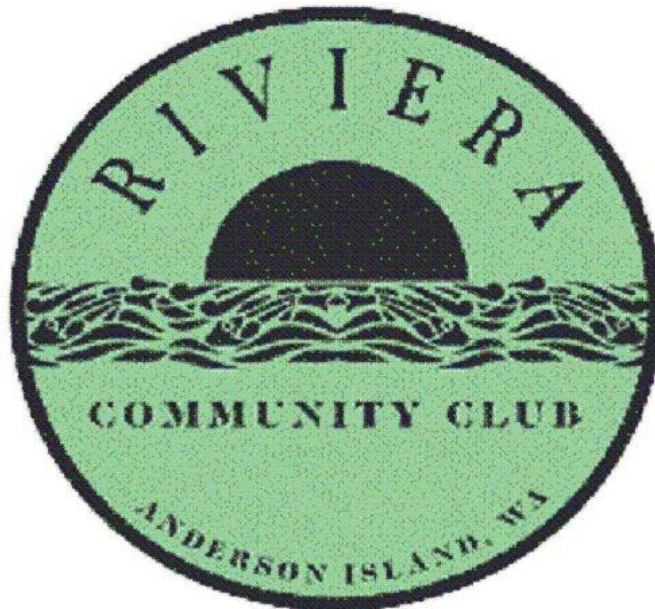


**REGION 5 ALL HAZARD MITIGATION PLAN
RIVIERA COMMUNITY CLUB
2015-2020 EDITION**



Prepared for:

Riviera Community Club
11016 Country Club DR
Anderson Island, WA 98303

In Cooperation with:

Pierce County Department of Emergency Management
2501 S. 38th Street, Suite D
Tacoma, WA 98409

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REGION 5 ALL HAZARD MITIGATION PLAN RIVIERA COMMUNITY CLUB

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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 HAZARD MITIGATION PLAN
2015-2020 EDITION
RIVIERA COMMUNITY CLUB
PLAN PROCESS SECTION

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Changes To Jurisdiction Plan in this Document

This Process Section for the Riviera Community Club 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 Riviera Community Club Hazard Mitigation Plan.

Change Matrix

This Matrix of Changes documents the pertinent changes made from the November 2008 Riviera Community Club Plan for the Region 5 Hazard Mitigation Plan; 2015-2020 Update. 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 – Riviera Community Club 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.

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 – Special Purpose Group

NAME	TITLE	JURISDICTION-DEPARTMENT
Larry Smith	Volunteer	American Red Cross-Mt Rainier Chapter
Steve Finley	Director, Emergency Services	American Red Cross-Mt Rainier Chapter
Curt Simonson	President	Crystal River Ranch Association
Dee Patterson	President	Crystal Village Homeowners Association
Claudia Ellsworth	Island Manager	Herron Island Homeowners Association
Jim McDonald	Risk Manager	Metro Parks District
Rod Baker	Chief of Transit Police	Pierce Transit
Eric Holdeman	Director of Security	Port of Tacoma
Tom Straub	Special Projects	Raft Island Homeowners Association
Robert McCoy	Volunteer	Raft Island Homeowners Association
Douglas Van Doren	Special Projects	Raft Island Homeowners Association
Mark Metsker	Emergency Manager	Raft Island Homeowners Association
John Cammon	Maintenance Superintendent	Riviera Community Club
LeRoy Seeley	President	Taylor Bay Beach Club

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 1-1 Planning Team Meetings – Special Purpose District Group

Planning Team Meeting #1 - Pierce County Library Administration Bldg-March 21, 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 – Pierce County Emergency Operations Center-April 11, 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. Everyone was reminded to set up their Elected Official meetings. Everyone was given a copy of their original Section 6 – Infrastructure Information.

Planning Team Meeting #3 - Pierce County Emergency Operations Center-May 9, 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. There was a recap of the Infrastructure Forms and the information necessary and some forms were collected at the meeting. The primary focus for this meeting revolved around the Capability Section and how to recognize capabilities that already exist within the jurisdiction. Copies of existing Capability Sections were handed out and a discussion followed regarding making this section more comprehensive for everyone.

THERE WERE NO PLANNING TEAM MEETINGS IN JUNE OF 2012

Planning Team Meeting #4 - Pierce County Emergency Operations Center-July 11, 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 - Pierce County Emergency Operations Center-Aug 8, 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 - Pierce County Emergency Operations Center-Sept 12, 2012

<p>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.</p>
<p>Planning Team Meeting #7 - Pierce County Emergency Operations Center-Oct 10, 2012</p>
<p>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.</p>
<p>Planning Team Meeting #8 - Pierce County Emergency Operations Center-Nov 14, 2012</p>
<p>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.</p>
<p>THERE WERE NO PLANNING TEAM MEETINGS IN DECEMBER OF 2012</p>
<p>The month of December was dedicated allowing the Plan Coordinators time to catch up on documentation for the 78 jurisdictions.</p>
<p>REGIONAL PLANNING MEETINGS WERE HELD IN JANUARY OF 2013 (See Table 1-15)</p>
<p>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.</p>
<p>Planning Team Meeting #9 - Pierce County Emergency Operations Center-Feb 13, 2013</p>
<p>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.</p>
<p>Planning Team Meeting #10 - Pierce County Emergency Operation Center-Mar 13, 2013</p>
<p>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.</p>

Joint Planning Requirement

Riviera Community Club does not have any planning regulations to which they must be compliant.

Endnote

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

SECTION 2
REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
RIVIERA COMMUNITY CLUB
PROFILE SECTION

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Riviera Community Club

The Riviera Community Club is located on Anderson Island in the extreme southern portion of Puget Sound and encompasses approximately 30 percent of the total Island area. The Island is approximately three miles via ferry from the Town of Steilacoom in Southwest Pierce County. The Club is central on the Island and includes 1500 acres, or 2.4 square miles. The entire area has been subdivided into approximately 3100 lots. The Community Club includes a golf course, driving range, marina, a private campground and parks on the two lakes, Lake Florence and Lake Josephine, within its boundaries. The Club also operates the Lakeshore Restaurant on Lake Josephine which is open to the general public. The Club maintains a water system which includes three active ground water wells, two reservoirs, a 150,000 gallon and a 235,000 gallon, and 187 fire hydrants. There are 900 residents within the Club membership with additional vacant lots throughout its boundaries.

Mission Statement

It shall be the mission of Riviera Community Club to develop a sense of community, preserve the aesthetics of the neighborhood, enhance the value of the properties and maintain a high quality of life. Also operating our own water system our goal shall be to provide high quality drinking water and excellent customer service.

Services Summary

Riviera Community Club has a main office with a meeting room, parks, a marina, a campground, a restaurant, and a golf course and driving range are available for the use of its members. The restaurant is open to the public. The Club also maintains its own public water system to serve its residents and infrastructure.

Table 2-1 Riviera Community Club Services

ASSOCIATION SERVICES			
SERVICE	YES/NO	SERVICE	YES/NO
President	Yes	Boat Launch Construction & Maintenance	Yes
Vice President	Yes	Dock Construction & Maintenance	Yes
Secretary	Yes	Water Service	Yes
Treasurer	Yes	Cable Service	No
Board Members	Yes	Electric/Energy Service (Tanner Electric)	No
Trustees	Yes	Natural Gas Service	No
Special Committees	Yes	Telephone Service	No
Parks Maintenance	Yes	Waste Water Treatment (all septic)	No
Sidewalks	No		
Road Maintenance	No	Solid Waste Disposal	No

Geo-Political Summary

Table 2-2 Geo-Political Summary¹

Area	Area (sq mi)	Elevation Range (ft.)	Major Water Features	Regional Partners	
				Shared Borders	Land Use Authorities
Riviera Community Club	1.68	0-280	<ul style="list-style-type: none"> • Kitsap Watershed • 17-Islands Basin 	<ul style="list-style-type: none"> • Unincorporated Pierce County 	<ul style="list-style-type: none"> • Unincorporated Pierce County

Map 2-1 Riviera Community Club - Basemap

RIVIERA COMMUNITY CLUB - BASE MAP



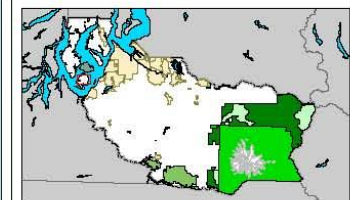
LEGEND

-  RIVIERA COMMUNITY CLUB
-  UNINCORPORATED PIERCE COUNTY
-  PARKS/OPEN SPACE
-  LIMITED ACCESS HIGHWAY
-  MAJOR ROAD
-  ROADS
-  RIVERS/STREAMS
-  WATER BODY

The map shows an approximate and an intended only to provide an indication of road location. Additional areas that have not been mapped may be present. This is not a warranty. The County assumes no liability for damages or injuries resulting from use of the map. ALL DATA IS EXPRESSLY PROVIDED AS IS AND WITH ALL FAULTS. THE COUNTY MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.



0 0.375 0.75 Miles



Population Summary

Demographics

Table 2-3 Population²

Jurisdiction	Area (sq mi)	Population	Population Density (people/sq mi)
Riviera Community Club	1.68	819	489

Special Populations

Table 2-4 Special Populations³

Jurisdiction	Population	Population 65 Plus	% of Total	Population Under 20	% of Total
Riviera Community Club	819	239	29.2%	136	16.6%
Region 5	795,225	89,860	11.3%	193,240	24.3%

The Riviera Community Clubs' overall population increased from 539 people to 819 people while the population density increased by 168 people per square mile. The 65+ and older populations and ages 20 and younger have only slightly increased. The Riviera Community Club has an identified growing population with a higher population density which increases vulnerability in comparison to the previous update.

General

Table 2-5 Parcel Summary⁴

Jurisdiction	# Parcels	Land Value	Average Land Value	Improved Value	Average Improved Value
Riviera Community Club	3,137	\$39,717,400	\$12,661	\$90,659,400	\$28,900
Region 5	319,165	\$29,742,651,792	\$93,189	\$49,650,950,160	\$155,577

Jurisdiction	Total Assessed Value	Average Assessed Value
Riviera Community Club	\$130,376,800	\$41,561
Region 5	\$79,393,601,952	\$248,766

Jurisdiction Infrastructure

The following table shows the overview of infrastructure owned by the Riviera Community Club. The infrastructure is categorized according to the infrastructure sectors as designated by the Department of Homeland Security. This chart is intended as a summary only.

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

Table 2-6 Owned Infrastructure⁵

Total Infrastructure	Emerg. Services	Telecomm	Transportation	Water	Energy	Government	Commercial	Total Value (\$)
4	0	0	0	2	0	0	2	\$2,129,200

Economic Summary

Table 2-7 Fiscal Summary⁶

Jurisdiction	Annual Operational Budget
--------------	---------------------------

Riviera Community Club	\$1,575,693.00
------------------------	----------------

Resource Directory

Regional

- **Pierce County Government**
<http://www.piercecountywa.org/PC/>
- **Pierce County DEM**
<http://www.piercecountywa.org/pc/abtus/ourorg/dem/mitandprep.htm>
- **Pierce County PALS**
<http://www.co.pierce.wa.us/pc/abtus/ourorg/pals/palshome.htm>

National

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

Endnotes

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

² “Population” from Census 2010, Office of Financial Management.

³ “Special Population” from Census 2010, Office of Financial Management.

⁴ Information from Pierce County GIS application, CountyView Pro (2013/14).

⁵ Information obtained from Jurisdiction from Infrastructure Matrix.

⁶ Information obtained from Jurisdiction Budget.

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 HAZARD MITIGATION PLAN
2015-2020 EDITION
RIVIERA COMMUNITY CLUB
CAPABILITY IDENTIFICATION SECTION**

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Legal and Regulatory

Table 3-1 Legal and Regulatory

Regulatory Tools (Ordinances and Codes)	Yes or No
Jurisdiction Capabilities	
Building Construction/Design Construction Codes	No
Flood Damage Prevention Ordinance	No
Growth Management Ordinance	No
Critical Area Ordinance	No
Hazard Setback Requirements	No
Hillside and Steep Slope Ordinance	No
Land Use and Regulatory Codes	No
Mechanical Codes	No
Plan Review Requirements	No
Plumbing Codes	No
Real Estate Disclosure Requirements	No
Storm Water Management	No
Subdivision Ordinance or Regulations (CC&R's)	Yes
Tax and License Codes	No
Wildfire Ordinance	No
Zoning Ordinance	No

Administrative Capability

Table 3-2 Administrative Capability

Administrative Tools (Agency, Departments or Programs)	Yes or No
Jurisdiction Capabilities	
Architectural Review Board/Historic Review	No
Board of Adjustments/Hearing Examiner	No
Building Official	No
Chamber of Commerce	No
City/Town/Association Council/Board	Yes
City/Town/Association Meetings	Yes
City/Town Planning Commission	No
City/Town/Association Website	Yes
Commercial Fire Safety/Code Inspection Program	No
Community CPR/First Aid Program	No
Community Emergency Response Teams	No
Downtown Revitalization Committee	No
Economic Development Board (county only)	No
Emergency Manager	No
Engineers (under contract)	Yes
Families First Coalition	No
Fire and Injury Prevention Program	No
Fire Chief (East Pierce)	No
Fire Safety & Disaster Classes in Schools	No
Flood Plan Manager	No
Government TV Access	No
Grant Writers	No
Home Safety Council	No
Information included in Utility Bills	No
Lahar Warning System	No
Planners	No
Planning Commission	No
Police Chief	No
Police Department	No
Public Utility	No
Public Works Department	No
Safe Streets Program	No
Safety Fairs	No
Stream Team	No
Surveyors	No

Table 3-3 Administrative Capability (Con'd)

Administrative Tools (Agency, Departments or Programs)	Yes or No
<u>Regional Capabilities</u>	
Pierce County ALERT	Yes
Pierce County Business Districts	No
Pierce County Department of Emergency Management	No
Pierce County Fire Agencies plus Mutual Aid with others	Yes
Pierce County Hospitals	Yes
Pierce County Law Enforcement Agencies and Mutual Aid with others	Yes
Pierce County Neighborhood Associations	Yes
Pierce County Neighborhood Emergency Teams (NET)	No
Pierce County Newspapers	Yes
Pierce County Parks Commission/Board	No
Pierce County Power Companies	Yes
Pierce County Parent Teacher's Association	Yes
Neighboring Counties	Yes
Pierce County Fire Chiefs Association	Yes
Pierce County Neighborhood Emergency Teams (PCNET)	No
Pierce County Police Chiefs Association	No
Pierce County Safe Kids Coalition	No
Pierce County Sheriffs Department	Yes
Puget Sound Clean Air Agency	Yes
Puget Sound Energy	Yes
Puget Sound Regional Council	Yes
Puget Sound Water Quality Management Plan	Yes
Service Organizations	Yes
Tacoma/Pierce County Health Department	Yes
Tribes	Yes

Technical Capability

Table 3-4 Technical Capability

Technical Tools (Plans and Other)	Yes or No
<u>Jurisdiction Capabilities</u>	
After Action Reports of Any Incident	No
Capital Improvement Plan	Yes
Comprehensive Emergency Management Plan	No
Comprehensive Plan	No
Continuity of Governmental Services and Operations Plan (COOP and COG)	No
Critical Facilities Plan	No
Drainage Master Plan	No
Economic Development Plan	No
Emergency Evacuation Plan	No
Emergency Response Plan	No
Generator Placement Plan	No
Habitat Plan	No
Hazardous Materials Response Plan	No
Lahar Evacuation Plan	No
Pandemic Flu Plan	No
Post-Disaster Recovery Plan	No
Sewer/Wastewater Comprehensive Plan	No
Storm Comprehensive Plan	No
Water Comprehensive Plan	Yes
<u>Regional Capabilities</u>	
Coordinated Water System Plan and Regional Supplement 2001	No
Local and Regional Emergency Exercises – All Types	No

Fiscal Capability

Table 3-5 Fiscal Capability

Fiscal Tools (Taxes, Bonds, Fees, and Funds)	Yes or No
<u>Jurisdiction Capabilities</u>	
TAXES:	
Authority to Levy Taxes	No
BONDS:	
Authority to Issue Bonds	No
FEES:	
Fees for Water, Sewer, Gas or Electric Service	Yes
Impact Fees for Homebuyers/Developers for New Developments/Homes	No
Local Improvement District (LID)	No
FUNDS:	
Capital Improvement Project Funds	Yes
Enterprise Funds	No
General Operating Fund	Yes
Internal Service Funds	No
Special Revenue Funds	No
Withhold Spending in Hazard-Prone Areas	No
<u>Regional Capabilities</u>	
Pierce County Land Conservancy	No
Cascade Land Conservancy	No

Specific Capabilities

Table 3-6 Specific Capabilities

Jurisdiction Specific Capabilities	Yes or No
<u>Legal & Regulatory</u>	
CC&R's	Yes
<u>Administrative & Technical</u>	
<u>Fiscal</u>	
Annual Budget	Yes
HOA Collections	Yes

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

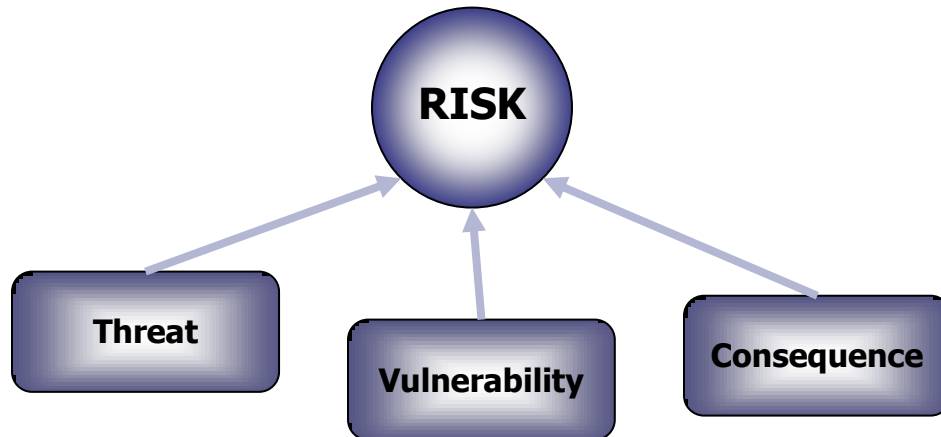
REGION 5 ALL HAZARD MITIGATION PLAN 2015-2020 EDITION RIVIERA COMMUNITY CLUB RISK ASSESSMENT SECTION

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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 is 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 six tables:

- **Table 4-2 General Exposure**
- **Table 4-3 Population Exposure**
- **Table 4-4 General Infrastructure Exposure**
- **Table 4-5a Consequence Analysis Chart – Geological**
- **Table 4-5b Consequence Analysis Chart – Meteorological**
- **Table 4-5c Consequence Analysis Chart – Technological**

Each jurisdiction has its own Vulnerability Analysis, and it is included in this section.

