 Legal and Regulatory

Regulatory Tools (Ordinances and Codes)	Yes or No
<u>Jurisdiction Capabilities</u>	
Shelter	Yes
Eminent Domain	Yes
RCW 28A - Common School Provisions	Yes
WAC Title 392 - Office of Superintendent of Public Instruction	Yes

Administrative Capability

Table 3-2 Administrative Capability

Administrative Tools (Agency, Departments or Program)	Yes or No
<u>Jurisdiction Capabilities</u>	
Board of Directors	Yes
Booster Clubs	Yes
Budget and Finance Department	Yes
CPR/Hepatitis B/HIV Training	Yes
District Website	Yes
Incremental Seismic Rehabilitation of School Buildings	No
Lahar Evacuation Routes and SOPs	No
Lahar Warning System and Evacuation Program	No
Lockdown Drills	Yes
Parent Teachers Associations	Yes
SRO at High Schools	Yes
Superintendent	Yes
<u>Regional Capabilities</u>	
Educational Facilities Professionals (formerly APPA)	No
Facilities Manual: Nonstructural Protection Guide (Seattle Schools)	No
Pierce County Assessor-Treasurer	Yes
Pierce County CountyView GIS	No
Pierce County DEM Portal	No
Pierce County Department of Emergency Management	Yes
Pierce County Fire Districts	Yes
Pierce County Fire Prevention Bureau	No
Pierce County Sheriff's Department	Yes
Pierce County Transportation Program	No
Pierce County Water Programs	No
Puget Sound Educational Service District	Yes
Rapid Responder System	Yes
Safe Schools Healthy Students Initiative of Greater Pierce County	No
Student Threat System (Pierce Responder)	No
Tacoma Pierce County Health Department	Yes
Workman's Compensation Trust	Yes

Technical Capability

Table 3-3 Technical Capability

Technical Tools (Plans and Other)	Yes or No
<u>Jurisdiction Capabilities</u>	
Bomb Threat Assessment Guide	Yes
Capital Facilities Plan	No
Closure Telephone Plan	Yes
Emergency Management Plan	Yes
Evacuation Plans	No
Five Year Plan	No
Policies and Procedures	Yes
Strategic Plan	Yes
Student Rights & Responsibilities	Yes
<u>Regional Capabilities</u>	
Pierce County Flood Loss Plan	No

Fiscal Capability

Table 3-4 Fiscal Capability

Fiscal Tools (Taxes, Bonds, Funds and Fees)	Yes or No
<u>Jurisdiction Capabilities</u>	
TAXES:	
Associated Student Body Fund	Yes
Authority to Levy Taxes	Yes
BONDS:	
Authority to Issue Bonds	Yes
FUNDS:	
Associated Student Body Fund	Yes
Capital Projects Fund	Yes
Debt Services Fund	Yes
General Fund	Yes
Transportation Vehicle Fund	Yes
Trust Funds	No
FEES:	
Mitigation Impact Fees	Yes
<u>Regional Capabilities</u>	
School Based Partnerships Grant Program	No

Specific Capabilities

Table 3-5 Specific Capabilities

Jurisdiction Specific Capabilities
<u>Legal & Regulatory</u>
<u>Administrative & Technical</u>
Steilacoom Fire Department
Steilacoom Police Department
Steilacoom Schools Newsletter
Steilacoom School District Webpage
Steilacoom Historical School District Emergency Management Team
Long Range Facilities Plan
Pierce County Sheriff
Dupont Police and Fire Departments
Lakewood Police and Fire Departments
<u>Fiscal</u>

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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
2015-2020 EDITION
STEILACOOM HISTORICAL SCHOOL DISTRICT
RISK ASSESSMENT SECTION**

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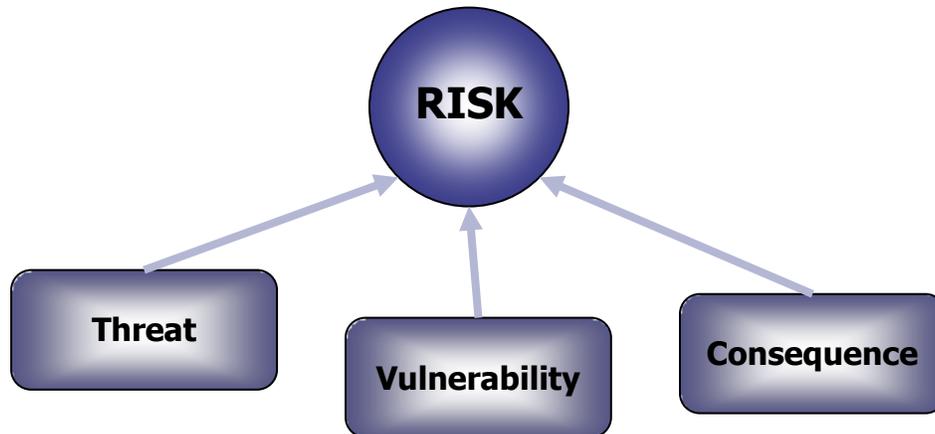
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Section Overview

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 and meteorological 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 and Table 4-1b.

The **Vulnerability Analysis** is displayed in five 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, and wildland/urban interface fire.

Specific information and analysis of a jurisdiction's owned (public) infrastructure is addressed in the Infrastructure Section of its Plan.

Table 4-1a WA Region 5 Hazard Identification Summary – Geological

THREAT	DECLARATION # DATE/PLACE	PROBABILITY/ RECURRENCE	MAPS, FIGURES AND TABLES
<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	Magnitude 4.3 Magnitude 5.0—Intraplate Earthquake Magnitude 6.8—Intraplate Earthquake Magnitude 5.8—Intraplate Earthquake Magnitude 6.5—Intraplate Earthquake Magnitude 7.0—Intraplate Earthquake Magnitude 6.3 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-1159-WA--12/96-2/1997 DR-852-WA--1/1990 DR-545-WA--12/1977	Slides with minor impact (damage to 5 or less developed properties or \$1,000,000 or less damage) 10 years or less. Slides with significant impact (damage to 6 or more developed properties or \$1,000,000 or greater damage) 100 years or less.	Northeast Tacoma Landslide January 2007 Pierce County Landslide and Soil Erosion Hazard Pierce County Shoreline Slope Stability 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--1894 Puyallup River Delta N/A--1943 Puyallup River Delta (did not induce tsunami) N/A--1949 Tacoma Narrows	Due to the limited historic record, until further research can provide a better estimate a recurrence rate of 100 years plus or minus will be used.	Hawaii 1957 – Residents Explore Ocean Floor Before Tsunami Hawaii 1949 – Wave Overtakes a Seawall Puget Sound Fault Zones, Vertical Deformation and Peak Ground Acceleration Seattle and Tacoma Faults Tsunami Inundation and Current Based on Earthquake Scenario Puget Sound Landslide Areas and Corresponding Tsunamis Puget Sound River Deltas, Tsunami Evidence and Peak Ground Acceleration Salmon Beach, Pierce County 1949 – Tsunamigenic Subaerial Landslide Puyallup River Delta – Submarine Landslides Puyallup River Delta – Submarine Landslides and Scarp 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 Debris Flow at Tahoma Creek – July 1988 Douglas Fir Stump – Electron Lahar Deposit in Orting Landslide from Little Tahoma Peak Covering Emmons Glacier 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 Ashfall Probability from Mt. Rainier Annual Probability of 10 C meters or more of Tephra Accumulation in the Pacific NW Cascade Eruptions Mt. Rainier Identified Tephra, last 10,000 years Pierce County River Valley Debris Flow History

Geological

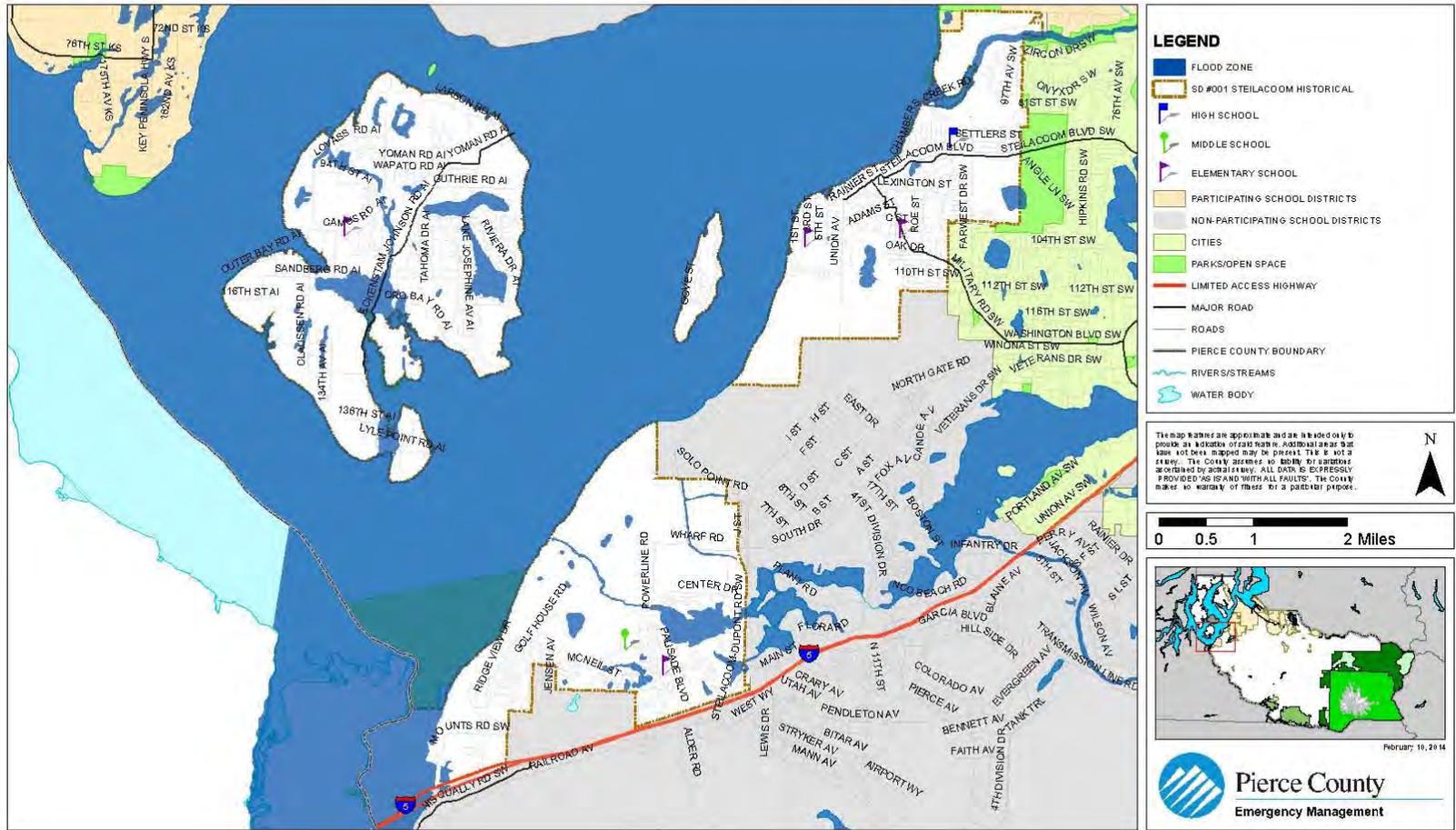
Table 4-1b WA Region 5 Hazard Identification Summary – Meteorological and Technological

HAZARD		FEMA DECLARATION # DATE/PLACE		PROBABILITY/ RECURRENCE	MAPS, FIGURES AND TABLES
Meteorological	<u>CLIMATE CHANGE</u>	Not Applicable		Not Applicable	Global Temperature Change: 1850 to 2006 Recent and Projected Temperatures for the Pacific Northwest 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		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: 1895-1995 %Time in Severe to Extreme Drought: 1985-1995 Notable Droughts Affecting Pierce County Columbia River Basin USDA Climate Zones – Washington State
	<u>FLOOD</u> Since 1978 3 Repetitive Loss Areas have produced 83 Claims totaling Nearly \$1.78 Million Dollars.	DR-WA 1817--01/2009 NA-11/2008 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.	Pierce County Watersheds Pierce County Flood Hazard Pierce County Repetitive Loss Areas Clear Creek Basin Repetitive Flood Loss Aerial Photo Flood Hazard Declared Disasters Feb 8, 1996 Flooding – Del Rio Mobile Homes Along Puyallup River Nov 2006 Flooding River Park Estates – Along Puyallup River Nov 2006 Flooding State Route 410 – Along Puyallup River Nov 2006 Flooding Rainier Manor – 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 DR-137-WA--10/1962	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 – 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 Public Works Responds 2005 Snowstorm Downed Power Pole February 2006 Windstorm County Road December 2006 Windstorm Tacoma Narrows Bridge – November 1940 Windstorm
	<u>WUI FIRE</u>	Not Applicable		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

Technological	HAZARD	FEMA DECLARATION # DATE/PLACE	PROBABILITY/ RECURRENCE	MAPS, FIGURES AND TABLES
	<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 in 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 2009 HIRA
	<u>CIVIL DISTURBANCE</u>	Not Applicable	Looking at the historical record, major civil unrest is a rare occurrence. Movement of military supplies from Port of Tacoma to Joint Base Lewis McChord	Pierce County Civil Disturbance Map Pierce County 2009 HIRA Hilltop Riots Tacoma 1969, 1991
	<u>DAM FAILURE</u>	Not Applicable	No occurrences in Pierce County 50+ years recurrence	Table D-1 PC Dams that Pose a High or Significant Risk, Pierce County 2009 HIRA Table D-2 Dam Failures in WA State
	<u>ENERGY EMERGENCY</u>	Not Applicable	<ul style="list-style-type: none"> January 2009 Loss of electricity to Anderson Island (underground [water] cable) Power Outage is the most frequent energy incident, via natural hazards (storms, ice) Recurrence Rate – 5 years (storms) Recurrence Rate – 50+ years (major)	Pierce County 2009 HIRA Tacoma Power Outage 1929, USS Lexington provide power Anderson Island January 2009 Underwater power cable broke
	<u>EPIDEMIC</u>	Not Applicable	Pandemics <ul style="list-style-type: none"> 2009-2010 "Swine Flu Recurrence Rate – 20 years 	Pierce County 2009 HIRA Tacoma Pierce County Health District Pan Flu Plan Measles, State of WA, 1990 E Coli, January 1993, September 1998
	<u>HAZARDOUS MATERIALS</u>	Not Applicable	<ul style="list-style-type: none"> Dalco Passage oil spill of October 13, 2004 Chlorine Spill Port of Tacoma February 12, 2007 Large Incidents 5 year recurrence Small Incidents 1 week recurrence	Pierce County 2009 HIRA Table HM-1 Reported Releases (in lbs.) of all chemicals, for Pierce Co. in 2008, all industries Chlorine Spill in the Port of Tacoma (February 12, 2007) Dalco Passage oil spill (October 13, 2004) Illegal methamphetamine sites (A high of 258 sites in 2001-56 sites in 2009)
	<u>PIPELINE FAILURE</u>	Not Applicable	<ul style="list-style-type: none"> Northwest Pipeline Corporation natural gas incident May 1st 2003, in Sumner 10 years recurrence 	Map P-1 Pierce County Pipelines Pierce County 2009 HIRA
	<u>TERRORISM</u>	Not Applicable	Minor PC Incident – Recurrence 1-year Major Incident – Recurrence 100 years	Pierce County 2009 HIRA Tacoma's Model Cities and Human Rights Offices burned 1972 African American church burned 1993 White Supremacy Group Hate Crimes, 1998 Westgate Family Medicine Clinic bombed, 2011
	<u>TRANSPORTATION ACCIDENT</u>	Not Applicable	Minor Incidents occur daily Major Incidents rare Recurrence Rate – 10 years	Pierce County 2009 HIRA Rail: Freight Derailment, Steilacoom 1996 Freight Train Derailment, Chambers Bay, 2011

Map 4-1 Steilacoom Historical School District Flood Hazard Map

SD #001 STEILACOOM HISTORICAL - FLOOD HAZARD AREA



Map 4-2 Steilacoom Historical School District Lahar Hazard Map

SD #001 STEILACOOM HISTORICAL - LAHAR HAZARD AREA



Map 4-3 Steilacoom Historical School District Landslide Hazard Map

SD #001 STEILACOOM HISTORICAL - LANDSLIDE HAZARD AREA



Map 4-4 Steilacoom Historical School District Seismic Hazard Map

SD #001 STEILACOOM HISTORICAL - SEISMIC HAZARD AREA



Map 4-5 Steilacoom Historical School District Dam Failure Hazard Area Map

SD #001 STEILACOOM HISTORICAL - DAM FAILURE HAZARD AREA



Table 4-2 Vulnerability Analysis: General Exposure¹

THREAT ²		AREA (SQ MI)		PARCELS	
		Total	% Base	Total	% Base
BASE		26.93	100%	12,584	100%
<i>Geological</i>	Avalanche ³	NA	NA	NA	NA
	Earthquake ⁴	.55	2.04%	248	1.97%
	Landslide	2.48	9.2%	1,427	11.34%
	Tsunami	NA	NA	NA	NA
	Volcanic ⁵	.87	3.2%	23	.18%
<i>Meteorological</i>	Drought ⁶	26.93	100%	12,584	100%
	Flood	8.46	32.4%	740	5.88%
	Severe Weather	26.93	100%	12,584	100%
	WUI Fire ⁷	NA	NA	NA	NA
<i>Technological</i>	Abandoned Mines ⁸	NA	NA	NA	NA
	Civil Disturbance ⁹	26.93	100%	12,584	100%
	Dam Failure ¹⁰	.87	3.2%	24	.19%
	Energy Emergency ¹¹	26.93	100%	12,584	100%
	Epidemic ¹²	26.93	100%	12,584	100%
	Hazardous Material ¹³	6.02	22.3%	5,739	45.61%
	Pipeline Hazard ¹⁴	NA	NA	NA	NA
	Terrorism ¹⁵	26.93	100%	12,584	100%
	Transportation Accidents ¹⁶	6.02	22.3%	5,739	45.61%

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		20,885	100%	775	2,632	13%	5,360	.26%
<i>Geological</i>	Avalanche	NA	NA	NA	NA	NA	NA	NA
	Earthquake	43	.21%	23.60	753	28.61%	849	15.84%
	Landslide	8,010	38.35%	1,278.09	1,219	46.31%	2,014	37.57%
	Tsunami	NA	NA	NA	NA	NA	NA	NA
	Volcanic	48	.23%	55.42	5	.19%	13	.24%
<i>Meteorological</i>	Drought	20,885	100%	775	2,632	13%	5,360	26%
	Flood	7,140	34.2%	844	739	28.1%	1,623	30%
	Severe Weather	20,885	100%	775	2,632	13%	5,360	26%
	WUI Fire	NA	NA	NA	NA	NA	NA	NA
<i>Technological</i>	Abandoned Mines	NA	NA	NA	NA	NA	NA	NA
	Civil Disturbance	20,885	100%	775	2,632	13%	5,360	26%
	Dam Failure	16,587	38%	1,465.49	2,018	51%	4,757	37%
	Energy Emergency	20,885	100%	775	2,632	13%	5,360	26%
	Epidemic	20,885	100%	775	2,632	13%	5,360	26%
	Hazardous Material	12,337	59%	2,049.59	1,802	68.47%	3,045	56.81%
	Pipeline Hazard	NA	NA	NA	NA	NA	NA	NA
	Terrorism	20,885	100%	775	2,632	13%	5,360	26%
	Transportation Accidents	12,337	59%	2,049.59	1,802	68.47%	3,045	56.81%

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		\$925,531,800	100%	\$73,548	\$1,648,638,000	100%	\$131,021	\$2,574,169,800	100%	\$204,569
<i>Geological</i>	Avalanche	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Earthquake	\$66,111,800	7.14%	\$266,580	\$44,560,900	2.70%	\$179,681	\$110,672,700	4.30%	\$446,261
	Landslide	\$205,073,900	22.16%	\$143,710	\$263,105,500	15.96%	\$184,377	\$468,179,400	18.19%	\$328,086
	Tsunami	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Volcanic	\$1,755,700	.19%	\$76,335	\$812,300	.05%	\$35,317	\$2,568,000	.10%	\$111,652
<i>Meteorological</i>	Drought	\$925,531,800	100%	\$73,548	\$1,648,638,000	100%	\$131,021	\$2,574,169,800	100%	\$204,569
	Flood	\$141,596,100	15.30%	\$191,346	\$67,215,600	4.08%	\$90,832	\$208,811,700	8.1%	\$282,178
	Severe Weather	\$925,531,800	100%	\$73,548	\$1,648,638,000	100%	\$131,021	\$2,574,169,800	100%	\$204,569
	WUI Fire	NA	NA	NA	NA	NA	NA	NA	NA	NA
<i>Technological</i>	Abandoned Mines	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Civil Disturbance	\$925,531,800	100%	\$73,548	\$1,648,638,000	100%	\$131,021	\$2,574,169,800	100%	\$204,569
	Dam Failure	\$1,863,100	.20%	\$77,629	\$1,273,421,500	41.30%	\$249,007	\$2,186,302,200	43.57%	\$427,513
	Energy Emergency	\$925,531,800	100%	\$73,548	\$1,648,638,000	100%	\$131,021	\$2,574,169,800	100%	\$204,569
	Epidemic	\$925,531,800	100%	\$73,548	\$1,648,638,000	100%	\$131,021	\$2,574,169,800	100%	\$204,569

	Hazardous Material	\$430,845,400	46.55%	\$75,073	\$716,431,600	43.46%	\$124,836	\$1,147,277,000	44.57%	\$199,909
	Pipeline Hazard	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Terrorism	\$925,531,800	100%	\$73,548	\$1,648,638,000	100%	\$131,021	\$2,574,169,800	100%	\$204,569
	Transportation Accidents	\$430,845,400	46.55%	\$75,073	\$716,431,600	43.46%	\$124,836	\$1,147,277,000	44.57%	\$199,909

Table 4-5a Consequence Analysis Chart – Geological^{17,18}

THREAT		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	
	Earthquake	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	
	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	No
	Impact to Reputation or Confidence in Jurisdiction	No	
	Tsunami	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		
Volcanic¹⁹	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	No
		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	No
		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
	Severe Weather	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	No
		Impact to the Jurisdiction Economic Condition	No
		Impact to Reputation or Confidence in Jurisdiction	No
	WUI Fire	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 4-5c Consequence Analysis Chart – Technological²⁰

THREAT		CONSEQUENCE	YES OR NO
<i>Technological</i>	Abandoned Mines	Impact to the Public	
		Impact to the Responders	
		Impact to COG and/or COOP in the Jurisdiction	
		Impact to Property, Facilities and Infrastructure	
		Impact to the Environment	
		Impact to the Jurisdiction Economic Condition	
		Impact to Reputation or Confidence in Jurisdiction	
	Civil Disturbance	Impact to the Public	
		Impact to the Responders	
		Impact to COG and/or COOP in the Jurisdiction	
		Impact to Property, Facilities and Infrastructure	
		Impact to the Environment	
		Impact to the Jurisdiction Economic Condition	
		Impact to Reputation or Confidence in Jurisdiction	
	Dam Failure	Impact to the Public	
		Impact to the Responders	
		Impact to COG and/or COOP in the Jurisdiction	
		Impact to Property, Facilities and Infrastructure	
		Impact to the Environment	

	Energy Emergency	Impact to Reputation or Confidence in Jurisdiction	
		Impact to the Public	
		Impact to the Responders	
		Impact to COG and/or COOP in the Jurisdiction	
		Impact to Property, Facilities and Infrastructure	
		Impact to the Environment	
		Impact to the Jurisdiction Economic Condition	
	Impact to Reputation or Confidence in Jurisdiction		
	Epidemic	Impact to the Public	
		Impact to the Responders	
		Impact to COG and/or COOP in the Jurisdiction	
		Impact to Property, Facilities and Infrastructure	
		Impact to the Environment	
		Impact to the Jurisdiction Economic Condition	
		Impact to Reputation or Confidence in Jurisdiction	
	Hazardous Materials	Impact to the Public	
		Impact to the Responders	
		Impact to COG and/or COOP in the Jurisdiction	
		Impact to Property, Facilities and Infrastructure	
		Impact to the Environment	
		Impact to the Jurisdiction Economic Condition	
		Impact to Reputation or Confidence in Jurisdiction	
	Pipeline Hazards	Impact to the Public	
		Impact to the Responders	
		Impact to COG and/or COOP in the Jurisdiction	
		Impact to Property, Facilities and Infrastructure	
		Impact to the Environment	
		Impact to the Jurisdiction Economic Condition	
Impact to Reputation or Confidence in Jurisdiction			
Terrorism	Impact to the Public		
	Impact to the Responders		
	Impact to COG and/or COOP in the Jurisdiction		
	Impact to Property, Facilities and Infrastructure		
	Impact to the Environment		
	Impact to the Jurisdiction Economic Condition		
	Impact to Reputation or Confidence in Jurisdiction		
Transportation Accident	Impact to the Public		
	Impact to the Responders		
	Impact to COG and/or COOP in the Jurisdiction		
	Impact to Property, Facilities and Infrastructure		
	Impact to the Environment		
	Impact to the Jurisdiction Economic Condition		
	Impact to Reputation or Confidence in Jurisdiction		

Summary Vulnerability and Impact

The Region 5 School District partners are vulnerable to a variety of hazards in which they serve within Pierce County; however they can only mitigate within their specific individual school boundaries. Acquiring situational awareness of the hazards is a critical component to their safety response efforts with potential school closures. The Steilacoom School District is in the North West portion of Pierce County along the Puget Sound. The District is highly susceptible to seven of the eighteen hazards we considered in this plan. The risks are drought, severe weather, civil disturbance, energy emergency, epidemic and terrorism. Because Anderson Island only consists of an elementary school the older children must use the ferry to attend middle and high school.

