REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
PORT OF TACOMA ADDENDUM

UPDATED SEPTEMBER 2016

SECTION 1

REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
PORT OF TACOMA
PROCESS SECTION

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Changes To Jurisdiction Plan in this Document

This Process Section for the Region 5 All Hazard Mitigation Plan and the addendum Port of Tacoma All Hazard Mitigation Plan includes the following changes which are documented as a result of a complete review and update of the previous 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 part of the Port of Tacoma All Hazard Mitigation Plan.

Change Matrix

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

Change Matrix – Port of Tacoma Region 5 All Hazard Mitigation Plan 2015-2020 Edition

Section 1 – Plan Development, Process Section	
Section or Part of Plan	**New in Current Plan**
Section 1 – Process Section	Section 1 – Process Section
	The Process Section contains this Change Matrix Table.
	The Process Section contains a revised Risk Section to include nine (9) Technological Hazards.
	The Process Section contains a description of the new process to define goals and objectives for this jurisdiction in the Mitigation Strategy.
	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**	**Current Plan**
Section 2 – Profile	Information was current as of 2000 Census Data.	The Profile has been updated to more accurately reflect the Port of Tacoma's role, economic impact and scope of operations.

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

Section 4 – Vulnerability, Risk Analysis	
Section or Part of Plan	**Current Plan**
The previous version of the plan contained a chart for previous history of disaster declarations broken down into Geological and Meteorological Hazards.	This Section 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.	This 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.	This Section includes completely updated tables showing vulnerability of land and infrastructure using tax parcel information.

Section 5 – Mitigation Strategy	
Section or Part of Plan	**Current Plan**
The previous document used the standard goals as outlined for the entire project.	This Section lists specific goals and objectives written by the jurisdiction 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 general 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.

Section 6 – Infrastructure	
Section or Part of Plan	**Current 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 current 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	**Current Plan**
The previous Plan Maintenance for the jurisdiction was very similar in format to the newer version for 2015.	The current plan borrows from the format and content of the original; however the document has been reviewed and updated to current information.

Section 8 – Other Changes	
Section or Part of Plan	**Current Plan**
The previous document contained three Appendices.	The current 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.

Region 5 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, including how the process was prepared, who aided in the process, and the public involvement.[1]

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."[i]

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

[1] Pierce County is Region 5 for Homeland Security (HLS) in Washington State.

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 original Planning Team was comprised of:

Table 1-1 Region 5 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
Planning Team members Katie Gillespie and Debbie Bailey, along with Casey Broom, conducted the meeting and the Planning Team discussed the following items: Casey led the discussion continuing with Goals and Objectives for each jurisdiction. There was also a lot of discussion regarding good mitigation measures and how they need to address the objectives identified.
Planning Team Meeting #7 - Pierce County Emergency Operations Center-Oct 10, 2012
Planning Team members Katie Gillespie and Debbie Bailey, along with Casey Broom, conducted the meeting and the Planning Team discussed the following items: The jurisdiction hazard maps (base map as well as hazard maps) and other administrative items were discussed. The majority of the meeting was dedicated to a discussion revolving around developing new mitigation measures and having 'shovel-ready' projects included in all plans. A general discussion was productive in finding new measures that others might also be able to include.
Planning Team Meeting #8 - Pierce County Emergency Operations Center-Nov 14, 2012
Planning Team members Katie Gillespie and Debbie Bailey conducted the meeting and the Planning Team discussed the following items: There was a call for questions on all sections completed thus far and any final cleanup of sections as necessary. The majority of the meeting was dedicated to continuing discussions about mitigation measures and answering all the questions regarding new measures and how they will be added to the plans. The jurisdictions were briefed and given guidance on how to prioritize their mitigation measures.
THERE WERE NO PLANNING TEAM MEETINGS IN DECEMBER OF 2012
The month of December was dedicated allowing the Plan Coordinators time to catch up on documentation for more than 75 jurisdictions.
REGIONAL PLANNING MEETINGS WERE HELD IN JANUARY OF 2013 (See Table 1-15)
The month of January was dedicated to eight Regional Meetings where the groups were divided into geographical districts rather than their normal groups in order to develop potential regional measures together.
Planning Team Meeting #9 - Pierce County Emergency Operations Center-Feb 13, 2013
Planning Team members Katie Gillespie and Debbie Bailey conducted the meeting and the Planning Team discussed the following items: The primary discussion, besides a general review once more, was about the Plan Maintenance section and how that will be updated by the jurisdictions. Each jurisdiction was given copies of their existing section and we discussed possible changes and improvements. Those jurisdictions that still had outstanding sections of documentation brought those forward at this time.

Planning Team Meeting #10 - Pierce County Emergency Operation Center-Mar 13, 2013
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.

Port of Tacoma Plan Process

In updating the Port of Tacoma's All Hazard Mitigation Plan, an extensive review was undertaken and each Section was rewritten to ensure the information provided is complete and accurate.

Stakeholder Planning Team

In September 2016, the South Sound Facility Security Officers (FSO) became an additional planning team specific to the Port of Tacoma's All Hazard Mitigation Plan.

This stakeholder forum is comprised of representatives from several organizations including area marine terminals, the Ports of Tacoma and Olympia, Local 23 of the International Longshore and Warehouse Union (ILWU), the United States Coast Guard, the Tacoma Fire Department and the Pierce County Department of Emergency Management.

Joint Planning Integration

The Port of Tacoma has identified the following plans for integration with its All Hazard Mitigation Plan:

- Port of Tacoma Land Use and Transportation Plan, Updated Biennially
- City of Tacoma's Tideflats Area Transportation Study (TATS)
- City of Tacoma's Container Port Element of the Comprehensive Plan
- Port of Tacoma Cybersecurity Assessments and Plans (as described in Section 5)

Endnotes

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

SECTION 2

REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
PORT OF TACOMA
PROFILE SECTION

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Overview

The Port of Tacoma is an independent municipal corporation that operates as a public port district under Title 53 of the Revised Code of Washington (RCW). Created in 1918, the Port owns and maintains facilities in the industrial tideflats of Tacoma most of which support maritime commerce, including facilities for containerized cargo, automobiles, and dry bulks such as grain, breakbulk cargo, heavy lift cargo and project cargoes.