The **Consequence Identification** is organized by Threat. Each threat page summarizes the hazard, graphically illustrates exposures from the Vulnerability Analysis, and lists corresponding Consequences. Each jurisdiction has its own Consequence Identification and it is included in this section: avalanche, earthquake, landslide, tsunami, volcanic, drought, flood, severe weather, 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

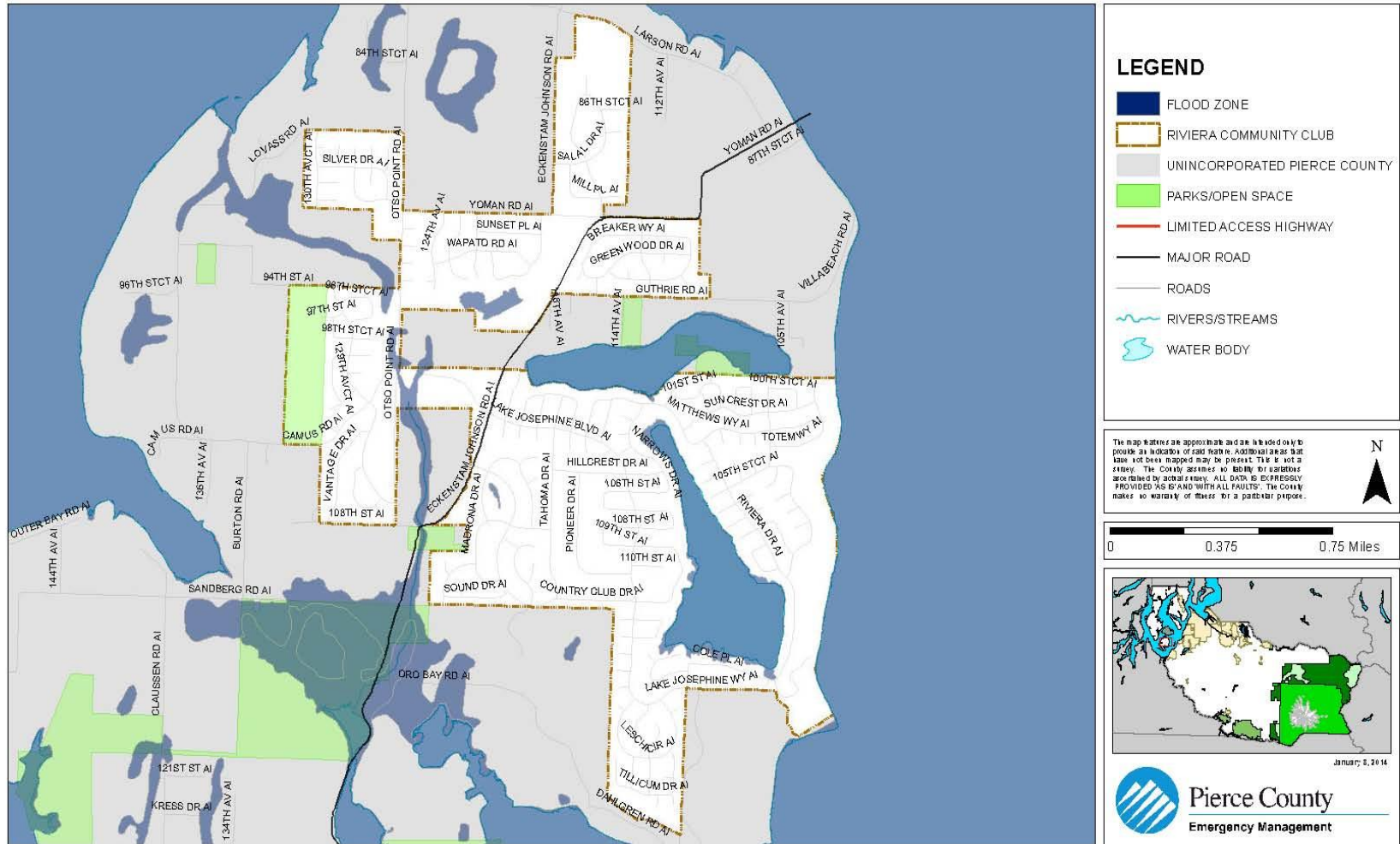
Table 4-1b Region 5 Hazard Identification Summary – Meteorological and Technological

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

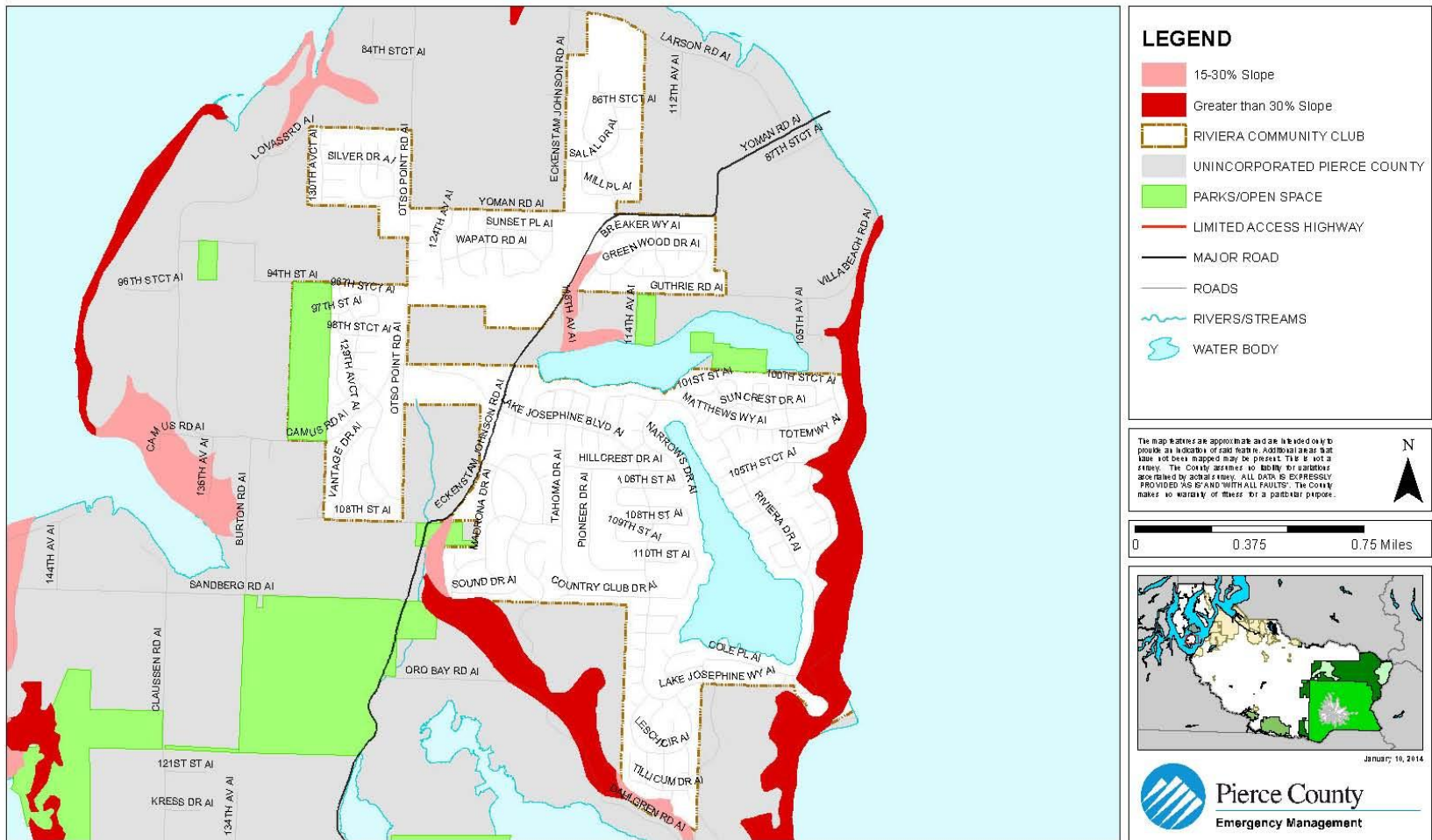
Map 4-1 Riviera Community Club – Flood Hazard Map

RIVIERA COMMUNITY CLUB - FLOOD HAZARD AREA

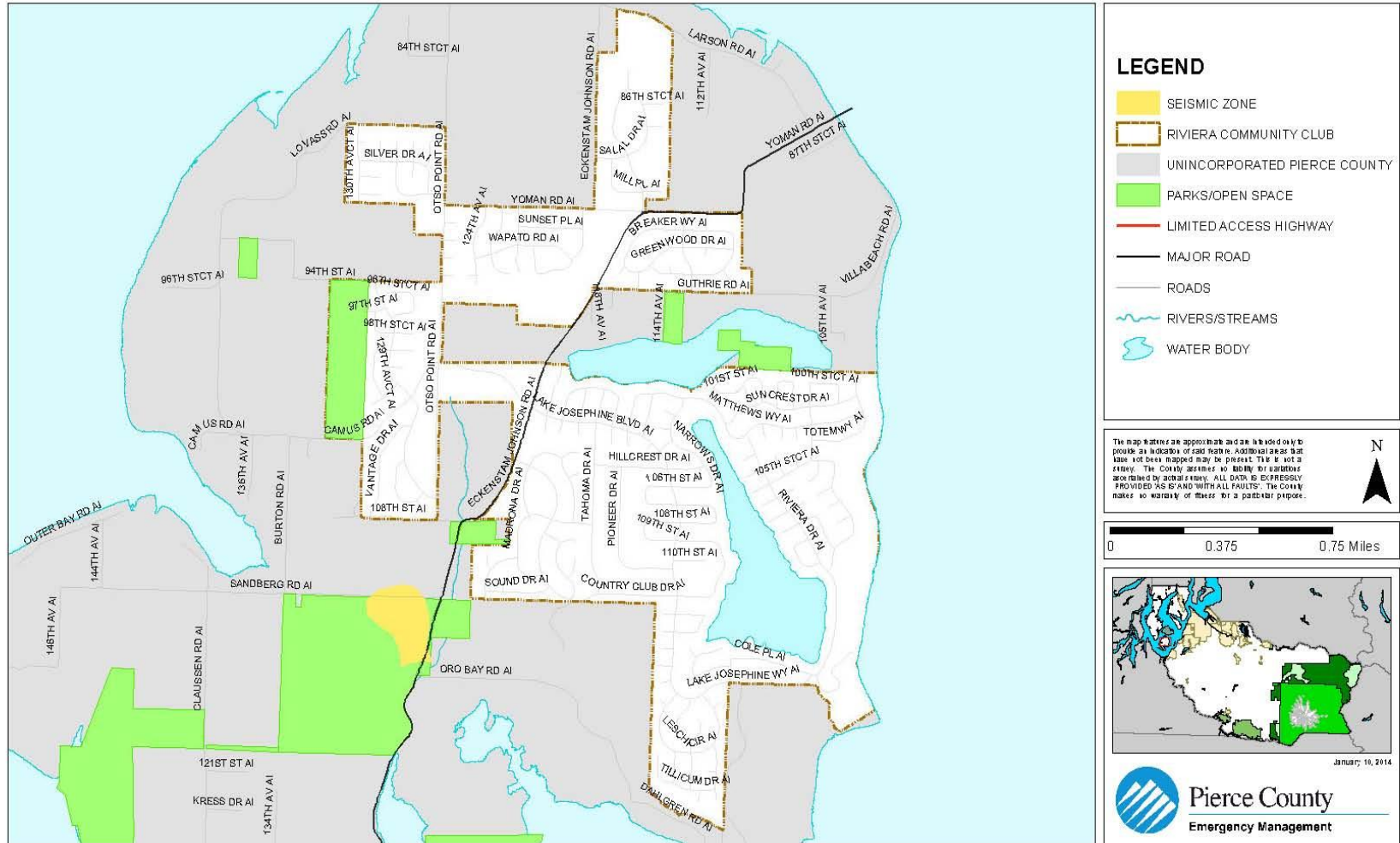


Map 4-2 Riviera Community Club –Landslide Hazard Map

RIVIERA COMMUNITY CLUB - LANDSLIDE HAZARD AREA

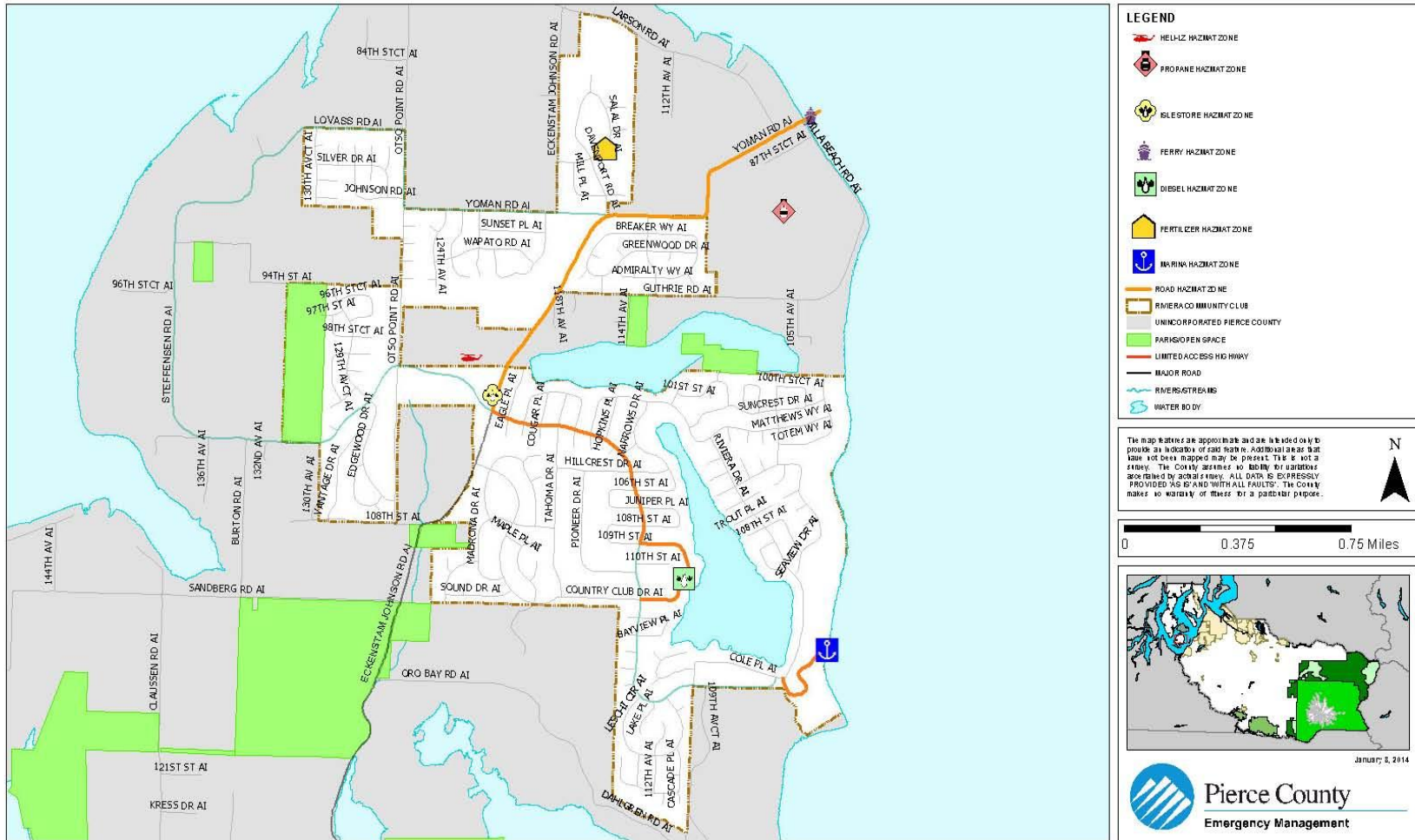


RIVIERA COMMUNITY CLUB - SEISMIC HAZARD AREA



Map 4-4 Riviera Community Club – Hazardous Materials Hazard Area Map

RIVIERA COMMUNITY CLUB - HAZARDOUS MATERIAL AREA



Map 4-5 Riviera Community Club – Transportation Emergency Area Map

RIVIERA COMMUNITY CLUB - TRANSPORTATION EMERGENCY AREA

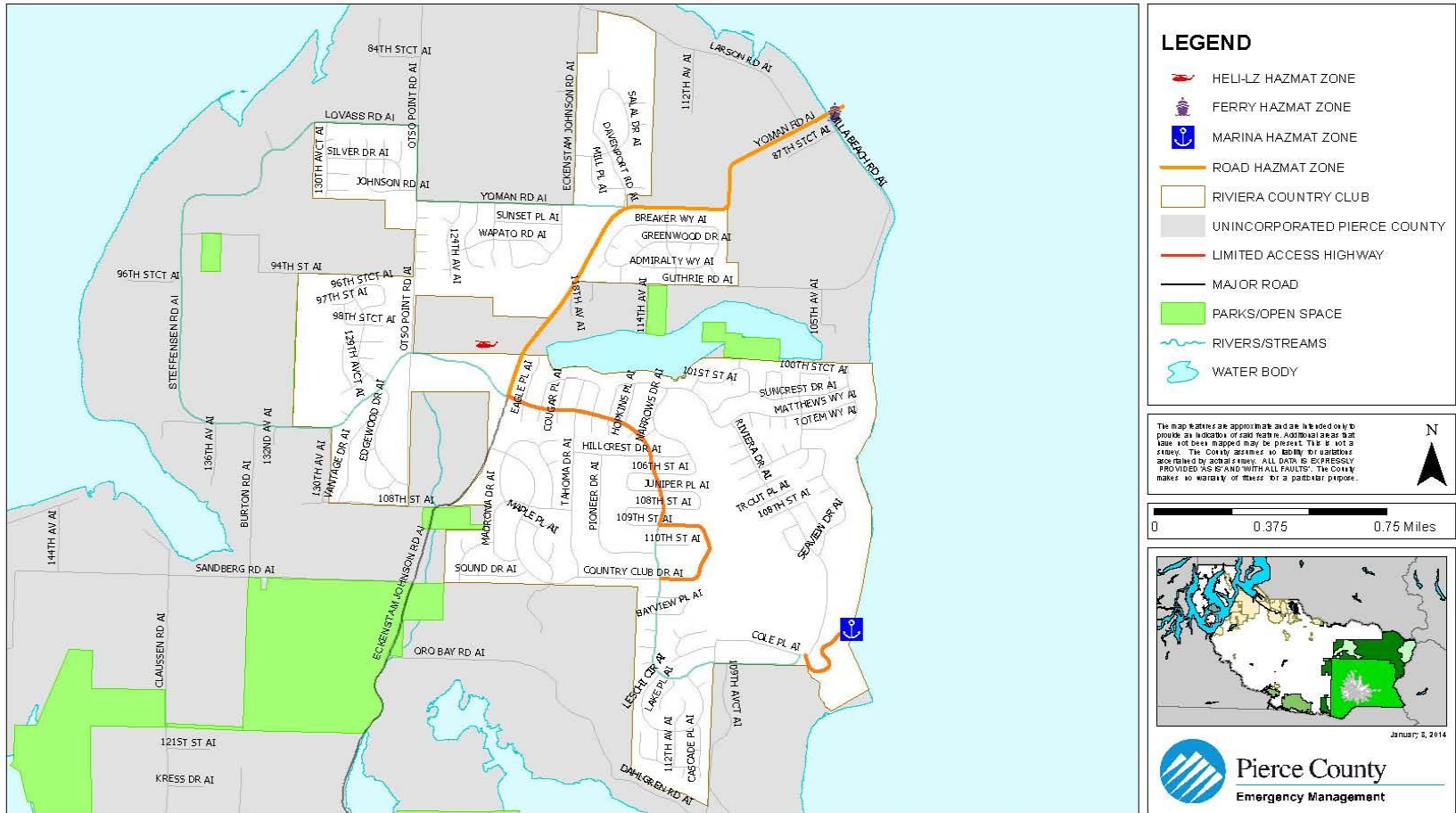


Table 4-2 Vulnerability Analysis: General Exposure¹

THREAT ²		AREA (SQ MI)		PARCELS	
		Total	% Base	Total	% Base
BASE		1.68	100%	3,137	100%
<i>Geological</i>	Avalanche ³	NA	NA	NA	NA
	Earthquake ⁴	NA	NA	NA	NA
	Landslide	.34	20.23%	298	9.50%
	Tsunami	NA	NA	NA	NA
	Volcanic ⁵	NA	NA	NA	NA
<i>Meteorological</i>	Drought ⁶	1.68	100%	3,137	100%
	Flood	.47	27.9%	211	6.72%
	Severe Weather	1.68	100%	3,137	100%
	WUI Fire ⁷	NA	NA	NA	NA
<i>Technological</i>	Abandoned Mines ⁸	NA	NA	NA	NA
	Civil Disturbance ⁹	1.68	100%	3,137	100%
	Dam Failure ¹⁰	NA	NA	NA	NA
	Energy Emergency ¹¹	1.68	100%	3,137	100%
	Epidemic ¹²	1.68	100%	3,137	100%
	Hazardous Material ¹³	1.06	63.09%	1,922	61.27%
	Pipeline Hazard ¹⁴	NA	NA	NA	NA
	Terrorism ¹⁵	1.68	100%	3,137	100%
	Transportation Accidents ¹⁶	1.06	63.09%	1,922	61.27%

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		819	100%	489	239	29.2%	136	16.6%
<i>Geological</i>	Avalanche	NA	NA	NA	NA	NA	NA	NA
	Earthquake	NA	NA	NA	NA	NA	NA	NA
	Landslide	388	47.37%	1,131.14	112	46.86%	57	41.91%
	Tsunami	NA	NA	NA	NA	NA	NA	NA
	Volcanic	NA	NA	NA	NA	NA	NA	NA
<i>Meteorological</i>	Drought	819	100%	489	239	29.2%	136	16.6%
	Flood	347	41%	732.31	98	41%	50	36.76%
	Severe Weather	819	100%	489	239	29.2%	136	16.6%
	WUI Fire	NA	NA	NA	NA	NA	NA	NA
<i>Technological</i>	Abandoned Mines	NA	NA	NA	NA	NA	NA	NA
	Civil Disturbance	819	100%	489	239	29.2%	136	16.6%
	Dam Failure	NA	NA	NA	NA	NA	NA	NA
	Energy Emergency	819	100%	489	239	29.2%	136	16.6%
	Epidemic	819	100%	489	239	29.2%	136	16.6%
	Hazardous Material	481	58.73%	452.08	137	57.32%	83	61.03%
	Pipeline Hazard	NA	NA	NA	NA	NA	NA	NA
	Terrorism	819	100%	489	239	29.2%	136	16.6%
	Transportation Accidents	481	58.73%	452.08	137	57.32%	83	61.03%

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		\$38,179,800	100%	\$12,167	\$88,519,700	100%	\$28,209	\$126,699,500	100%	\$40,376
<i>Geological</i>	Avalanche	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Earthquake	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Landslide	\$5,924,900	15.52%	\$19,882	\$10,139,300	11.45%	\$34,025	\$16,064,200	12.68%	\$53,907
	Tsunami	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Volcanic	NA	NA	NA	NA	NA	NA	NA	NA	NA
<i>Meteorological</i>	Drought	\$38,179,800	100%	\$12,167	\$88,519,700	100%	\$28,209	\$126,699,500	100%	\$40,376
	Flood	\$14,590,500	38.22%	\$69,149	\$18,798,700	21.24%	\$89,093	\$33,389,200	26.35%	\$158,243
	Severe Weather	\$38,179,800	100%	\$12,167	\$88,519,700	100%	\$28,209	\$126,699,500	100%	\$40,376
	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	\$38,179,800	100%	\$12,167	\$88,519,700	100%	\$28,209	\$126,699,500	100%	\$40,376
	Dam Failure	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Energy Emergency	\$38,179,800	100%	\$12,167	\$88,519,700	100%	\$28,209	\$126,699,500	100%	\$40,376
	Epidemic	\$38,179,800	100%	\$12,167	\$88,519,700	100%	\$28,209	\$126,699,500	100%	\$40,376

	Hazardous Material	\$24,237,400	61.02%	\$12,611	\$57,078,000	62.96%	\$29,697	\$81,315,400	62.37%	\$42,308
	Pipeline Hazard	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Terrorism	\$38,179,800	100%	\$12,167	\$88,519,700	100%	\$28,209	\$126,699,500	100%	\$40,376
	Transportation Accidents	\$24,237,400	61.02%	\$12,611	\$57,078,000	62.96%	\$29,697	\$81,315,400	62.37%	\$42,308

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

THREAT²		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	Yes
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
	Impact to Reputation or Confidence in Jurisdiction	Yes	
	Landslide	Impact to the Public	Yes
		Impact to the Responders	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	
	Tsunami	Impact to the Public	Yes
		Impact to the Responders	No
		Impact to COG and/or COOP in the Jurisdiction	Yes
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
	Impact to Reputation or Confidence in Jurisdiction	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
Meteorological	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	Yes
		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	Yes
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	Yes
	WUI Fire²⁰	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	

Table 4-5c Consequence Analysis Chart – Technological²¹

THREAT		CONSEQUENCE	YES OR NO
Technological	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	

		Impact to the Jurisdiction Economic Condition	
		Impact to Reputation or Confidence in Jurisdiction	
	Energy Emergency	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		

The Region 5 Special Purpose partners are vulnerable to a variety of hazards in which they serve within Pierce County; however they can only mitigate within their specific individual boundaries. Acquiring situational awareness of the hazards is a critical component to their safety response efforts with potential closure of essential facilities. The Riviera Community Club is located on Anderson Island in the North West portion of Pierce County on the Puget Sound. The Riviera Community Club is highly susceptible to six of the eighteen hazards we considered in this plan. The risks are drought, severe weather, civil disturbance, energy emergency, epidemic and terrorism. Due to the severe weather events, the Riviera Community Club experiences extended power outages. Additionally, the technological impacts of such events present

challenges to the operations of Pierce County's Special Purpose partners. The technological threat, though not required as part of a formal mitigation process, is none-the-less important to these stakeholders which are critical to the Region's functionality.