Due to the severe weather events, the Steilacoom School District experiences extended power outages. Additionally, the technological impacts of such events present challenges to the operations of the School Districts of Pierce County. The technological threats, though not required as part of a formal mitigation process, are none-the-less important to School Districts to provide a safe environment for children.

Endnotes

¹ Info obtained from Pierce County GIS application, CountyView Pro (7/14).

² 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 2008). 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. A number of 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.

³ Jurisdiction is not vulnerable to this hazard, therefore it is marked NA or non-applicable.

⁴ It should be noted here that although all residents, all property and all infrastructure of the Steilacoom School District are vulnerable to earthquake shaking, not all are subject to the affects of liquefaction and liquefiable soils which is what is represented here.

⁵ 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.

⁶ 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.

⁷ According to the most recent information from the Department of Natural Resources, the Steilacoom School District 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.

⁸ The definition of Abandoned Mines comes from the 2010 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.

⁹ The definition of Civil Disturbance comes from the 2010 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.

¹⁰ The definition of Dam Failure comes from the 2010 Pierce County HIRA: A dam is any “barrier built across a watercourse for impounding water.”¹⁰ 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.

¹¹ The definition of an Energy Emergency comes from the 2010 Pierce County HIRA: Energy emergency refers to an out-of-the-ordinary disruption, or shortage, of an energy resource for a lengthy period of time. 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.

¹² The definition of epidemic comes from the TPCHD Flu Plan of 2005: 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. (DOH Plan & U.S. Dept. of HHS).

¹³ The definition of Hazardous Materials comes from the 2010 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 2008, 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.

¹⁴ The definition of Pipeline Emergency comes from the 2010 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

¹⁵ The definition of Terrorism comes from the 2010 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, from cross burnings and the spray painting of hate messages to the destruction of civilian targets. In some cases, violence in the schools has also been labeled as a form of terrorism.

¹⁶ The definition of Transportation Accident comes from the 2010 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.

¹⁷ 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.

¹⁸ 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 that consequence will have a major impact, not that there will be no impact at all.

¹⁹ 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 take into account the possibility of tephra deposition in addition to a lahar.

²⁰ 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.

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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 2015-2020 EDITION STEILACOOM HISTORICAL SCHOOL DISTRICT MITIGATION STRATEGY SECTION

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Table 5-1 Steilacoom Schools 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>)	School District Emergency Mgmt	Ongoing	✓	✓	✓	✓	✓	✓
	2. Plan Maintenance (<i>E,L,T,V,D,F,WUI,SW,MM</i>)	School District Emergency Mgmt	Ongoing	✓	✓	✓	✓	✓	✓
<u>HMF</u>	1. Pierce County Hazard Mitigation Forum (<i>E,L,T,V,D,F,WUI,SW,MM</i>)	PC DEM; School District Emergency Mgmt	Ongoing	✓	✓	✓	✓	✓	✓
<u>School District</u>	1. Capability Identification and Evaluation (<i>E,L,T,V,D,F,WUI,SW,MM</i>)	School District Emergency Mgmt	1-2	N/A					
	2. Staff Preparedness Program for Response to a Disaster Using NIMS (<i>E,L,V,F,WUI,SW</i>)	School District Emergency Mgmt	1-2	✓	✓	✓		✓	
	3. Student Preparedness Program (<i>E,L,T,V,D,F,WUI,SW</i>)	School District	1-2	✓		✓		✓	
	4. Student Emergency Situation Drills (<i>E,T,V,WUI,SW,MM</i>)	School District Emergency Mgmt, Public Safety and PCDEM	Ongoing	✓	✓	✓		✓	
	5. Non-Structural Retrofit for Earthquake in all Buildings (<i>E,SW</i>)	School District Emergency Mgmt	Ongoing	✓	✓				
	6. Improve School District and Interoperability with Other Governmental Agencies (<i>E,L,T,V,D,F,WUI,SW,MM</i>)	School District Emergency Mgmt	5	✓	✓				
	7. Develop a COOP Plan (<i>E,L,T,V,D,F,WUI,SW,MM</i>)	School District Emergency Mgmt	1-2	✓	✓	✓			
	8. Small Shed and Emergency Supplies for School Populations Per Building (<i>E,L,T,V,WUI,SW</i>)	School District Emergency Mgmt	5	✓	✓			✓	
	9. Purchase Generators for New Middle School, High School and District Office (<i>E,L,V,F,WUI,SW</i>)	School District Emergency Mgmt	5	✓	✓	✓		✓	✓
	10. Student Evaluation (<i>E,T,V,F,SW,MM</i>)	Local Law Enforcement or Fire District's Incident Command	Ongoing	✓		✓			
	11. Classroom Emergency Flipchart for District (<i>E,T,V,F,SW,MM</i>)	School District Emergency Mgmt	Ongoing	✓		✓			
<u>Public Education</u>	1. Administration Emergency Training (<i>E,L,T,V,D,F,WUI,SW,MM</i>)	School District Emergency Mgmt	1-2	✓	✓	✓			
	2. Provide ACT-20 Class to Principals and Maintenance Staff (<i>E,SW</i>)	School District Emergency Mgmt	Ongoing	✓	✓	✓			

Startup Mitigation Measures

Existing Mitigation Actions

Hazards: E, L, T, V, D, F, WUI, V, SW¹, MM²

Steilacoom School District will integrate the hazard mitigation plan into existing plans, ordinances, and programs to dictate land uses within the jurisdiction. Further, Steilacoom Schools will continue to implement existing programs, policies, and regulations as identified in the Capability Identification Section of this Plan. This includes continuing those programs that are identified as technical and fiscal 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)** = School District Emergency Management
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.

Plan Maintenance

Hazards: E, L, T, V, D, F, WUI, SW¹, MM²

Steilacoom Schools 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)** = School District Emergency Management
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.

Hazard Mitigation Forum

Pierce County Hazard Mitigation Forum

Hazards: E, L, T, V, D, F, WUI, SW¹, MM²

Steilacoom Schools 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; School District Emergency Management
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.

School District Mitigation Measures

Capability Identification and Evaluation

Hazards: E, L, T, V, D, F, WUI, SW¹, MM²

Steilacoom Schools will develop a consistent and replicable system for evaluating 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 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)** = School District Emergency Management
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.

Staff Preparedness Program for Response to a Disaster Using NIMS

Hazards: E, L, V, F, WUI, SW¹

Provide appropriate training for staff on preparedness and to facilitate student support during times of emergency or disaster.

1. **Goal(s) Addressed** = Protect Life and Property; Increase Public Preparedness for Disasters; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = Will Use in Service Days
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s)** = School District Emergency Management
5. **Timeline** = Short-Term
6. **Benefit** = Staff, Students, First Responders, Community
7. **Life of Measure** = 5 years
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Student Preparedness Program

Hazards: E, L, T, V, D, F, WUI, SW¹

Provide appropriate training for students on preparedness and to encourage developing appropriate minimum survival information.

1. **Goal(s) Addressed** = Protect Life and Property; Increase Public Preparedness for Disasters; 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 and state or federal grants.
4. **Lead Jurisdiction(s)** = School District
5. **Timeline** = Short-term
6. **Benefit** = Students, Staff and Community
7. **Life of Measure** = 5 years and ongoing
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Student Emergency Situation Drills

Hazards: E, T, V, SW, WUI¹, MM²

Develop a more comprehensive drill program for the various contingencies.

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 budgets or grants and state or Military grants.
4. **Lead Jurisdiction(s)** = School District Emergency Management, local public safety and PC DEM.
5. **Timeline** = Ongoing
6. **Benefit** = District and Community
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Non-Structural Retrofit for Earthquake in all Buildings

Hazards: E, SW¹

To do a Non-Structural Retrofit of all district buildings to prevent damage and injury in the event of an earthquake.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations.
2. **Cost of Measure** = \$32,000-\$50,000 total for 8 facilities housing offices and classrooms
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants and state or federal grants.
4. **Lead Jurisdiction(s)** = School District Emergency Management
5. **Timeline** = Ongoing
6. **Benefit** = District Students, Staff, Structures and Emergency Services
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Improve School District and Interoperability with Other Governmental Agencies

Hazards: E, L, T, V, D, F, WUI, SW¹, MM²

Move to common radio frequencies that include a TAC only channel in which school buildings can communicate with each other across distances.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations.
2. **Cost of Measure** = \$15,000 to purchase about 30 at \$500 each
3. **Funding Source and Situation** = Funding could be obtained through some local match and state federal or grants.
4. **Lead Jurisdiction(s)** = School District Emergency Management
5. **Timeline** = Long-term
6. **Benefit** = District Students and Administration, First Responders and Emergency Services
7. **Life of Measure** = 5 years
8. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Develop a COOP Plan

Hazards: E, L, T, V, D, F, SW, WUI¹ MM²

The measure is to develop a Continuity of Operations Plan for the Steilacoom School District.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = three weeks salary for author and content experts
3. **Funding Source and Situation** = Funding could be obtained through local budget and possible state grants.
4. **Lead Jurisdiction(s)** = School District Emergency Management
5. **Timeline** = Short-term
6. **Benefit** = School District Students and Staff
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Small Shed and Emergency Supplies for School Populations per Building (8)

Hazards: E, L, T, V, WUI, SW¹

10 X 10 shed to store immediate necessary supplies in the event of an earthquake.

1. **Goal(s) Addressed** = Protect life and property; Ensure continuity of operations, Increase Public Preparedness for Disasters.
2. **Cost of Measure** = \$24,000 for sheds and up to \$5,000 each for supplies
3. **Funding Source and Situation** = Funding could be obtained through local budget for match and state or federal grants.
4. **Lead Jurisdiction(s)** = School District Emergency Management
5. **Timeline** = Long-term
6. **Benefit** = Students, Administration and first responders
7. **Life of Measure** = Buildings 20 years, supplies 5 years
8. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Purchase Generators for New Middle School, High School and District Office

Hazards: E, L, V, F, WUI, SW¹

To support school cafeteria facilities in event of power outages to keep perishables safe and allow district EOC to operate.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Promote a Sustainable Economy; Increase Public Preparedness for Disasters.
2. **Cost of Measure** = \$48,000 for eight generators
3. **Funding Source and Situation** = Funding could be obtained through local budget and state or federal grants.
4. **Lead Jurisdiction(s)** = School District Emergency Management
5. **Timeline** = Long-term
6. **Benefit** = School students, staff, community and first responders
7. **Life of Measure** = 25 years
8. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Student Evaluation

Hazards: E, T, V, F, SW¹, MM²

Planning for evacuation of all or some of the students in the district's eight schools in case of natural or man-made disasters.

1. **Goal(s) Addressed** = Protect Life and Property; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget and state or federal grants.
4. **Lead Jurisdiction(s)** = Local Law Enforcement or Fire District's Incident Commander
5. **Timeline** = Ongoing
6. **Benefit** = 2,200 students and 250+ staff members
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Classroom Emergency Flipchart for District

Hazards: E, T, V, F, SW¹, MM²

Emergency Management flipchart for classrooms

1. **Goal(s) Addressed** = Protect Life and Property; 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)** = School District Emergency Management
5. **Timeline** = Ongoing
6. **Benefit** = 2,200 students and 250+ staff members
7. **Life of Measure** = Perpetual – regularly updated
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Public Education Mitigation Measures

Administration Emergency Training

Hazards: E, L, T, V, D, F, WUI, SW¹

Provide ICS-100 and ICS-700 for all principals within one year and all line administrators within the second year.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = \$1,800 first year for principals and \$1,200 second year mostly for staff hourly to attend classes
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s)** = School District Emergency Management
5. **Timeline** = Short-term
6. **Benefit** = 2,200 students and staff, local jurisdictions in which they reside
7. **Life of Measure** = 5 years
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Provide ACT-20 Class to Principals and Maintenance Staff

Hazards: E, SW¹

Provide a training class for all principals and maintenance staff to access structural damages for safety after an earthquake or high-wind event.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = \$600
3. **Funding Source and Situation** = Funding could be obtained through local budgets or grants and state or federal grants.
4. **Lead Jurisdiction(s)** = School District Emergency Management
5. **Timeline** = Ongoing
6. **Benefit** = Staff, Students, first responders and community
7. **Life of Measure** = 2-5 years
8. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Mitigation Measure Monitoring

In comparison to the last update, the Steilacoom School District has no new projects and is continuing all of the mitigation strategies as seen in the table below.

Mitigation Strategy	New	Continuing	Accomplished	Removed from update (if applicable)
Existing Mitigation Actions <i>(All)</i>		X		
Plan Maintenance <i>(All)</i>		X		
Pierce County Hazard Mitigation Forum <i>(E,L,V,D,F,WUI,SW,MM)</i>		X		
Capability Identification and Evaluation <i>(E,L,T,V,D,F,WUI,SW,MM)</i>		X		
Staff Preparedness Program for Response to a Disaster Using NIMS <i>(E,L,V,F,WUI,SW)</i>		X		
Student Preparedness Program <i>(E,L,T,V,D,F,WUI,SW)</i>		X		
Student Emergency Situation Drills <i>(E,T,V,WUI,SW,MM)</i>		X		
Non-Structural Retrofit for Earthquake in all Buildings <i>(E,SW)</i>		X		
Improve School District and Interoperability with Other Governmental Agencies <i>(E,L,T,V,D,F,WUI,SW,MM)</i>		X		
Develop a COOP Plan <i>(E,L,T,V,D,F,WUI,SW,MM)</i>		X		
Small Shed and Emergency Supplies for School Populations Per Building <i>(E,L,T,V,WUI,SW)</i>		X		
Purchase Generators for New Middle School, High School and District Office <i>(E,L,V,F,WUI,SW)</i>		X		

Student Evaluation (<i>E,T,V,F,SW,MM</i>)		X		
Classroom Emergency Flipchart for District (<i>E,T,V,F,SW,MM</i>)		X		
Administration Emergency Training (<i>E,L,T,V,D,F,WUI,SW,MM</i>)		X		
Provide ACT-20 Class to Principals and Maintenance Staff (<i>E,SW</i>)		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.

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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 2015-2020 EDITION STEILACOOM HISTORICAL SCHOOL DISTRICT INFRASTRUCTURE SECTION

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The **Infrastructure** for the **Steilacoom Historical School District** is displayed in following tables and graphics:

- **Table 6-1 Infrastructure Summary**
- **Table 6-2 Infrastructure Category Summary**
- **Table 6-3 Infrastructure Vulnerability – Dependency Summary**
- **Table 6-4 Infrastructure Vulnerability – Hazard Summary**
- **Table 6-5 Infrastructure Dependency Matrix**
- **Table 6-6 Infrastructure Table**

The tables and graphics show the overview of infrastructure owned by the Steilacoom Historical School District. The infrastructure is categorized according to the infrastructure sectors as designated by the Department of Homeland Security. These tables are intended as a summary only. For further details on Department of Homeland Security infrastructure sectors, please see the Process Section 1.

Table 6-1 Infrastructure Summary

INFRASTRUCTURE SUMMARY¹	
TOTAL INFRASTRUCTURE (#)	11
TOTAL VALUE (\$)	\$61,069,102

Table 6-2 Infrastructure Category Summary

INFRASTRUCTURE CATEGORY SUMMARY²	
EMERGENCY SERVICES	0
TELECOMMUNICATIONS	0
TRANSPORTATION	0
WATER	0
ENERGY	0
GOVERNMENT	0
COMMERCIAL	11

Table 6-3 Infrastructure Vulnerability – Dependency Summary

DEPENDENCE	# DEPENDENT ON SERVICE	%
RELIANCE ON EMERGENCY SERVICES	10 of 11	90.9%
RELIANCE ON POWER	10 of 11	90.9%
RELIANCE ON SEWER	10 of 11	90.9%
RELIANCE ON TELECOMMUNICATION	10 of 11	90.9%
RELIANCE ON TRANSPORTATION	10 of 11	90.9%
RELIANCE ON WATER	10 of 11	90.9%

Table 6-4 Infrastructure Vulnerability – Hazard Summary

HAZARD	# IN HAZARD ZONE	%
DROUGHT	0 of 11	0%
EARTHQUAKE	11 of 11	100%
FLOOD	1 of 11	9.1%
LANDSLIDE	0 of 11	0%
VOLCANIC	11 of 11	100%
WEATHER	11 of 11	100%

WILDLAND/URBAN FIRE	1 of 11	9.1%
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Table 6-5 Infrastructure Dependency Matrix

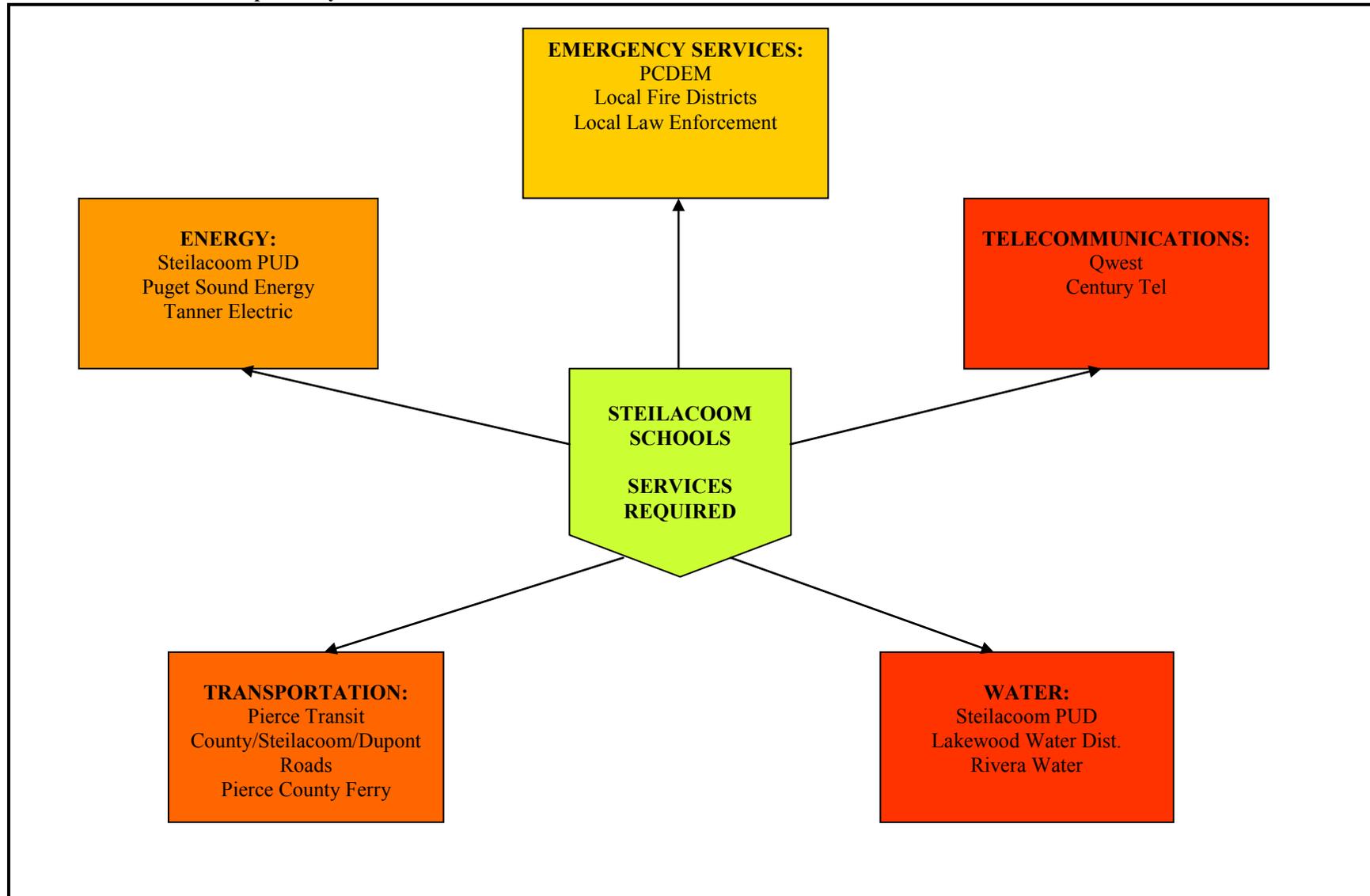


Table 6-6 Infrastructure Table

INFRASTRUCTURE ³	BUILT ⁴	FLOORS	UPGRADES ⁵	VALUE	OCCUPANCY	HAZARD							RELIANCE							
						AVAILANCHE	DROUGHT	EARTHQUAKE	WUI FIRE	FLOOD	LANDSLIDE	TSUNAMI	VOLCANIC	WEATHER	EMERGENCY	POWER	SEWER	TELECOMM	TRANSPORT	WATER
Anderson Island Elementary	1986	1	2006	\$909,657	33	0	0	1	1	0	0	0	1	1	3	1	3	1	3	3
Cherrydale Elementary (14)	1962	1	1999	\$5,062,95	340	0	0	1	0	0	0	0	1	1	3	1	3	1	3	3
Chloe Clark Elementary School (Dupont)	2001	1	2006	\$6,112,880	670	0	0	1	0	0	0	0	1	1	3	1	3	1	3	3
Old Pioneer Middle School (14,S) Now used for offices and warehouse	1952	2	1998	\$5,577,954	13	0	0	1	0	0	0	0	1	1	1	1	1	2	3	3
Pioneer Middle School (C,AP,14,S)	2008	3	None	\$23,000.0	769	0	0	1	0	3	0	0	1	2	3	1	3	1	3	3
Saltars Point Elementary (C,14,S)	1972	1	1999	\$6,764,25	509	0	0	1	0	0	0	0	1	1	3	1	3	1	3	3
Steilacoom High School (C,14,S)	1980	2	1998, 2009	\$12,434,8	866	0	0	1	0	0	0	0	1	1	3	1	3	1	3	3
District Warehouse (C,14)	?	1	None	\$100,800	0	0	0	1	0	0	0	0	1	1	1	1	3	1	0	3
Maintenance Office Portable (C,14)	2005	1	None	\$88,910	2	0	0	1	0	0	0	0	1	1	3	1	3	3	3	3
Bus Garage (C,14)	1963	1	None	\$769,175	27 (25 drivers)	0	0	1	0	0	0	0	1	1	1	1	3	2	3	3
Administration Building (C,14)	1987	1	None	\$286,609	8	0	0	1	0	0	0	0	1	1	1	1	1	2	3	3

Table 6-7 Infrastructure Table Key – Hazard Ratings

HAZARD CATEGORY	RATING	SELECTION FACTOR OR DESCRIPTION
Avalanche	0	The infrastructure is not located in a known avalanche prone area.
	1	The infrastructure is in an avalanche prone area but has no prior history of avalanche damage.
	2	The infrastructure is in an avalanche prone area and has experienced some limited avalanche damage in the past.
	3	The infrastructure is in an avalanche prone area and has experienced significant avalanche damage.
Drought	0	The infrastructure would not suffer any damage or operational disruption from a drought.
	1	The infrastructure could suffer some damage or minor operational disruption from a drought.
	2	The infrastructure has suffered damages or significant operational disruption from past droughts.
	3	The infrastructure has suffered damages or significant disruption from past droughts which has had serious community economic or health consequences.
Flood	0	The infrastructure is not located in a known flood plain or flood prone area.
	1	The infrastructure is in a flood plain or flood prone area but has no prior history of flood damage.
	2	The infrastructure is in a flood plain or flood prone area and has experienced some flood damage in the past.
	3	The infrastructure is in a flood plain or flood prone area and has experienced significant flood damage, or the property is an NFIP repetitive loss property.
Earthquake	0	The infrastructure is not located in an area considered to have any significant risk of earthquake
	1	The infrastructure is in an area considered as at risk to earthquakes but has no prior history of earthquake damage.
	2	The infrastructure is in an area considered as at risk to earthquakes, is located on soft soils, and has no history of damage OR In an area considered as at risk to earthquakes and has experienced some limited earthquake damage.
	3	The infrastructure is in an area considered as at risk to earthquakes, is located on soft soils and experienced significant earthquake damage.
Landslide	0	The infrastructure is not located in a known area considered vulnerable to landslides.
	1	The infrastructure is in area vulnerable to landslides but has no prior history of landslides.
	2	The infrastructure is in area vulnerable to landslides area and infrastructure has experienced some landslide damage.
	3	The infrastructure is in area vulnerable to landslides and infrastructure has experienced significant landslide damage.
Major U/I Fire	0	The infrastructure meets the current fire code, has adequate separation from other structures and good access, and is not close to heavily vegetated areas.
	1	The infrastructure meets the current code, is not close to heavily vegetated areas, but access and/or separation from nearby structures increase fire risk.
	2	The infrastructure does not meet current fire code, is in or adjacent to large vegetated areas, and has inadequate access and/or separation from other structures.