Methods for quantifying the relative size, scope of operations and capabilities for counties, cities and towns (e.g., demographics, population) are, in many instances, not readily applicable to public ports whose size may be generally measured in terms of service capabilities, trade volumes, job creation and service area.

The following provides a general overview of the Port of Tacoma, its mission, core values, operations and economic impact.

MISSION STATEMENT

The mission of the Port of Tacoma is as follows:

Deliver prosperity by connecting customers, cargo and community with the world.

CORE VALUES

The Port of Tacoma has six (6) core values as follows:

Integrity
Being ethically unyielding and honest; inspiring trust by saying what we mean and matching our behaviors to our words; acting in the public interest and in a manner to maintain public confidence.

Customer focus
Creating long-term relationships by consistently delivering value; helping customers to become high-performance businesses by understanding their business needs; establishing realistic expectations and meeting commitments.

Teamwork
Focusing on the success of the entire organization; fully utilizing our collective skills, knowledge and experiences to achieve our goals; encouraging diversity, respect and full participation; being effective collaborators with a broad range of partners in the region; having fun together.

Courage
Facing challenges with fortitude; setting aside fears and standing by personal principles; extending beyond personal comfort zones to achieve goals; taking responsibility for actions.
Competitive spirit
Pursuing our goals with energy, drive and the desire to exceed expectations; going the extra mile for our customers and to differentiate ourselves in the market; demonstrating passion and dedication to our mission; constantly improving quality, timeliness and value of our work.
Sustainability
Focusing on long-term financial viability; valuing the economic well-being of our neighbors; doing business in a way that improves our environment.

Operational Summary

The Port offers various cargo handling services, including breakbulk, project and heavy lift cargo handling and storage, as well as intermodal terminal operations, facility and equipment repair and maintenance and leasing of terminals and buildings.

In 2014, The Port of Tacoma and the Port of Seattle formed The Northwest Seaport Alliance (NWSA) which represents the 4th largest intermodal gateway in North America.

The container terminal facilities of the Port of Tacoma are now identified as located within the South Harbor of The Northwest Seaport Alliance (NWSA). An illustration and a summary of these container terminal facilities follows:

SOUTH HARBOR CONTAINER TERMINALS

	APMT	HUSKY	OCT	PCT	WUT	TOTE
LAND AREA	135 acres 54.6 ha	93 acres 37.6 ha	54 acres 21.9 ha	141 acres 57.1 ha	123 acres 49.8 ha	48 acres 19.4 ha
SHIP BERTHS	2 2,200 ft 671 m	2 2,700 ft 823 m	1 1,100 ft 335 m	2 2,087 ft 636 m	2 2,600 ft 793 m	3 RO / RO ramps
BERTH DEPTH	51 ft 15.5 m	51 ft 15.5 m	51 ft 15.5 m	51 ft 15.5 m	51 ft 15.5 m	51 ft 15.5 m
CRANES	5 4 x 18-wide 1 x 14-wide	4 1 x 18-wide 1 x 17-wide 2 x 16-wide	4 3 x 15.5-wide 1 x 14-wide	7 7 x 23-wide	6 4 x 18-wide 2 x 24-wide (100-ton lift capacity)	RO / RO operation
TRUCK LANES	8/6 Inbound / outbound	7/4 Inbound / outbound	5/2 Inbound / outbound	10/6 Inbound / outbound	9/4/2 Inbound / outbound / reversible	5/4 Inbound / outbound
SCALES	6	6/1 Inbound / outbound	2	6	9	4
REEFER PLUGS	875	600	300	764	750 + auxillary	140
SHIPPING LINES	Matson	COSCO, Hanjin, "K" Line, MOL, Westwood, Yang Ming	COSCO, Hanjin, "K" Line, Yang Ming	ANL-US Lines, Evergreen, Hamburg Süd, Hapag-Lloyd	APL, Hapag-Lloyd, Hyundai, MOL, NYK Line, OOCL, ZIM	Totem Ocean Trailer Express
RAIL RAMPS	Near-dock	On-dock	On-dock	On-dock	On-dock	Off-dock

Additional information is available on the Port's website at http://portoftacoma.com/

Economic Summary

Table 2-1 Fiscal Summary[1]

Jurisdiction	Operating Costs (per month)	Operating Budgeted Revenues[2]	Operating Budgeted Expenditures[3]	Fund Balance as % of Operating Cost	Avg Fund Balance (5 yrs)
Port of Tacoma	$8,717,583	$143,897,000	$104,611,000	N/A	N/A

The economic reach of the Port of Tacoma is much greater than its budgeted financial revenues and expenses and extends far beyond the Tacoma Tideflats.

Washington is the most trade-dependent state in the nation, with 40 percent of jobs related to international trade. The Port of Tacoma is considered one of the region's economic engines.

A study released in November 2014 highlighted the economic impact of the Port's real estate and marine cargo operations in 2013 as follows:

1. Supported more than 29,000 jobs
2. Generated nearly $3 billion in economic activity
3. Produced more than $223 million annually in state and local taxes to support education, police, fire services and road improvements

The analysis, performed by Martin Associates, focused on direct, indirect and induced jobs:

1. 12,436 direct jobs include trucking companies and railroads moving cargo to and from terminals and warehouses, longshore workers, steamship agents and freight forwarders.
2. 5,918 indirect jobs include office supply firms, maintenance and repair firms, and parts and equipment suppliers.
3. 10,756 induced jobs are those created by people directly employed by marine cargo operations re-spending their wages in the community on housing, food and other consumer goods.