Endnotes

¹ Info obtained from Pierce County GIS application, CountyView Pro (12/09).

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 City of Bonney Lake 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 City of Bonney Lake 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 Fire District #27 is a rural district with extensive second growth forest covering the land on Anderson Island. Individual homes, dot the landscape, including the Riviera Community Club. The entire District is considered to be a wildland/urban interface fire hazard area.

²¹ 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.

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 RIVIERA COMMUNITY CLUB MITIGATION STRATEGY SECTION

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Table 5-1 Riviera Community Club: Mitigation Strategy Matrix

Mitigation Measure ¹	Lead Jurisdiction(s) / Department(s)	Timeline (years)	Plan Goals Addressed					
			LIFE AND PROPERTY	CONTINUITY OF OPERATIONS	PARTNERSHIPS	NATURAL RESOURCES	PREPAREDNESS	SUSTAINABLE ECONOMY
1. Existing Mitigation Measures (All)	Riviera Community Club	Ongoing	X	X	X	X	X	X
2. Plan Maintenance (All)	Riviera Community Club	Ongoing	X	X	X	X	X	X
3. Increase Coordination with PCFD #27 for WUI	Riviera Community Club	1-2 years	X	X	X	X	X	X
4. Reduce Risk of Wildland Fire	Riviera Community Club	1-2 years	X	X	X	X	X	X
5. Mitigate Wildland Fires on Roads	Riviera Community Club	On going	X	X	X	X	X	X
6. Water Main Replacements	Riviera Community Club	1-5 years	X	X			X	X
7. Replace Main Float at RCC Marina	Riviera Community Club	1-5 years	X	X			X	X
8. Back-up Power for RCC Offices	Riviera Community Club	1-5 years	X	X				X
9. Edgewood Drive Water Reservoir	Riviera Community Club	1-5 years	X	X				X

Startup Mitigation Measures

Existing Mitigation Actions

Priority: All-CPSD-1

Riviera Community Club will integrate the hazard mitigation plan into existing plans, ordinances, and programs to dictate land uses within the jurisdiction. Further, Riviera Community Club 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, Ensure Continuity of Operations, Establish and Strengthen Partnerships for Implementation, Protect the Environment, Increase Public Preparedness for Disasters, Promote a Sustainable Economy
2. **Cost of Measure** = Staff time, materials and special resources
3. **Funding Source and Situation** = Funding could be obtained from local budget or grants
4. **Lead Jurisdiction** = Riviera Community Club
5. **Timeline** = Ongoing
6. **Benefit** = District-wide
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Plan Maintenance

Priority: All-CPSD-2

Riviera Community Club will adopt those processes outlined in the Plan Maintenance Section of this Plan.

1. **Goal(s) Addressed** = Protect Life and Property, Ensure Continuity of Operations, Establish Partnerships for Implementation, Protect the Environment, Increase Public Preparedness for Disasters, Promote a Sustainable Economy
2. **Cost of Measure** = Staff time only
3. **Funding Source and Situation** = Funding could be accomplished through school budget or grants
4. **Lead Jurisdiction** = Riviera Community Club
5. **Timeline** = Ongoing
6. **Benefit** = District-Wide
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Mitigation Measures

(WUI) Fire Risks

Hazards: WUI

Priority: RCC-1

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Protect the Environment; Increase Public Preparedness for Disasters; Establish and Strengthen Partnerships for Implementation; Promote a Sustainable Economy
 2. **Cost of Measure** = TBD
 3. **Funding Source and Situation** = Funding could be obtained through local budgets
 4. **Lead Jurisdiction** = Board of Directors, and PCFD #27
 5. **Timeline**= Ongoing and short-term, with existing resources within one to two years
 6. **Benefit** = This project will benefit all of RCC, other Anderson Island residents, and PCFD #27.
 7. **Life of Measure** = perpetual
 8. **Community Reaction** = The proposal is likely to be endorsed by the entire community.
-

Reduce Risk of Wildland/Urban Interface Fire in the Riviera Community Club (RCC)

Hazards: WUI

Priority: RCC-2

The RCC is at risk from wildfires due to its Wildland/Urban Interface environment. RCC will consider participation in the WA Dept of Natural Resources *Firewise*ⁱⁱ Program. RCC will distribute *Firewise* information in its newsletters and distribute wildfire mitigation brochures in the RCC offices and other facilities. RCC will encourage its members to maintain a buffer around their residences. The RCC will invite a *Firewise* guest speaker to its association's annual meeting.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Establish and Strengthen Partnerships for Implementation, Promote a Sustainable Economy; Protect the Environment
 2. **Cost of Measure** = unknown
 3. **Funding Source and Situation** = Funding could be obtained through state or federal funds (2010 Federal Stimulus Grant)
 4. **Lead Jurisdiction** = Board of Directors & Dept of Natural Resources
 5. **Timeline**= Ongoing and short term, with existing resources within one to two years
 6. **Benefit** = This project will benefit all of RCC, other Anderson Island residents, and PCFD #27.
 7. **Life of Measure** = 10 years
 8. **Community Reaction** = The proposal is likely to be endorsed by the entire community.
-

Mitigate Wildland Fire Hazard along Roadways

Hazards: WUI

Priority: RCC-3

Work with Pierce County Public Works and the State Department of Natural Resources to mitigate Wildland/Urban Interface fire hazards along the public and private roadways in the RCC and Anderson Island. Roadways present a potential hazard as many fires begin along the roads of Anderson Island and the RCC.

1. **Goal(s) Addressed** = Protect Life and Property; Establish and Strengthen Partnerships for Implementation; Protect the Environment; Increase Public Preparedness for Disasters, Establish and Strengthen Partnerships for Implementation, Promote a Sustainable Economy.
2. **Cost of Measure** = \$300,000-\$400,000 for year round crew.
3. **Funding Source and Situation** = Funding could be obtained through local budgets.
4. **Lead Jurisdiction(s)** = Pierce County Public Works and WSDOT
5. **Timeline** = Ongoing
6. **Benefit** = Citizens, first responders and natural environment
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Water Main Replacements

Hazards: E, WUI, SW

Priority: RCC-4

Description: The Riviera Community Club will replace 35 year old water mains to increase reliability of the Water System and improve Fire Flow capacity.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = \$900,000
3. **Funding Source and Situation** = Funding will be obtained through local, state, and/or federal budgets and grants.
4. **Lead Jurisdiction** = Riviera Community Club
5. **Timeline**= Long Term 1-5 years
6. **Benefit** = Direct: Residents of the Riviera Community Club / Indirect: All residents and visitors to Anderson Island, first responders
7. **Life of Measure** = 25 years
8. **Community Reaction** = The proposal is likely to be endorsed by the entire community.

Replacement of Main Float at the Riviera Community Club Marina

Hazards: SW, Ts

Priority: RCC-5

Description: The existing float at the marina is aging and cannot be lifted out of the water during bad weather, so it must be stored during the winter months. A new float would be designed and constructed so it could be raised on cables during bad weather which would leave it usable more often during calm weather. The project would allow more boat access to Anderson Island during the year, and would more readily allow emergency access to the island.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = Cost of float, installation, labor and other special equipment and materials
3. **Funding Source and Situation** = Funding will be obtained through local budgets or grants.
4. **Lead Jurisdiction** = Riviera Community Club
5. **Timeline**= Long Term 1-5 years
6. **Benefit** = Direct: Residents of the Riviera Community Club / Indirect: All residents and visitors to Anderson Island, first responders
7. **Life of Measure** = 10 years
8. **Community Reaction** = The proposal would benefit those affected, with no adverse reaction from others.

Back-up Power Supply for the RRC Office

Hazards: SW, E

Priority: RCC-6

Description: The Riviera Community Club will install a back-up generator to facilitate business during a prolonged power outage, as well as emergency shelter for those impacted by any natural emergency.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Promote a Sustainable Economy.
2. **Cost of Measure** = Contractor input, cost of generator, labor and materials to install.
3. **Funding Source and Situation** = Funding will be obtained through local budgets and grants.
4. **Lead Jurisdiction** = Riviera Community Club
5. **Timeline**= Long Term 1-5 years
6. **Benefit** = Direct: Residents of the Riviera Community Club / Indirect: All residents and visitors to Anderson Island
7. **Life of Measure** = 10 years
8. **Community Reaction** = The proposal would benefit those affected, with no adverse reaction from others.

Additional .15 million gallon Water Reservoir

Hazards: E, WUI

Priority: RCC-7

Description: The Riviera Community Club will install an additional water reservoir to improve water storage and fire flow. Edgewood Dr. needs increased fire flow, additional fire flow would protect this area of Riviera Community Club.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations;
2. **Cost of Measure** = \$900,000
3. **Funding Source and Situation** = Funding will be obtained through local budgets and grants.
4. **Lead Jurisdiction** = Riviera Community Club
5. **Timeline**= On-going
6. **Benefit** = Direct: Residents of the Riviera Community Club / Indirect: All residents and visitors to Anderson Island, first responders
7. **Life of Measure** = 50 years
8. **Community Reaction** = The proposal is likely to be endorsed by the entire community.

In comparison to the last update, the Riviera Community Club has 2 new startup mitigation strategies 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			
Increase Coordination with PCFD #27 for WUI		X		
Reduce Risk of Wildland Fire		X		
Mitigate Wildland Fires on Roads		X		
Water Main Replacements		X		
Replace Main Float at RCC Marina		X		
Back-up Power for RCC Offices		X		
Edgewood Drive Water Reservoir		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:	Man-made to include terrorism
All:	All hazards, including some man-made. Where only natural hazards are addressed, it is noted.

¹ 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 regard 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.

ii The national *Firewise* program is a multi-agency effort, implemented by the WA State Department of Natural Resources, designed to reach beyond the fire service by involving homeowners, community leaders, planners, developers, and others in the effort to protect people, property, and natural resources from the risk of wildland fire - before a fire starts. The *Firewise* approach emphasizes community responsibility for planning in the design of a safe community as well as effective emergency response, and individual responsibility for safer home construction and design, landscaping, and maintenance.

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 UPDATE
RIVIERA COMMUNITY CLUB
INFRASTRUCTURE SECTION

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The **Infrastructure** for the **Riviera Community Club** is displayed in following tables and graphics:

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

The tables and graphics show the overview of infrastructure owned by the Riviera Community Club. 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 (#)	5
TOTAL VALUE (\$)	\$2,131,200

Table 6-2 Infrastructure Category Summary

INFRASTRUCTURE CATEGORY SUMMARY²	
EMERGENCY SERVICES	0
TELECOMMUNICATIONS	0
TRANSPORTATION	0
WATER	2
ENERGY	0
GOVERNMENT	0
COMMERCIAL	4

Table 6-3 Infrastructure Vulnerability – Hazard Summary

HAZARD	# IN HAZARD ZONE	%
AVALANCHE	0	0
DROUGHT	5 of 5	100%
EARTHQUAKE	5 of 5	100%
WILDLAND/URBAN FIRE	4 of 5	80%
FLOOD	0	0
LANDSLIDE	1 of 5	20%
TSUNAMI	1 of 5	20%
VOLCANIC	5 of 5	100%
WEATHER	5 of 5	100%

Table 6-4 Infrastructure Vulnerability – Dependency Summary

DEPENDENCE	# DEPENDENT ON SERVICE	%
RELIANCE ON EMERGENCY SERVICES	0	0
RELIANCE ON POWER	3 of 5	60%
RELIANCE ON SEWER	0	0
RELIANCE ON TELECOMMUNICATION	3 of 5	60%
RELIANCE ON TRANSPORTATION	5 of 5	100%

RELIANCE ON WATER	4 of 5	80%
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Table 6-3 Infrastructure Dependency Matrix

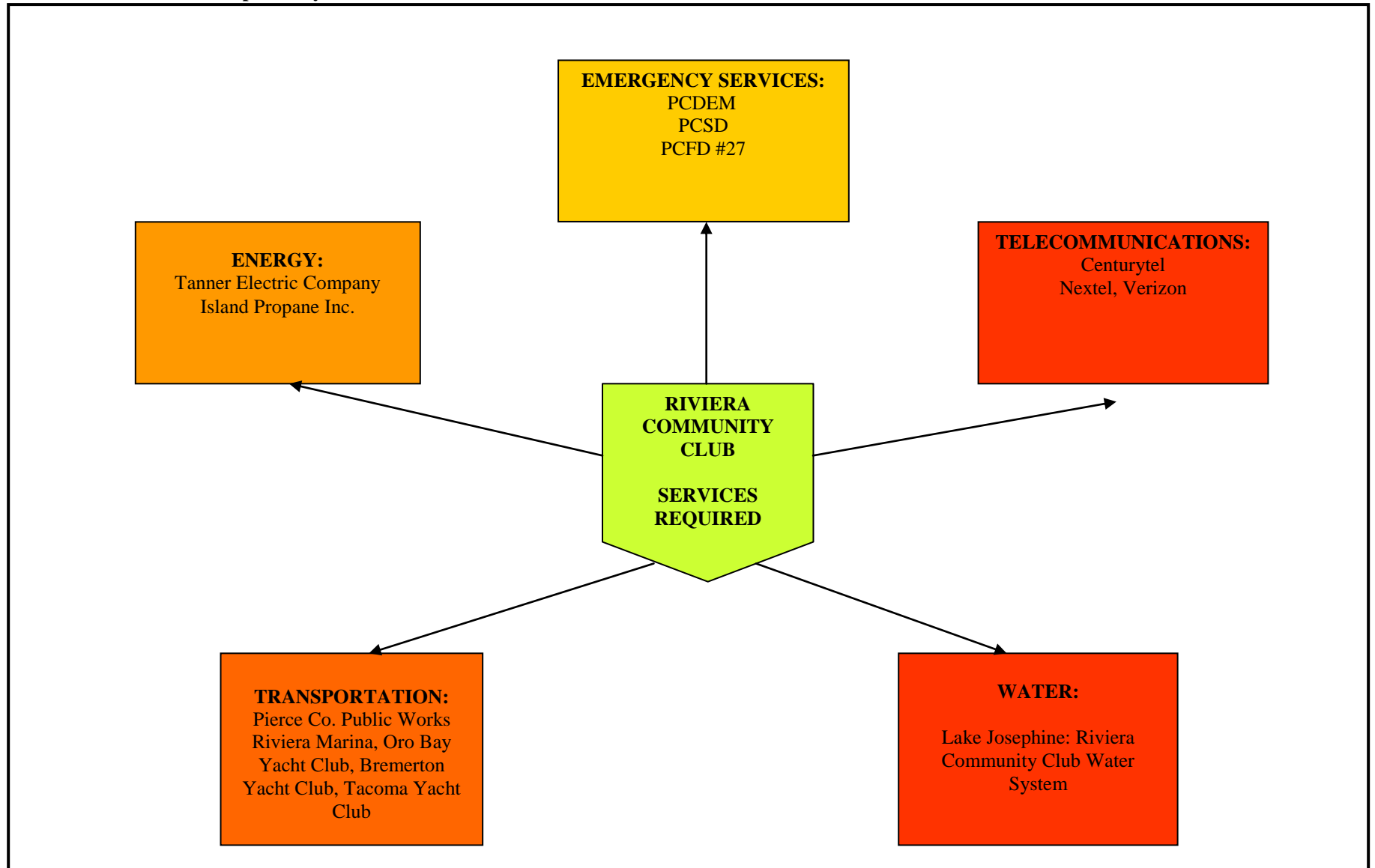


Table 6-4 Infrastructure Table: Riviera Community Club

INFRASTRUCTURE ³	BUILT ⁴	FLOORS	UPGRADES ⁵	VALUE	OCCU-PANCY	PEOPLE SERVED	HAZARD							RELIANCE							
							AVAILANCHE	DROUGHT	EARTHQUAKE	WUI FIRE	FLOOD	LANDSLIDE	TSUNAMI	VOLCANIC	WEATHER	EMERGENCY	POWER	SEWER	TELECOMM	TRANSPORT	WATER
Riviera Community Club (4)	1999	2	NO	\$465,000	Day/to 169	3100 Lot Owners	0	1	1	0	0	0	0	1	2	0	2	0	2	2	2
Riviera Lakeshore Restaurant (AP,4)	1970	1	Remodel 2001	\$576,800	Open/to 148	All Island Residents	0	1	1	2	0	0	0	1	2	0	0	0	0	2	3
Lake Josephine Water System (#43980J) (C,17)	1969	n/a	YES	\$887,400	n/a	3100 Lot Owners	0	1	2	2	0	0	0	1	2	0	1	0	1	2	3
Riviera Marina (C,4)	1969	n/a	New Floats 2006	\$200,000	n/a	3100 Lot Owners	0	1	1	2	0	2	3	1	2	0	0	0	0	2	0
Riviera Maintenance and Water Department Buildings (C)	1999	1	NO	\$200,000	n/a	3100 Lot Owners	0	1	1	0	0	0	0	1	2	0	1	0	1	2	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 operational 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 a 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 at risk to earthquakes but has no prior history of earthquake damage.
	2	The infrastructure is in an area considered 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 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 an area vulnerable to landslides but has no prior history of landslides.
	2	The infrastructure is in an area vulnerable to landslides and infrastructure has experienced some landslide damage.
	3	The infrastructure is in an 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 fire 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 fire 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 operational 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.

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
RIVIERA COMMUNITY CLUB
PLAN MAINTENANCE SECTION

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Plan Maintenance

The planning process undertaken in the last two years is just the foundation of breaking the disaster cycle by planning for a disaster resistant community for the Riviera Community Club and Pierce County Region 5. This Section details the formal process that will guarantee that the Riviera Community Club's 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 Riviera Community Club's 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 Riviera Community Club Plan it will be submitted to Washington State Emergency Management Division (EMD) for a Pre-Adoption Review. The EMD has 30 days to 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 Riviera Community's Board of Director's is responsible for the adoption of the plan after the Pre-Adoption Review by the EMD and the FEMA Region X. Once the Company adopts the Plan, the Riviera Community Club Manager will be responsible for submitting it, with a copy of the resolution, to the State Hazard Mitigation Officer at the Washington State EMD. EMD will then take action on the plan and forward it to the FEMA Region X for final approval. Upon approval by FEMA, the Riviera Community Club 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 10, 2020.

Maintenance Strategy

The Riviera Community Club maintenance strategy for implementation, monitoring, and evaluation provides a structure that encourages collaboration, information transference, and innovation. Through a multi-tiered implementation method, the Riviera Community Club will

provide its citizens 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 citizens and the various levels of government service, ranging from community action to the Department of Homeland Security. Through this strategy, Riviera Community Club will continue to break the disaster cycle and achieve a more disaster resistant community.

Implementation

In order to ensure efficient and effective implementation, Riviera Community Club will make use of its capabilities, infrastructure, and dedicated population. It will implement its mitigation strategy over the next five years primarily through the annual budget process and varying grant and loan application processes. All programs and entities identified in the Capability Identification Section will serve as the implementing mechanisms within those processes.

The Riviera Community Club Manager will work in conjunction with those departments/agencies/entities identified in both the Capability Identification Section and under each mitigation measure to initiate the mitigation strategy. For example, any infrastructure-related measures will be implemented through the jurisdiction infrastructure related plan, such as the Capital Facilities Plan, and the various departments and/or agencies involved through the normal budget schedule. Regulatory and land use measures will continue to be implemented through collaboration with the Pierce County Planning and Land Services Department and its updates of the County's Comprehensive Plan. Other measures will be implemented through collaboration with the identified jurisdictions/departments listed under each measure's evaluation and through the mechanisms and funding sources identified in the Capability Identification Section.

These efforts fall under a broader implementation strategy that represents a county-wide effort. This strategy must be adaptable to change while being consistent in its delivery.

The mitigation implementation strategy is a three-tiered method that emphasizes localized needs and vulnerabilities while addressing the Riviera Community Club as well as multi-jurisdictional policies and programs. The first tier is implementation through individual citizen level—public education programs already existing, and the Riviera Community Club website.¹ The second is the Riviera Community Club -Wide mechanism for implementation, in this case Riviera Community Club in conjunction with Pierce County Emergency Management. 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 Riviera Community Club, 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 Riviera Community Club with a localized mechanism for implementation. This approach to mitigation can adapt to the varying vulnerabilities and needs within the growing Riviera Community Club and region. Public education programs are also a means for involving the public in mitigation policy development. Committees conducting mitigation-related programs will provide the existing targeted neighborhoods and special-needs populations a catalogue of mitigation measures from which individuals can choose those that would be most effective in their neighborhood.

Jurisdiction-Wide: Riviera Community Club Manager

The Riviera Community Club Board of Directors will be responsible for determining the direction of the plan's implementation. The Riviera Community Club Manager is responsible for the day-to-day operations of Riviera Community Club and its committees, the annual budget, and personnel. The Riviera Community Club Manager follows the general policy as set by the Riviera Community Club Board of Directors. The Riviera Community Club Manager is responsible for the selection, evaluation, and training of all Riviera Community Club staff. The Manager oversees, coordinates, and manages the activities of all Riviera Community Club employees in carrying out the requirements of resolutions, laws, rules and regulations.