HAZARD CATEGORY	RATING	SELECTION FACTOR OR DESCRIPTION
	3	The infrastructure does not meet the current code, is in or adjacent to vegetated areas, with access limitations or structure separation making fire suppression difficult.
Severe Weather	0	The infrastructure would not suffer any damage or operational disruption from severe weather.
	1	The infrastructure could suffer some damage or minor operational disruption from severe weather.
	2	The infrastructure has suffered damages or significant operational disruption from past severe weather.
	3	The infrastructure has suffered damages or significant disruption from past severe weather which has had serious community economic or health consequences.
Tsunami/or Seiche	0	The infrastructure is not located in or near a known area considered to be a tsunami or seiche inundation area.
	1	The infrastructure is located at the edge of a designated tsunami or seiche risk zone.
	2	The infrastructure is located just inside a designated tsunami or seiche risk zone, but has no prior damage.
	3	The infrastructure is located well inside a designated tsunami or seiche risk zone, and/or has experienced prior tsunami or seiche damage.
Volcanic	0	The infrastructure is not located in or near a known area with significant risk from volcanic hazards.
	1	The infrastructure is in or near an area that could receive some ashfall, but has no structural features, equipment or operations considered vulnerable to ash.
	2	The infrastructure is in or near an area where heavy ashfall or a debris flow could occur.
	3	The infrastructure is in an area known to have experienced heavy ashfall, debris flow or blast effects from past volcanic activity.

Table 6-8 Infrastructure Table Key – Dependency Ratings

EXTERNAL DEPENDENCY CATEGORY	RATING	SELECTION FACTOR OR DESCRIPTION
Emergency Services	0	The infrastructure can maintain essential functions without emergency services.
	0	The infrastructure has ability to independently provide emergency services to all essential functions of infrastructure.
	1	The infrastructure would have to <u>curtail</u> operations somewhat without emergency services with <u>no</u> direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to <u>curtail</u> operations somewhat without emergency services with <u>some</u> direct economic/environmental/safety/health consequences. OR <u>stop</u> operations with <u>no</u> direct economic/environmental/safety/health consequences.
	3	The infrastructure would have to <u>stop</u> its operations without emergency services and <u>significant</u> economic/environmental/safety/health consequences will occur.
Power Outage	0	The infrastructure can maintain essential functions without electricity or gas supply.
	0	Infrastructure has ability to independently provide power to all essential functions of infrastructure.
	1	The infrastructure would have to <u>curtail</u> operations somewhat without gas or electrical supply, with <u>no</u> direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to <u>curtail</u> operations somewhat without gas or electrical supply, with <u>some</u> direct economic/environmental/safety/health consequences. OR <u>stop</u> operations with <u>no</u> direct economic/environmental/safety/health consequences.
	3	The infrastructure would have to <u>stop</u> its operations without gas or electrical supply and <u>significant</u> economic/environmental/safety/health consequences will occur.
Sewer Out	0	The infrastructure can maintain essential functions without sewer service
	0	The infrastructure has ability to independently provide wastewater or septic service to support essential functions.
	1	The infrastructure would have to <u>curtail</u> operations somewhat without wastewater service, with <u>no</u> direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to <u>curtail</u> operations somewhat without wastewater service, with <u>some</u> direct economic/environmental/safety/health consequences. OR <u>stop</u> operations with <u>no</u> direct economic/environmental/safety/health consequences.
	3	The infrastructure would have to <u>stop</u> its operations without wastewater service and <u>significant</u> economic/environmental/safety/health consequences will occur.
Telecomm Failure	0	The infrastructure can maintain essential functions without telecommunications.
	0	The infrastructure has ability to independently provide phone service or alternate/redundant communications systems to support essential functions.
	1	The infrastructure would have to <u>curtail</u> operations somewhat without telecommunication service, with <u>no</u> direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to <u>curtail</u> operations somewhat without telecommunication service, with <u>some</u> direct economic/environmental/safety/health consequences. OR <u>stop</u> operations with <u>no</u> direct economic/environmental/safety/health consequences.
	3	The infrastructure would have to <u>stop</u> its operations without telecommunication service and <u>significant</u> economic/environmental/safety/health consequences will occur.
Transportation	0	The infrastructure can maintain essential functions without transportation routes.
	0	Infrastructure has ability to independently provide alternate transportation, in the absence of transportation routes, to ensure all essential functions.
	1	The infrastructure would have to <u>curtail</u> operations somewhat without transportation routes with <u>no</u> direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to <u>curtail</u> operations somewhat without transportation routes with <u>some</u> direct economic/environmental/safety/health consequences. OR <u>stop</u> operations with <u>no</u> direct economic/environmental/safety/health consequences.

EXTERNAL DEPENDENCY CATEGORY	RATING	SELECTION FACTOR OR DESCRIPTION
	3	The infrastructure would have to <u>stop</u> its operations without transportation routes and <u>significant</u> economic/environmental/safety/health consequences will occur.
Water Supply	0	The infrastructure can maintain essential functions without its water supply.
	0	The infrastructure has ability to independently provide water to support essential functions.
	1	The infrastructure would have to <u>curtail</u> operations somewhat without water supply, with <u>no</u> direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to <u>curtail</u> operations somewhat without water supply, with <u>some</u> direct economic/environmental/safety/health consequences. OR <u>stop</u> operations with <u>no</u> direct economic/environmental/safety/health consequences.
	3	The infrastructure would have to <u>stop</u> its operations without its water supply and <u>significant</u> economic/environmental/safety/health consequences will occur.

Endnotes

¹ This is a total of infrastructure and the approximate value provided by the jurisdiction. If no value, then value was not provided or not available.

² These are the Homeland Security Infrastructure Categories which were used in completing the Infrastructure Tables in the plan.

³ The following table explains the codes used in this column:

Code	Explanation
C	Infrastructure critical in first 72 hours after disaster
AP	Infrastructure has auxiliary or backup power
(#)	Homeland Security Infrastructure Category Number
S	Infrastructure is a designated community shelter

⁴ The “built” column refers to the year in which the original infrastructure was constructed.

⁵ This column addresses major remodels, upgrades or additions to the infrastructure in dollar amount and/or year of changes.

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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 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
STEILACOOM HISTORICAL SCHOOL DISTRICT
PLAN MAINTENANCE SECTION**

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The planning process update began in the spring of 2012. This is the continuing resilience foundation for breaking the disaster cycle by planning for a disaster resistant Steilacoom Historical School District and Pierce County Region 5. This Section details the formal process that will ensure the Steilacoom Historical School District 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 Board of Directors. 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 Steilacoom Historical School District Plan, it will be submitted to Washington State Emergency Management Division (EMD) for a Pre-Adoption Review. The EMD has 30 days to then take action 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 Steilacoom Historical School District #1 Board of Directors is responsible for the District's adoption of the Plan after the Pre-Adoption Review is completed. Once the District adopts the Plan, the Program Coordinator of the Mitigation and Recovery Division of Emergency Management 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 take action on the Plan and forward it to the FEMA Region X for final approval. Upon approval by FEMA, the District 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 February 9, 2020.

Maintenance Strategy

The District maintenance strategy for implementation, monitoring, and evaluation provides a structure that encourages collaboration, information transference, and innovation. Through a multi-tiered implementation method, the School District will provide its staff and students a highly 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 School District will attempt to break the disaster cycle and achieve a more disaster resistant community.

Implementation

In order to ensure efficient and effective implementation, Steilacoom Historical School District will make use of its capabilities, infrastructure, and dedicated population. The School District will implement its mitigation strategy over the next five years primarily through its annual budget process and varying grant application processes.

The School Board will work in conjunction with those organizations identified under each mitigation measure to initiate the overall mitigation strategy. For example, any infrastructure-related measures will be implemented through the “Long-Range Facilities Plan” and the various departments involved through their normal budget schedule. Because the School District has no land use or regulatory authority, it must rely heavily on collaboration with neighboring jurisdictions. For example, for density-related issues the District will work with the City of DuPont, the Town of Steilacoom, Pierce County and the Hazard Mitigation Forum to implement recommendations into their Comprehensive Plans. Other measures will be implemented through collaboration with the identified jurisdictions/departments listed under each measure’s evaluation.

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 local needs and vulnerabilities while addressing both District and multi-jurisdictional policies and programs. The first tier is implementation through individual citizen level—existing Public Education Programs in the District (for example, at the individual level through the 911 presentations and evacuation drills). The second is the Steilacoom Historical School District’s Emergency Management Team, a District-wide mechanism for implementation comprised of District employees. 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 School District, 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 School District with a localized mechanism for implementation. This approach to mitigation can adapt to the varying vulnerabilities and needs within a growing region. Public Education Programs are also a means for involving the public in mitigation policy development. Currently the School District pursues a variety of mitigation-related programs that help students, staff and citizens to better prepare for and respond to disasters.

Jurisdiction-Wide: Emergency Management Team

The superintendent will delegate the maintenance and implementation actions to a new Emergency Management Team that will be the body responsible for determining the direction of the Plan's implementation. The Team will ultimately provide a mechanism for coordination among those groups engaged in mitigation to ensure that a comprehensive and efficient approach be undertaken in the District's efforts at all-hazards mitigation. The Team will be coordinated by the Director of Maintenance and the Emergency Preparedness Administrator.

The Team will be responsible for the overall review of the Plan and will designate mitigation measures to those departments responsible for their implementation. This will be done with assistance from the Director of Finance. The Team will monitor and evaluate the plan's implementation throughout the year, and will update the Plan on an annual basis during one of its regularly scheduled meetings. The School Board will address these updates annually at one of its regularly scheduled meetings, usually at least one Wednesday of each month. Recommendations will be made to coincide with the District's normal budgeting processes and provide an ample time period for review and adoption of any necessary changes to the implementation schedule.

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 unincorporated 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 compliant plan:

- City of Bonney Lake
- City of DuPont
- City of Fife
- City of Gig Harbor
- City of Buckley
- City of Edgewood
- City of Fircrest
- City of Lakewood

- City of Milton
- City of Roy
- City of Tacoma
- Town of Eatonville
- Town of Steilacoom
- Pierce County
- East Pierce Fire and Rescue
- Graham Fire and Rescue
- Orting Valley Fire and Rescue
- Pierce County Fire District 14
- Pierce County Fire District 27
- West Pierce Fire and Rescue
- 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
- Herron Island HOA
- Pierce Transit
- Raft Island HOA
- Taylor Bay Beach Club
- Firgrove Mutual Water Company
- Graham Hill Mutual Water Company
- Lakewood Water District
- Ohop Mutual Light Company
- Spanaway Water Company
- Tanner Electric
- Cascade Regional Blood Services
- Dynamic Partners
- Group Health
- MultiCare Health System
- 76 Jurisdictions in this effort
- City of Orting
- City of Sumner
- Town of Carbonado
- Town of South Prairie
- Town of Wilkeson
- Central Pierce Fire and Rescue
- Gig Harbor Fire and Medic One
- Key Peninsula Fire Department
- Pierce County Fire District 13
- Pierce County Fire District 23
- South Pierce Fire and Rescue
- Carbonado School District
- Dieringer School District
- Fife School District
- Orting School District
- Peninsula School District
- Steilacoom School District
- Tacoma School District
- American Red Cross
- Crystal Village HOA
- Metropolitan Park District
- Port of Tacoma
- Riviera Community Club
- Clear Lake Water District
- Fruitland Mutual Water Company
- Lakeview Light and Power
- Mt. View-Edgewood Water Company
- Peninsula Light Company
- Summit Water and Supply Company
- Valley Water District
- Community Health Care
- Franciscan Health System
- Madigan Hospital
- Western State Hospital

PC HMF will meet annually in November and will be coordinated by PC DEM. The School District will be an active participant in the PC HMF, and will be represented by the Emergency Preparedness Administrator. Only through this level of cooperation can these jurisdictions meet all of their mitigation goals.

Plan Evaluation and Update

It should be noted this planning process began in early 2012 following the then current CFR 201.6 Hazard Mitigation Planning Requirements. Based on new requirements in the Stafford Act, the Steilacoom Historical School District 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 Steilacoom Historical School District Plan will guide the District mitigation efforts for the foreseeable future. Steilacoom Historical School District 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.

PC DEM will collaborate with the Emergency Management Team and the PC HMF to help 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 Emergency Management Team will provide a report of the Plan's implementation to the School Board at the annual meeting. This report will drive the meeting agendas and will include the following:

- Updates on implementation throughout the School District;
- Updates on the PC HMF and mitigation activities undertaken by neighboring jurisdictions;
- Changes or anticipated changes in hazard risk and vulnerability at the School District, 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 Team 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 Emergency Preparedness Director and other District officials 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 regional partners' Hazard Identification and Vulnerability Analyses and their Comprehensive Emergency Management Plans.

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 District, the Team will provide an assessment that captures any “success stories” and/or “lessons learned.” The assessment will detail direct and indirect damages to the District and its critical facilities, 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 ensuing regularly scheduled Board of Directors’ meeting.

As per 44 CFR 201.6, the Steilacoom Historical School District #1 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 2013 and every five years following at the Hazard Mitigation Forum, Steilacoom Historical School District #1 Emergency Preparedness Administrator will submit the updated plan to PC DEM. PC Department of Emergency Management’s Mitigation and Recovery Program Coordinator will collect updates from the Region 5 Plan jurisdictions and submit them to the State EMD and FEMA.

Continued Public Involvement

Steilacoom Historical School District is dedicated to continued public involvement and education in review and updates of the Plan. The School District will retain copies of the Plan and will post it on the Steilacoom Historical School District website.¹ Announcements regarding the Plan’s adoption and the annual updates to the Plan will be advertised on the Steilacoom Historical School District website.

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. School Board meetings are open to the public and as such, the annual meeting regarding mitigation will provide the public a forum during which citizens can express their concerns, opinions or ideas about the Steilacoom Historical School District Plan. Further, prior to submitting the Plan to WA Emergency Management Division and FEMA for the five-year review, the Emergency Management Team will hold a public information and comment meeting. This meeting will be advertised throughout the School District through a variety of media, including the District webpage and school newsletters.

The Steilacoom Historical School District will conduct a review on a yearly basis to ensure all elements of the mitigation plan are updated and accurate. Each of the 76 jurisdictions has been tasked with having to provide 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

Steilacoom Historical School District 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 Steilacoom Historical School District will look for new innovative ways for public involvement.

Endnotes

¹<http://www.steilacoom.k12.wa.us/site/default.aspx?PageID=1>

APPENDIX A

REGION 5 HAZARD MITIGATION PLAN 2015-2020 EDITION STEILACOOM HISTORICAL SCHOOL DISTRICT

Plan Adoption

The "*Region 5 Hazard Mitigation Plan*" was adopted by the Steilacoom Historical School District's School Board on June 23, 2015 by resolution number 824-07-23-15. The following page shows a copy of that resolution.

**Steilacoom Historical School District No. 1
511 Chambers
Steilacoom, WA 98388**

Resolution No. 824-07-23-15

A Resolution of the Board of Directors of Steilacoom Historical School District adopting the Region 5 All Hazard Mitigation Plan – 2015-2020 Edition and the Steilacoom Historical School District 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 Steilacoom Historical School District 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,(Steilacoom Historical School District has participated with the Pierce County Department of Emergency Management in the development of the District's All Hazard Mitigation Plan Update, and recognizes the economic loss, personal injury, and damage that can arise from these hazards; and

WHEREAS, adoption of this plan obligates the District to make improvements in facilities that mitigate identified hazards within a reasonable timeframe and these improvements will increase safety for students, staff, and others who utilize district facilities; 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 Steilacoom Historical School District and

WHEREAS, the 2015-2020 Region 5 All Hazard Mitigation Plan Edition has been completed and approved by the State of Washington and preliminarily approved by the Federal Emergency Management Agency; and

WHEREAS, Board adoption will allow the final approval of the Steilacoom Historical School District All Hazard Mitigation Plan by the Federal Emergency Management Agency, and final approval of the plan will qualify the District for future disaster relief funding from the federal government;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of Steilacoom Historical School District, Pierce County, Washington,

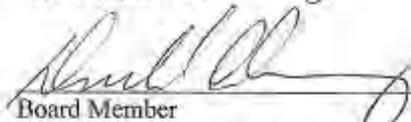
Section 1. The Region 5 Hazard Mitigation Plan, 2015-2020 Edition, is hereby adopted as set forth in Exhibit A, which is attached.

Section 2. The Steilacoom Historical School District Addendum to the Region 5 Hazard Mitigation Plan, an update to the Steilacoom Historical School District Natural Hazard Mitigation Plan is hereby adopted and shall be in full force and effect upon passage and signatures hereon.

ADOPTED by the Board of Directors this 23rd day of June, 2015, in regular, open session.

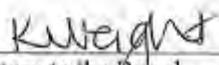

Board Chair


Board Vice-Chair


Board Member


Board Member

ATTEST:


Secretary to the Board


Board Member

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 Pre-Adoption Review 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,

A handwritten signature in black ink, appearing to read "Tamra Biasco".

Tamra Biasco
Chief, Risk Analysis Branch
Mitigation Division

KM:bb

www.fema.gov

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APPENDIX A

REGION 5 HAZARD MITIGATION PLAN 2008-2013 EDITION STEILACOOM HISTORICAL SCHOOL DISTRICT

Plan Adoption

The "*Region 5 Hazard Mitigation Plan*" was adopted by the Steilacoom Historical School District's School Board on December 17, 2008 by resolution number 703-12-17-08. The following page shows a copy of that resolution.

The plan was reviewed and approved as follows:

AGENCY	REPRESENTATIVE	DATE
FEMA Region X	Mark Carey Mitigation Division Director	Approved--

Letter of approval follows here:



FEMA

July 9, 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 24, 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 24, 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 Lakewood	Key Peninsula Fire Department (PDFD #16)	Peninsula SD	Ohop Mutual Light Company
City of Milton	PCFD #18	Puyallup SD	Port of Tacoma
City of Orting	Graham Fire and Rescue (PCFD #21)	Steilacoom Historical SD	Summit Water and Supply Company
City of Tacoma	PCFD #23	Tacoma SD	Valley Water District
Town of Eatonville	PCFD #27	University Place SD	
Town of South Prairie		White River SD	
Town of Wilkeson		Pacific Lutheran University	

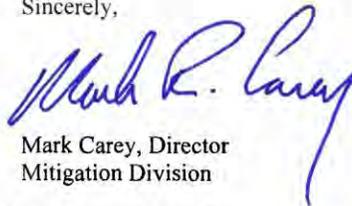
www.fema.gov

Mr. Bailey
July 9, 2009
Page 2

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.

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,

A handwritten signature in blue ink that reads "Mark R. Carey". The signature is written in a cursive style with a long, sweeping tail on the letter "y".

Mark Carey, Director
Mitigation Division

cc: Mark Stewart, Washington Emergency Management Division

KM:bb

APPENDIX B

**REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITIOIN
STEILACOOM HISTORICAL SCHOOL DISTRICT**

Region 5 Hazard Mitigation Planning Team

Steilacoom Historical School District

NAME	TITLE	JURISDICTION-DEPARTMENT
Bruce Parker	Maintenance Supervisor	Steilacoom Historical School District No.1
Peggy Uglick	Facilities Operations Manager	Steilacoom Historical School District No.1

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APPENDIX C

**REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
STEILACOOM HISTORICAL SCHOOL DISTRICT**

Plan Revisions

RECORD OF CHANGES			
Change Number	Description of Change (with page numbers)	Date	Authorized by:

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APPENDIX D

**REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
STEILACOOM HISTORICAL SCHOOL DISTRICT**

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.