As the analysis noted, if farmers and manufacturers who ship products through the Port of Tacoma are factored in, the port's activities reached 267,000 jobs overall in Washington State.

Geo-Political Summary

Table 2-2 Geo-Political Summary[4]

Jurisdiction	Area (sq mi)	Elevation Range (ft.)	Major Water Features	Regional Partners	
				Shared Borders	Land Use Authorities
Port of Tacoma	~4.5	Sea Level	Puget Sound and Puyallup River	N/A	Pierce County and the City of Tacoma

Population Summary

Demographics

Table 2-3 Population[5]

Jurisdiction	Population	Population Density (people/sq mi)	Population Served
Region 5	795,225	440	795,225

Special Populations

Table 2-4 Special Populations[6]

Jurisdiction	Population	Population 65 Plus	% of Total	Population Under 20	% of Total
Region 5	795,225	89,860	11.3%	193,240	24.3%

The Port of Tacoma is located predominately in the Tacoma Tideflats in a non-residential area zoned Port Maritime Industrial (PMI). Notwithstanding, there are approximately five (5)

residential structures on Port lands, located on Marine View Drive, with fewer than 20 total occupants.

Infrastructure Summary

General

Table 2-5 Parcel Summary[7]

Jurisdiction	# Parcels	Land Value	Average Land Value	Improved Value	Average Improved Value
Region 5	292,666	$39,054,414,761	$133,444	$47,992,756,413	$163,985

Jurisdiction	Total Assessed Value	Average Assessed Value
Region 5	$87,047,171,174	$297,428

Table 2-6 Housing Summary[8]

Jurisdiction	# Houses	Housing Density
Region 5	277,060	165

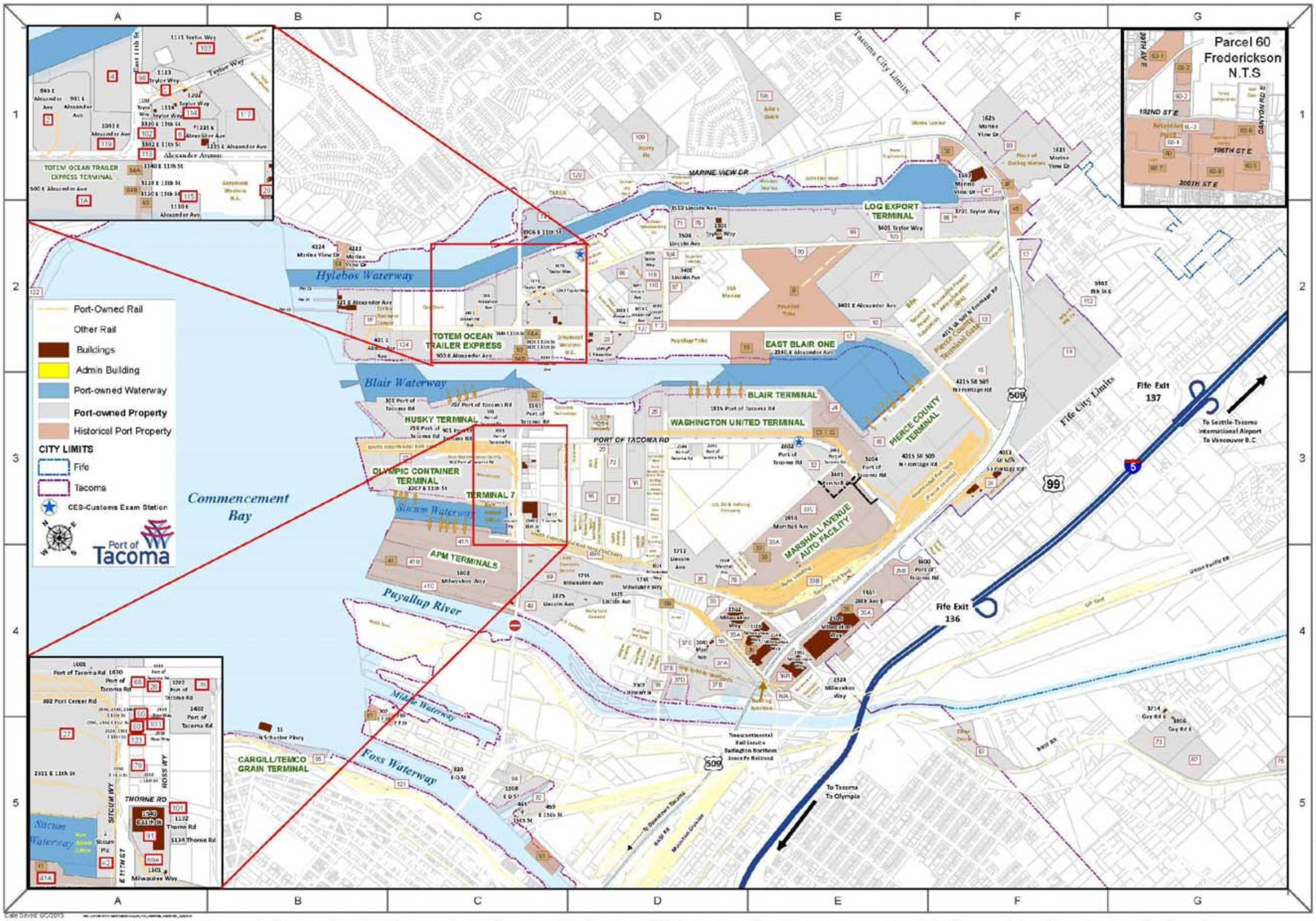
Jurisdiction Infrastructure

The following table shows the overview of infrastructure owned by the Port of Tacoma and is intended as a summary only.

Table 2-7 Owned Infrastructure[9]

Buildings and Structures	Major Terminals	Container Gantry Cranes (Port-Owned)	Straddle Carriers (Port-Owned)	Autos	Total Insured Value (TIV)
250	8	8	32	110	$748,382,432

A basemap for the Port of Tacoma, identifying property ownership, is provided on the following page.