Initially, the Riviera Community Club Manager will be responsible for the overall review of the plan and will designate mitigation measures to those committees responsible for their implementation. The Riviera Community Club Manager will address the plan annually in September/October. The Riviera Community Club Manager will monitor the plan's implementation throughout the year and report to the Board of Directors at its Annual meeting. Evaluation and updates will be completed at this meeting. Recommendations will be made to coincide with the normal budgeting processes and provide an ample time period for review and adoption of any necessary changes to the implementation schedule.

Eventually, the Riviera Community Club Manager may choose, with the approval of the Board, to cede this responsibility to a "Hazard Mitigation/Public Safety Committee". This committee would be composed of members of the committees identified in the Capability Identification Section as having a role in hazard mitigation. The Committee would ultimately provide a mechanism for coordination among those departments engaged in mitigation to ensure that a comprehensive and efficient approach be undertaken in the Riviera Community's efforts at all-hazards mitigation.

Hazard Mitigation Forum

The Pierce County 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 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
- City of Buckley
- City of Edgewood
- City of Fircrest
- City of Lakewood
- 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

- 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
- 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

Coordinated by the Pierce County DEM, the PC HMF will meet annually in August. The HMC will be an active participant in the PC HMF, and will be represented by the Riviera Community Club Manager or their representative. 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 2009 following the then current CFR 201.6 Hazard Mitigation Planning Requirements. Based on new requirements in the Stafford Act put forth in the summer of 2008, Riviera Community Club 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 Riviera Community Club Plan will guide the HMC's mitigation efforts for the foreseeable future. The Riviera Community Club representative on the Planning Team has developed a method to ensure that regular review and update of the plan occurs within a five year cycle. The Pierce County Department of Emergency Management will coordinate any reviews through September meeting noted above.

PC DEM will collaborate with the Riviera Community Club and the PC HMF to monitor and evaluate the mitigation strategy implementation. PC DEM will track this implementation through Pierce County's GIS database. Findings will be presented and discussed at the annual meeting.

The Riviera Community's Committees will provide a report of the plan's implementation to the Riviera Community Club Manager, which will be presented at the annual meeting. This report will drive the meeting agendas and will include the following:

- Updates on implementation throughout Riviera Community Club ;
- Updates on the PC HMF and mitigation activities undertaken by neighboring jurisdictions;
- Changes or anticipated changes in hazard risk and vulnerability at the City, County, Regional, State, FEMA Region X, and Homeland Security levels;

- Problems encountered or success stories;
- Any technical or scientific advances that may alter, make easier, or create measures.

The Administrative Group and local experts will decide on updates to the plan’s 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 regard to changing conditions.

PC DEM will work with the Riviera Community Club to review the Risk Assessment Section to determine if the current assessment should be updated or modified based on new information. This will be done during the regularly scheduled reviews of the Hazard Identification and Vulnerability Analysis and the Comprehensive Emergency Management Plan.

Additional reviews of this plan will be required following disaster events and will not substitute for the annual meeting. **Within ninety days following a significant disaster or an emergency event impacting Riviera Community Club**, The Riviera Community Club Manager or his or her representative will provide an assessment that captures any “success stories” and/or “lessons learned.” The assessment will detail direct and indirect damages to Riviera Community Club and its infrastructure, response and recovery costs, as part of the standard recovery procedures that use EMD Forms 129, 130, and 140. This process will help determine any new mitigation initiatives that should be incorporated into the plan to avoid or reduce similar losses due to future hazard events. In this manner, recovery efforts and data will be used to analyze mitigation activities and spawn the development of new measures that better address any changed vulnerabilities or capabilities. Any updates to the Plan will be addressed at the annual September/October meeting.

As per 44 CFR 201.6, Riviera Community Club 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 2015 and every five years following at the Hazard Mitigation Forum, Riviera Community Club will submit the updated plan to PC DEM. PC DEM’s Mitigation and Recovery Program Manager will collect updates from the Region 5 Plan jurisdictions and submit them to the State EMD and FEMA.

Continued Public Involvement

Riviera Community Club is dedicated to continued public involvement and education in review and updates of this plan. Riviera Community Club will retain copies of the plan and will make it available to the public.

Prior to submitting the plan to WA EMD and FEMA for the five-year review, Riviera Community Club will hold a public information and comment meeting. This meeting will provide citizens a forum during which they can express their concerns, opinions, or ideas about the Riviera Community Club Mitigation Plan. This meeting will be advertised by Riviera Community Club through a variety of media, including the Riviera Community Club Newsletter and a posting on the website.

The Riviera Community Club 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 Riviera Community Club 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 Riviera Community Club will look for new innovative ways for public involvement.

Endnotes

¹ http://www.rivieraclub.org/outside_home.asp

APPENDIX A

REGION 5 ALL HAZARD MITIGATION PLAN 2015-2020 EDITION RIVIERA COMMUNITY CLUB

Plan Adoption

The “Region 5 Hazard Mitigation Plan” was adopted by the Riviera Community Club Board of Directors on, **Xxxxxx xx**, 2015 by resolution. The following page shows a copy of that resolution.

(RIVIERA COMMUNITY CLUB RESOLUTION LETTER *INSERTED HERE*)

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,

Tamra Biasco
Chief, Risk Analysis Branch
Mitigation Division

KM:bb

www.fema.gov

(FEMA APPROVED LETTER INSERTED HERE)

APPENDIX A

REGION 5 HAZARD MITIGATION PLAN 2008-2013 EDITION RIVIERA COMMUNITY CLUB

Plan Adoption

The “Region 5 Hazard Mitigation Plan” was adopted by the Riviera Community Club Board of Directors on October 29, 2011 by resolution. The following page shows a copy of that resolution.

Board of Trustees Motion Form

Motion # 2011-10-20

Date: October 29, 2011

I, C.S. move to approve the RCC Natural Hazard Mitigations Plan (FEMA)

Seconded by : LORRAINE

Circle yes or no for each Board member. The President votes only if there is a dead lock.

Darrell Beck, Vice President
George Stewart, Secretary
Linda Buix, Treasurer
Lorraine Broten, Trustee

<input checked="" type="radio"/> yes	<input type="radio"/> no	<u>DB</u>
<input checked="" type="radio"/> yes	<input type="radio"/> no	<u>H.S.</u>
<input checked="" type="radio"/> yes	<input type="radio"/> no	
<input checked="" type="radio"/> yes	<input type="radio"/> no	<u>LB</u>

Kara Murphy Richards, President KMR yes no Vote Not Required

The President votes only with 2 to 2 vote or if there are only three Board members present.

NOTE:

RESOLUTION NO./MOTION# 2010-10-21

A RESOLUTION OF THE RIVIERA COMMUNITY CLUB OF ANDERSON ISLAND, WASHINGTON, ADOPTING THE RIVIERA COMMUNITY CLUB NATURAL HAZARD MITIGATION PLAN.

WHEREAS, THE RIVIERA COMMUNITY CLUB (RCC) BOARD OF TRUSTEES (BOT) recognizes the economic loss, personal injury and damage that can arise from these natural hazards: and

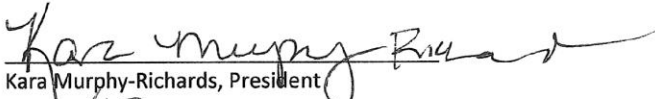
WHEREAS, reduction of these impacts can be achieved through a comprehensive, coordinated planning process identifying hazards and vulnerabilities and pairing them with mitigation strategies; and


WHEREAS, the Federal Emergency Management Agency (FEMA), pursuant to the Disaster Mitigation Act of 2000 (DMA2K) requires that local government prepare natural hazard mitigation plans as a condition of future funding; and

WHEREAS, the RCC BOT cooperated with Pierce County to develop a joint Hazard Mitigation Plan for the participating agencies;

NOW THEREFORE, BE IT RESOLVED BY THE RCC BOT, ANDERSON ISLAND, WASHINGTON, AS FOLLOWS:
RCC DOES HEREBY ADOPT THE RCC Natural Hazard Mitigation Plan.

ADOPTED BY THE RCC BOT on October 29, 2011.


Kara Murphy-Richards, President


George T. Stewart, Secretary

The plan was reviewed and approved as follows:

AGENCY	REPRESENTATIVE	DATE
Washington State Military Dept., Emergency Management Division	Beverly O’Dea	Approved—
FEMA Region X	Mark Carey Mitigation Division Director	Approved—

**APPENDIX B
REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
RIVIERA COMMUNITY CLUB**

Region 5 Hazard Mitigation Planning Member

Riviera Community Club

NAME	TITLE	JURISDICTION-DEPARTMENT
John Cammon	Maintenance Superintendent	Riviera Community Club

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**APPENDIX C
 REGION 5 ALL HAZARD MITIGATION PLAN
 2015-2020 EDITION
 RIVIERA COMMUNITY CLUB**

Plan Revisions

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

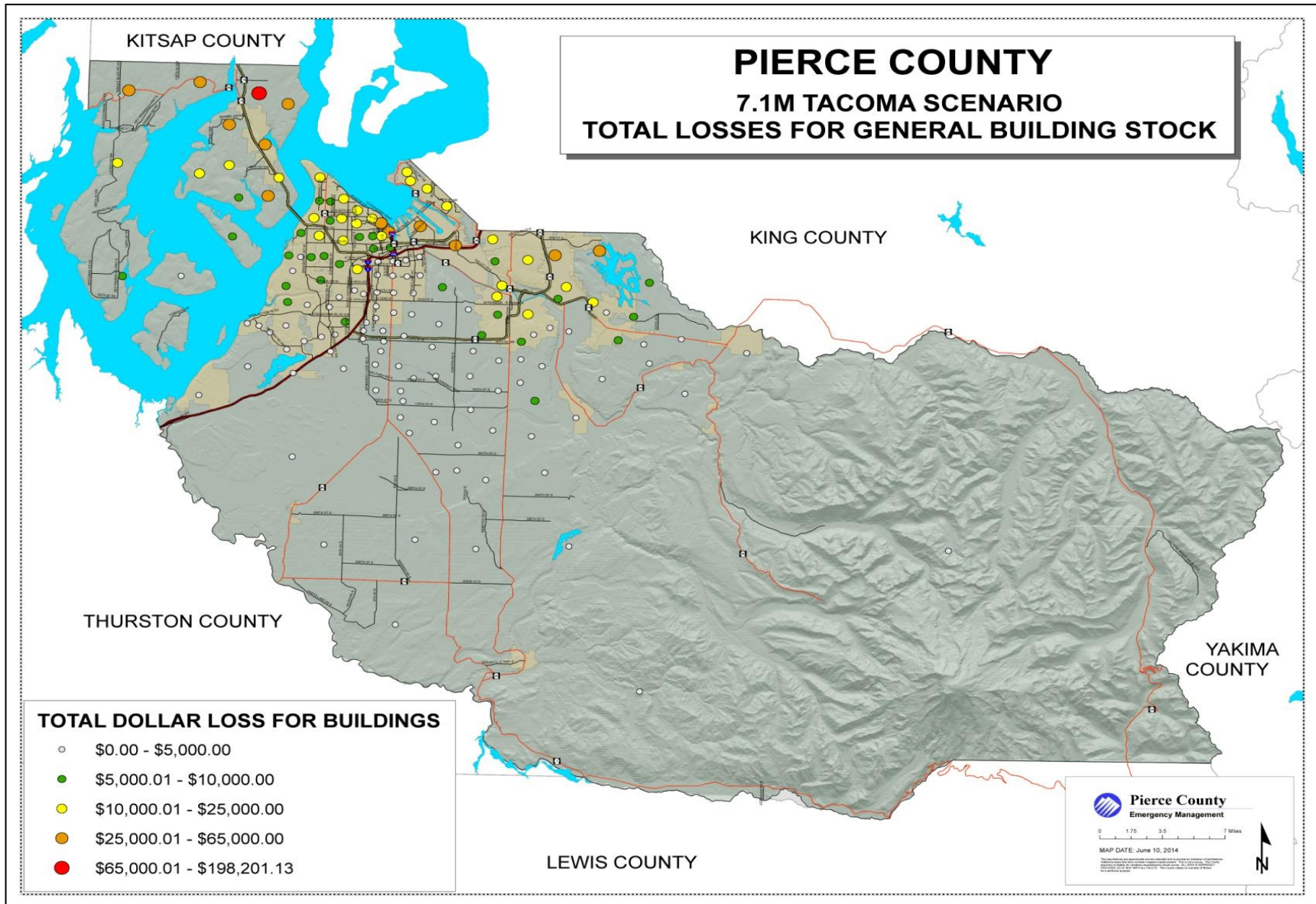
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APPENDIX D

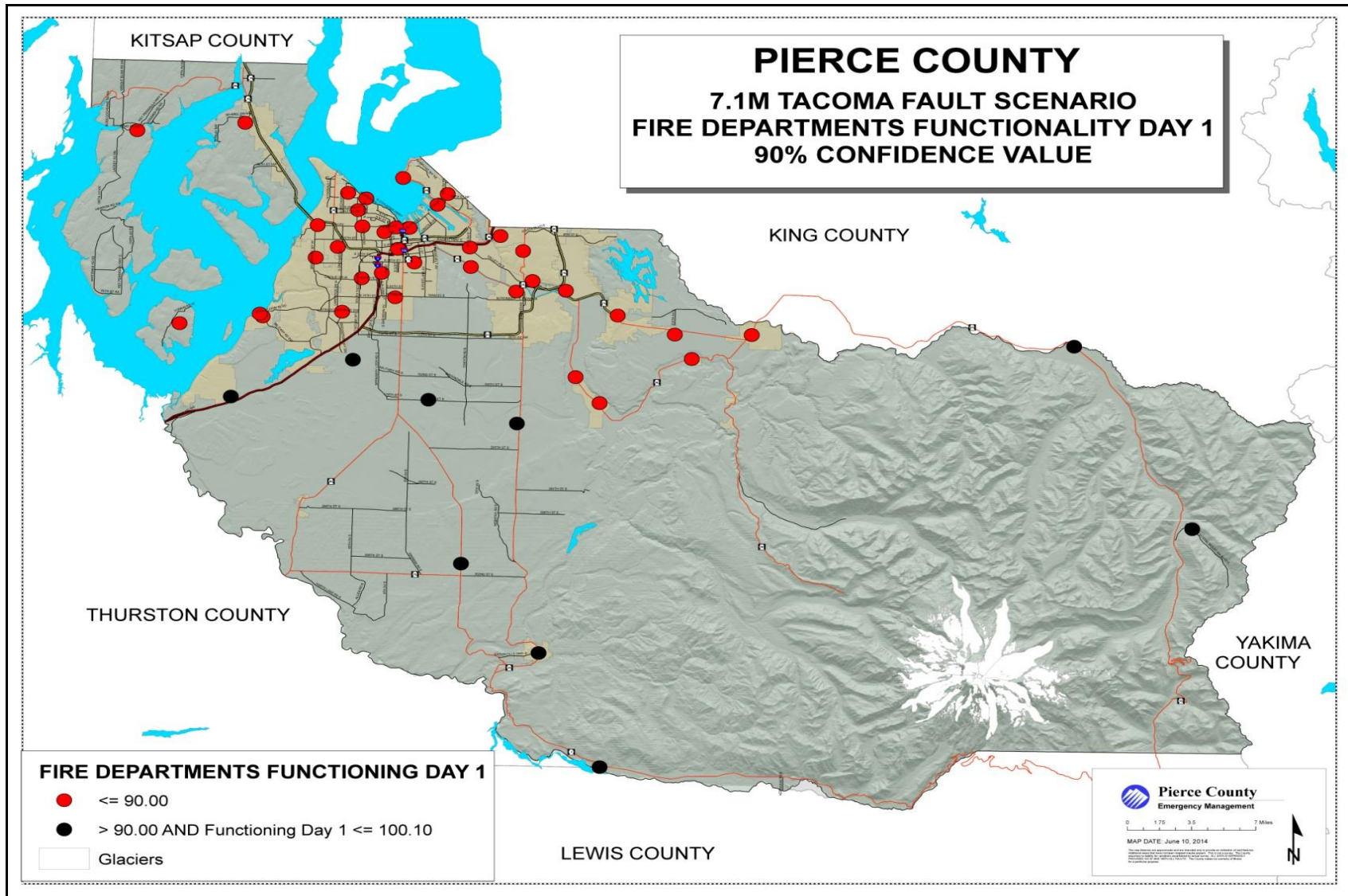
**REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
PIERCE COUNTY**

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.

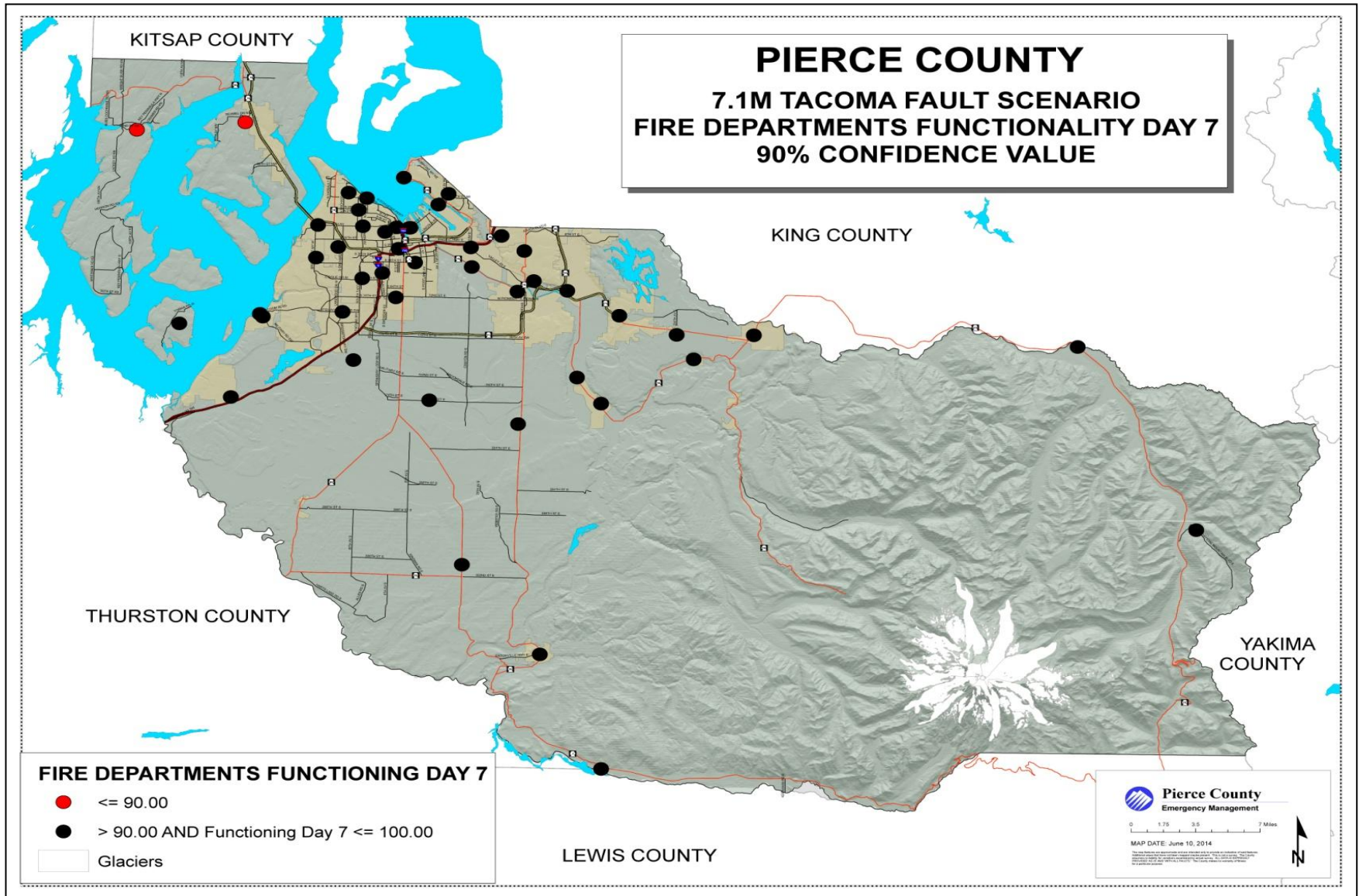
Map D-1 Pierce County Tacoma Fault Scenario Total Losses Map