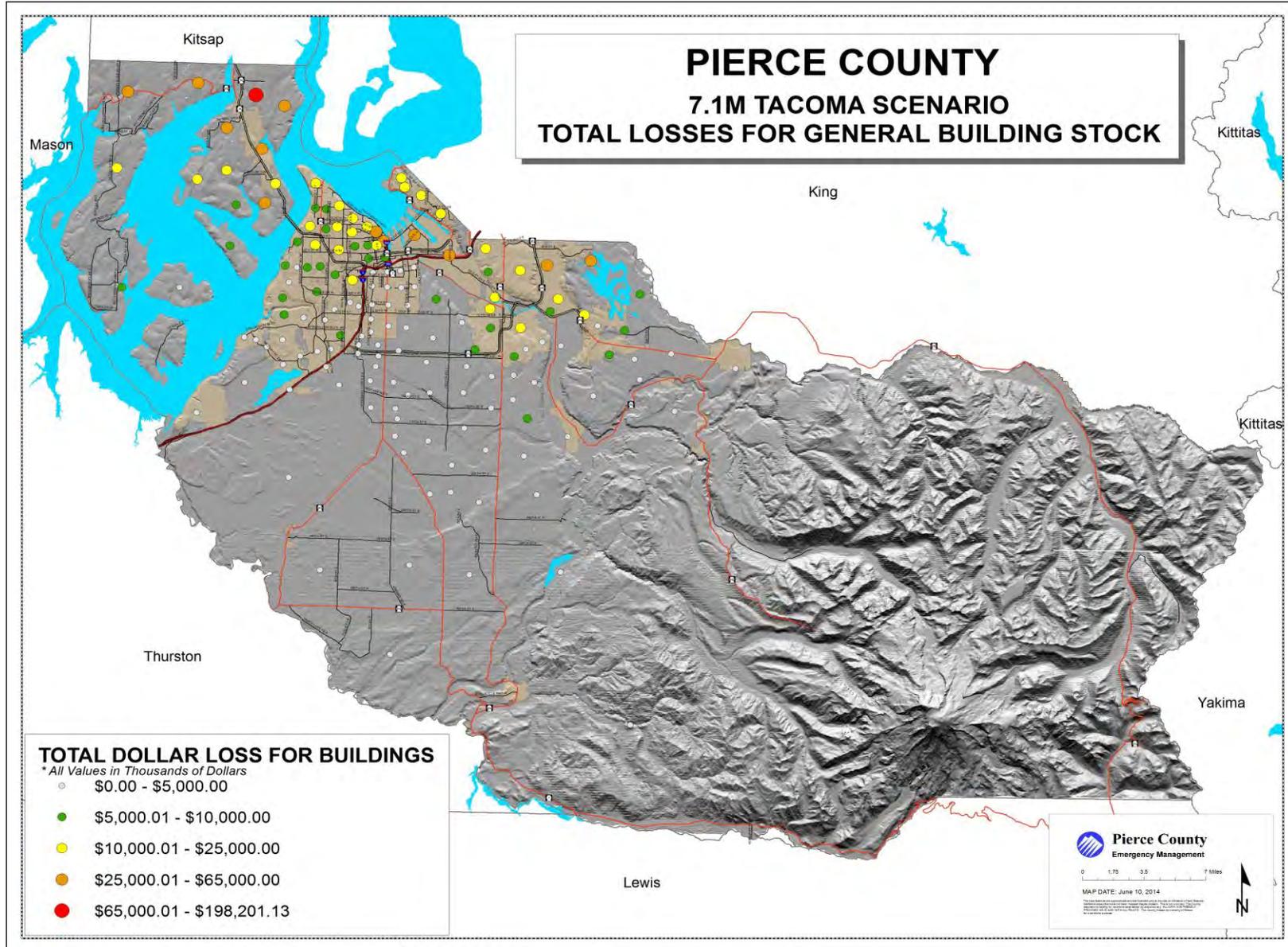
Inherent Errors

As a special note to the Gig Harbor and Key Peninsula areas St. Anthony's Hospital is not identified on Maps D-6, D-7, D-15, D-16, D-24 or D-25 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.

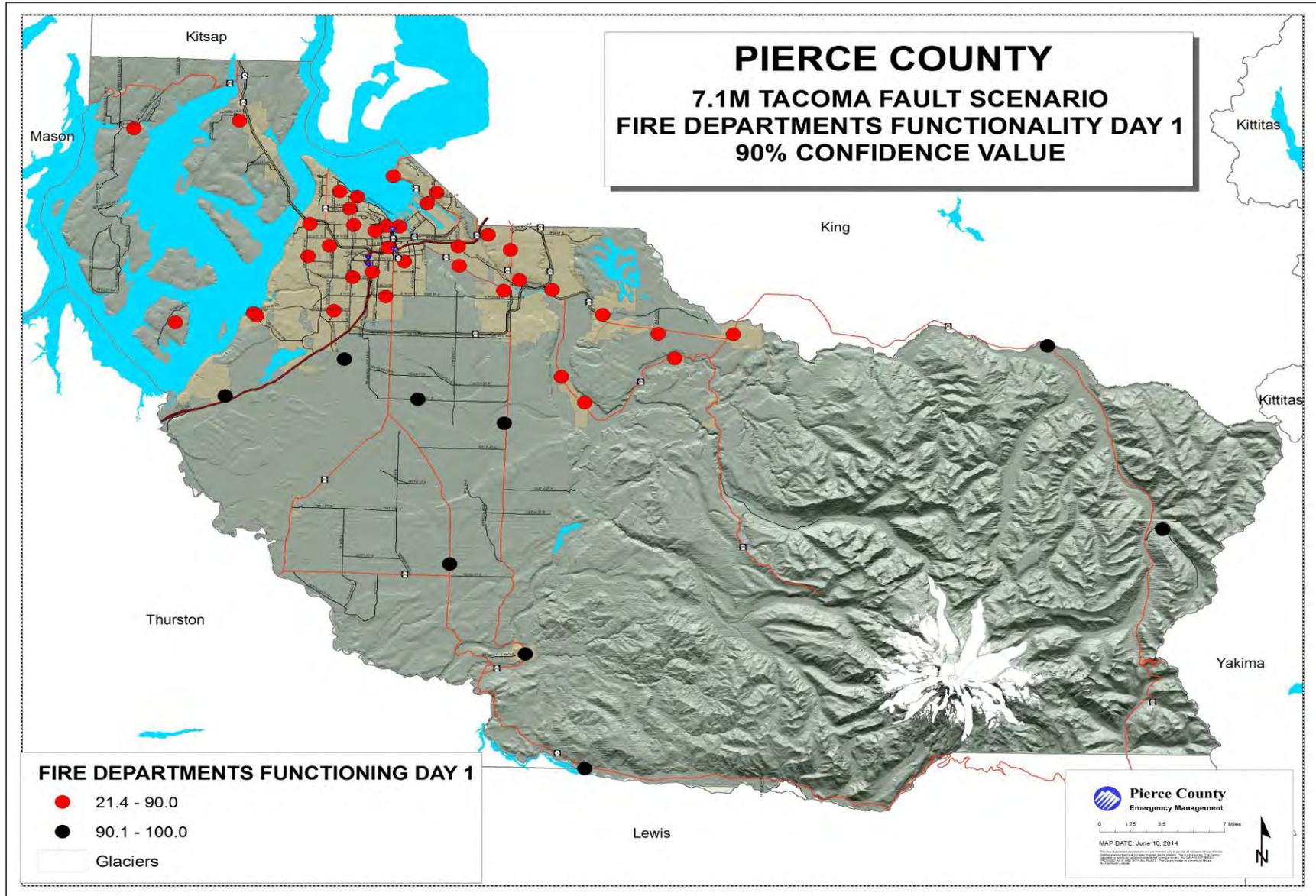
It has been identified that the police station located to the west side of Orting is not in the correct location as seen on Maps: D-4, D-5, D-13, D-14, D-22 and D-23. The police department shares a building with the Fire District #18 at 401 Washington Ave S, which is located in the middle of town. As 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.

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Map D-1 Pierce County Tacoma Fault Scenario Total Losses Map

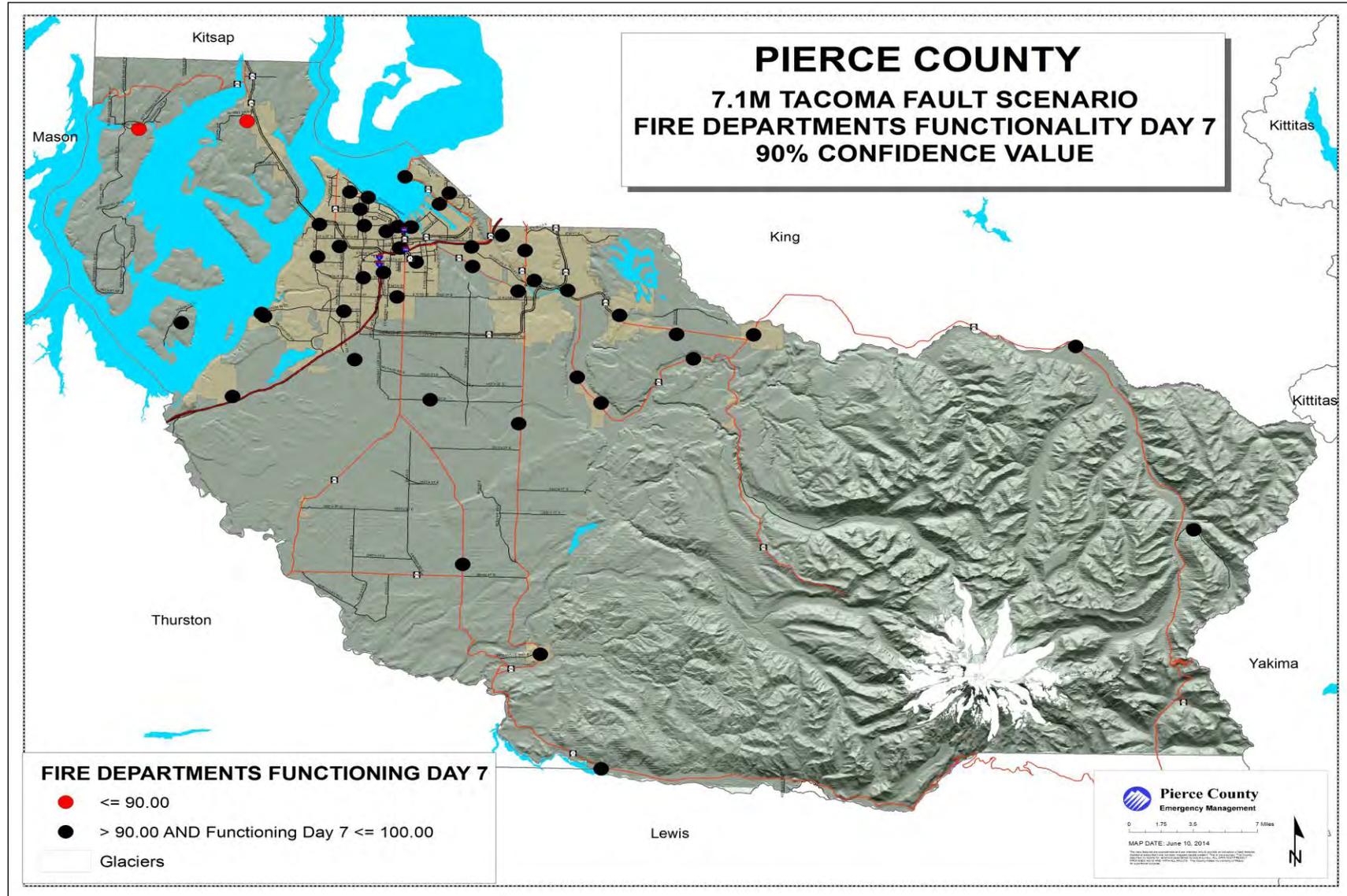


Map D-2 Pierce County Tacoma Fault Scenario Fire Department Functionality Day 1 Map

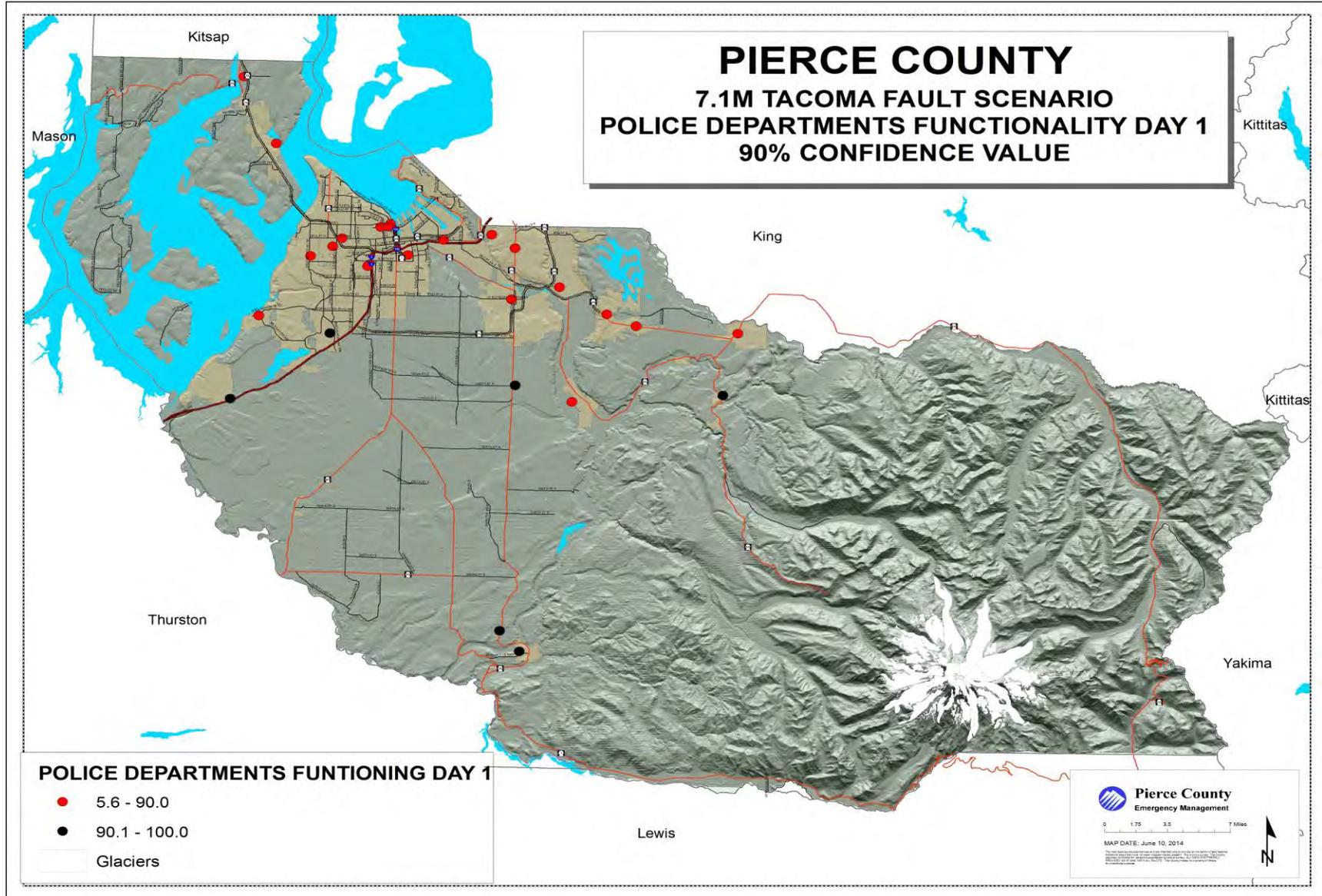


APPENDIX D-4
REGION 5 ALL HAZARD MITIGATION PLAN – 2015-2020 EDITION
STEILACOOM HISTORICAL SCHOOL DISTRICT ADDENDUM

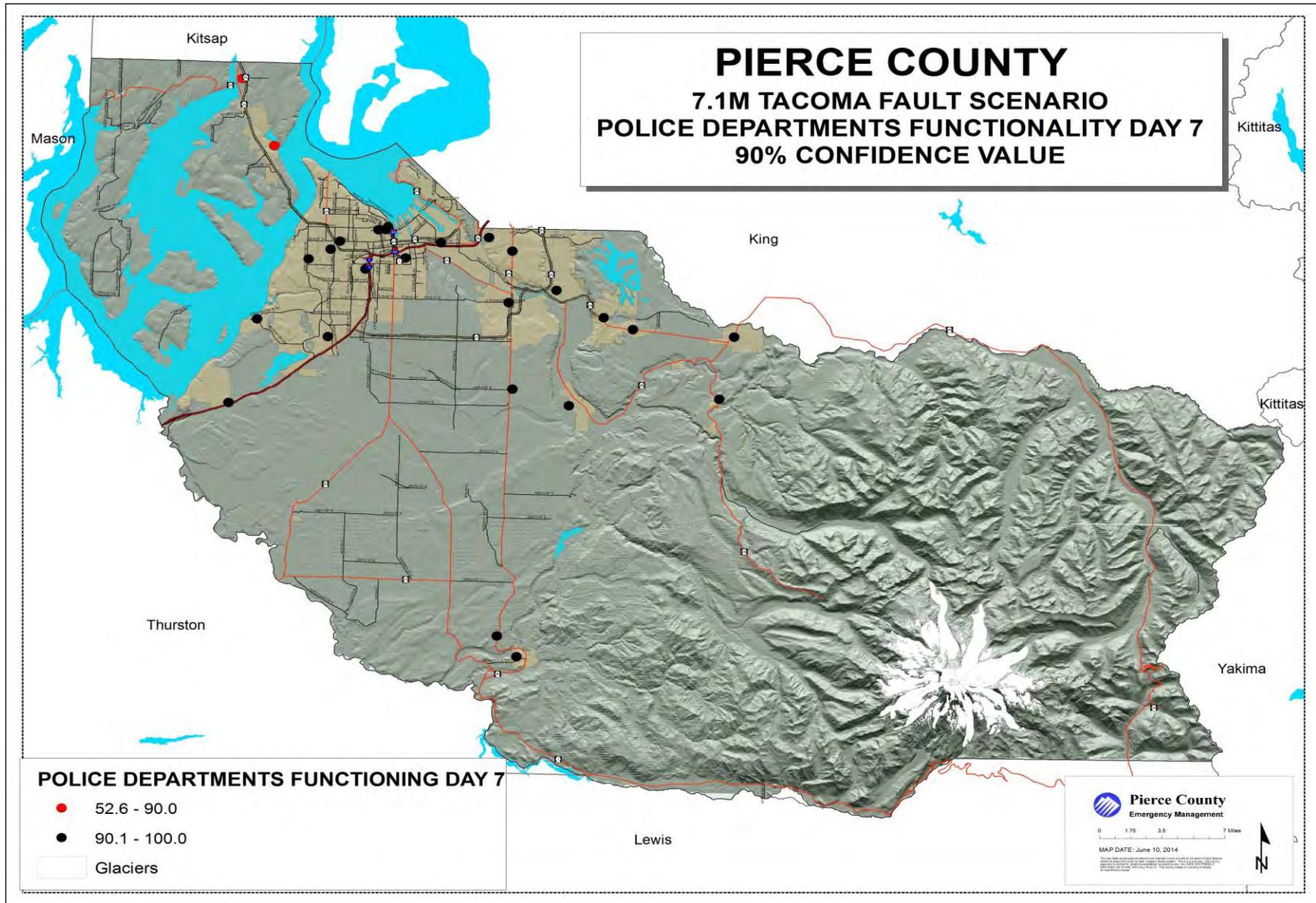
Map D-3 Pierce County Tacoma Fault Scenario Fire Department Functionality Day 7 Map



Map D-4 Pierce County Tacoma Fault Scenario Police Department Functionality Day 1¹

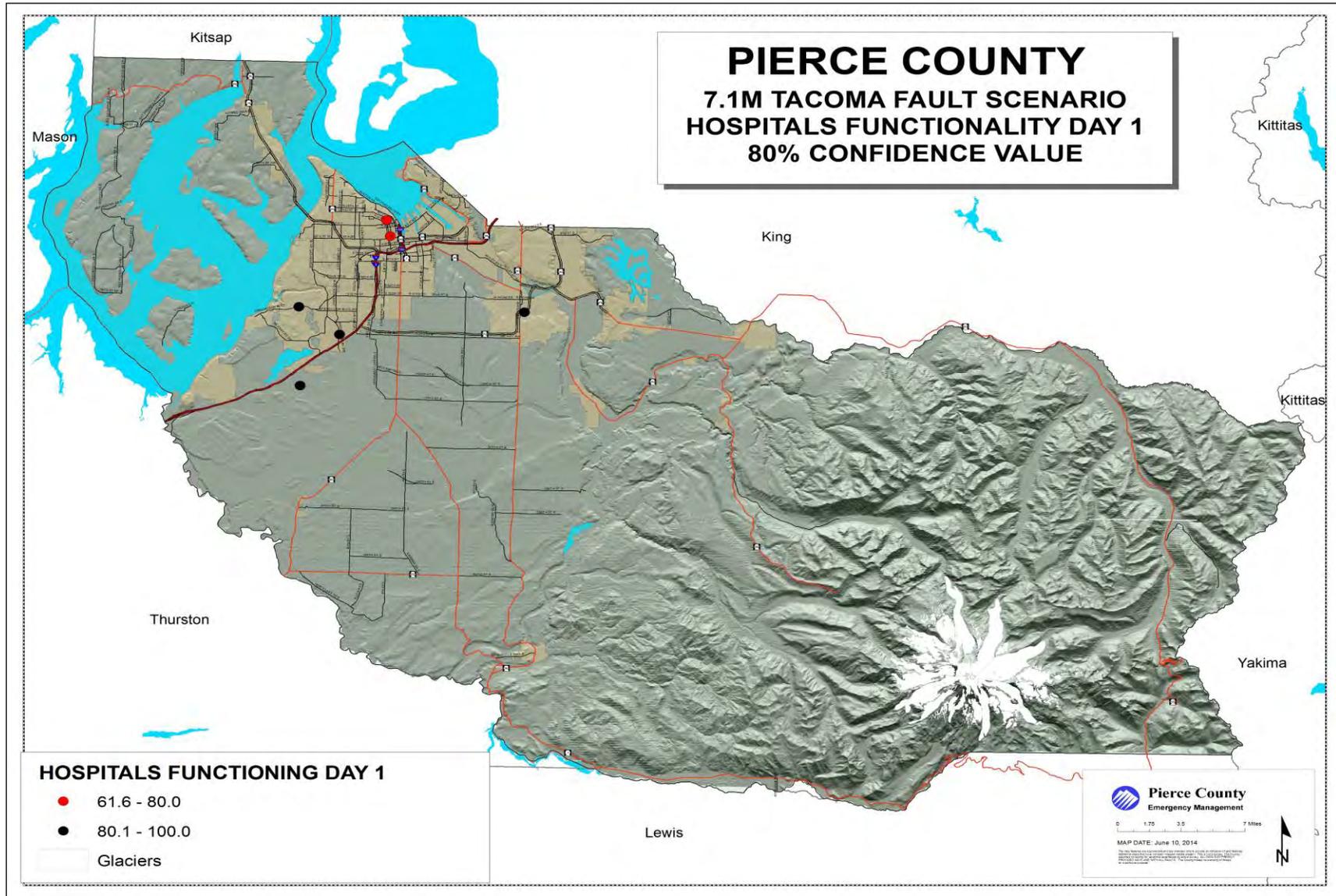


Map D-5 Pierce County Tacoma Fault Scenario Police Department Functionality Day 7 Map²