The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. The Port of Tacoma assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND "WITH ALL FAULTS". The Port of Tacoma makes no warranty of fitness for a particular purpose.

MAP LOCATION	PORT PARCEL	PROPERTY TENANT(S)
[illegible]	1A	TOTE
[illegible]	1B	SAFE Boats, Trident Seafoods
[illegible]	2	PCC Logistics, PSE
[illegible]	4	PSE
[illegible]	5	Vacant
[illegible]	6	Pacific Maritime Association WA Training Center
[illegible]	10	Vacant
[illegible]	12	Vacant
[illegible]	13	Pierce County Terminal East
[illegible]	14	Vacant
[illegible]	15	AWC, WWL
[illegible]	16	Pierce County Terminal
[illegible]	17	East Blair 1
[illegible]	20	Georgia Pacific Gypsum
[illegible]	21	Blair Waterway
[illegible]	24	Blair Terminal
[illegible]	25	Hyundai
[illegible]	26	Tacoma Seafarers Center
[illegible]	27	Husky Terminal, Olympic Container Terminal
[illegible]	28	Vacant
[illegible]	29	Vacant
[illegible]	30	Washington United Terminals
[illegible]	31	Port Rec Center, US Customs
[illegible]	32	PCC Logistics
[illegible]	33	Auto warehousing
[illegible]	34	Progress Rail
[illegible]	35A	Northwest Building Americold
[illegible]	35B	Fabulich Center
[illegible]	36A	Port Commerce Center North
[illegible]	36B	Port Commerce Center South
[illegible]	37A	Darling International
[illegible]	37B,D,E	Gogle-Fife
[illegible]	38	AWC
[illegible]	39	Pacific Alaska Express Corp
[illegible]	40	Horizon Lines
[illegible]	41	APM Terminals
[illegible]	42	Admin. Bldg
[illegible]	47	WJR
[illegible]	53	Sitcum Waterway
[illegible]	54	POT Weighment
[illegible]	55	Continental Grain
[illegible]	56	Hylebos Waterway
[illegible]	58	Rail Yard
[illegible]	60	Frederickson N.T.S.
[illegible]	60-2	Harris Rebar
[illegible]	60-3	Vacant
[illegible]	60-4	Retention Pond
[illegible]	66	Vacant
[illegible]	67	Clear Creek
[illegible]	68	Vacant
[illegible]	69	TACSIM Parking
[illegible]	69A	BM Yard
[illegible]	70	Hamilton Construction
[illegible]	71	MARS
[illegible]	72	Yusen Logistics
[illegible]	73	Sherwood Property
[illegible]	74	Sound Refining Crew
[illegible]	75	Vacant
[illegible]	76	Carlile Transportation
[illegible]	77	WM
[illegible]	78	Port City Services
[illegible]	79	Vacant
[illegible]	81	Capital Lumber
[illegible]	82	Cvichbieski Property
[illegible]	83	Saltchuck, Uck Jamar Mitigation, Kayak Launch
[illegible]	85	RoadOne, Nichols Trucking
[illegible]	86	Cararn, Fond Protection Services, Formark, Quigg Brothers
[illegible]	87	Washington United Terminals
[illegible]	88	Place of Circling Waters
N/A	89	Maytown
[illegible]	90	Vacant
[illegible]	91	Tacoma Transload
[illegible]	92	Best Wood Windows, Foss Waterway Seaport, Urban Arts
[illegible]	93	Youth Marine Foundation
[illegible]	94	Marine Floats
[illegible]	95	Vacant
[illegible]	96	11th Street Mini Storage, Sani Prep
[illegible]	97	Vacant
[illegible]	98	Vacant
[illegible]	99	Yusen Logistics
[illegible]	100	Vacant
[illegible]	101	Rexchem
[illegible]	102	AT&T, Clear Channel, T-Mobile, Verizon
[illegible]	103	Pacific Maritime Association
[illegible]	104	Susertos
[illegible]	105	TPT
[illegible]	107	Vacant
[illegible]	108	Julia's Gulch
[illegible]	109	Stoney Pit
[illegible]	110	Full Container Recovery, BLC Trucking, Edwin Enterprises
[illegible]	111	Heacan Container Services
[illegible]	112	Oregon Industrial
[illegible]	113	Pacific Pallet and Crate, TIDEX
[illegible]	114	Vacant
[illegible]	115	Orion
[illegible]	116	Vacant
[illegible]	117	Vacant
[illegible]	118	The North West Company
[illegible]	119	SAFE Boats, PSE
[illegible]	120	Vacant
[illegible]	121	Balfour Dock
A2	122	Cliff House Beach
A6	123	Fire Station

Resource Directory

Regional

- **Port of Tacoma**
  http://www.portoftacoma.com/

- **Pierce County Government**
  http://www.piercecountywa.org/PC/

- **Pierce County DEM**
  http://www.piercecountywa.org/pc/abtus/ourorg/dem/abtusdem.htm

- **Pierce County PALS**
  http://www.co.pierce.wa.us/pc/abtus/ourorg/pals/palshome.htm

- **Municipal Research & Services Center of Washington (MRSC)**
  http://www.mrsc.org

National

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

Endnotes

[1] Information obtained from Jurisdiction.
[2] 2015 Audited Financials
[3] 2015 Audited Financials, Non-Capital
[4] Information from Pierce County GIS application, CountyView Pro (2013/14).
[5] "Population" from Census 2010, Office of Financial Management.
[6] "Special Population" from Census 2010, Office of Financial Management.
[7] Information from Pierce County GIS application, CountyView Pro (2013/14). Numbers derived from tax parcels whose centers are within selected jurisdictions.
[8] "Projected Population Density" is based on an assumption of the jurisdiction maintaining the same geographic area and boundaries. It does not consider changes in annexation, district mergers, etc.
[9] Information obtained from Jurisdiction from Infrastructure Matrix.