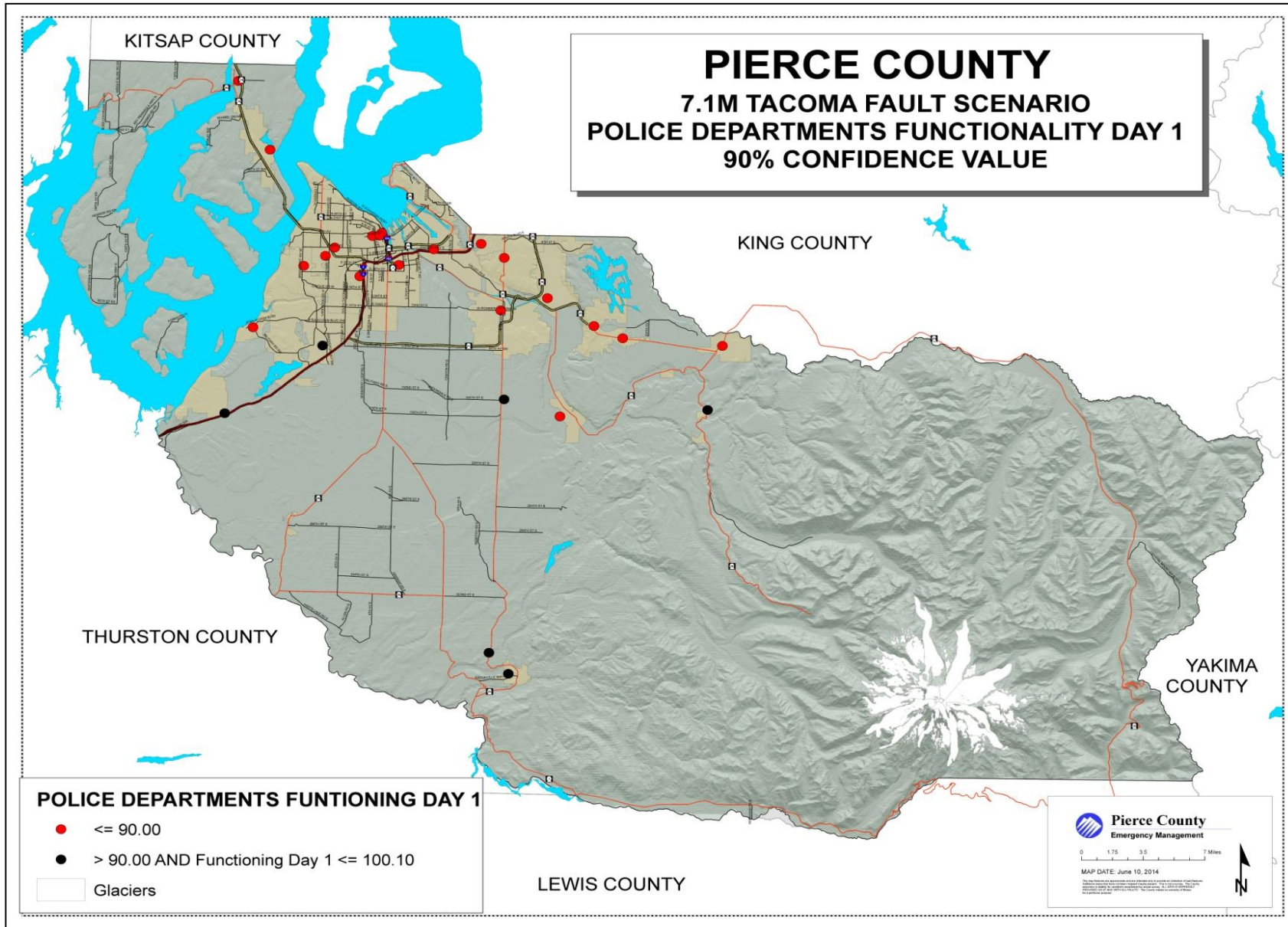
Map D-2 Pierce County Tacoma Fault Scenario Fire Department Functionality Day 1 Map



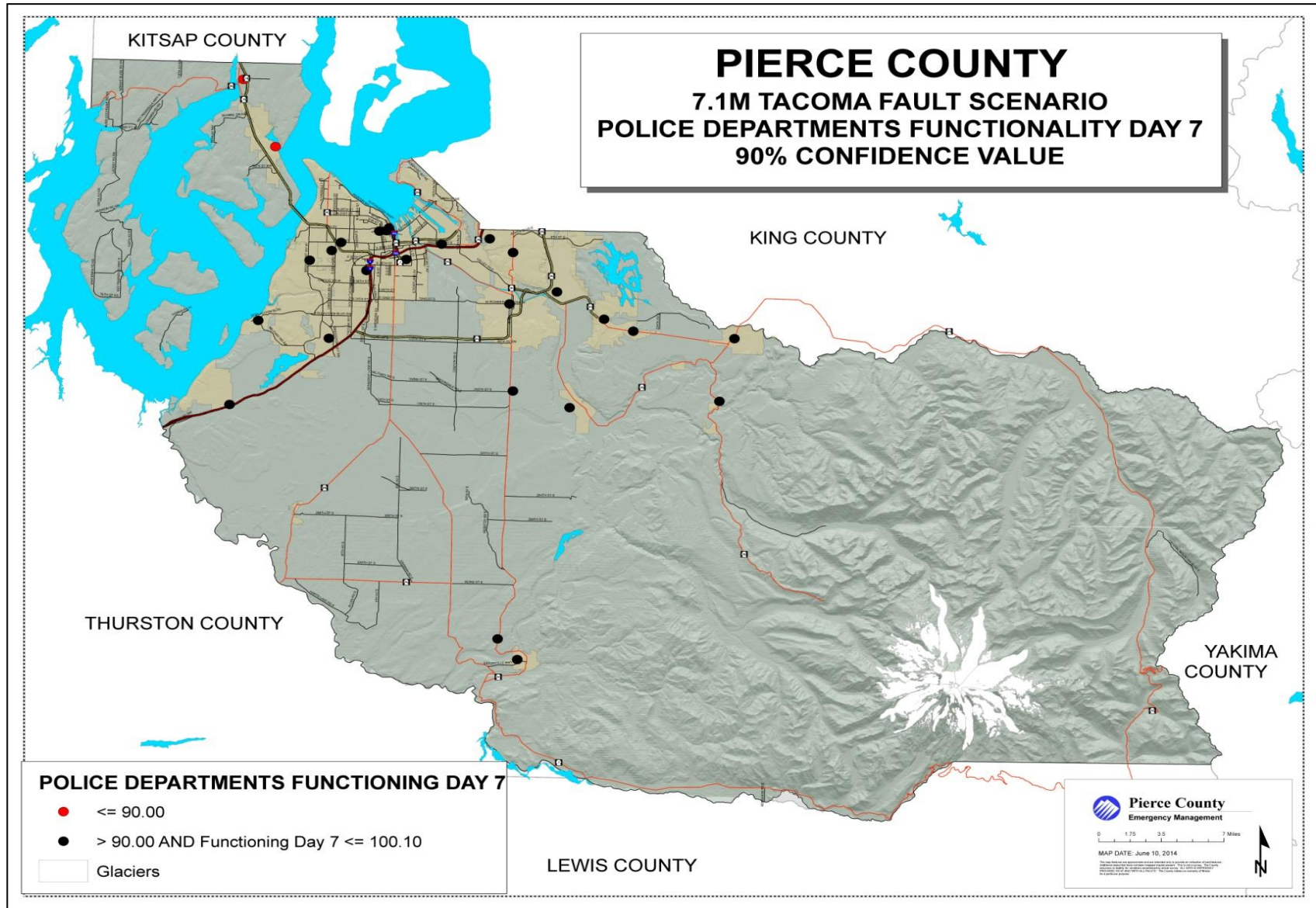
Map D-3 Pierce County Tacoma Fault Scenario Fire Department Functionality Day 7 Map



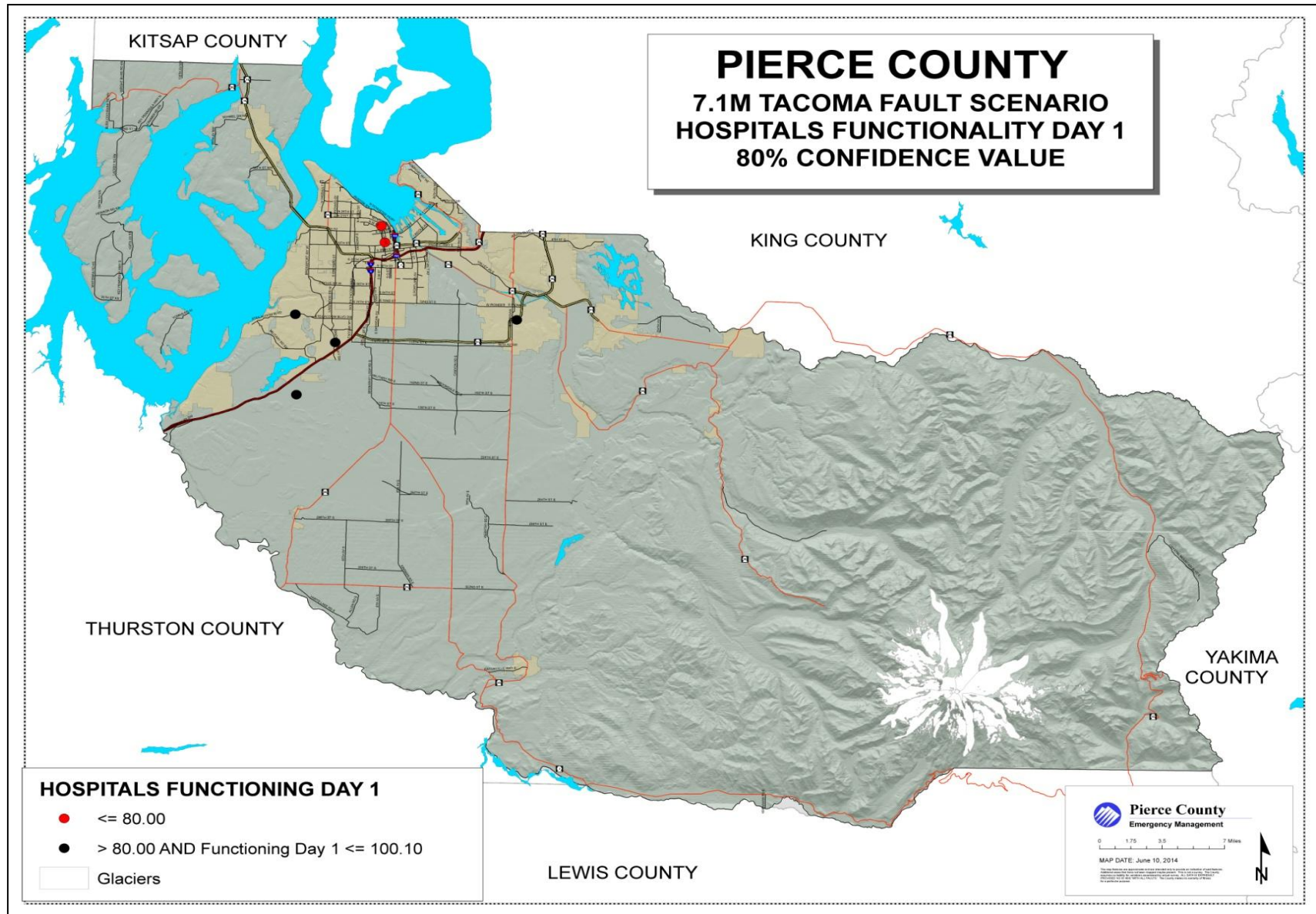
Map D-4 Pierce County Tacoma Fault Scenario Police Department Functionality Day 1



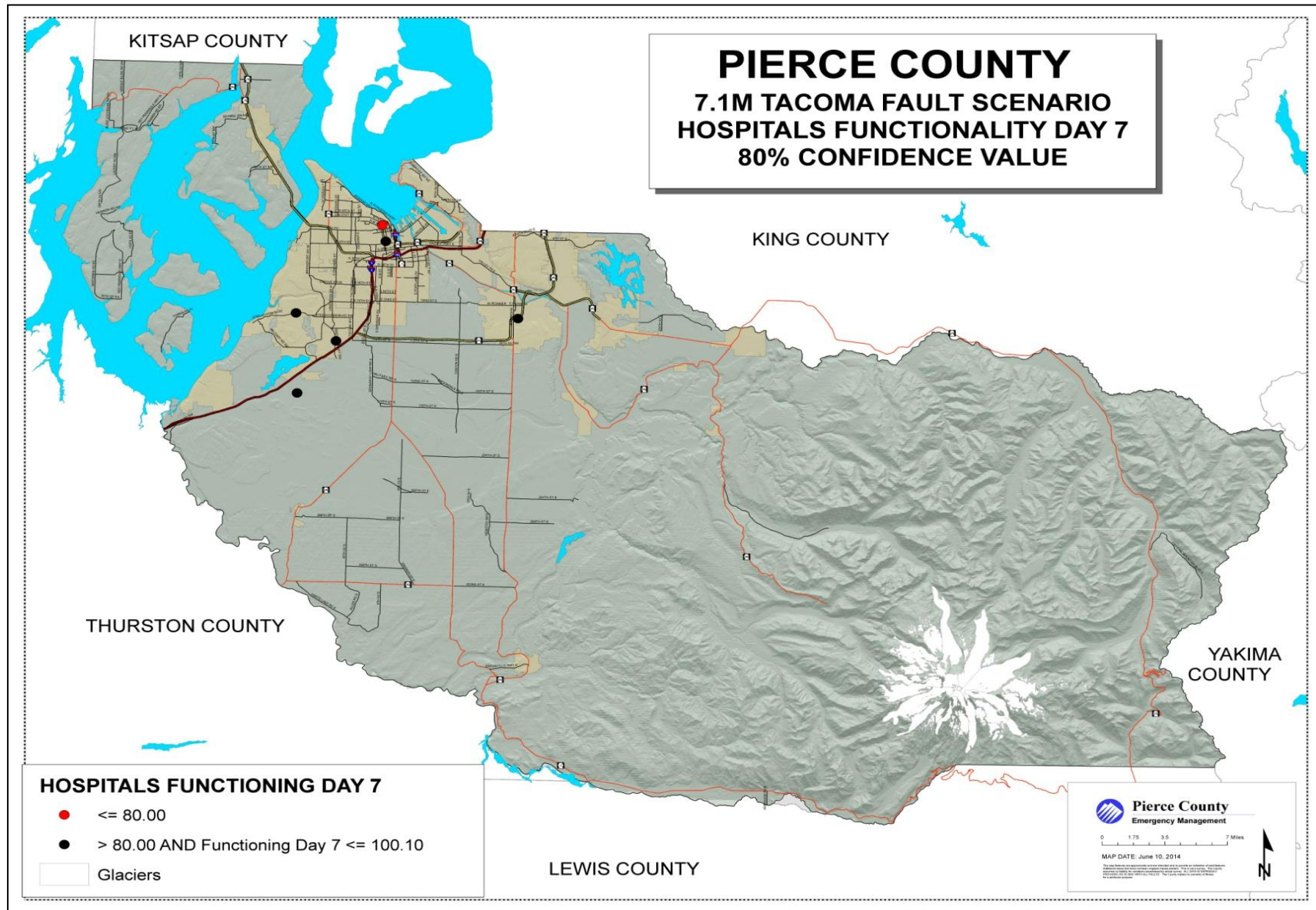
Map D-4 Pierce County Tacoma Fault Scenario Police Department Functionality Day 7 Map