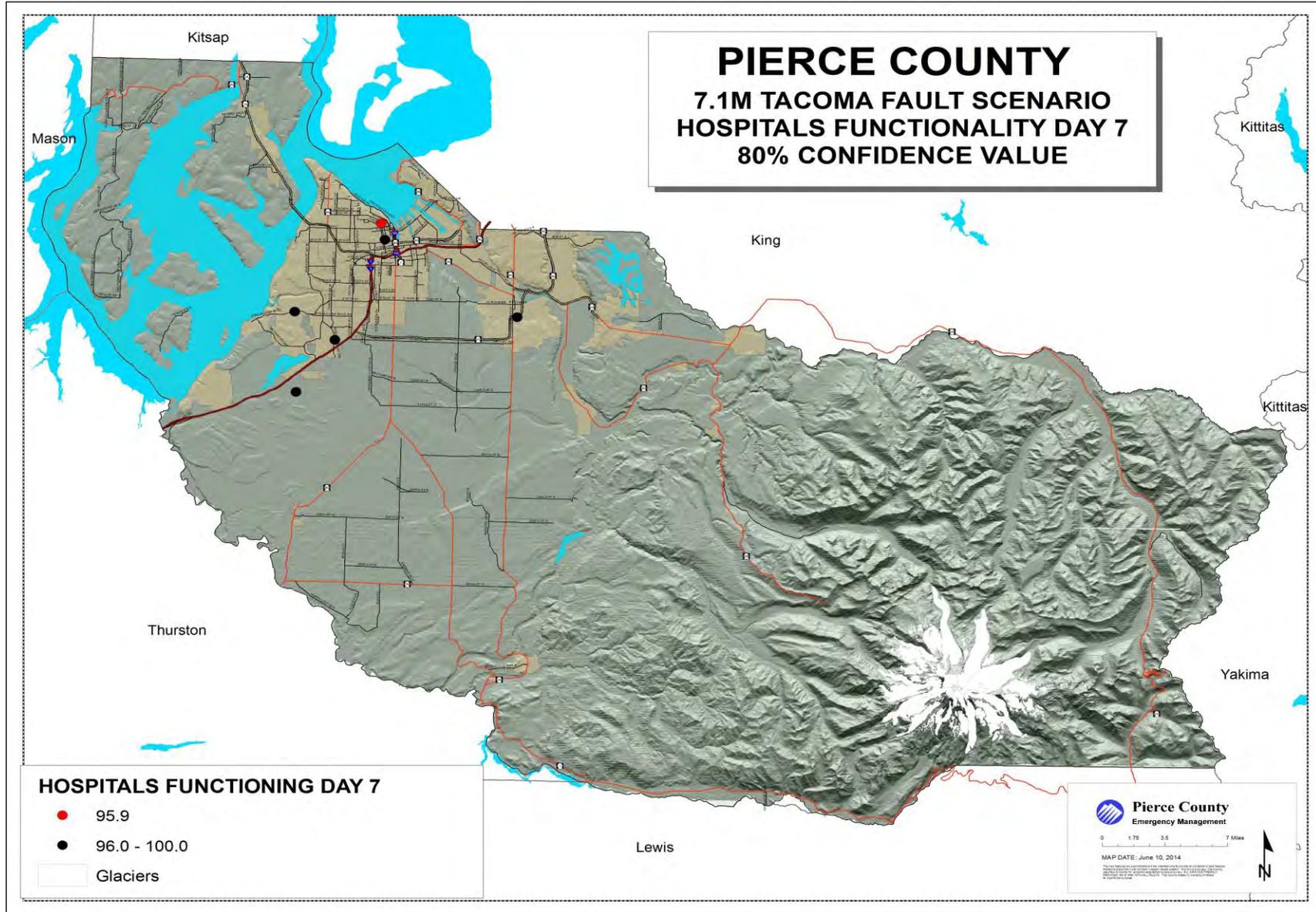


APPENDIX D-7
REGION 5 ALL HAZARD MITIGATION PLAN – 2015-2020 EDITION
STEILACOOM HISTORICAL SCHOOL DISTRICT ADDENDUM

Map D-6 Pierce County Tacoma Fault Scenario Hospitals Functionality Day 1 Map³

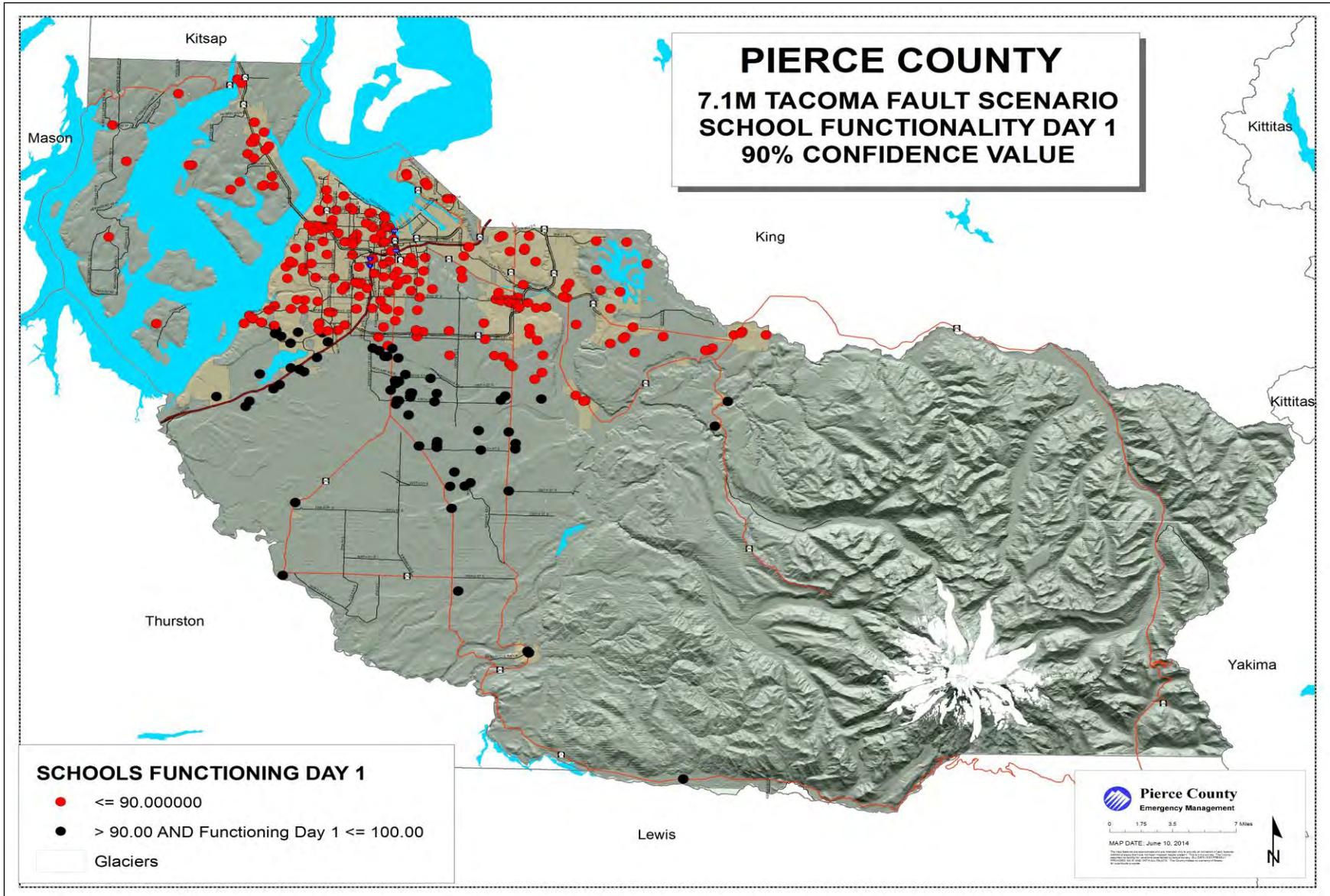


Map D-7 Pierce County Tacoma Fault Scenario Hospitals Functionality Day 7 Map⁴

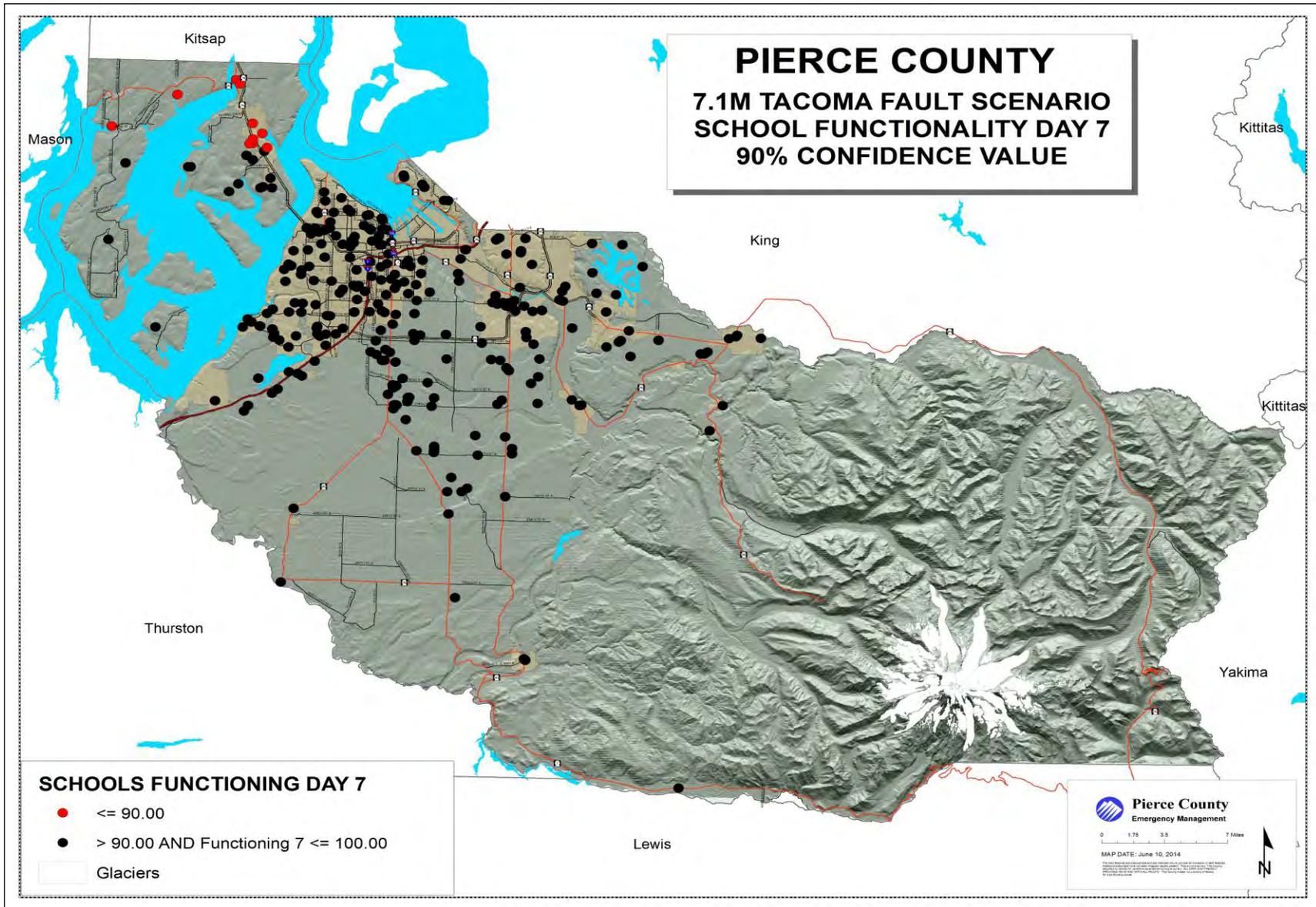


APPENDIX D-9
REGION 5 ALL HAZARD MITIGATION PLAN – 2015-2020 EDITION
STEILACOOM HISTORICAL SCHOOL DISTRICT ADDENDUM

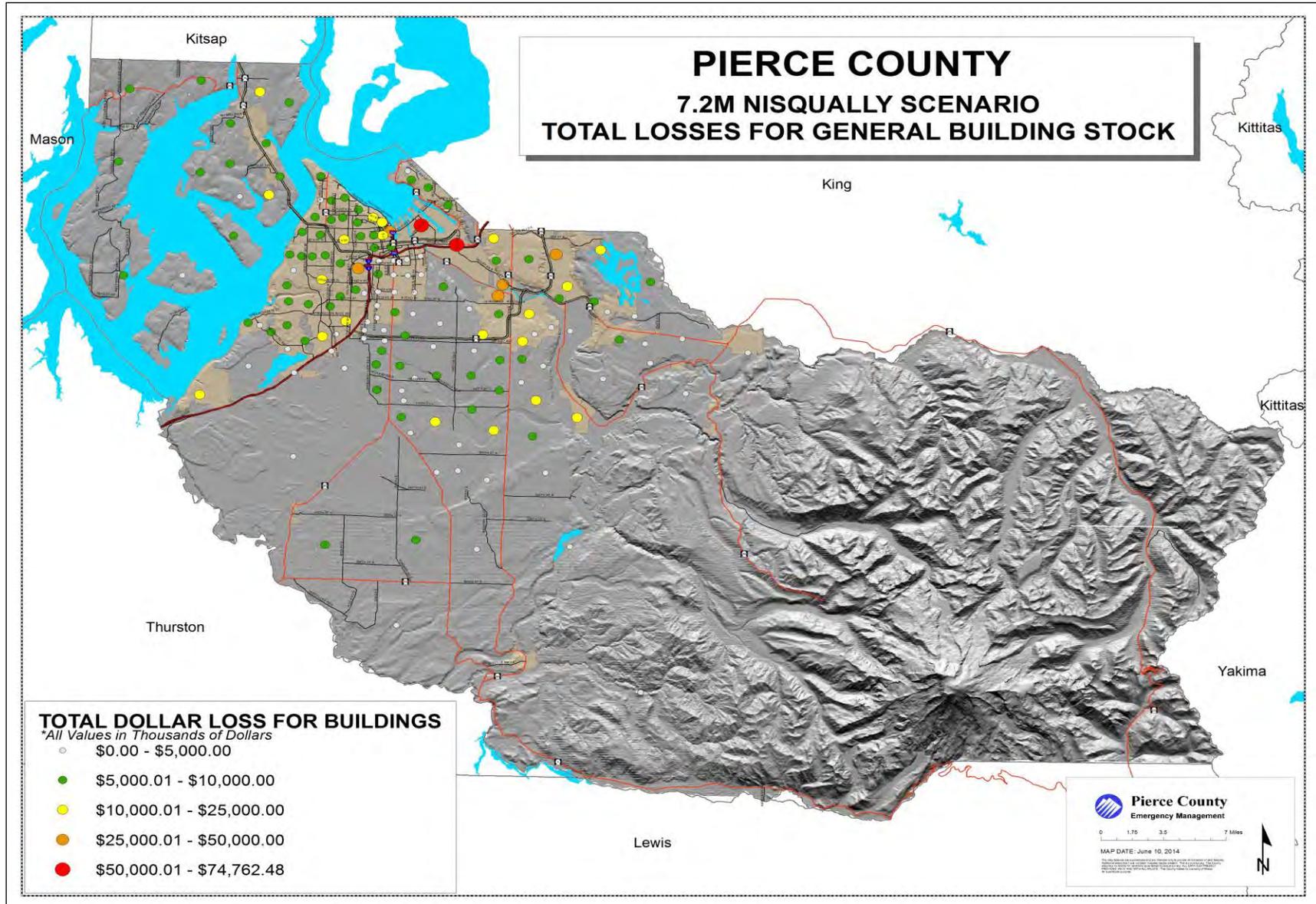
Map D-8 Pierce County Tacoma Fault Scenario School Functionality Day 1 Map



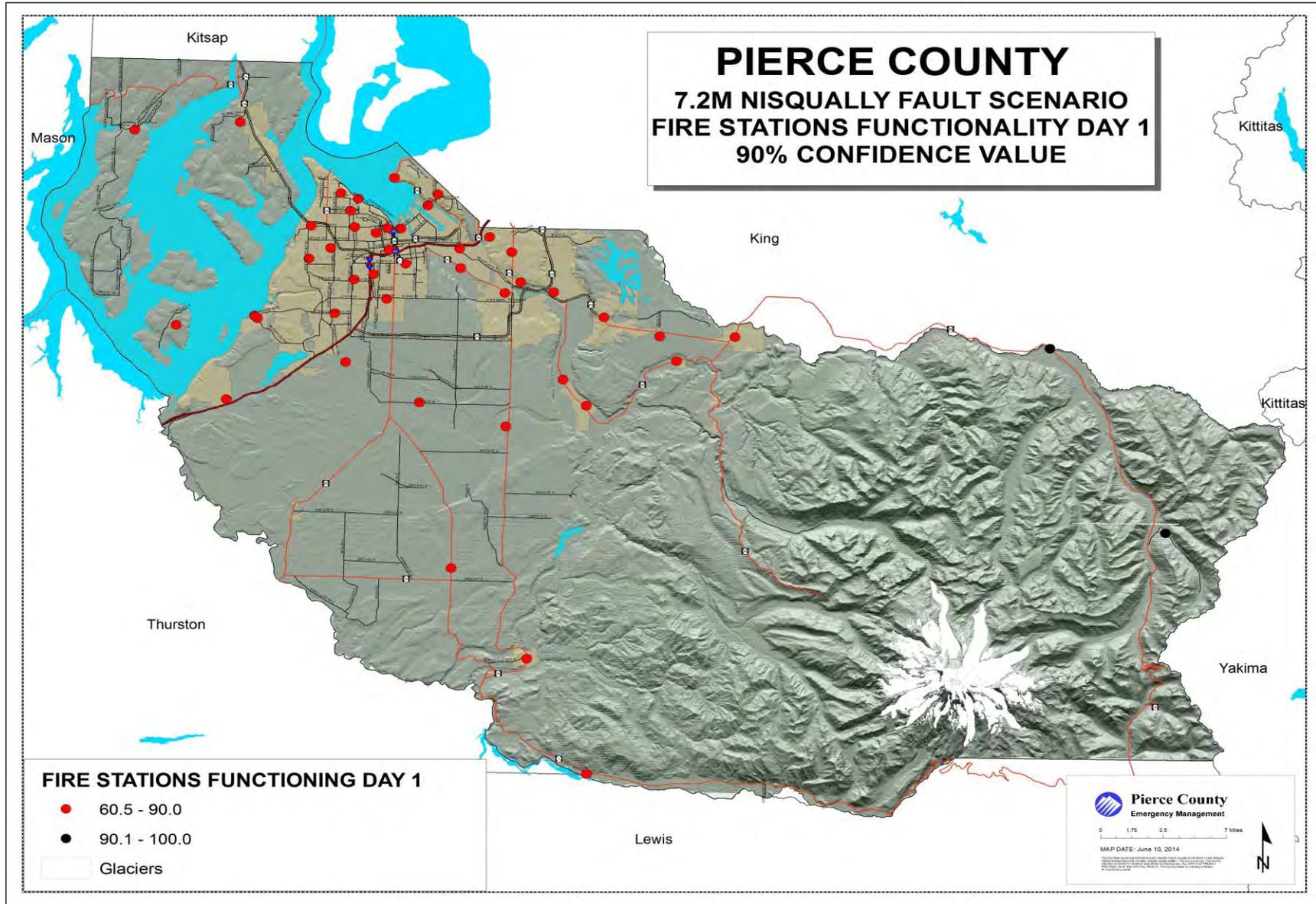
Map D-9 Pierce County Tacoma Fault Scenario School Functionality Day 7 Map



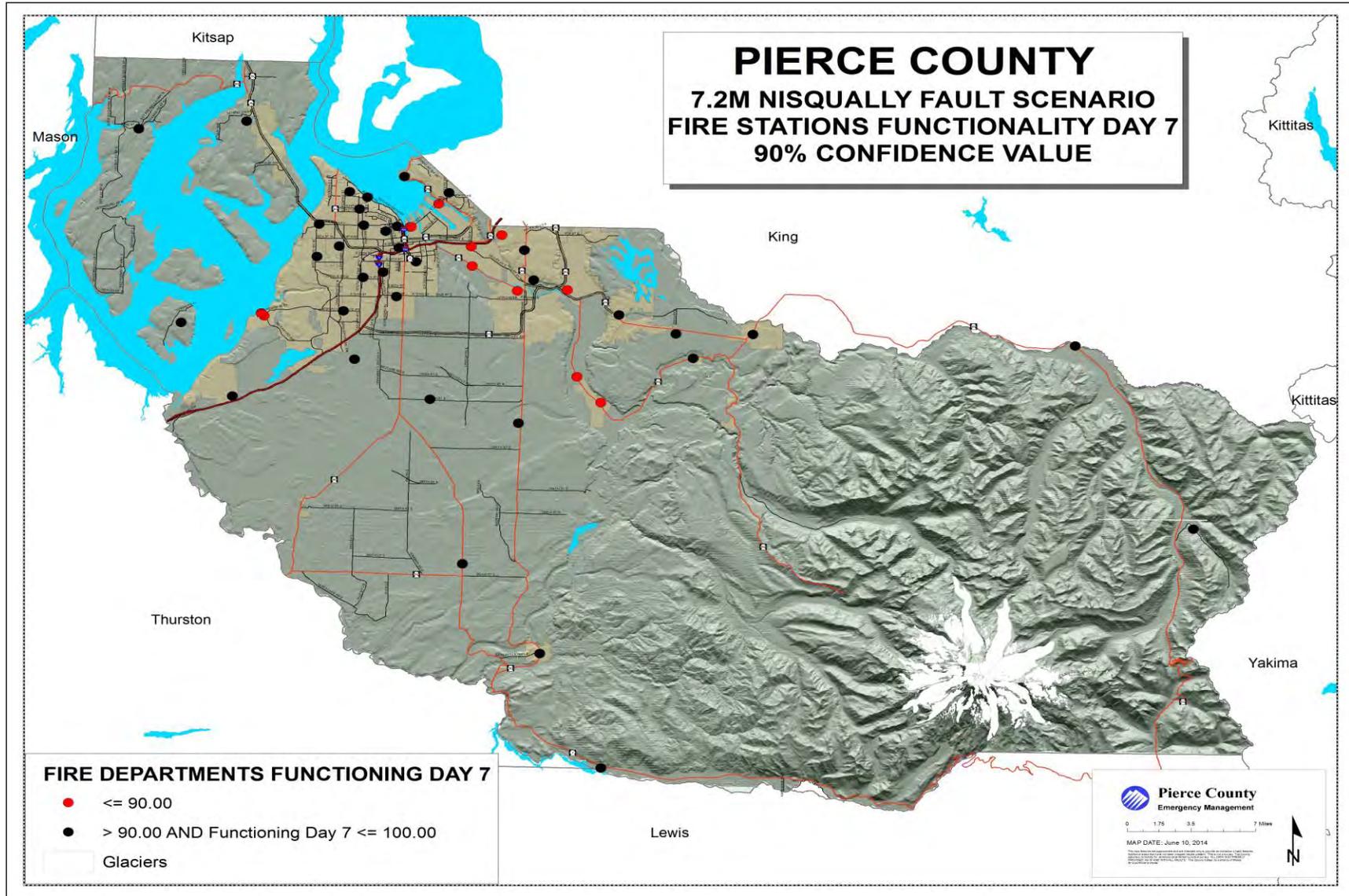
Map D-10 Pierce County Nisqually Fault Scenario Total Losses Map