SECTION 3

REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
PORT OF TACOMA
CAPABILITY IDENTIFICATION SECTION

Table of Contents

Legal and Regulatory

Table 3-1 Legal and Regulatory

Jurisdiction Capabilities	Yes or No
Enabling legislation under Chapter 53 of the Revised Code of Washington (RCW)	Yes http://apps.leg.wa.gov/RCW/default.aspx?cite=53
State Environmental Protection Act (SEPA): Lead Agency Authority	Yes http://portoftacoma.granicus.com/MetaViewer.php?meta_id=14457
Interlocal Agreement Authority	Yes
Resolution Authority	Yes

Administrative Capability

Table 3-2 Administrative Capability

Administrative Tools	Yes or No
Commission (five-member, elected at-large) http://www.portoftacoma.com/about/commission	Yes
Newsletter	Yes
Port Website www.portoftacoma.com	Yes
Comprehensive Annual Financial Report http://www.portoftacoma.com/sites/default/files/2015AnnualFinancialReport-PortofTacoma.pdf	Yes
Capital Improvement Program	Yes
Communications Capabilities	Yes
CPR/First Aid/AED Training	Yes
HAZWOPER Training	Yes
Emergency Response Drills and Exercises	Yes
Threat &Vulnerability Assessment	Yes
Armed, Non-Commissioned Proprietary Security Force	Yes
Regional Capabilities	
Local Fire Service (provided by Tacoma Fire Department)	Yes
City & County Laws Enforcement Agencies (Tacoma Police Department primary)	Yes
Pierce County Department of Emergency Management	Yes
Pierce County Portal	Yes

Technical Capability

Table 3-3 Technical Capability

Technical Tools	Yes or No
Emergency Declaration and Contracting Authority (under existing Master Policy Resolution)	Yes
Emergency Coordination Center (ECC)	Yes
Interoperable Communications	Yes
Disaster Recovery Plan	Yes
Equipment and Facilities Maintenance & Repair	Yes
Emergency Generated Power (except cranes)	Yes
Ability to Telecommute; i.e., Work Remotely (except M&R, terminal operations and security)	Yes
Engineering Project Management, Planning and Environmental Services	Yes
ATC-20 Training and Equipment	Yes
Inclement Weather Plan	Yes
Facility Security Plan (USCG-approved)	Yes

Fiscal Capability

Table 3-4 Fiscal Capability

Fiscal Tools	Yes or No
Eligible for Federal and State Grants	Yes
Taxing Authority	Yes http://app.leg.wa.gov/RCW/default.aspx?cite=39.36.015
General Obligation Bonds	Yes
Revenue Bonds	Yes
All-Risk (including EQ/Flood) Insurance	Yes

As of December 31, 2015, Moody's and Standard & Poor's rated the Port's debt as follows:

Description	MOODY'S	STANDARD & POORS
General Obligation (Senior Lien)	Aa3	AA-
Revenue Bonds (Senior Lien)	Aa3	AA-
Revenue Bonds (Subordinate)	A1	A+

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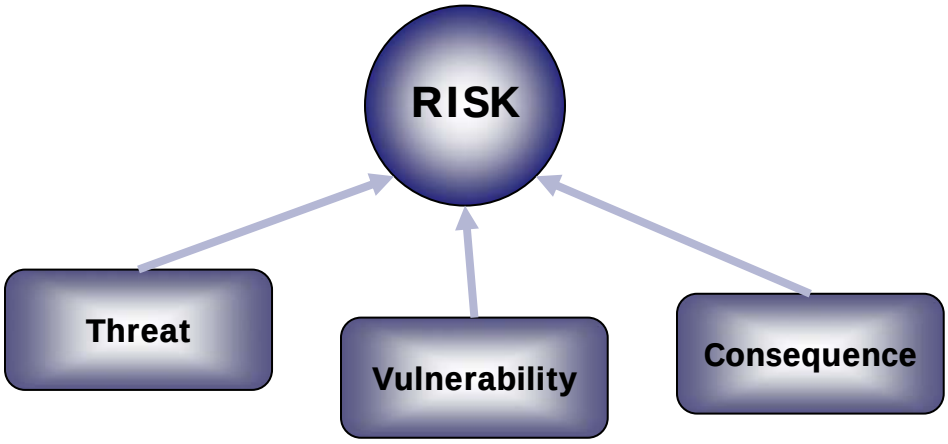
SECTION 4

REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
PORT OF TACOMA
RISK ASSESSMENT SECTION

Table of Contents

Section Overview

The Risk Assessment portrays the threats of natural hazards, the vulnerabilities of a jurisdiction to the hazards, and the consequences of hazards impacting communities. Each hazard is addressed as a threat and is identified and profiled in the Hazard Identification. The vulnerabilities to and consequences of a given hazard are addressed in the Vulnerability Analysis. Vulnerability is analyzed in terms of exposure of both population and infrastructure to each hazard. Consequences are identified as anticipated, predicted, or documented impacts caused by a given hazard when considering the vulnerability analysis and the characteristics of the hazard as outlined in its identification.



The WA Region 5 **Hazard Identification** was used for this plan. Each jurisdiction's Vulnerability and Consequence Analysis are based on the Region 5 Hazard Identification. The Region 5 Hazard Identification can be found in the Base Plan. Each hazard is identified in subsections. The subsections are grouped by hazard-type (i.e., geological and meteorological hazards) and then alphabetically within each type. A summary table of the WA Region 5 Hazard Identification is included in this section as Table 4-1a and Table 4-1b.