Map D-5 Pierce County Tacoma Fault Scenario Hospitals Functionality Day 1 Map

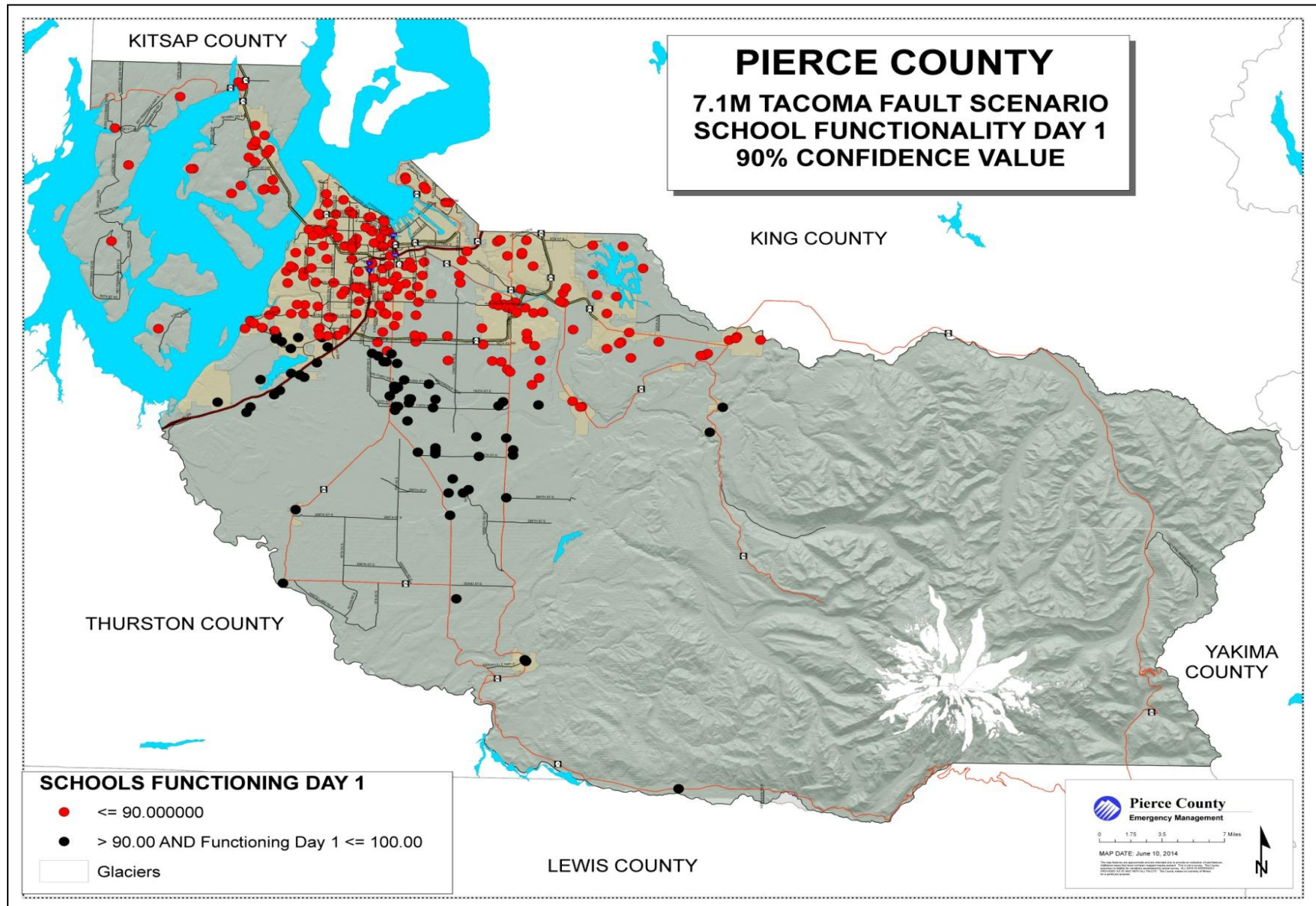


Map D-6 Pierce County Tacoma Fault Scenario Hospitals Functionality Day 7 Map

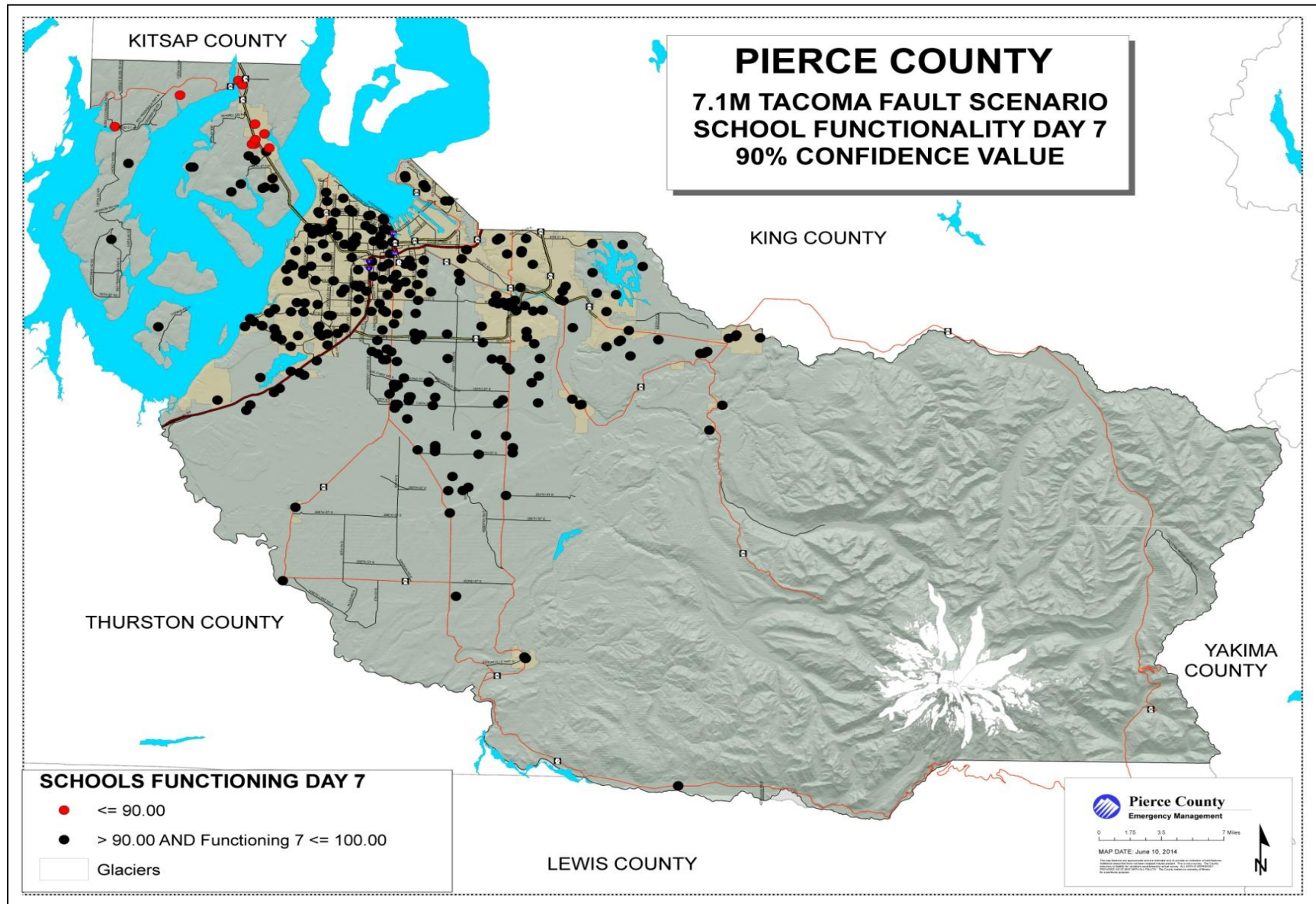


APPENDIX D-8
REGION 5 ALL HAZARD MITIGATION PLAN 2015 – 2020 EDITION
RIVIERA COMMUNITY CLUB. ADDENDUM

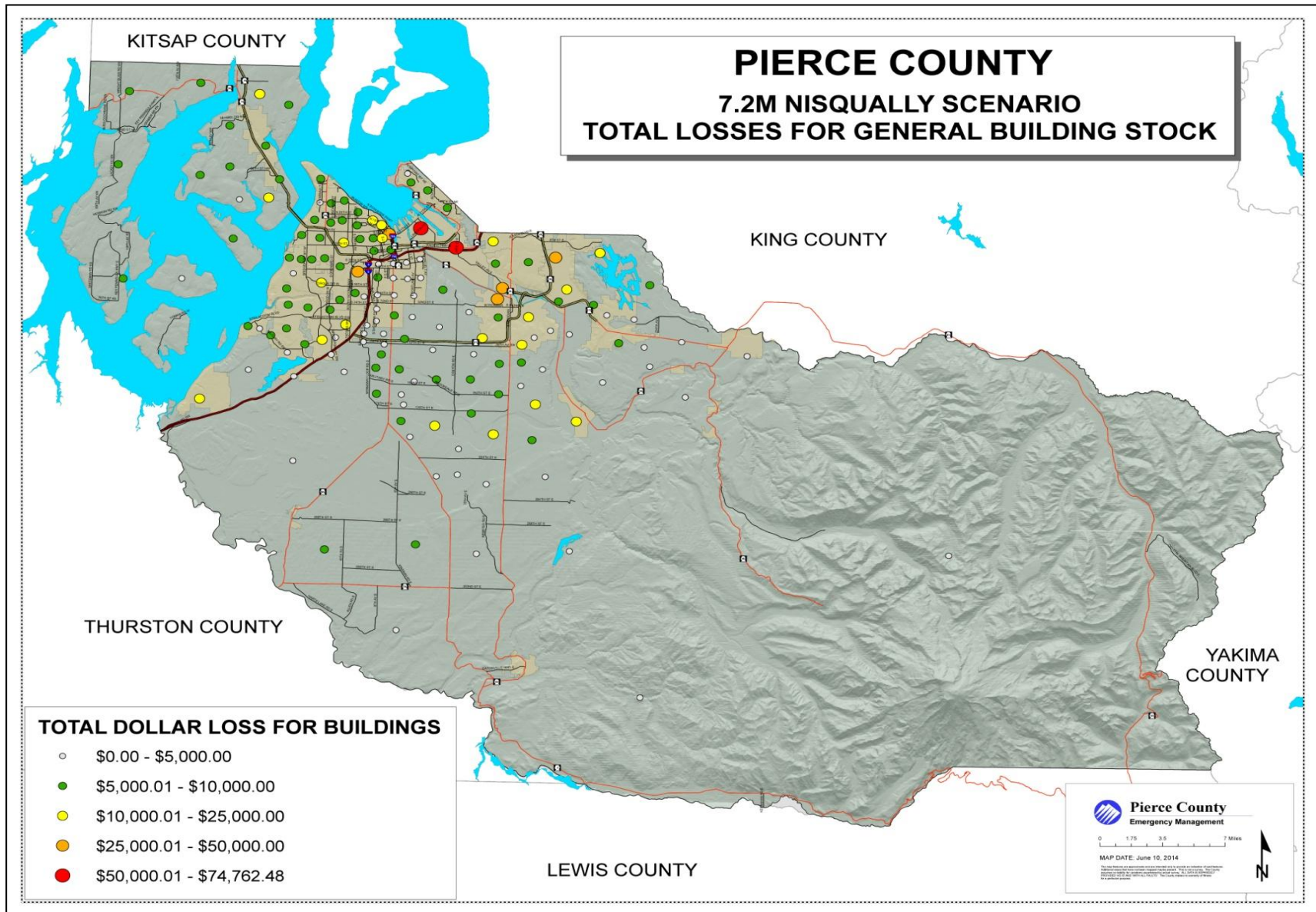
Map D-7 Pierce County Tacoma Fault Scenario School Functionality Day 1 Map



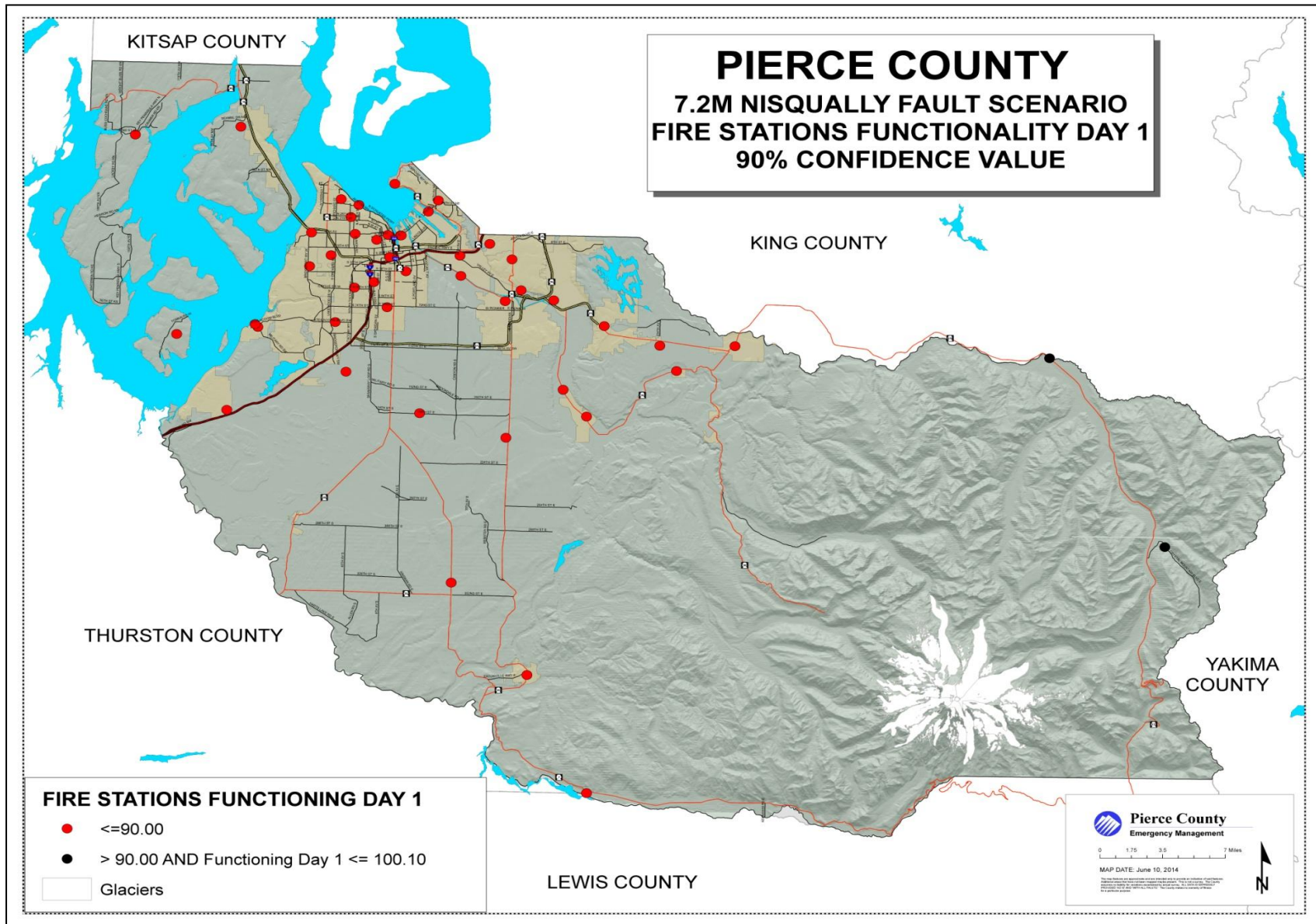
Map D-8 Pierce County Tacoma Fault Scenario School Functionality Day 7 Map



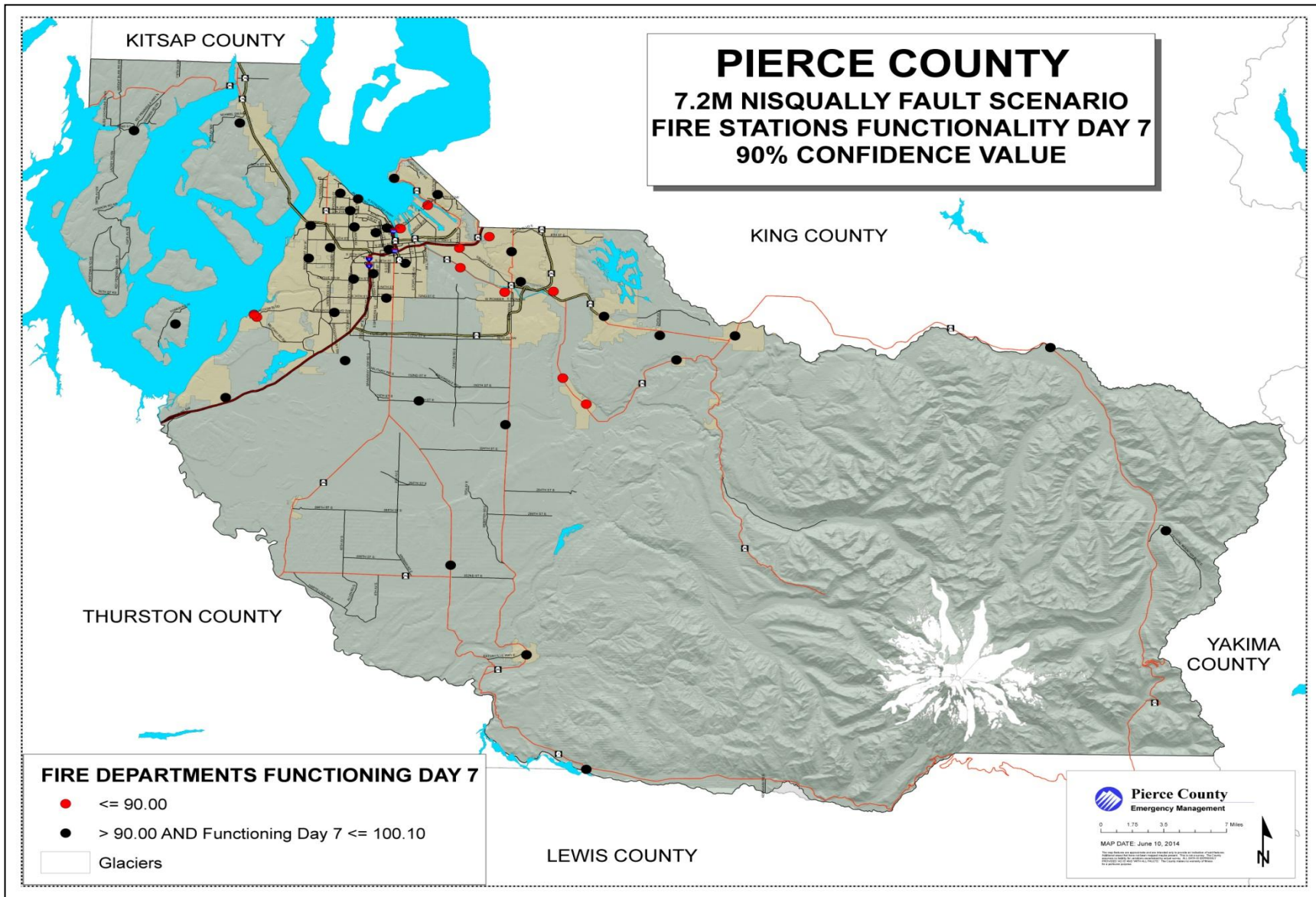
Map D-9 Pierce County Nisqually Fault Scenario Total Losses Map



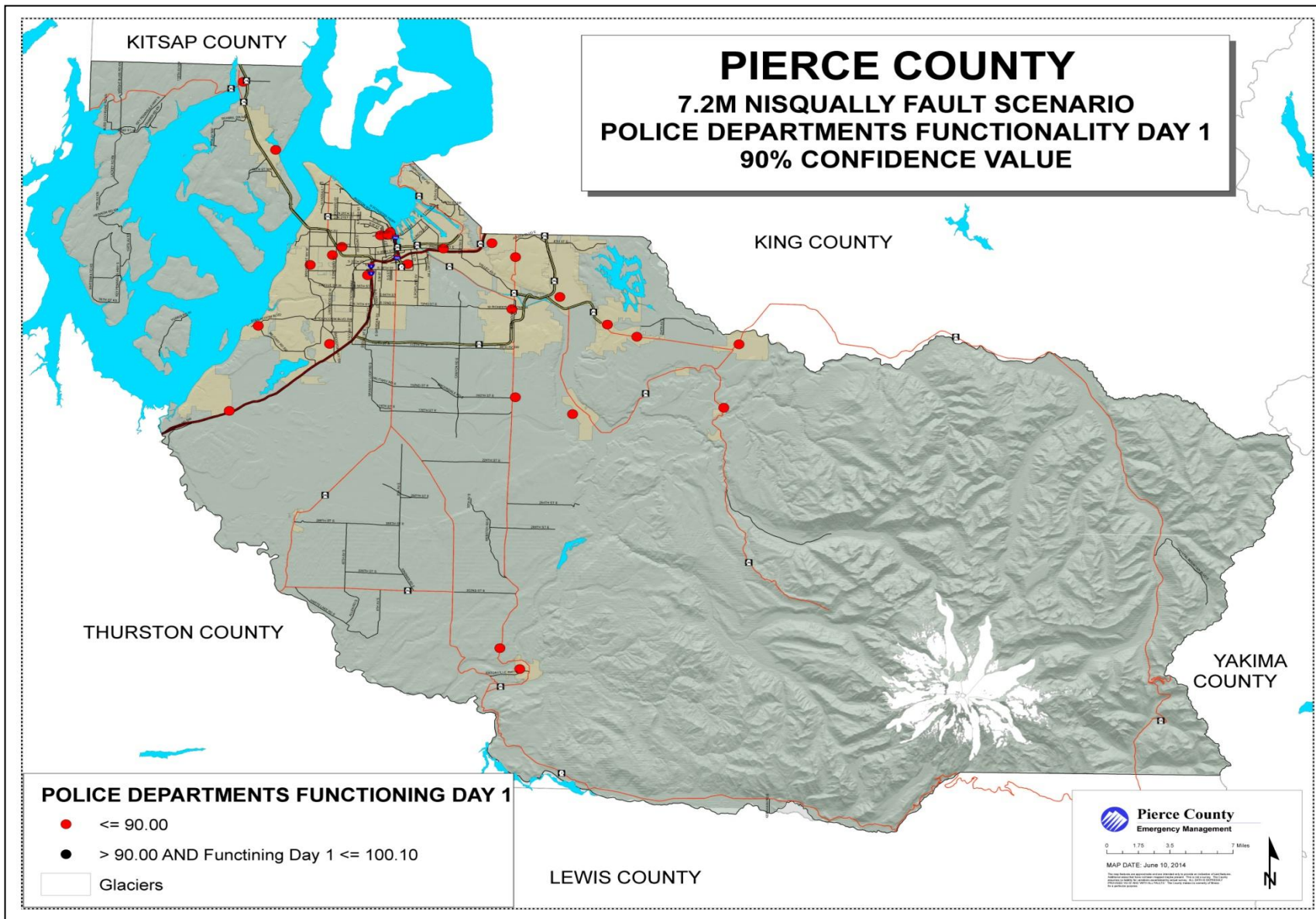
Map D-10 Pierce County Nisqually Fault Scenario Fire Stations Functionality Day 1 Map



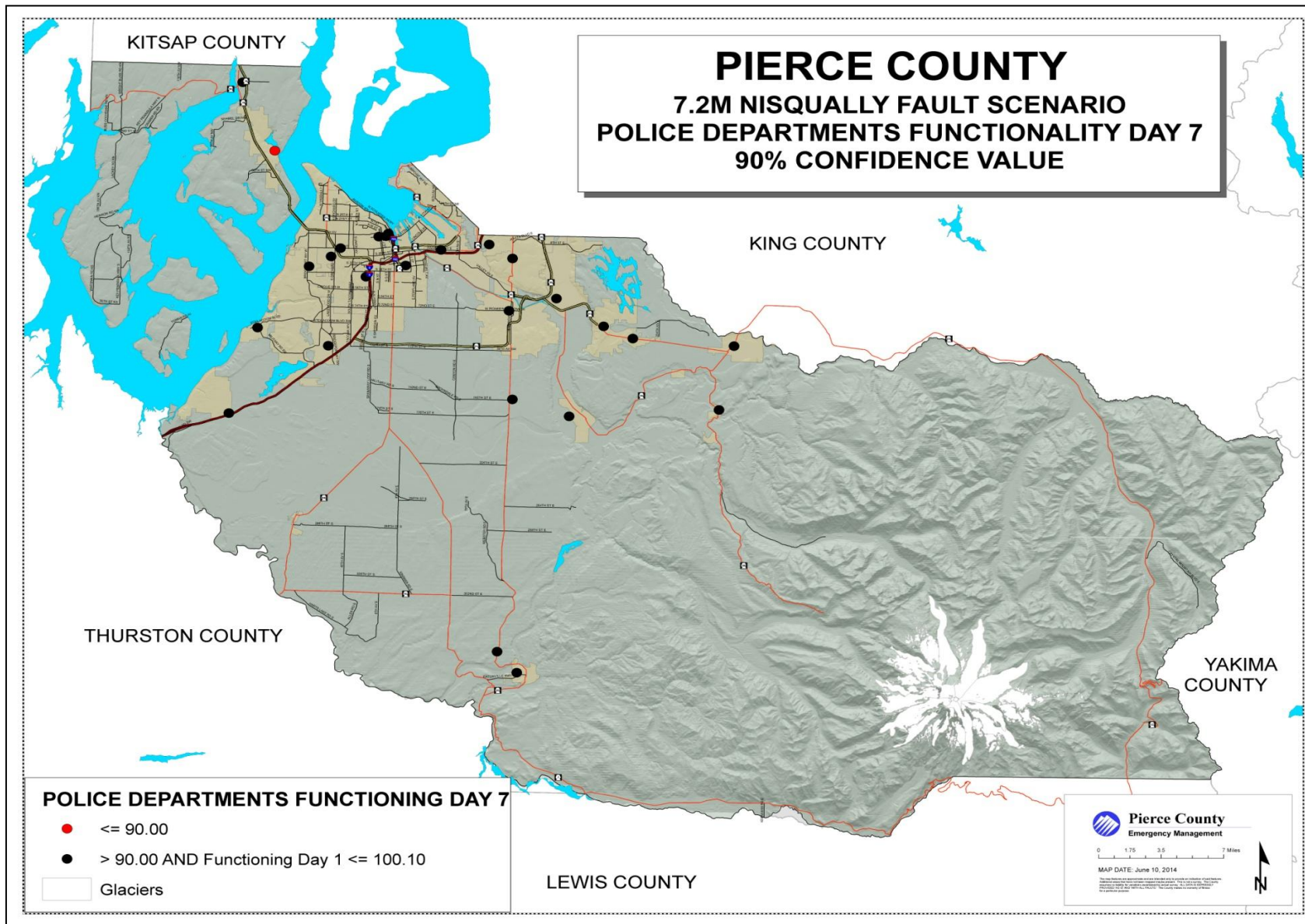
Map D-11 Pierce County Nisqually Fault Scenario Fire Stations Functionality Day 7 Map



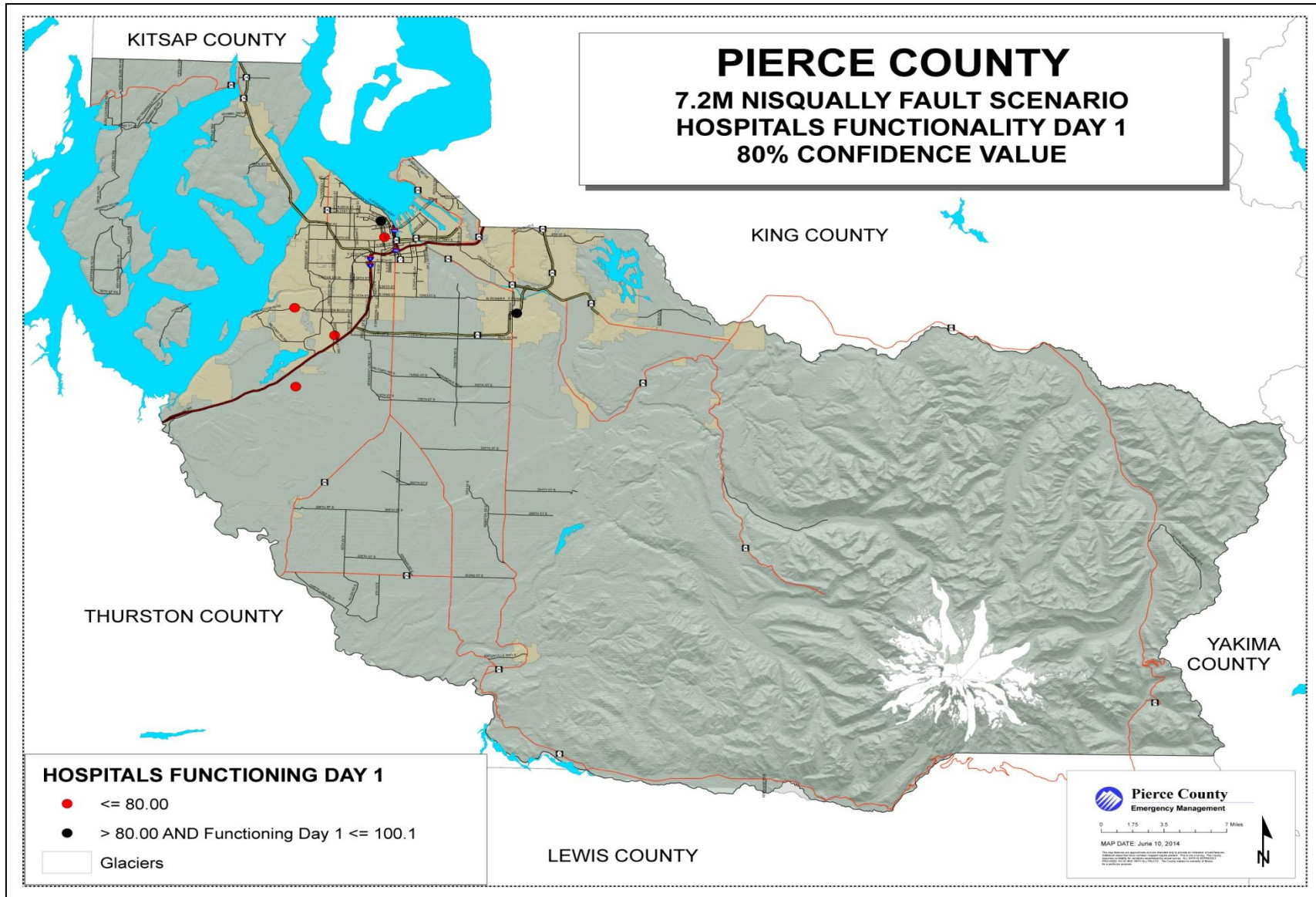
Map D-12 Pierce County Nisqually Fault Scenario Police Departments Functionality Day 1 Map