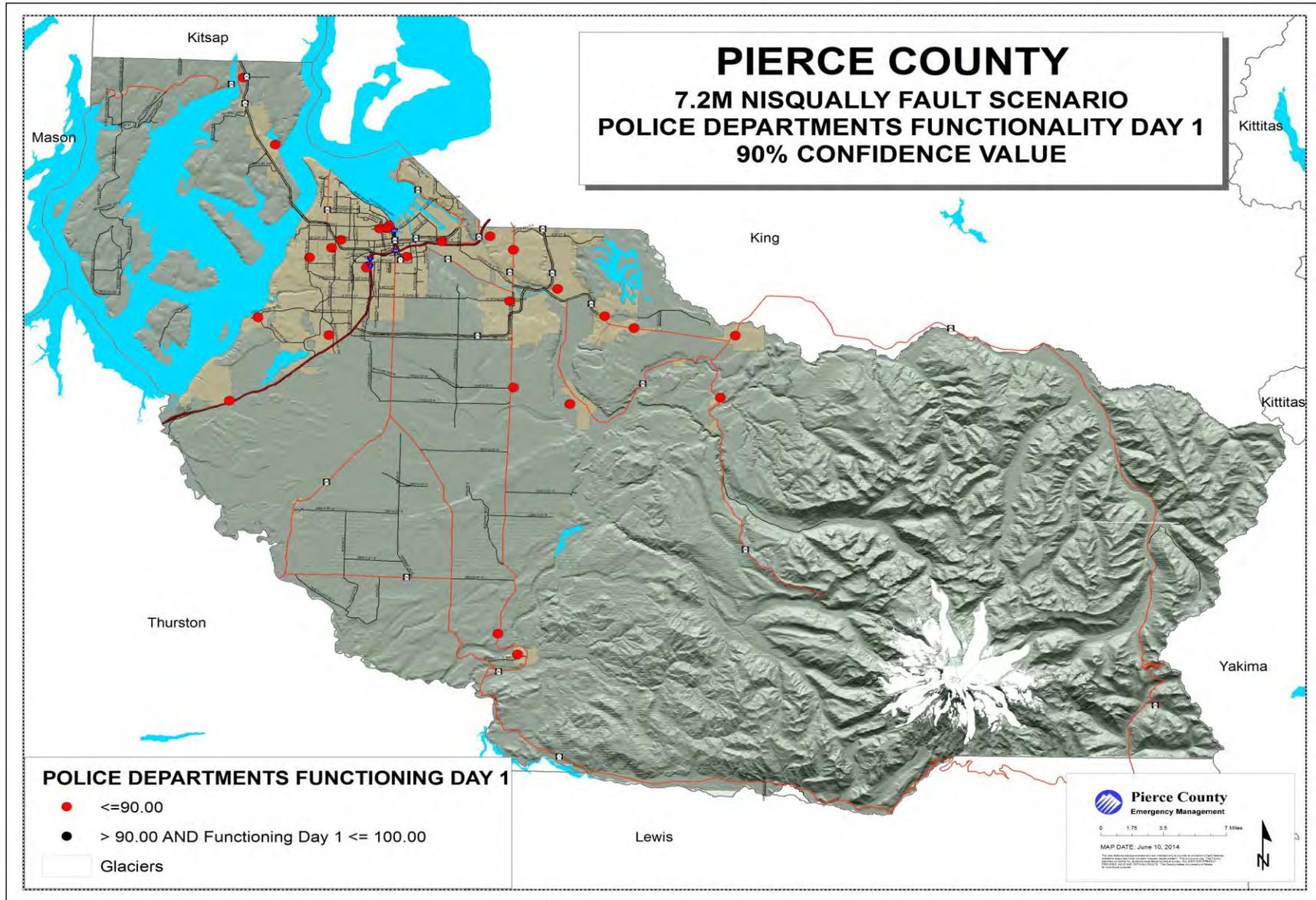
Map D-11 Pierce County Nisqually Fault Scenario Fire Stations Functionality Day 1 Map



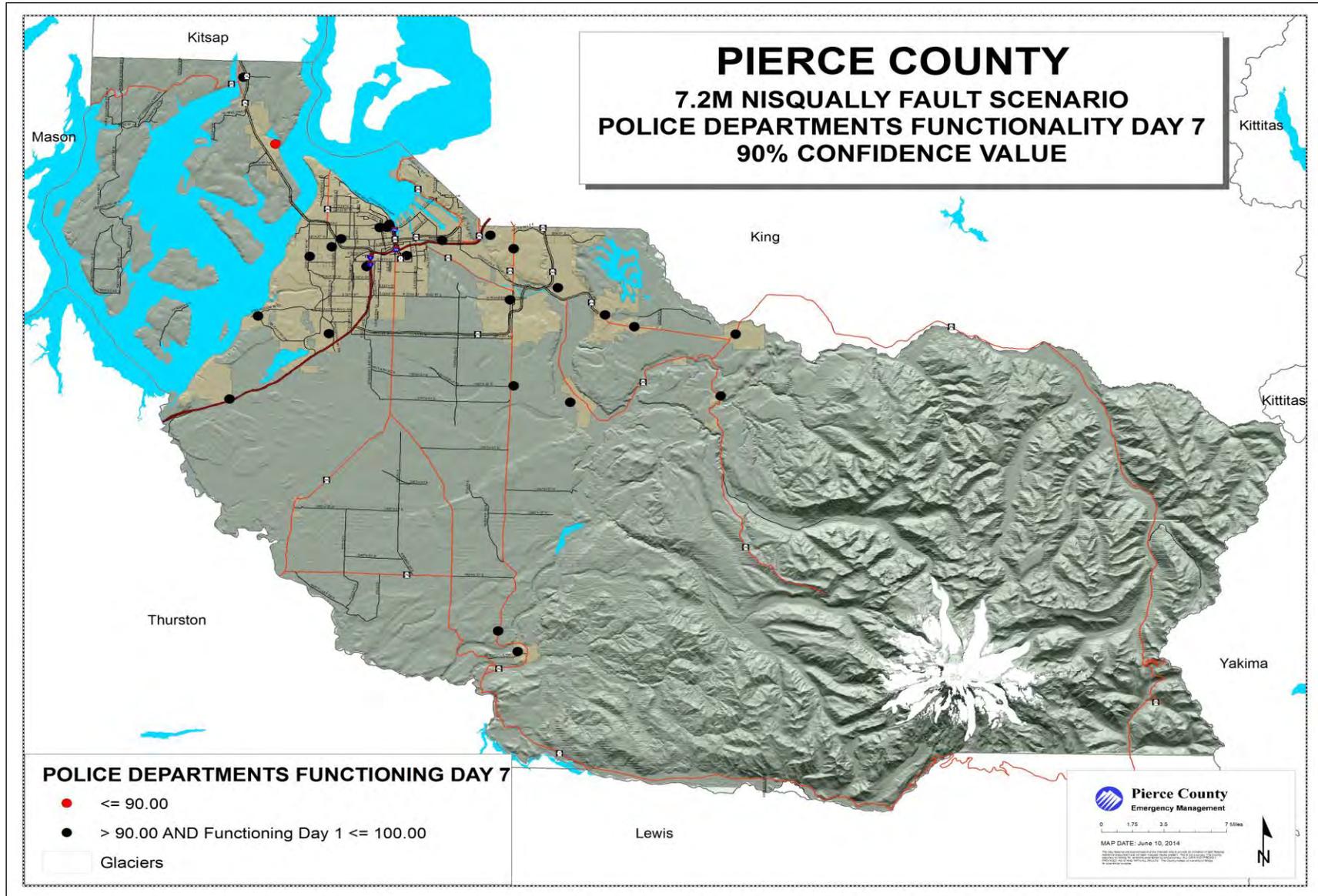
Map D-12 Pierce County Nisqually Fault Scenario Fire Stations Functionality Day 7 Map



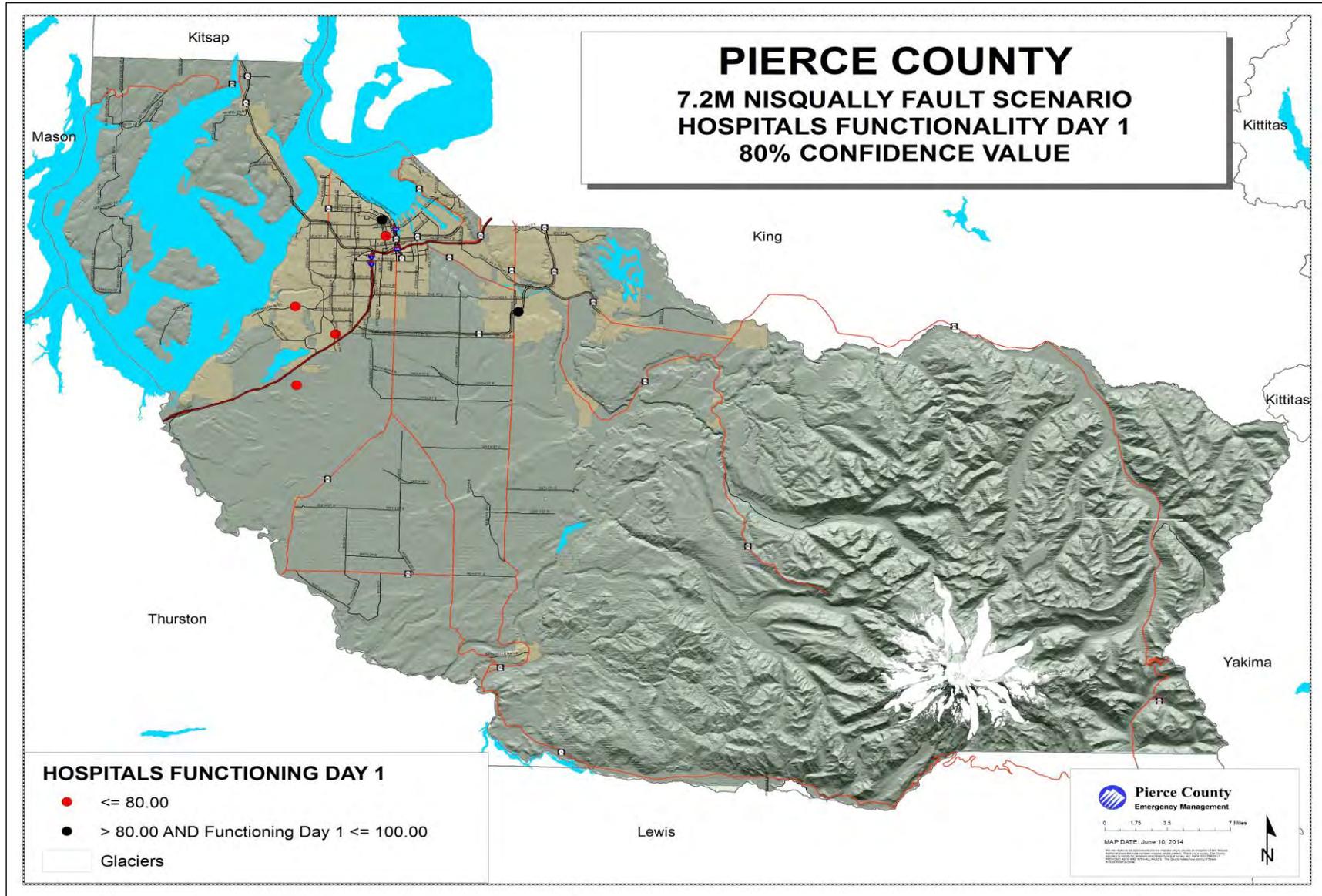
Map D-13 Pierce County Nisqually Fault Scenario Police Departments Functionality Day 1 Map⁵



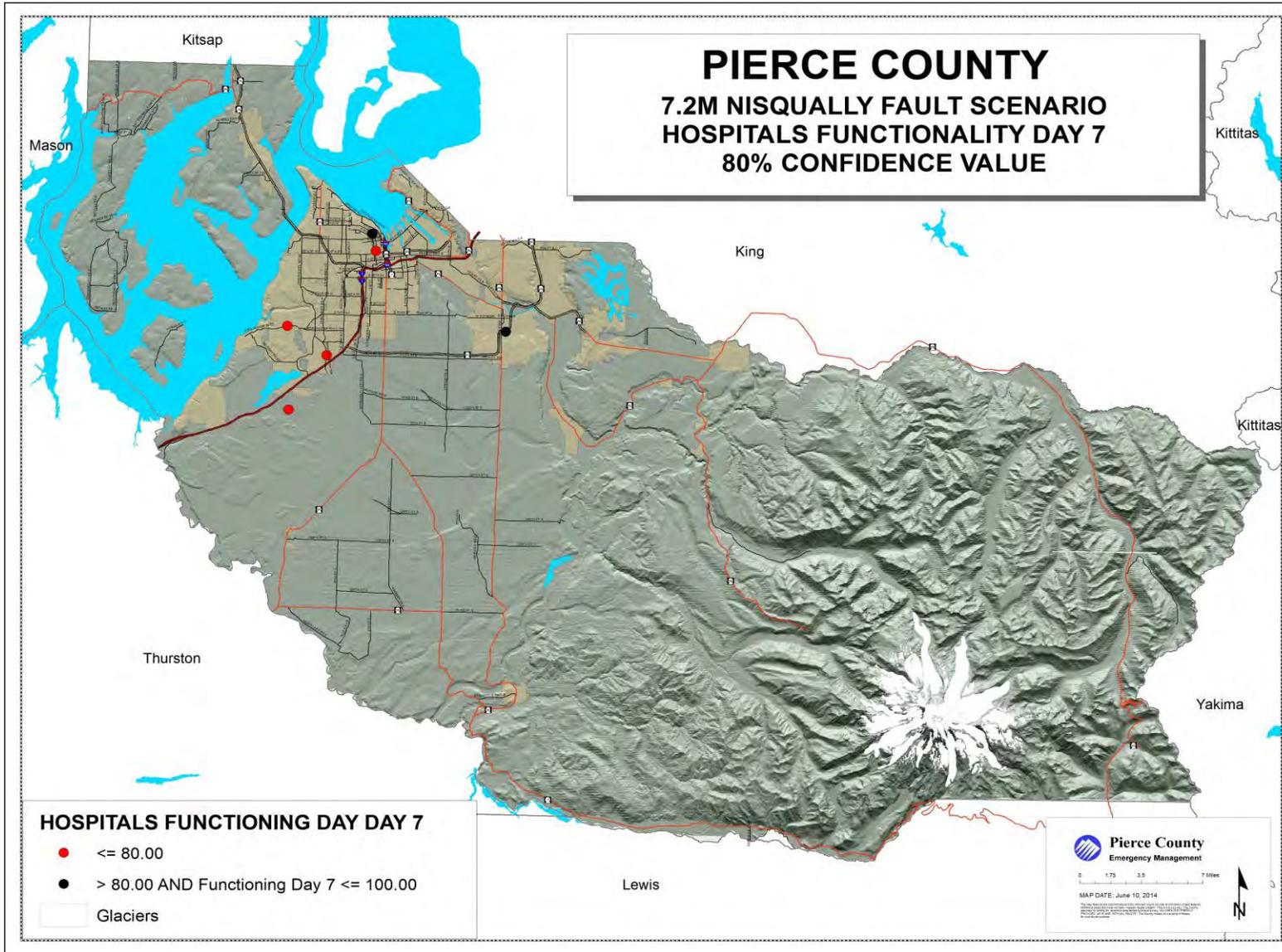
Map D-14 Pierce County Nisqually Fault Scenario Police Departments Functionality Day 7 Map⁶



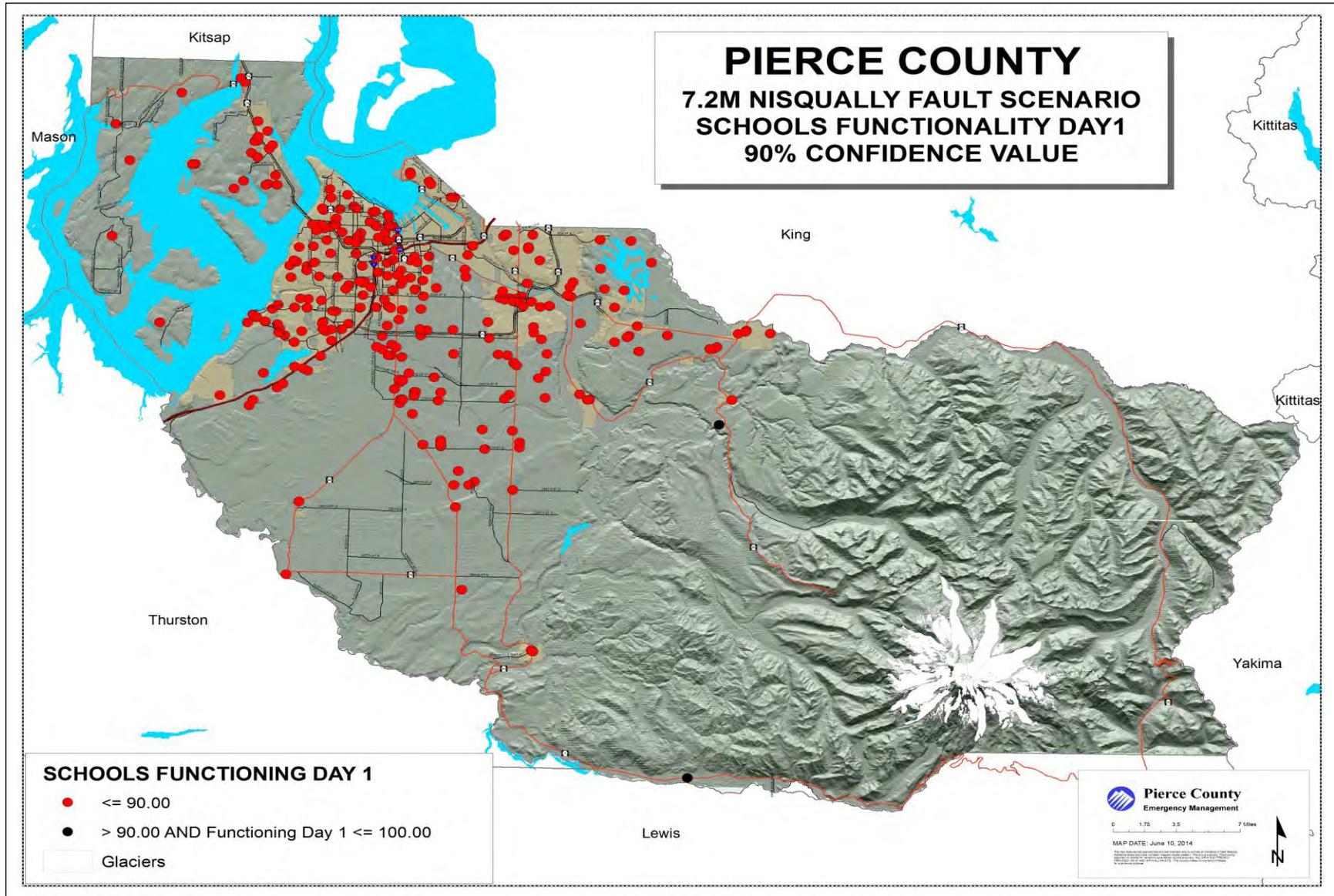
Map D-15 Pierce County Nisqually Fault Scenario Hospital Functionality Day 1 Map⁷



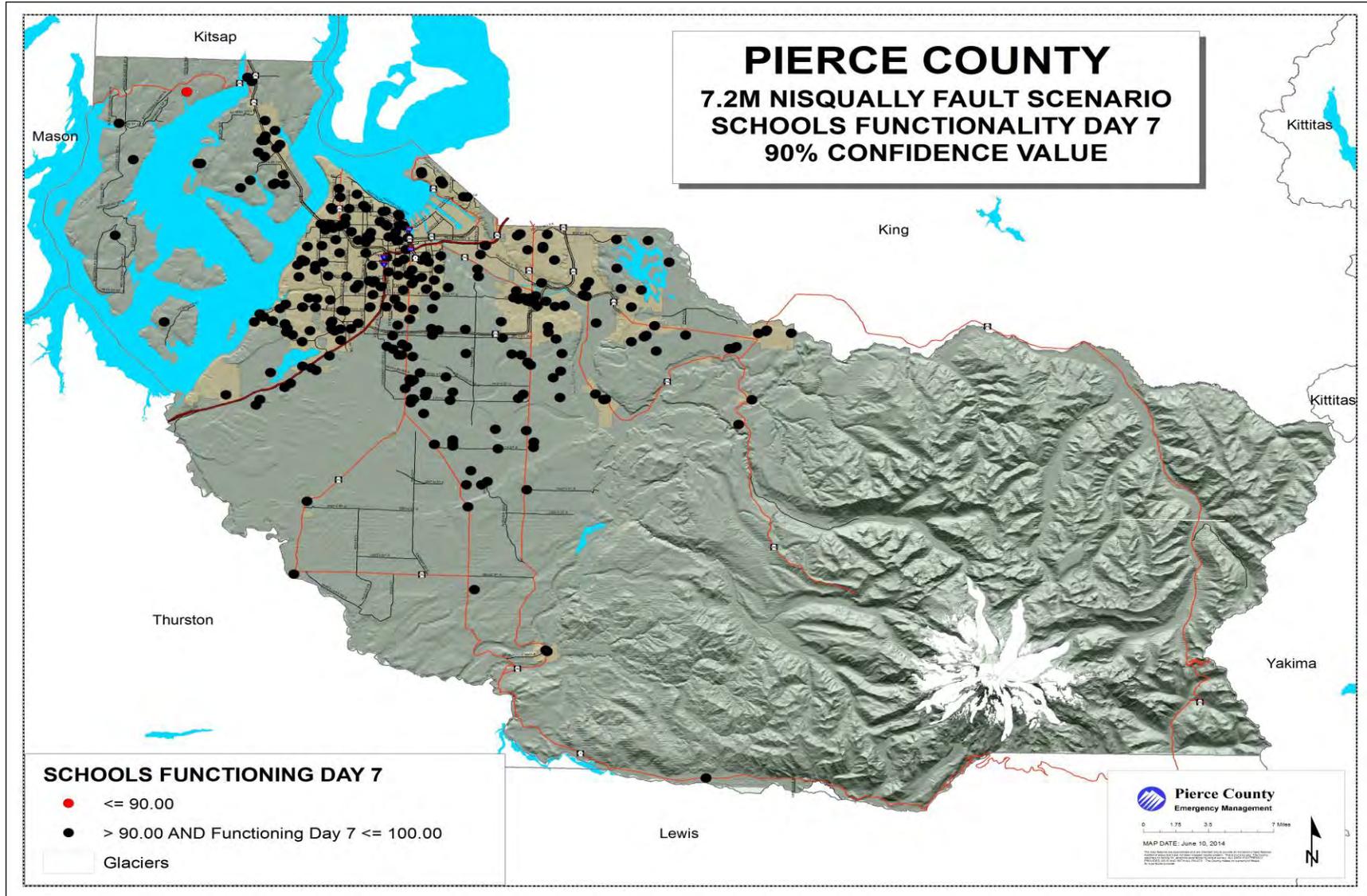
Map D-16 Pierce County Nisqually Fault Scenario Hospital Functionality Day 7 Map⁸



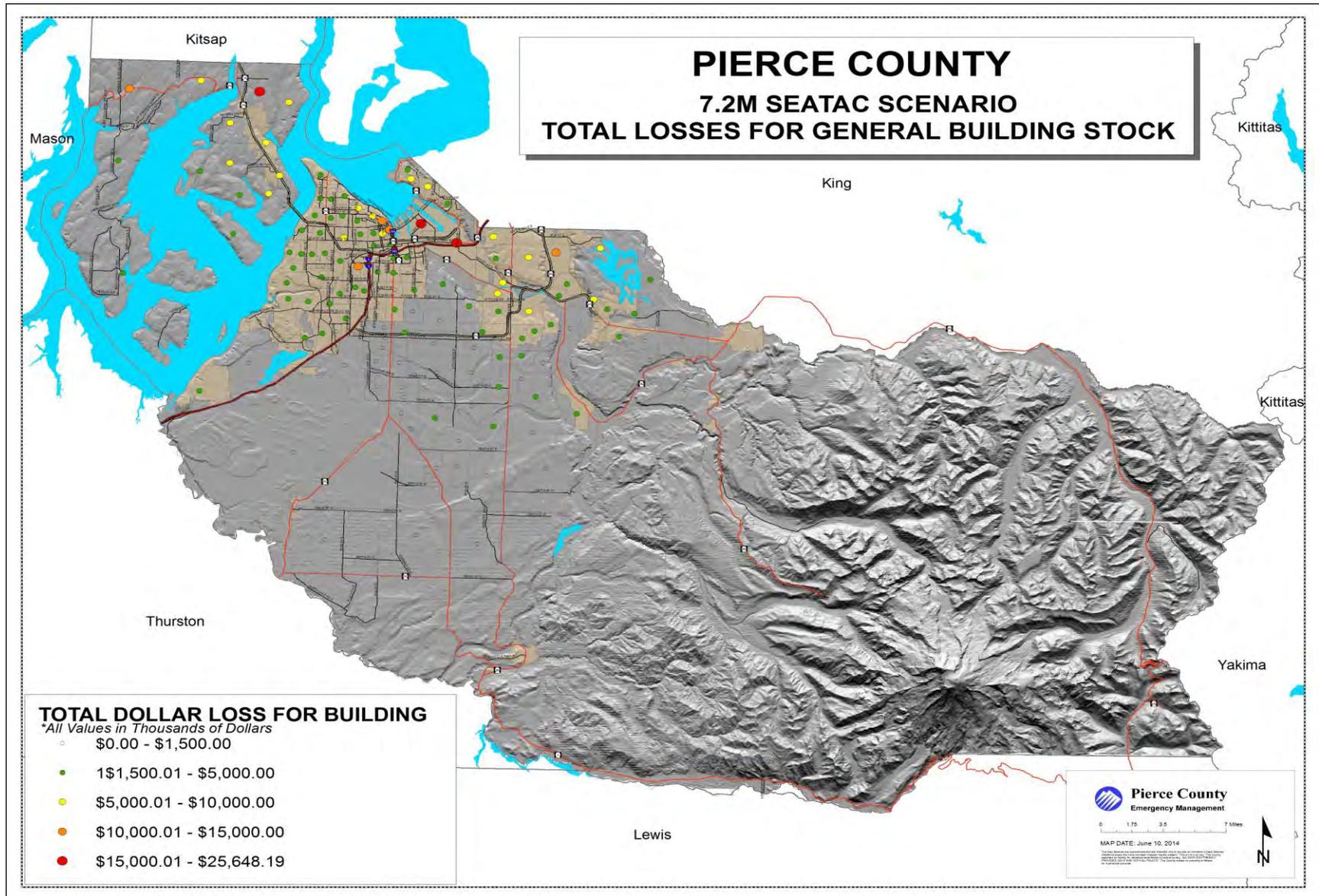
Map D-17 Pierce County Nisqually Fault Scenario Schools Functionality Day 1 Map