The **Vulnerability Analysis** is displayed in 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

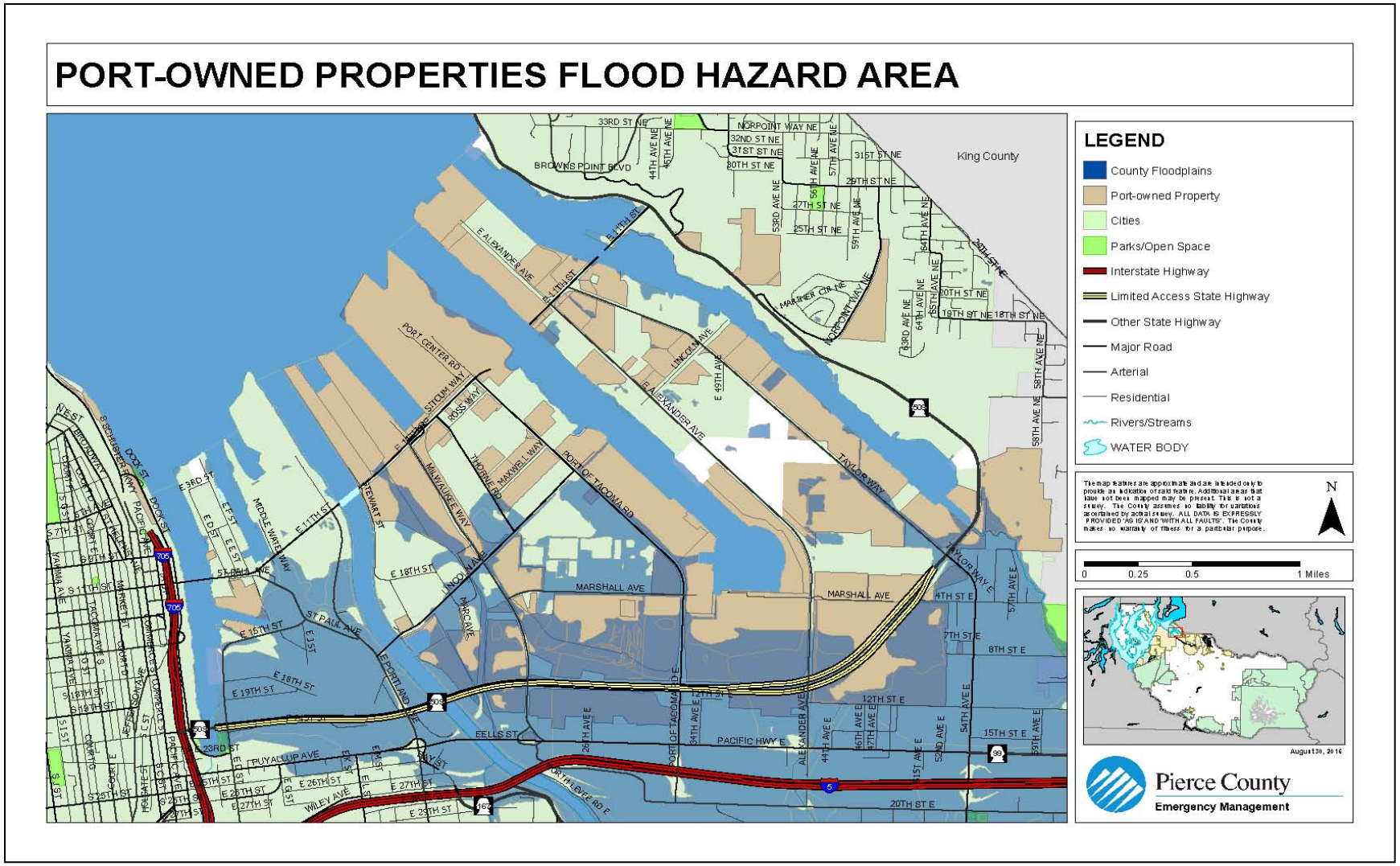
	THREAT	DECLARATION # DATE/PLACE	PROBABILITY/ RECURRENCE	MAPS, FIGURES AND TABLES
Geological	**AVALANCHE**	Not Applicable	Yearly in the mountainous areas of the County including Mt. Rainier National Park and the Cascades.	Slab Avalanche Areas Vulnerable to Avalanche Pierce County Avalanches of Record
	EARTHQUAKE	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
	LANDSLIDE	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
	TSUNAMI	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
	VOLCANIC	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