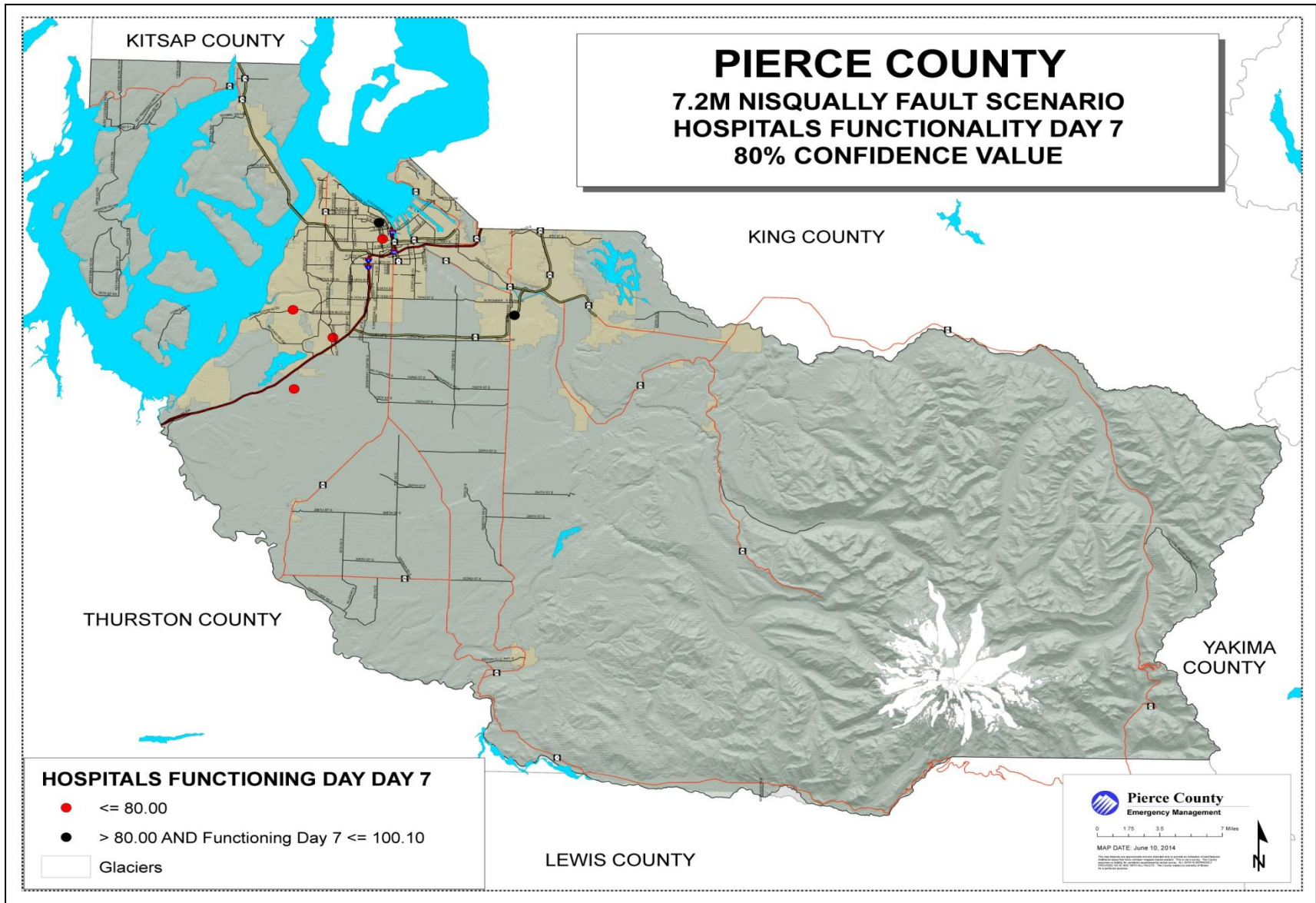
Map D-13 Pierce County Nisqually Fault Scenario Police Departments Functionality Day 7 Map



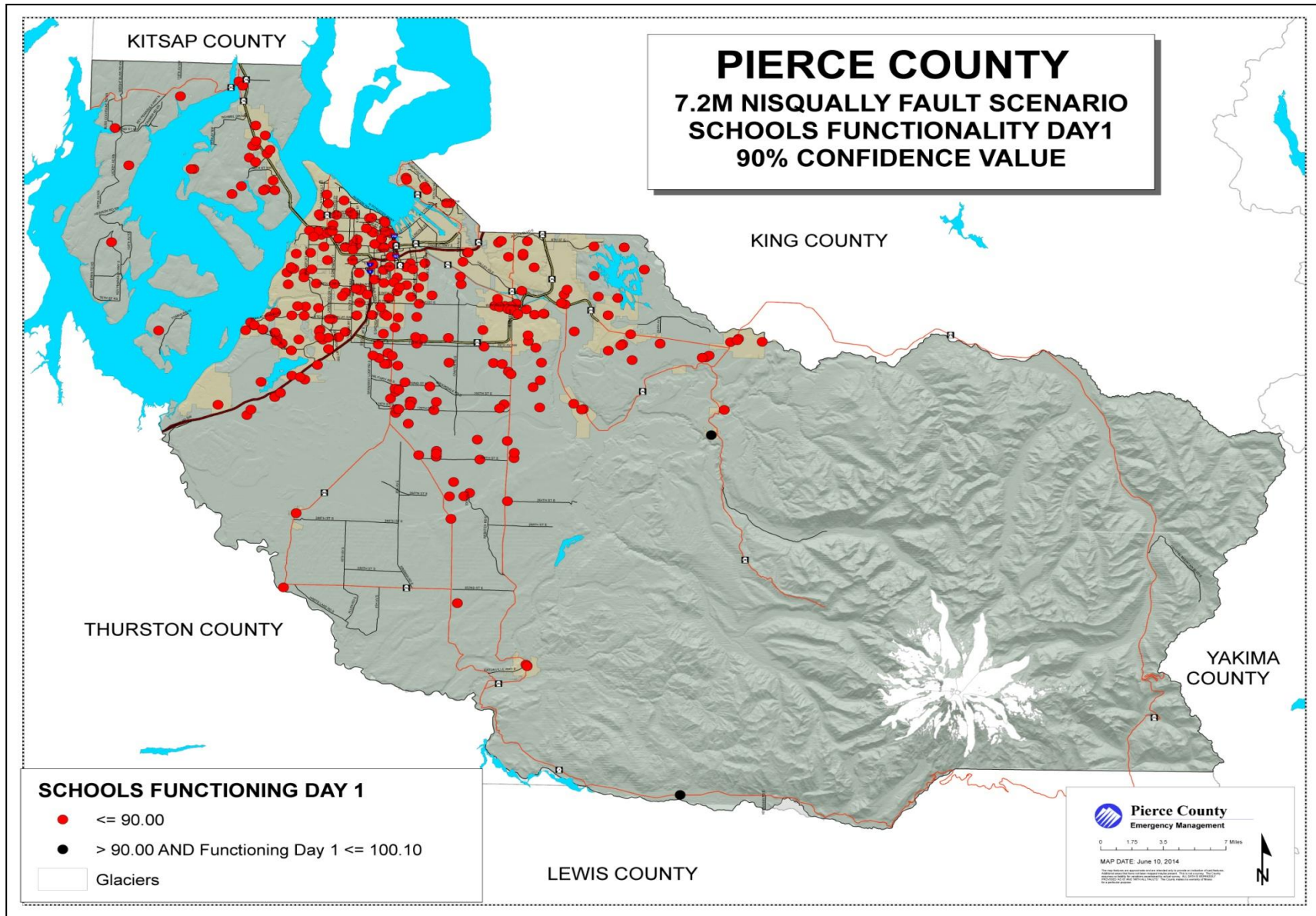
Map D-14 Pierce County Nisqually Fault Scenario Hospital Functionality Day 1 Map



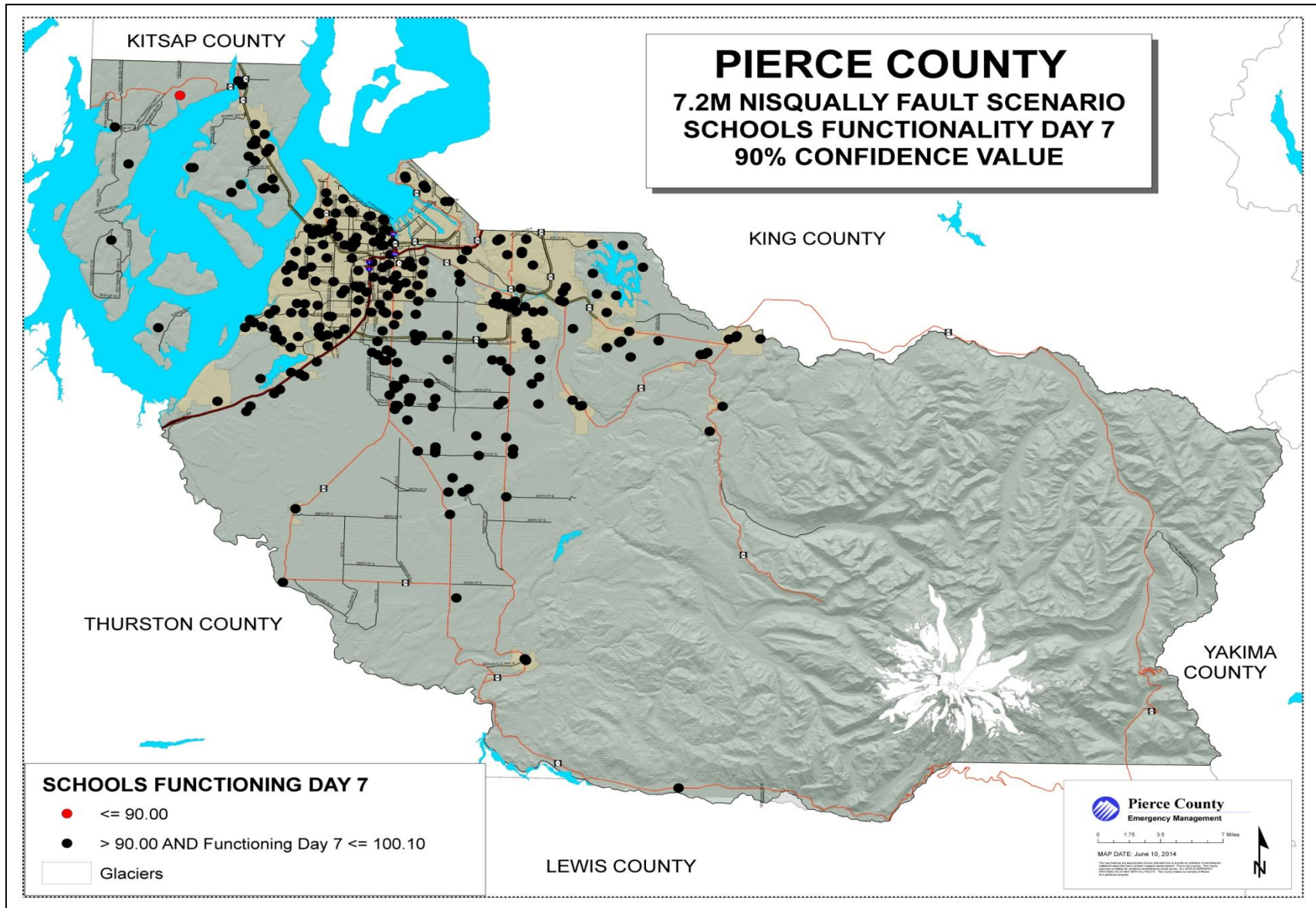
Map D-15 Pierce County Nisqually Fault Scenario Hospital Functionality Day 7 Map



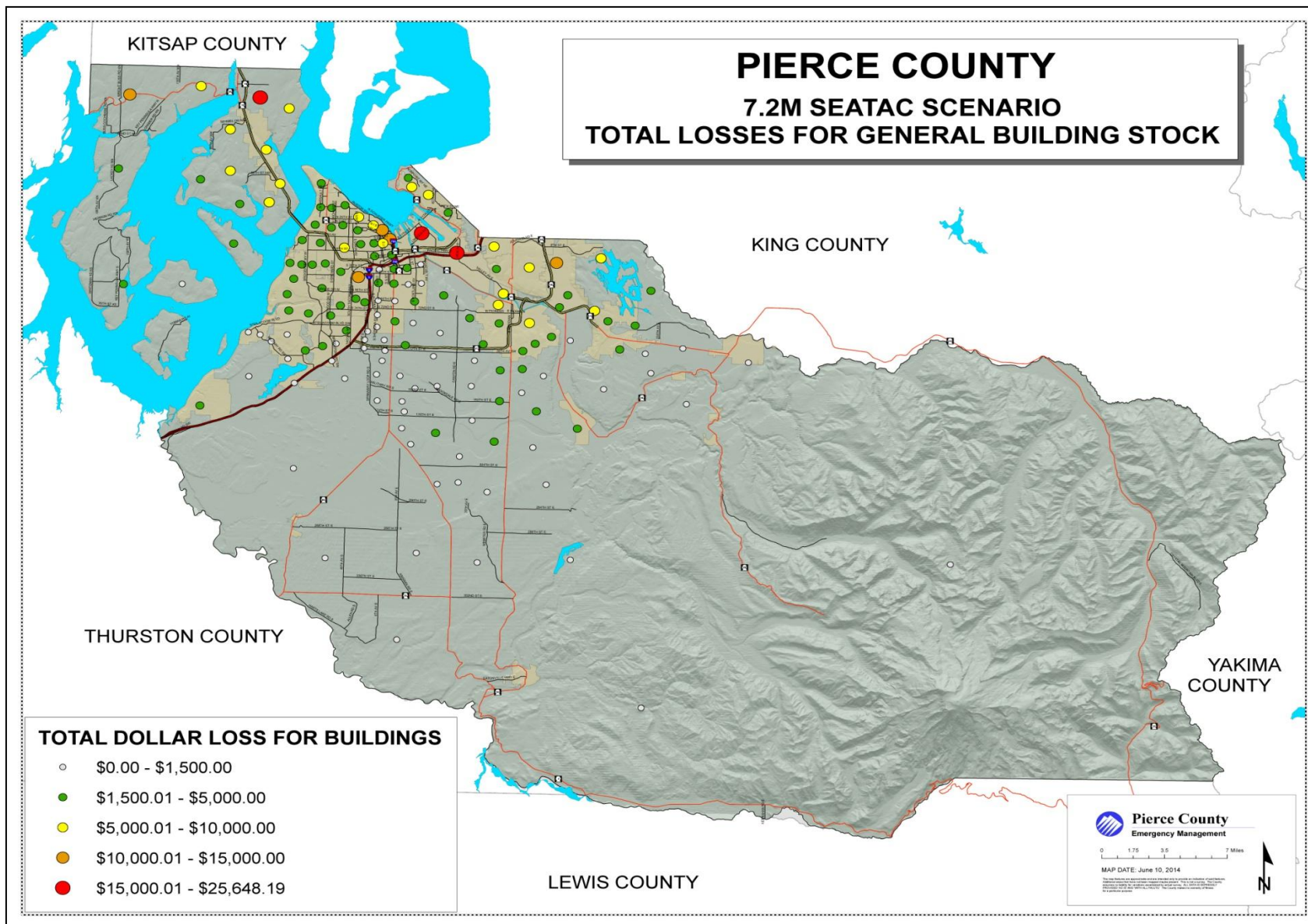
Map D-16 Pierce County Nisqually Fault Scenario Schools Functionality Day 1 Map



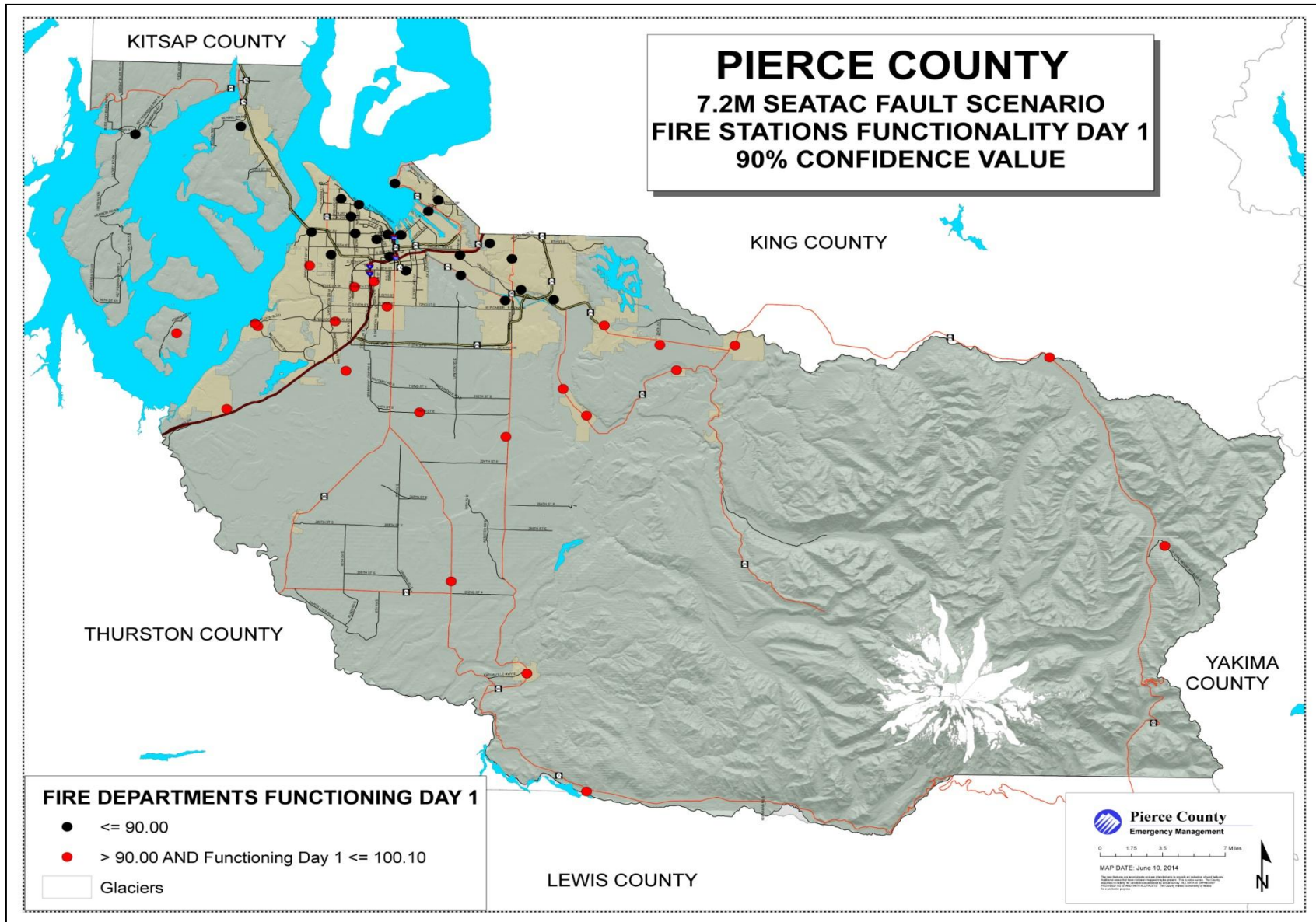
Map D-17 Pierce County Nisqually Fault Scenario Schools Functionality Day 7 Map