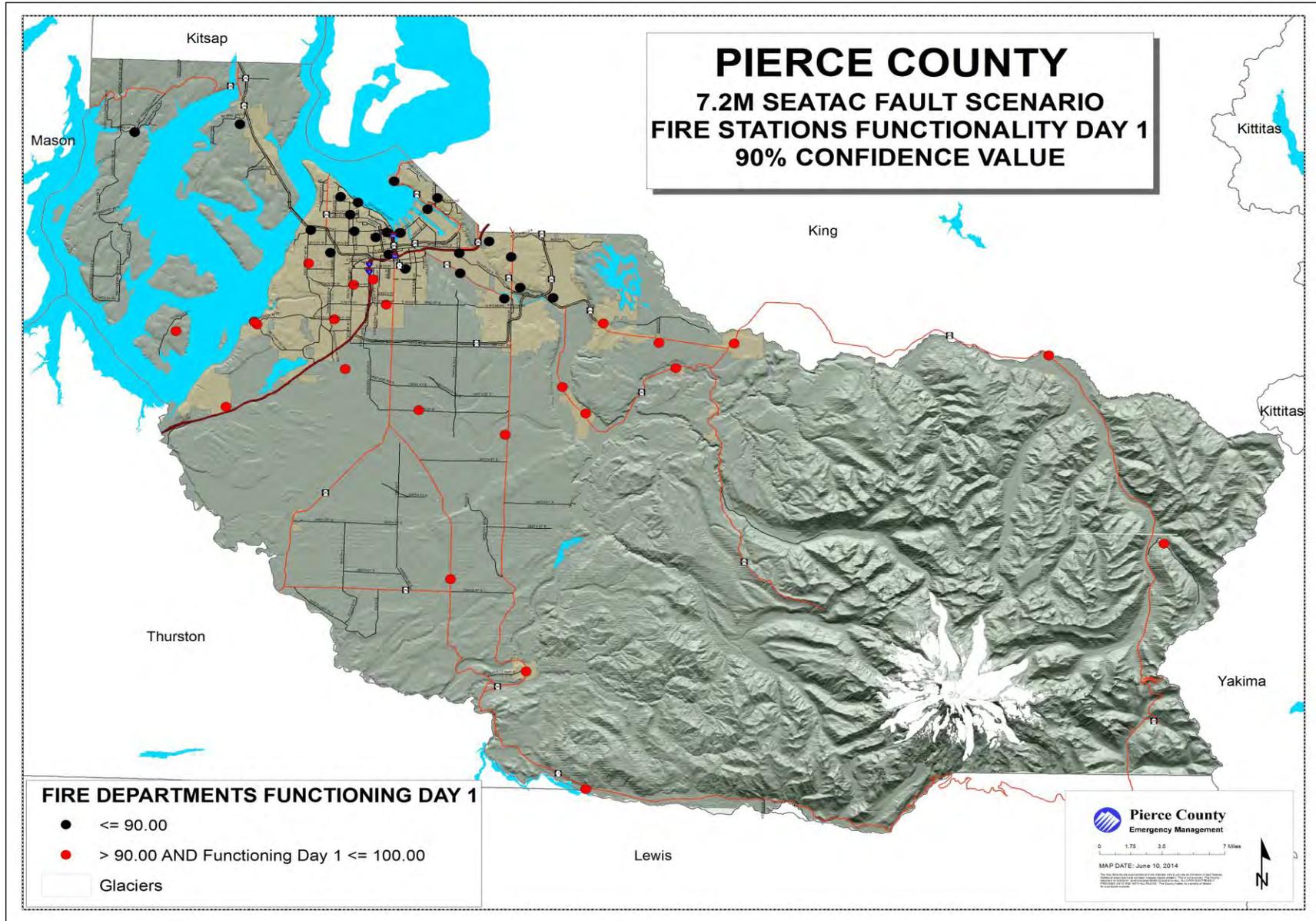
Map D-18 Pierce County Nisqually Fault Scenario Schools Functionality Day 7 Map



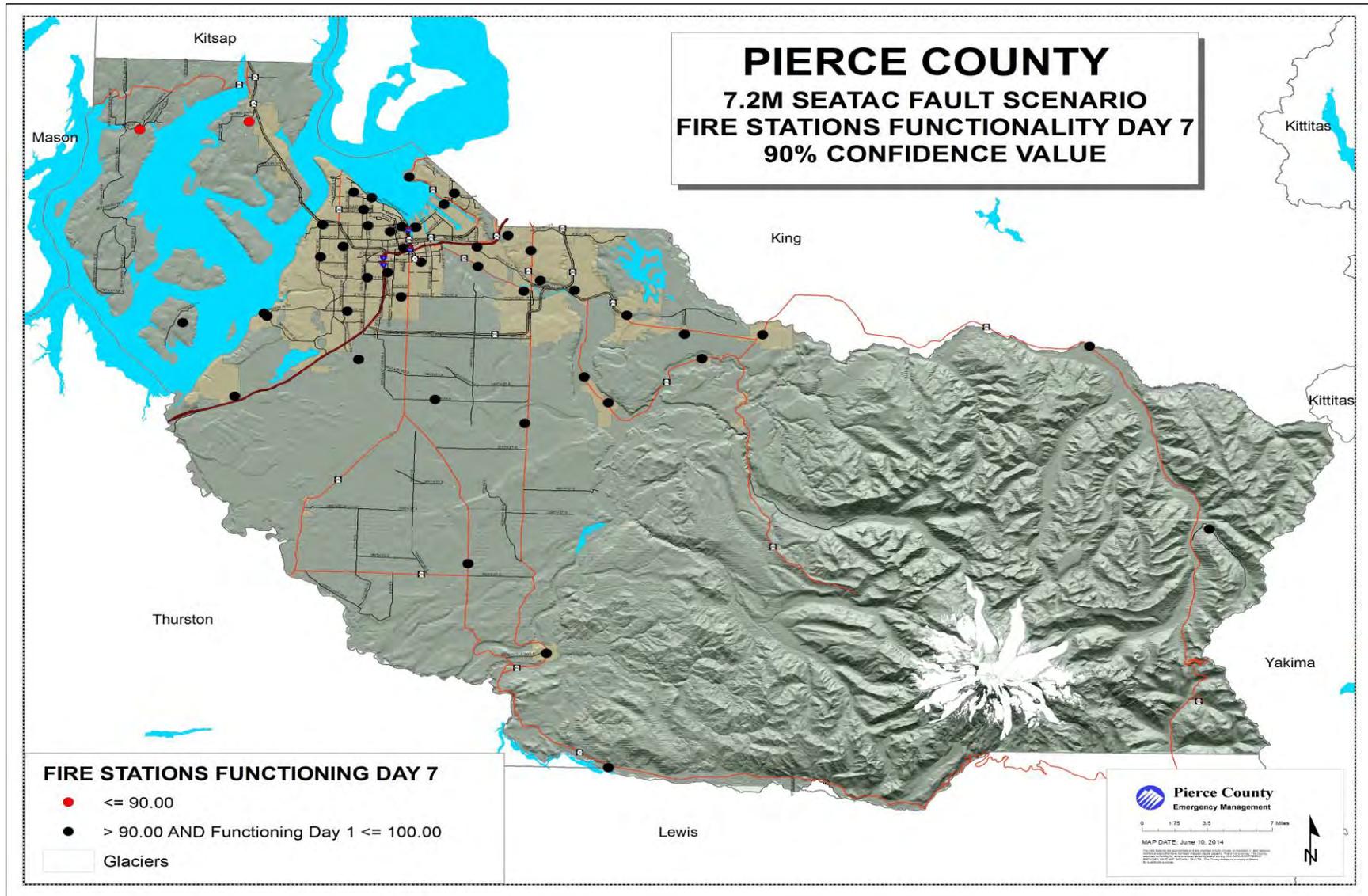
Map D-19 Pierce County SEATAC Fault Scenario Total Losses Map



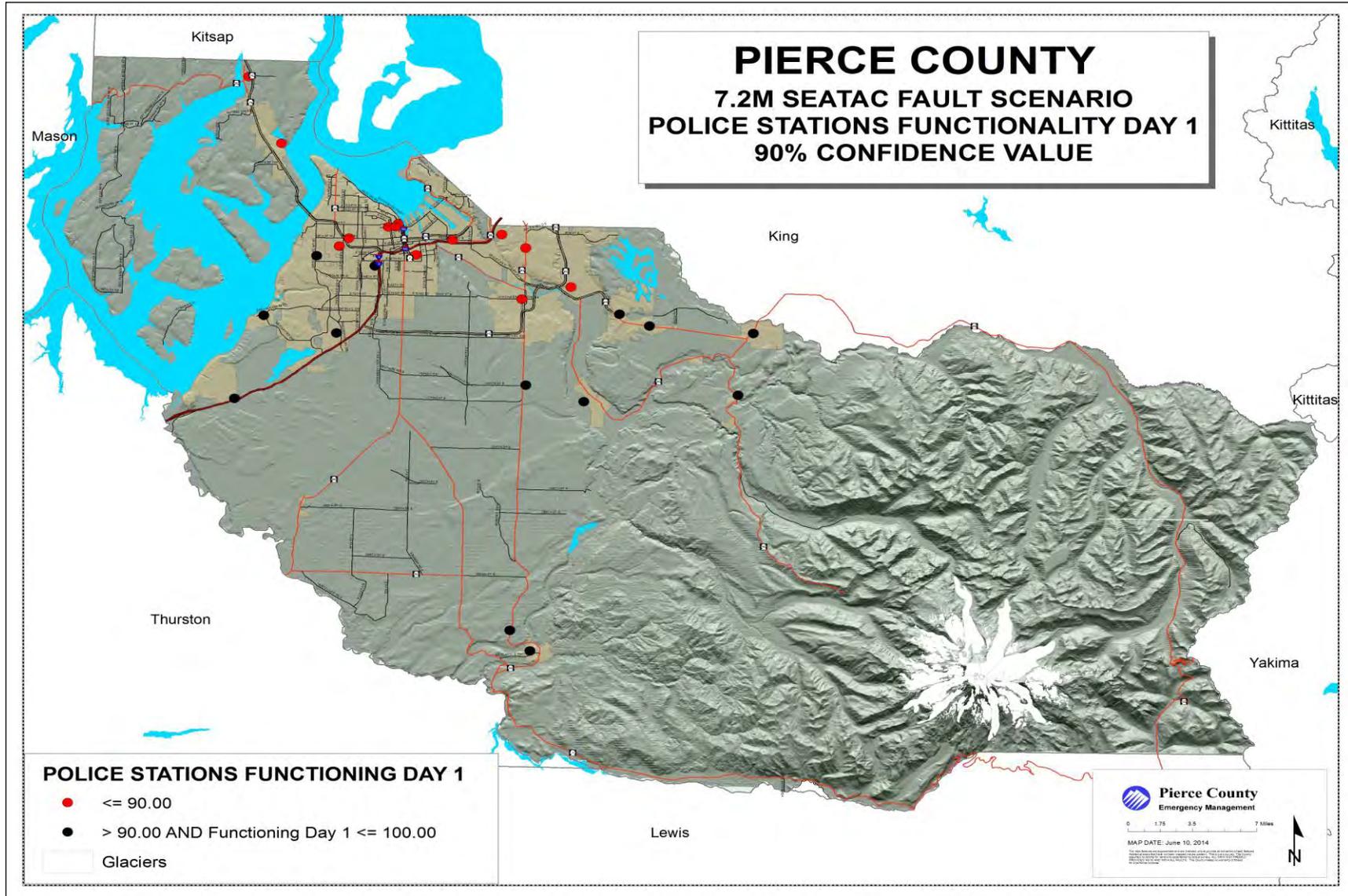
Map D-20 Pierce County SEATAC Fault Scenario Fire Stations Functionality Day 1 Map



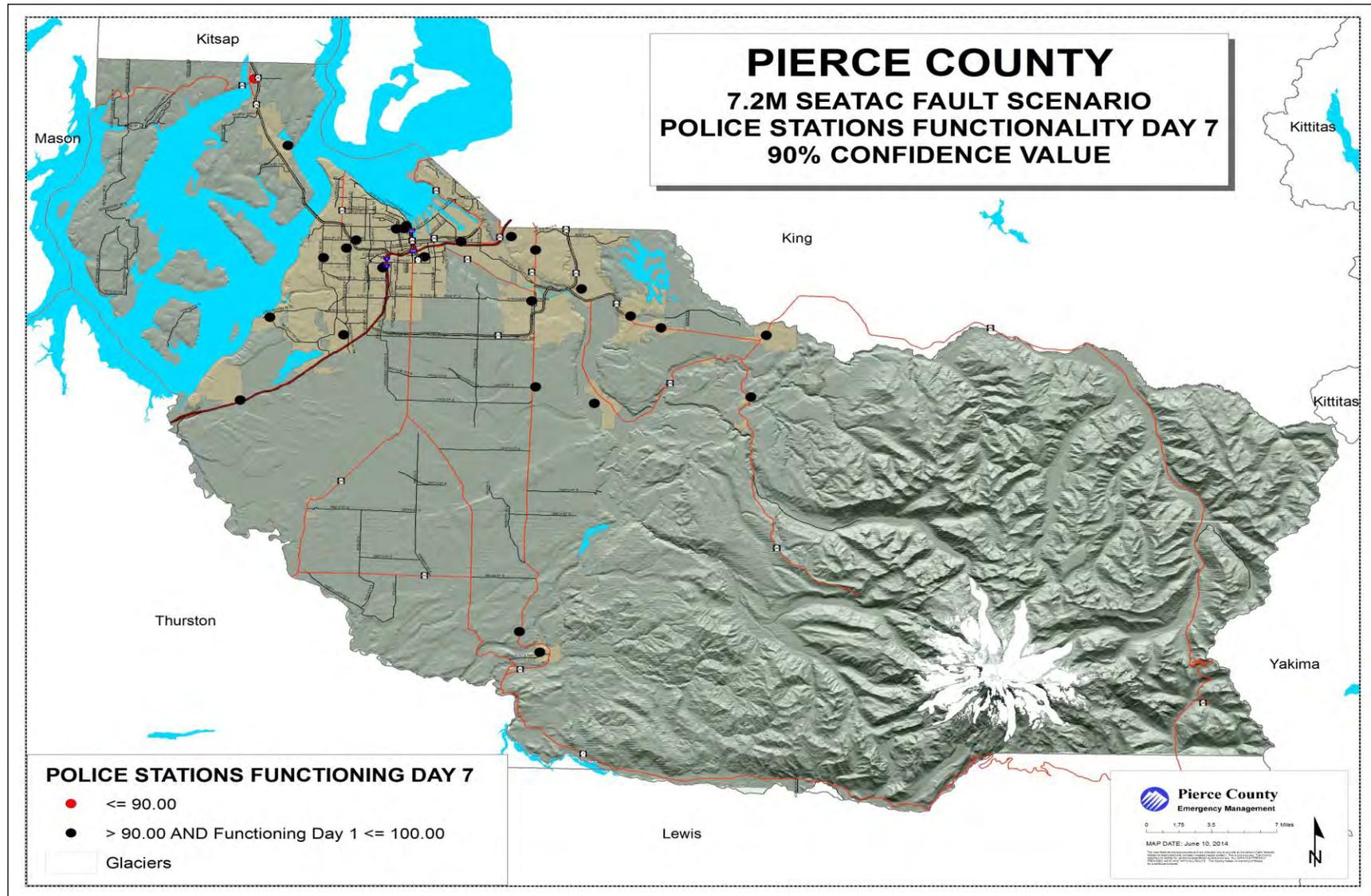
Map D-21 Pierce County SEATAC Fault Scenario Fire Stations Functionality Day 7 Map



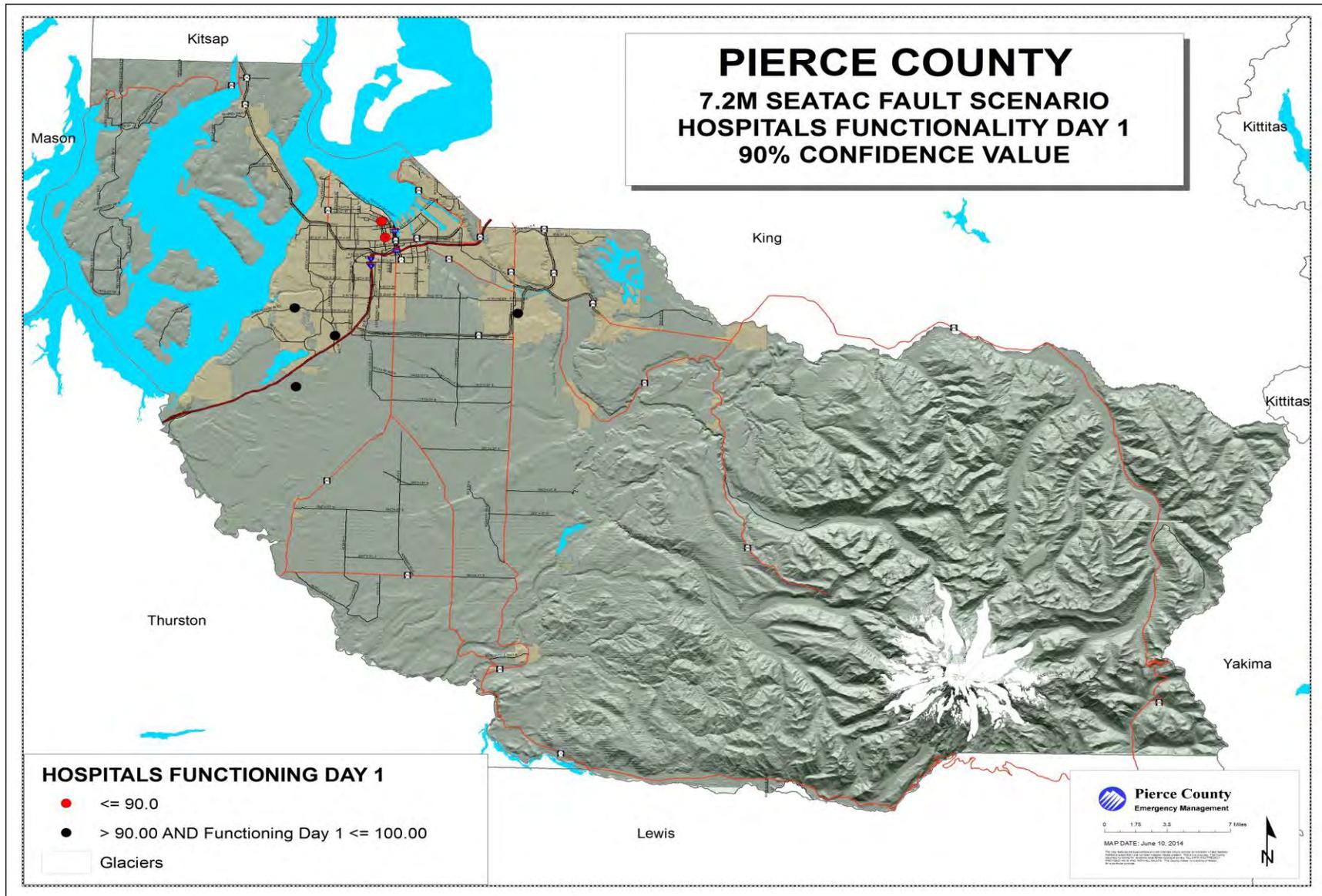
Map D-22 Pierce County SEATAC Fault Scenario Police Department Functionality Day 1 Map⁹



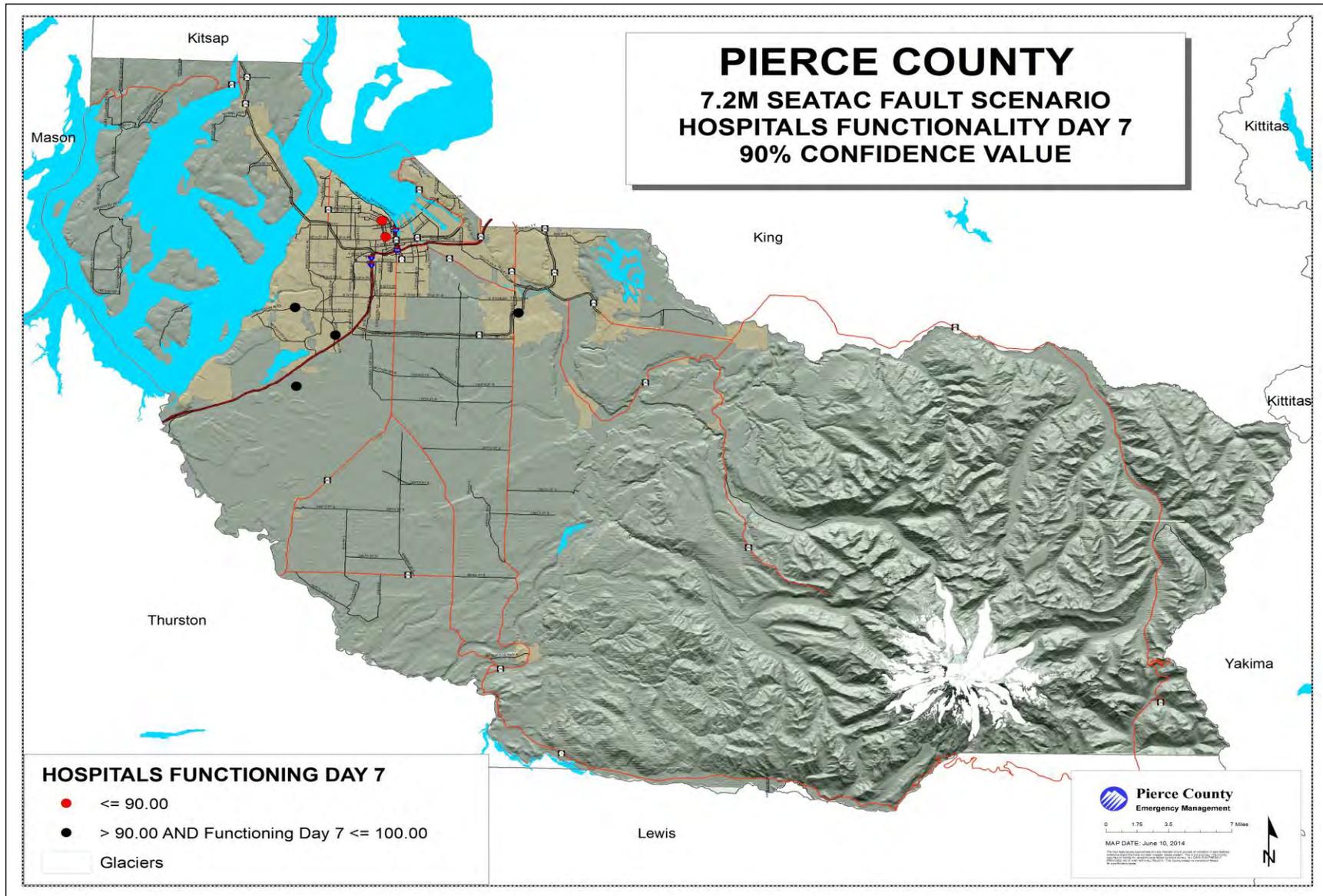
Map D-23 Pierce County SEATAC Fault Scenario Police Department Functionality Day 7 Map¹⁰