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

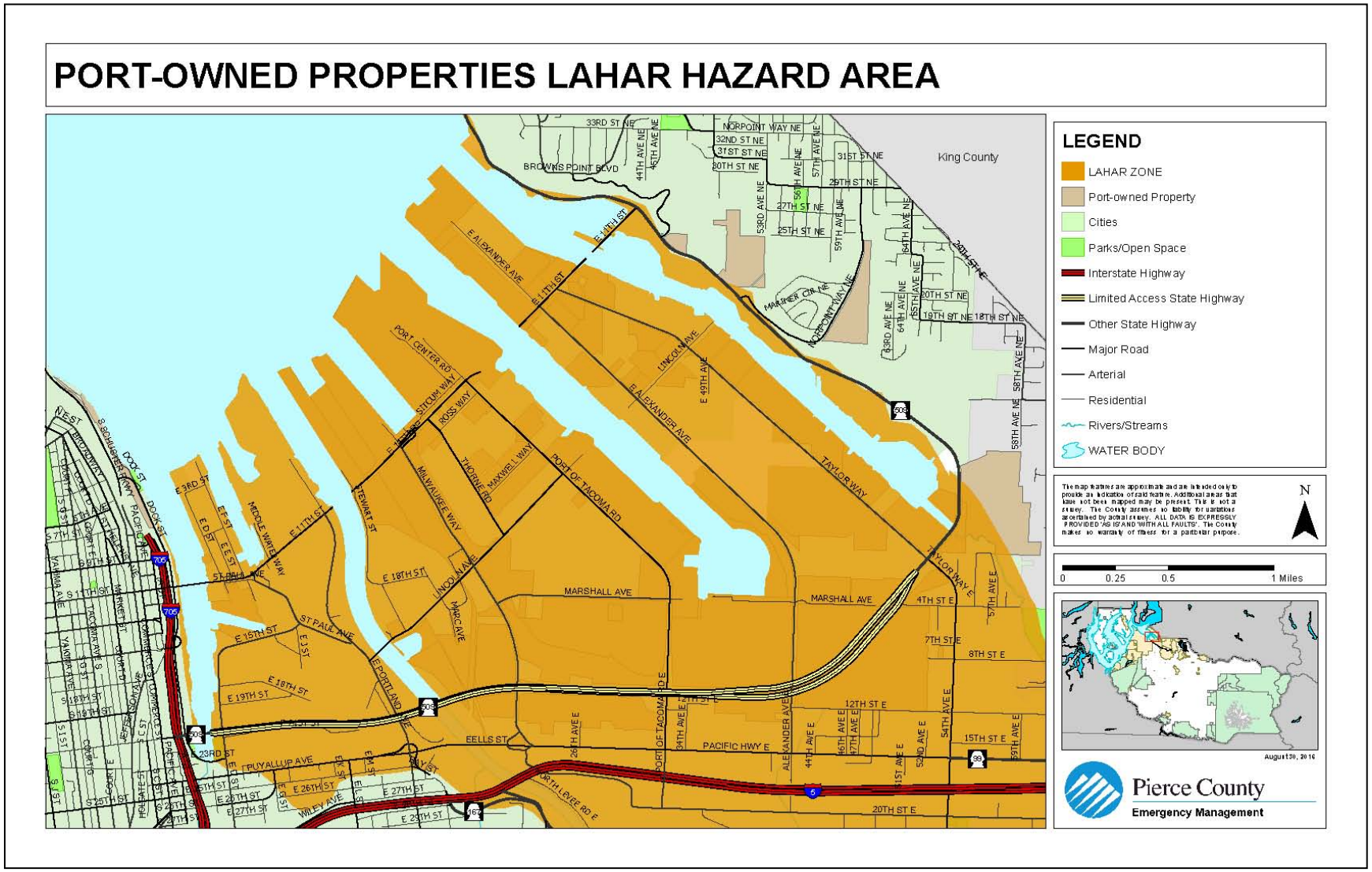
	HAZARD	FEMA DECLARATION # DATE/PLACE		PROBABILITY/ RECURRENCE	MAPS, FIGURES AND TABLES
Meteorological	**CLIMATE CHANGE**	Not Applicable		Not Applicable	Global Temperature Change: 1850 to 2006 Recent and Projected Temperatures for the Pacific Northwest Comparison of the South Cascade Glacier: 1928 to 2003 Lower Nisqually Glacier Retreat: 1912 to 2001
	DROUGHT	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
	FLOOD 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
	SEVERE WEATHER	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
	WUI FIRE	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

	HAZARD	FEMA DECLARATION # DATE/PLACE	PROBABILITY/ RECURRENCE	MAPS, FIGURES AND TABLES
Technological	**ABANDONED MINES**	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 MapBased on WA DNR Information Schasse, Koler, Eberle, and Christie, The Washington State Coal Mine Map Collection: A Catalog, Index, and User's Guide, Open File Report 94-7, June 1984 Pierce County 2009 HIRA
	CIVIL DISTURBANCE	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
	DAM FAILURE	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
	ENERGY EMERGENCY	Not Applicable	• 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
	EPIDEMIC	Not Applicable	Pandemics • 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
	HAZARDOUS MATERIALS	Not Applicable	• 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
	PIPELINE FAILURE	Not Applicable	• Northwest Pipeline Corporation natural gas incident May 1st 2003, in Sumner 10 years recurrence	Map P-1 Pierce County Pipelines Pierce County 2009 HIRA
	TERRORISM	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
	TRANSPORTATION ACCIDENT	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