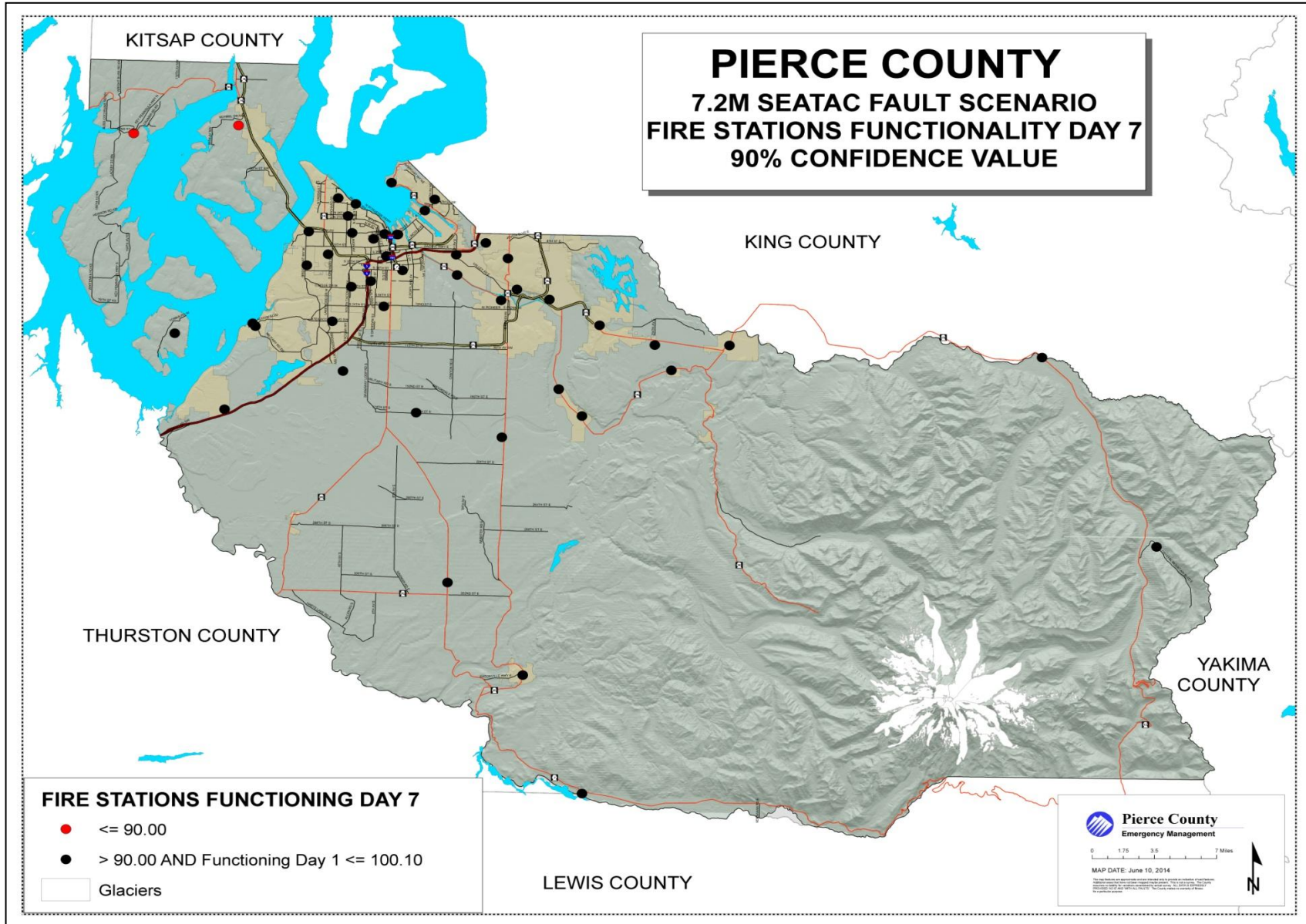
Map D-18 Pierce County SEATAC Fault Scenario Total Losses Map



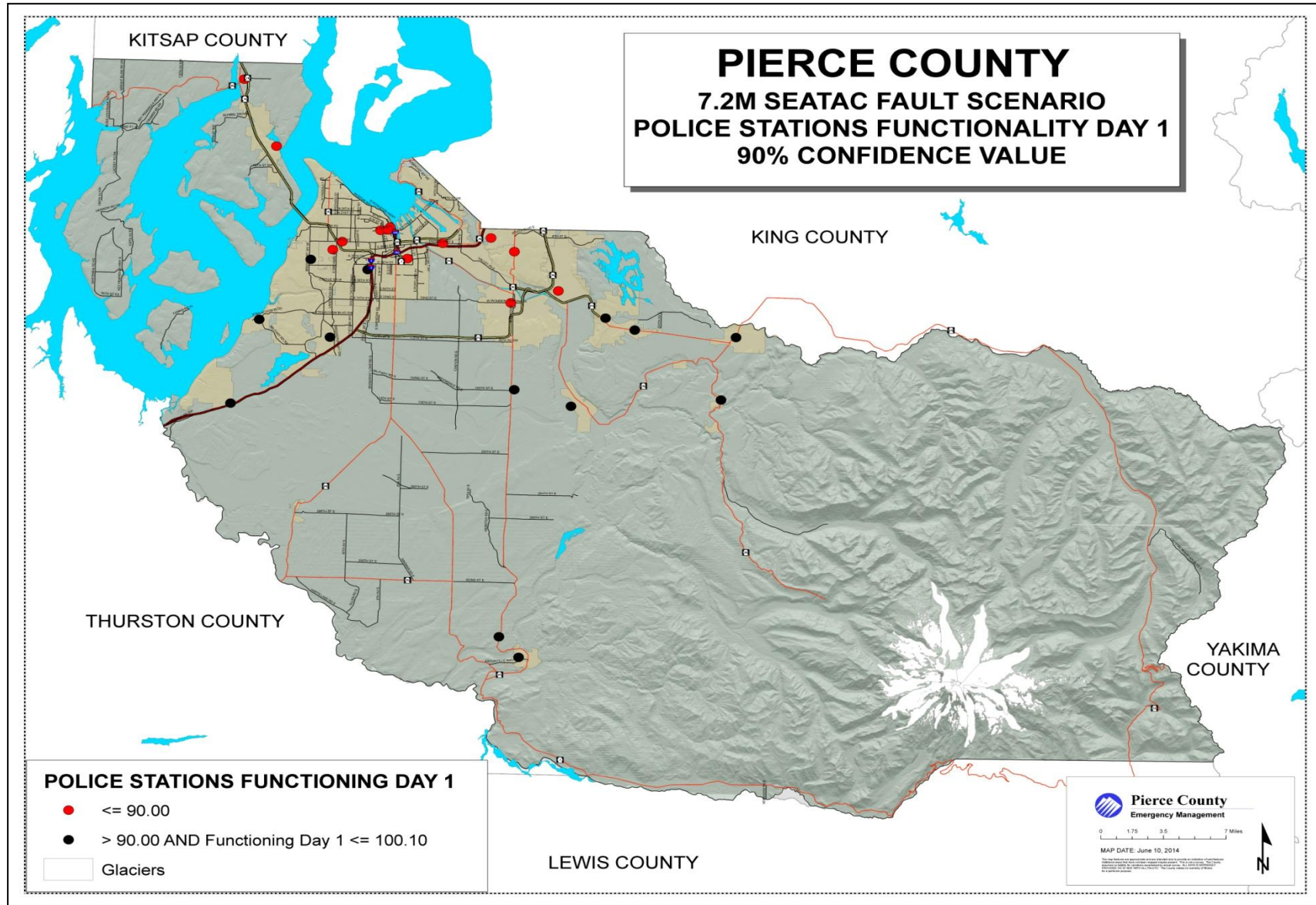
Map D-19 Pierce County SEATAC Fault Scenario Fire Stations Functionality Day 1 Map



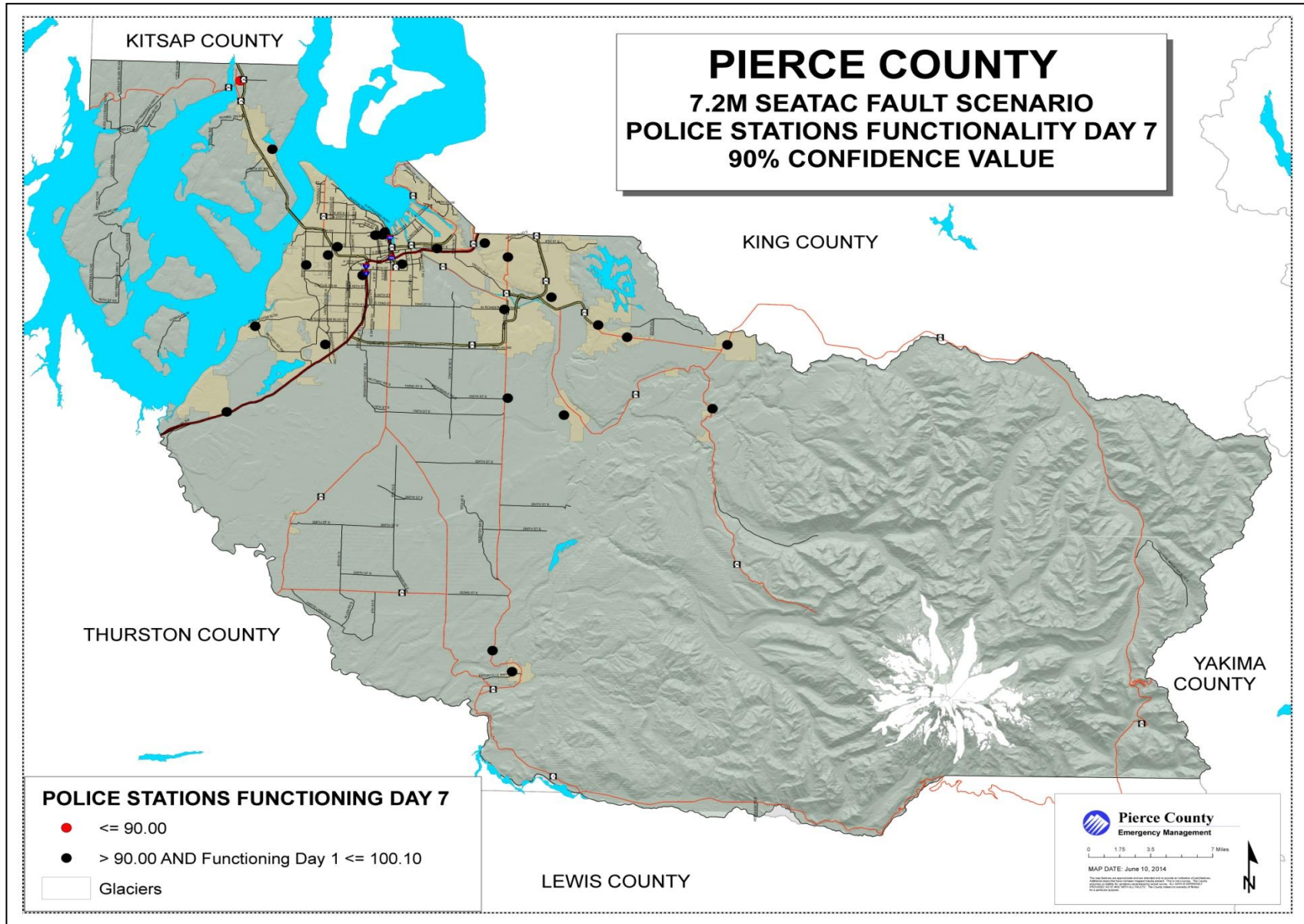
Map D-20 Pierce County SEATAC Fault Scenario Fire Stations Functionality Day 7 Map



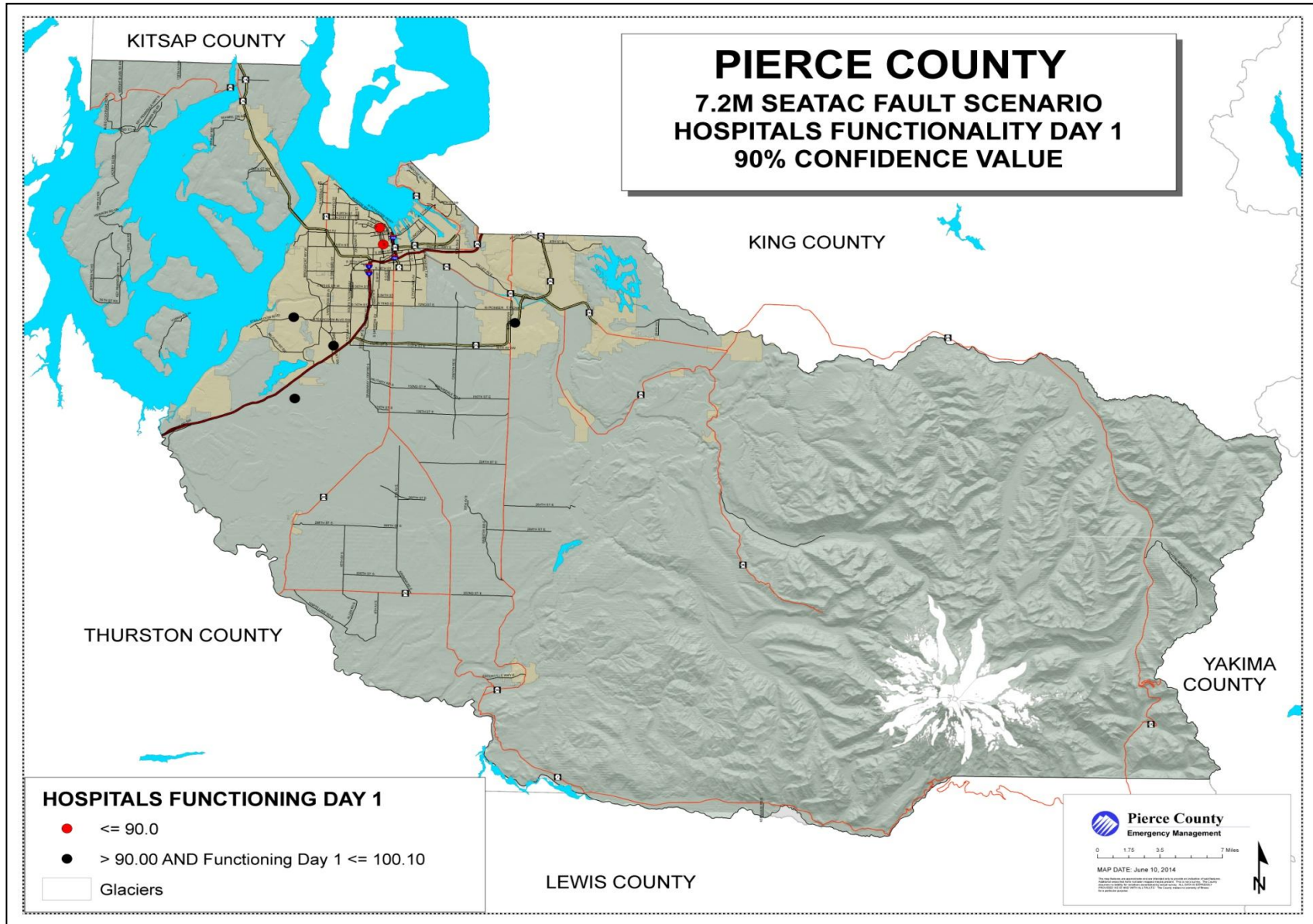
Map D-21 Pierce County SEATAC Fault Scenario Police Department Functionality Day 1 Map



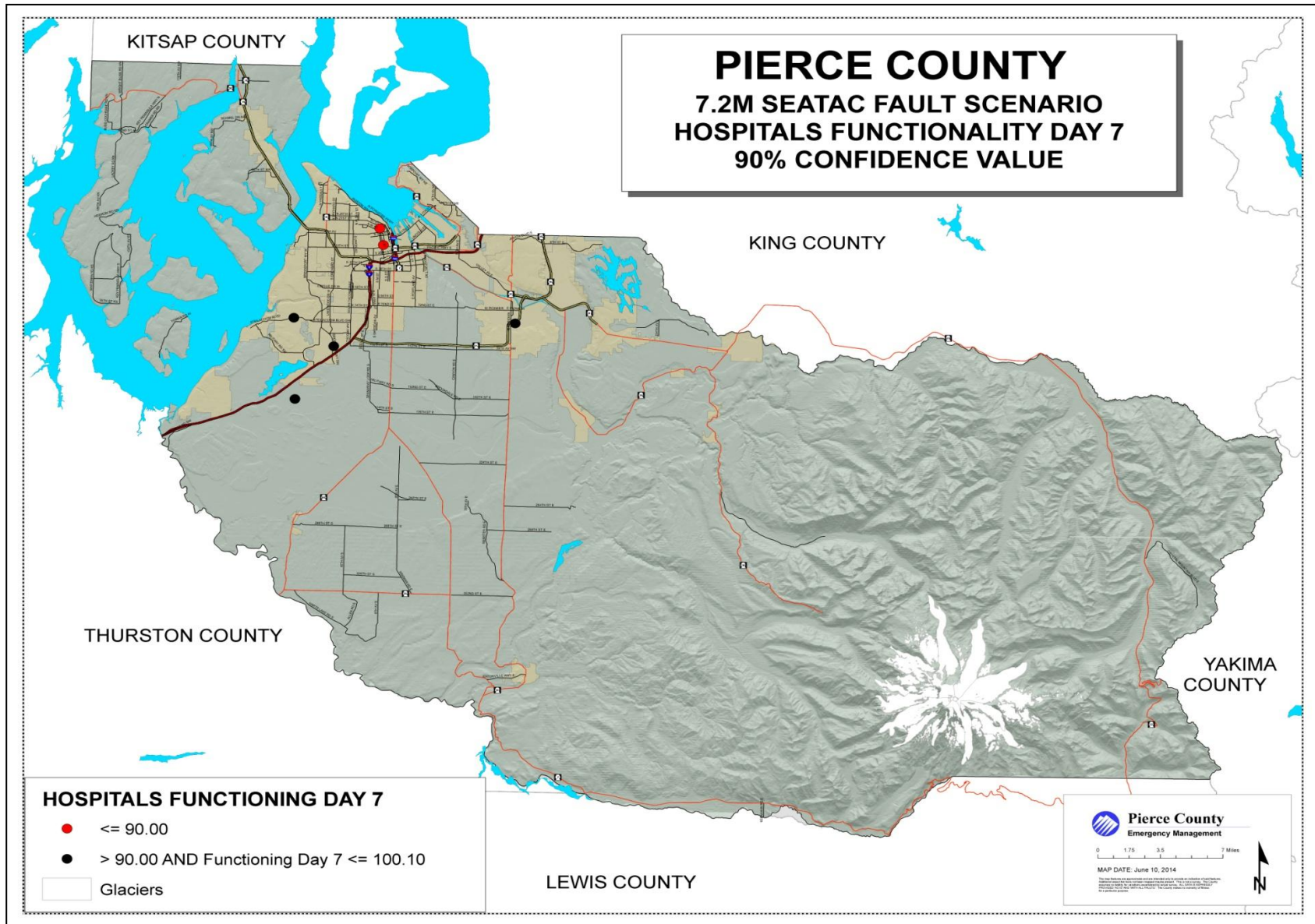
Map D-22 Pierce County SEATAC Fault Scenario Police Department Functionality Day 7 Map



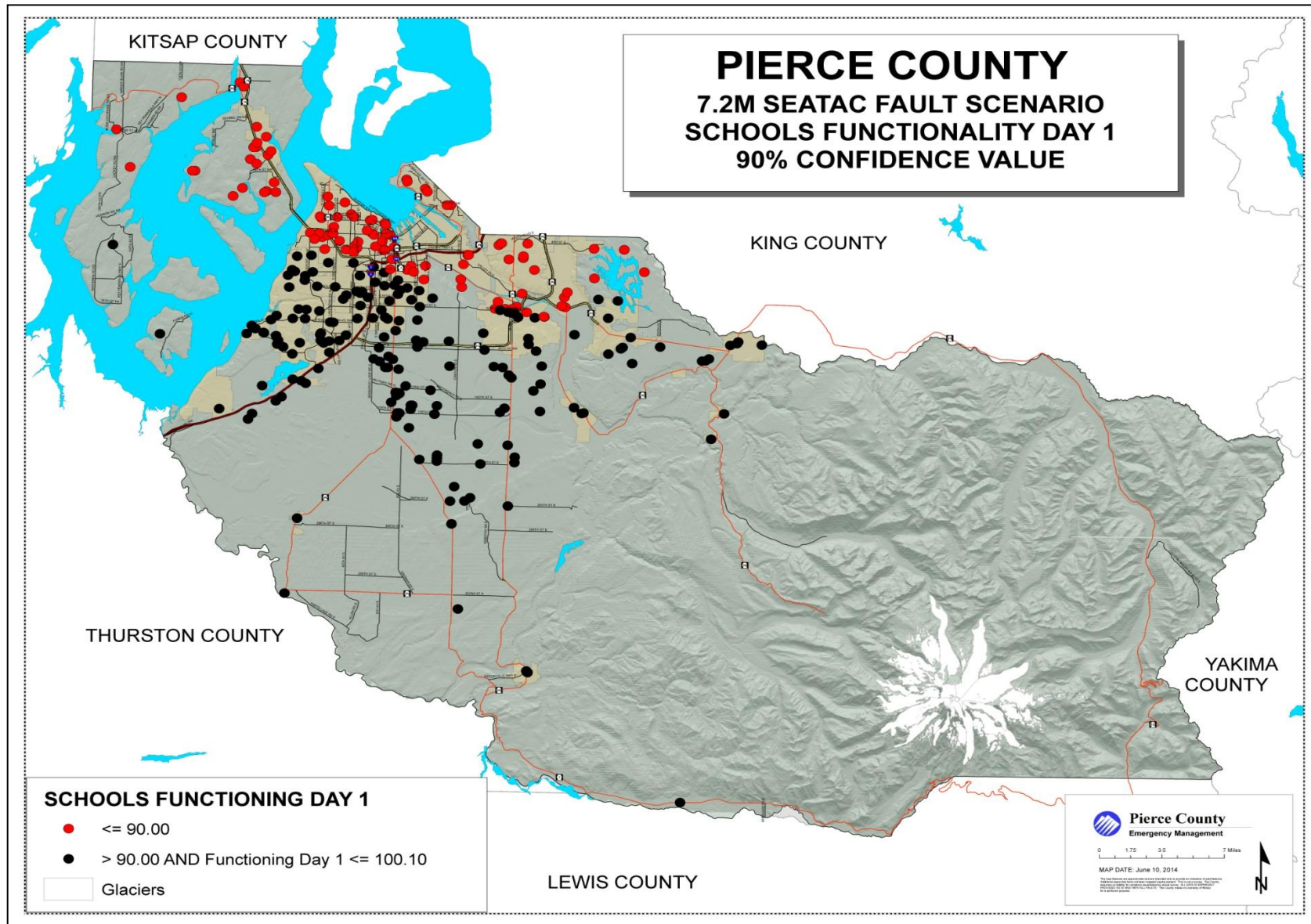
Map D-23 Pierce County SEATAC Fault Scenario Hospital Functionality Day 1 Map



Map D-24 Pierce County SEATAC Fault Scenario Hospital Functionality Day 7 Map



Map D-25 Pierce County SEATAC Fault Scenario Schools Functionality Day 1 Map



Map D-26 Pierce County SEATAC Fault Scenario Schools Functionality Day 7 Map