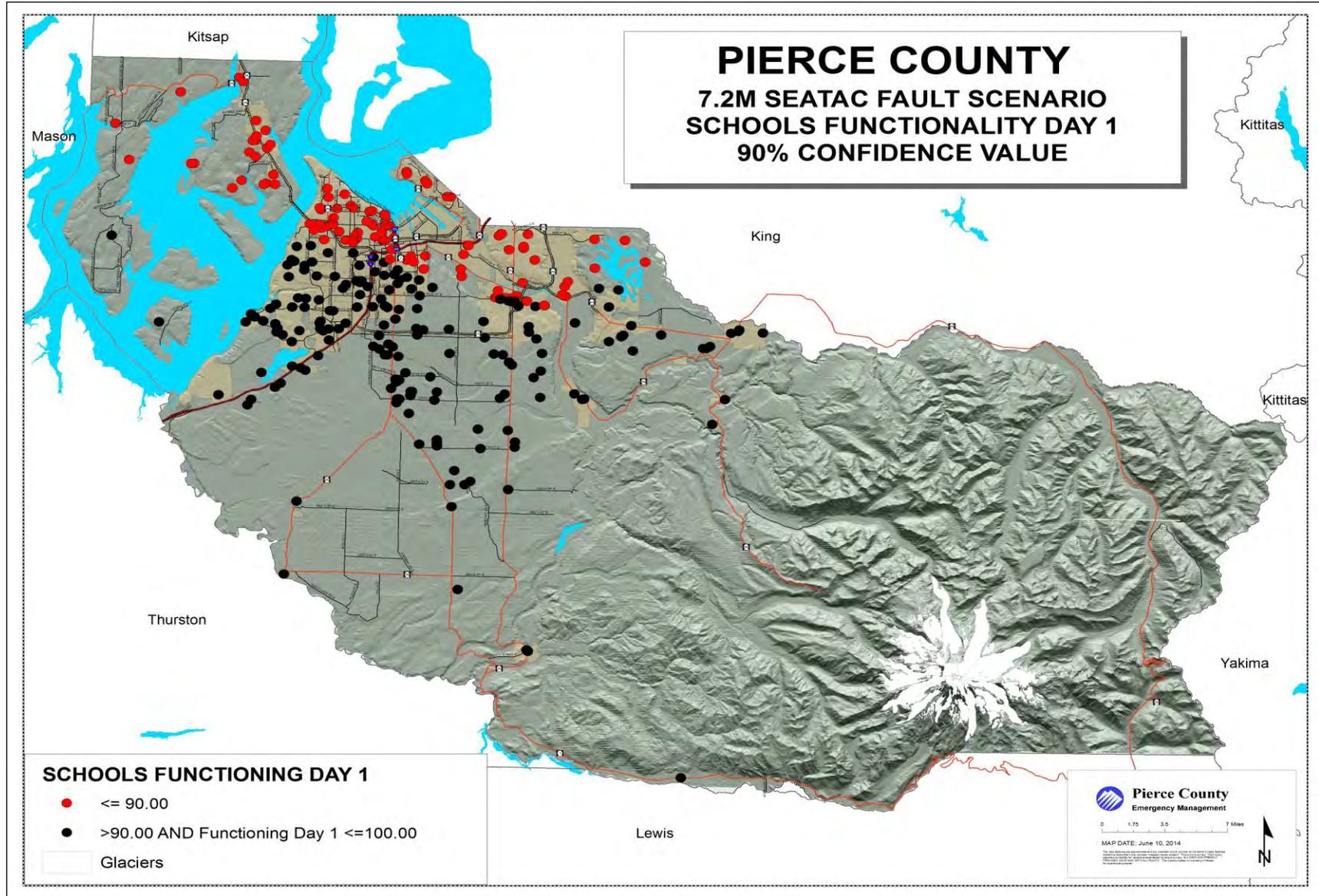
Map D-24 Pierce County SEATAC Fault Scenario Hospital Functionality Day 1 Map¹¹



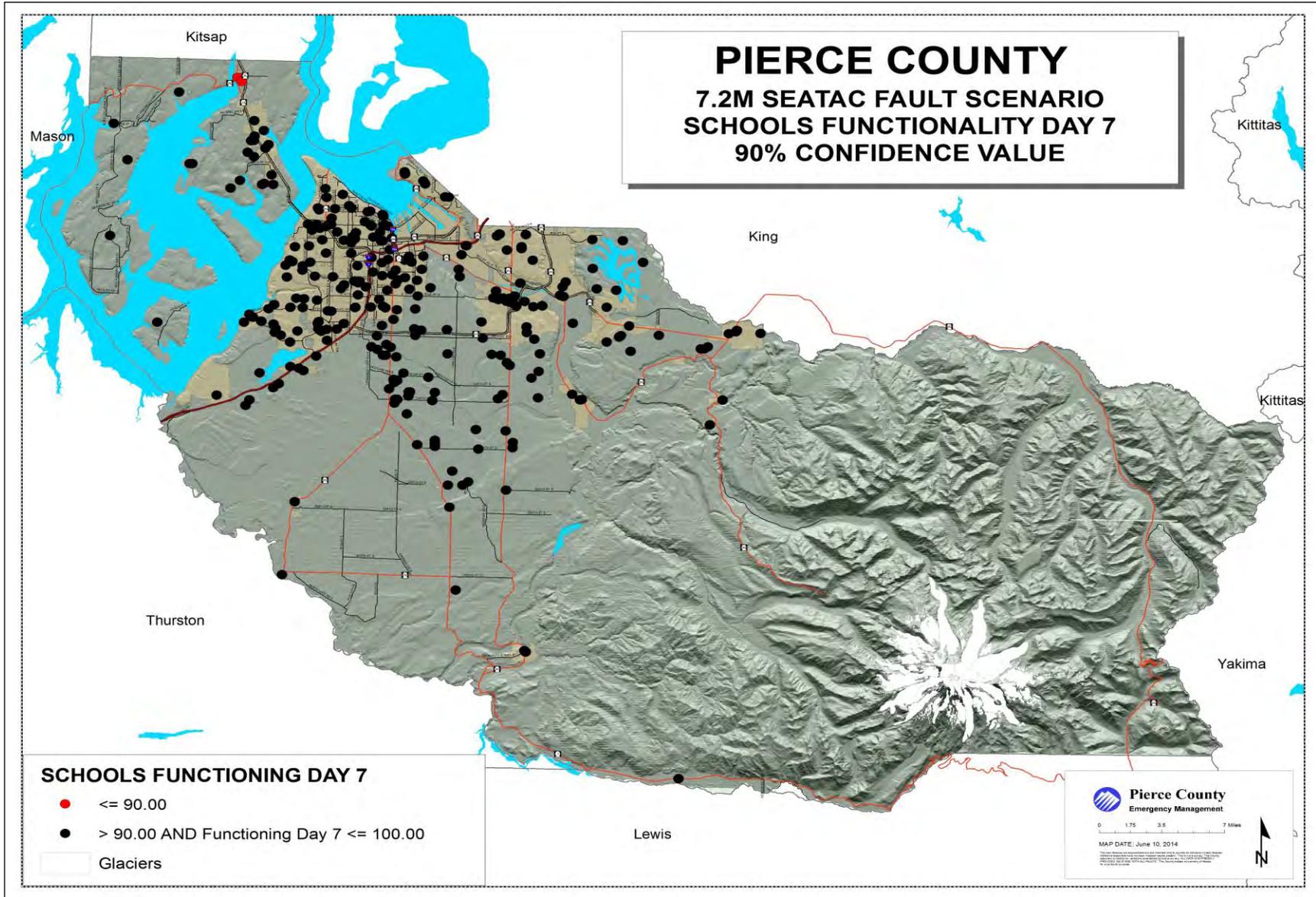
Map D-25 Pierce County SEATAC Fault Scenario Hospital Functionality Day 7 Map¹²



Map D-26 Pierce County SEATAC Fault Scenario Schools Functionality Day 1 Map



Map D-27 Pierce County SEATAC Fault Scenario Schools Functionality Day 7 Map



APPENDIX D-29
 REGION 5 ALL HAZARD MITIGATION PLAN – 2015-2020 EDITION
 STEILACOOM HISTORICAL SCHOOL DISTRICT ADDENDUM

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.

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STEILACOOM HISTORICAL SCHOOL DISTRICT NO. 1 BOARD OF DIRECTORS

Board Meeting Date: August 14, 2019

Strategic Focus Area

- Achieve
- Support
- Connect
- Plan

BACKGROUND INFORMATION

In the fall of 2016, the School Board and Superintendent Weight discussed the development of a comprehensive facility improvement plan for the Steilacoom Historical School District. The discussion focused on the Steilacoom High School and the property the district owns, but the Superintendent and Board preferred a districtwide review of facilities and land usage and engagement of the community, with an outcome that would provide direction for years to come. Informed by this vision, Erickson and McGovern Architects presented a process that would allow for community participation and transparency at the January 2017 Board meeting.

The Board approved the process which began with board presentations in preparation for a community-based committee. Board presentations throughout 2017 covered the following topics: Facilities condition, Financial data, Enrollment and Demographics, and Technology.

Starting in January 2018, the community-based committee met seven times to discuss maintenance and facility needs. Each meeting was held at a different school and prior to each meeting, the Maintenance & Facilities Supervisor provided a tour of the facility for those interested. The group, which reflected a cross-section of the community and staff, divided into three subcommittees with some people moving between the subcommittees: K-5 Elementary, 6-12 Secondary, and Long-Term.

Following a year of study, analysis, feedback, and consensus building; the committee finalized its recommendations in November 2018. A draft of their recommendations was shared with the Board of Directors at the October 24, 2018 Board Meeting for the Board's consideration in development of a Long-Range Capital Facilities Plan. A draft of the plan was presented to the Board at the January 2019 study session and Piper Jaffray presented bond options at the March 2019 study session.

Staff needs guidance from the Board on timing of the bond and projects to include in the bond.

RECOMMENDED ACTION:

No action needed.

Report prepared by:
Dr. Melissa Beard, Chief of Finance and Operations

Committee Recommendations

Utilizing the various forms of information brought before the Committee for review and consideration, the Committee developed a list of facility improvements and prioritized them. Erickson and McGovern consultants estimated the costs for some of the projects. Some projects identified as high priority, such as musical instruments, were not included on this list as they are not eligible to be funded using bonds.

Districtwide

New Elementary School	\$39,610,120
Maintenance/Transportation Facility	\$9,184,310
Extend S2 card system	
Reducing entry points	

Anderson Island-No recommendations outside of maintenance items

Cherrydale-No recommendations outside of maintenance items

Chloe Clark

Portables	\$1,350,270
Preschool playground	

Saltar's Point-No recommendations outside of maintenance items

Pioneer Middle

Add classrooms-8 classrooms	\$9,379,920
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Steilacoom High

Performing Arts Center-500 seats	\$21,215,810
Performing Arts Center-1,000 seats	\$27,140,123
Gym Expansion	\$9,821,504
Covered Stadium	\$2,215,970
Visitor seating	
ROTC program	\$3,208,060
Turf field – practice	\$2,207,350
Recoat roof	
Add a wing-8 classrooms	\$10,497,022
Move softball field to high school	
Collapse the concrete pit	

Steilacoom Historical School District
Future Elementary School Data
for Board discussion purposes only



Property:

Vacant Undeveloped Parcel	Williamson Place DuPont	3001000010-3001000050	14.71 acres	Purchased in 2012
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Enrollment Projections:

Enrollment by Grade Span	Oct. 2018*	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Elementary (K-5)	1,466	1,507	1,502	1,537	1,531	1,542	1,542
Middle School (6-8)	719	723	757	746	780	763	763
High School (9-12)	952	1,022	1,026	1,004	1,015	974	974
TOTAL	3,137	3,252	3,285	3,287	3,326	3,279	3,279

Current School Facility Inventory:

School	Square Footage
Anderson Island	11,366
Cherrydale Primary	42,083
Saltar's Point	55,235
Chloe Clark	59,333
Pioneer Middle	103,128
Steilacoom High	133,374

Standard of Service for class size as identified in CFP:

	Standard of Service
High School	25 students/classroom
Middle School	25 students/classroom
Elementary	20 students/classroom

Projections Using Current K-5 Enrollment:

Steilacoom Students K-5th

	FTE	Current Classrooms	Needed Classrooms
Grades K-3	390	17 general education classrooms at Cherrydale	Need 22 classrooms for K-3 class size (17)
Grades 4-5 (includes AI 4 th and 5 th)	219	19 general education classrooms at Saltar's Point	Need 11 classrooms for Standard of Service (20)
Total Students	609	36 Total General Education Classrooms available	Total Need: 33 classrooms for Steilacoom

*no additional classrooms added to Steilacoom

DuPont Students K-5th

	FTE	Current Classrooms	Needed Classrooms
Grades K-3	580	25 general education classrooms at Chloe Clark	Need 34 classrooms for K-3 class size (17)
Grades 4-5	266	0 classrooms	Need 13 classrooms for Standard of Service (20)
Total Students	846	25 Total General Education Classrooms available	Total Need: 47 classrooms for DuPont

*new school = 22 classrooms

Current **general education classroom** teacher FTE (K-5th) = 61 total classroom teachers
 CD: 17 FTE CC: 25 FTE SP: 19 FTE

Considerations:

- **CLASS SIZE:** Low class size numbers (standard of service and K-3) were used on the above estimates. The state class size requirement of 17 at grades K through 3rd also takes into consideration "other staff", like specialists and special education teachers to give us an average of 17 for the total K-3 population served.

Currently, the maximum contractual class size numbers are 23 in Kindergarten, 25 in 1st grade, 26 in 2nd-3rd, 27 in 4th-5th and 32 in 6th-12th. With current classroom inventory, we do not have capacity to schedule our elementary classes at 17 and 20.

- **CAPACITY:** Phase I of Chloe Clark project originally created capacity for 175 students. The classroom number of 22 would create capacity for 440 students (using the max of 20 students per classroom). An additional elementary school (phased approach) will change the grade configurations at our current elementary schools.
- **OPERATIONS:** A new school would require additional operating costs – heat, water, etc., and some additional staffing in this phased approach. Start-up costs (furniture, technology, playground, etc. would be included in the bond funding). Transportation costs would decrease. The principal position could come from one of our existing admin positions. The existing elementaries would become smaller, thus eliminating the need for 2 administrators at CC and SP.

K. Weight August 14, 2019

Steilacoom Historical School District No. 1

Projected Debt Service Fund Cash Flow as of 3/31

\$ in 1,000's

Calculation Factors						
2019-2021 Collection:	99.00%		Dollars	Assessed	Bond Levy	Actual
2022 Collection:	98.00%		Levied	Value	Rate	Debt Serv.
2023-2024 Collection:	99.00%	2019	\$7,670	\$3,233,309	\$2.37	\$7,604
Spring Collection:	53.00%	2020	7,907	3,362,584	2.35	7,907
Interest earned at:	2.52%	2021	8,441	3,463,418	2.44	8,441
R&P Assessed Value increases per year:		2022	8,780	3,567,278	2.46	8,780
Certified 2019	7.81%	2023	9,130	3,674,254	2.48	9,130
2020	4.00%	2024	9,401	3,784,438	2.48	9,401
2021	3.00%					\$66
2022 - 2068	3.00%					
2019 Taxes Uncollected at						
Date of Beginning Balance	\$6,832		File:	Steil_139		

Period Beginning	Beginning Balance	Additional Proceeds	Interfund Loan	Levy Collection	Interest Earnings	Prior Bonds	Projected Debt Service		Ending Balance	Period Ending
							2023 Bonds	Future Bonds		
1/1/2019	-				-				-	1/31/2019
2/1	-				-				-	2/28
3/1	-				-				1,432	3/31
4/1	1,432			637	3				2,072	4/30
5/1	2,072			2,231	4				4,307	5/31
6/1	4,307			319	9	(820)	0	0	3,815	6/30
7/1	3,815				8				3,823	7/31
8/1	3,823				8				3,831	8/31
9/1	3,831				8				3,839	9/30
10/1	3,839			714	8				4,561	10/31
11/1	4,561			2,498	10				7,069	11/30
12/1	7,069			357	15	(6,785)	0	0	656	12/31
1/1/2020	656				1				657	1/31/2020
2/1	657				1				658	2/29
3/1	658				1				660	3/31
4/1	660			830	1				1,491	4/30
5/1	1,491			2,904	3				4,398	5/31
6/1	4,398			415	9	(676)	0	0	4,146	6/30
7/1	4,146				9				4,155	7/31
8/1	4,155				9				4,164	8/31
9/1	4,164				9				4,172	9/30
10/1	4,172			736	9				4,917	10/31
11/1	4,917			2,575	10				7,503	11/30
12/1	7,503			368	16	(7,231)	0	0	655	12/31
1/1/2021	655				1				657	1/31/2021
2/1	657				1				658	2/28
3/1	658				1				660	3/31
4/1	660			886	1				1,547	4/30
5/1	1,547			3,100	3				4,650	5/31
6/1	4,650			443	10	(528)	0	0	4,575	6/30
7/1	4,575				10				4,585	7/31
8/1	4,585				10				4,594	8/31
9/1	4,594				10				4,604	9/30
10/1	4,604			786	10				5,399	10/31
11/1	5,399			2,749	11				8,160	11/30
12/1	8,160			393	17	(7,913)	0	0	657	12/31
1/1/2022	657				1				658	1/31/2022
2/1	658				1				659	2/28
3/1	659				1				661	3/31
4/1	661			912	1				1,574	4/30
5/1	1,574			3,192	3				4,769	5/31
6/1	4,769			456	10	(392)	0	0	4,843	6/30
7/1	4,843				10				4,853	7/31
8/1	4,853				10				4,864	8/31
9/1	4,864				10				4,874	9/30
10/1	4,874			809	10				5,693	10/31
11/1	5,693			2,831	12				8,535	11/30
12/1	8,535			404	18	(8,387)	0	0	571	12/31

Period	Beginning	Additional	Interfund	Levy	Interest	Prior	Projected Debt Service		Ending	Period
							2023	Future		
Beginning	Balance	Proceeds	Loan	Collection	Earnings	Bonds	Bonds	Bonds	Balance	Ending
1/1/2023	571				1				572	1/31/2023
2/1	572				1				573	2/28
3/1	573				1				574	3/31
4/1	574			958	1				1,533	4/30
5/1	1,533			3,353	3				4,890	5/31
6/1	4,890			479	10	(217)	0	0	5,162	6/30
7/1	5,162				11				5,173	7/31
8/1	5,173				11				5,184	8/31
9/1	5,184				11				5,194	9/30
10/1	5,194			850	11				6,055	10/31
11/1	6,055			2,974	13				9,041	11/30
12/1	9,041			425	19	(8,912)	0	0	573	12/31
1/1/2024	573				1				574	1/31/2024
2/1	574				1				575	2/29
3/1	575				1				576	3/31
4/1	576			987	1				1,564	4/30
5/1	1,564			3,453	3				5,020	5/31
6/1	5,020			493	11	0	(3,174)	0	2,350	6/30
7/1	2,350				5				2,355	7/31
8/1	2,355				5				2,360	8/31
9/1	2,360				5				2,365	9/30
10/1	2,365			875	5				3,245	10/31
11/1	3,245			3,062	7				6,313	11/30
12/1	6,313			437	13	0	(6,227)	0	537	12/31

Steilacoom Historical School District No. 1

TOTAL DEBT CAPACITY ANALYSIS

Certified 2019 Bond Assessed Value	\$3,233,308,776
Statutory Capacity Rate	<u>5.000%</u>
Total Statutory Capacity	\$161,665,439
Less: Outstanding Voted Debt	(\$36,595,000)
Less: Outstanding Non-Voted Debt	<u>\$0</u>
Remaining Capacity	<u><u>\$125,070,439</u></u>

Steilacoom Historical School District No. 1

Projected Debt Capacity: Steil_139

Date	Assessed Valuation	Debt Capacity (5% of A.V.)	Debt Outstanding				Unused Capacity	
			Prior Debt	2023 Issue	2024 Issue	Total Debt	Amount	Percent
1/1/2019	\$3,233,309	\$161,665	\$36,595	\$0	\$0	\$36,595	\$125,070	77.36%
12/1/2019	3,233,309	161,665	30,630	0	0	30,630	131,035	81.05%
12/1/2020	3,362,584	168,129	24,075	0	0	24,075	144,054	85.68%
12/1/2021	3,463,418	173,171	16,690	0	0	16,690	156,481	90.36%
12/1/2022	3,567,278	178,364	8,695	0	0	8,695	169,669	95.13%
12/1/2023	3,674,254	183,713	0	89,000	0	89,000	94,713	51.55%
12/1/2024	3,784,438	189,222	0	84,360	89,000	173,360	15,862	8.38%
12/1/2025	3,897,928	194,896	0	84,360	87,180	171,540	23,356	11.98%
12/1/2026	4,014,823	200,741	0	82,250	85,530	167,780	32,961	16.42%
12/1/2027	4,135,225	206,761	0	79,920	83,685	163,605	43,156	20.87%
12/1/2028	4,259,239	212,962	0	77,360	81,635	158,995	53,967	25.34%
12/1/2029	4,386,973	219,349	0	74,560	79,370	153,930	65,419	29.82%
12/1/2030	4,518,540	225,927	0	71,505	76,875	148,380	77,547	34.32%
12/1/2031	4,654,053	232,703	0	68,180	74,140	142,320	90,383	38.84%
12/1/2032	4,793,631	239,682	0	64,565	71,150	135,715	103,967	43.38%
12/1/2033	4,937,397	246,870	0	60,645	67,890	128,535	118,335	47.93%
12/1/2034	5,085,476	254,274	0	56,400	64,345	120,745	133,529	52.51%
12/1/2035	5,237,998	261,900	0	51,810	60,495	112,305	149,595	57.12%
12/1/2036	5,395,095	269,755	0	46,855	56,320	103,175	166,580	61.75%
12/1/2037	5,556,905	277,845	0	41,515	51,805	93,320	184,525	66.41%
12/1/2038	5,723,569	286,178	0	35,765	46,930	82,695	203,483	71.10%
12/1/2039	5,895,233	294,762	0	29,585	41,665	71,250	223,512	75.83%
12/1/2040	6,072,047	303,602	0	22,945	36,000	58,945	244,657	80.58%
12/1/2041	6,254,166	312,708	0	15,820	29,900	45,720	268,988	86.00%

Prepared 8/6/2019

45. **PiperJaffray** 8%