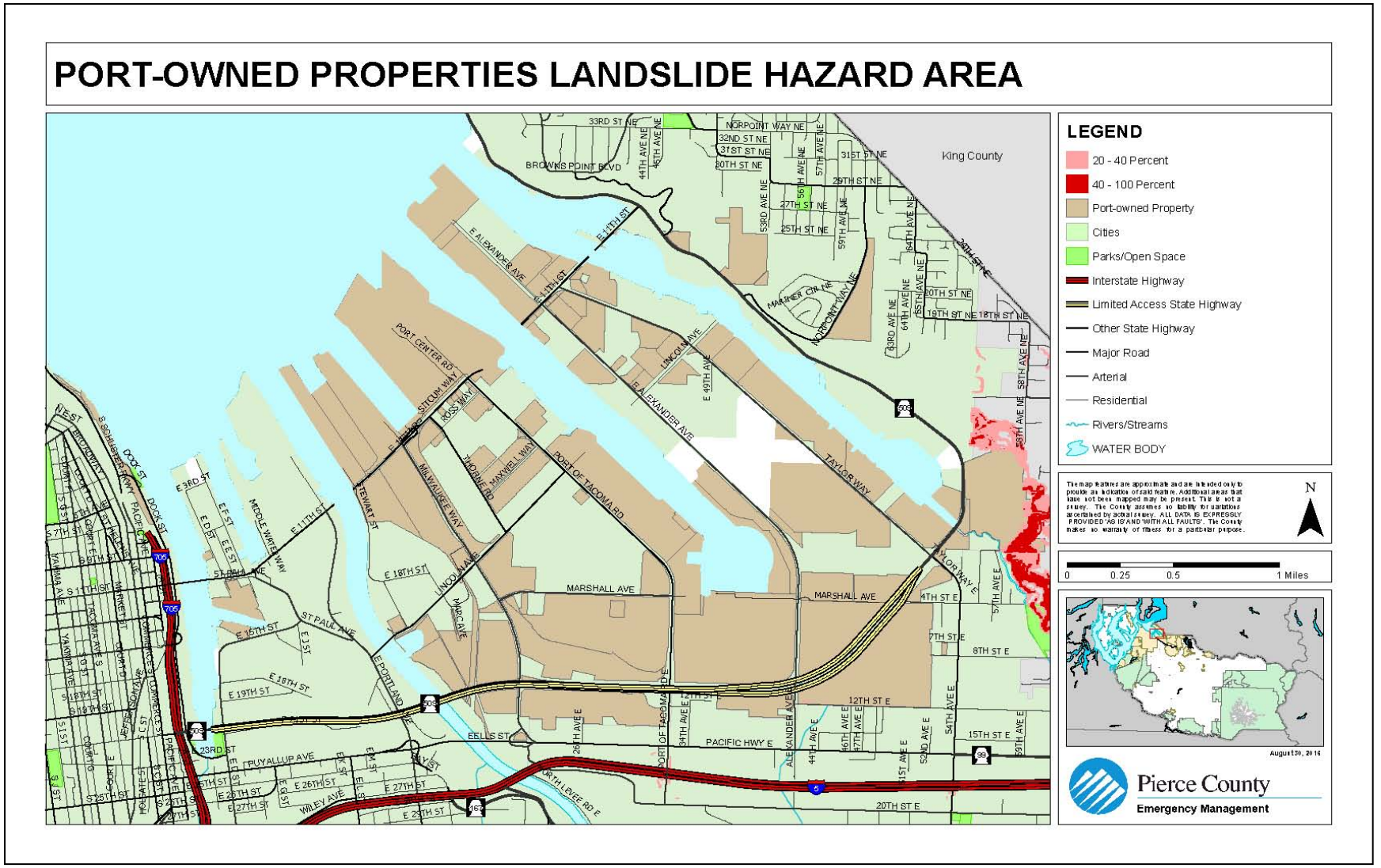
Map 4-1 Port of Tacoma Flood Hazard Map



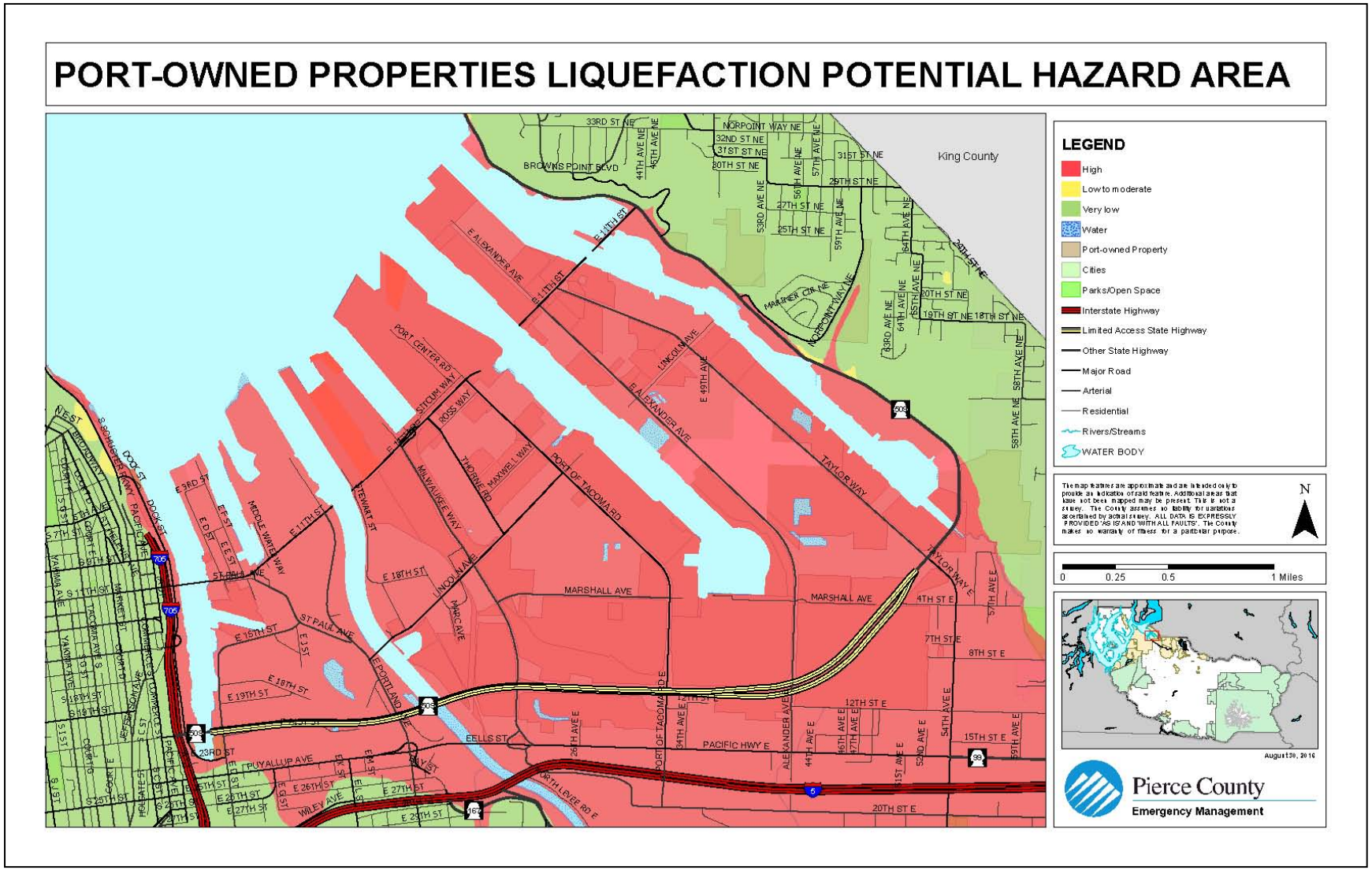
Map 4-2 Port of Tacoma Lahar Hazard Map



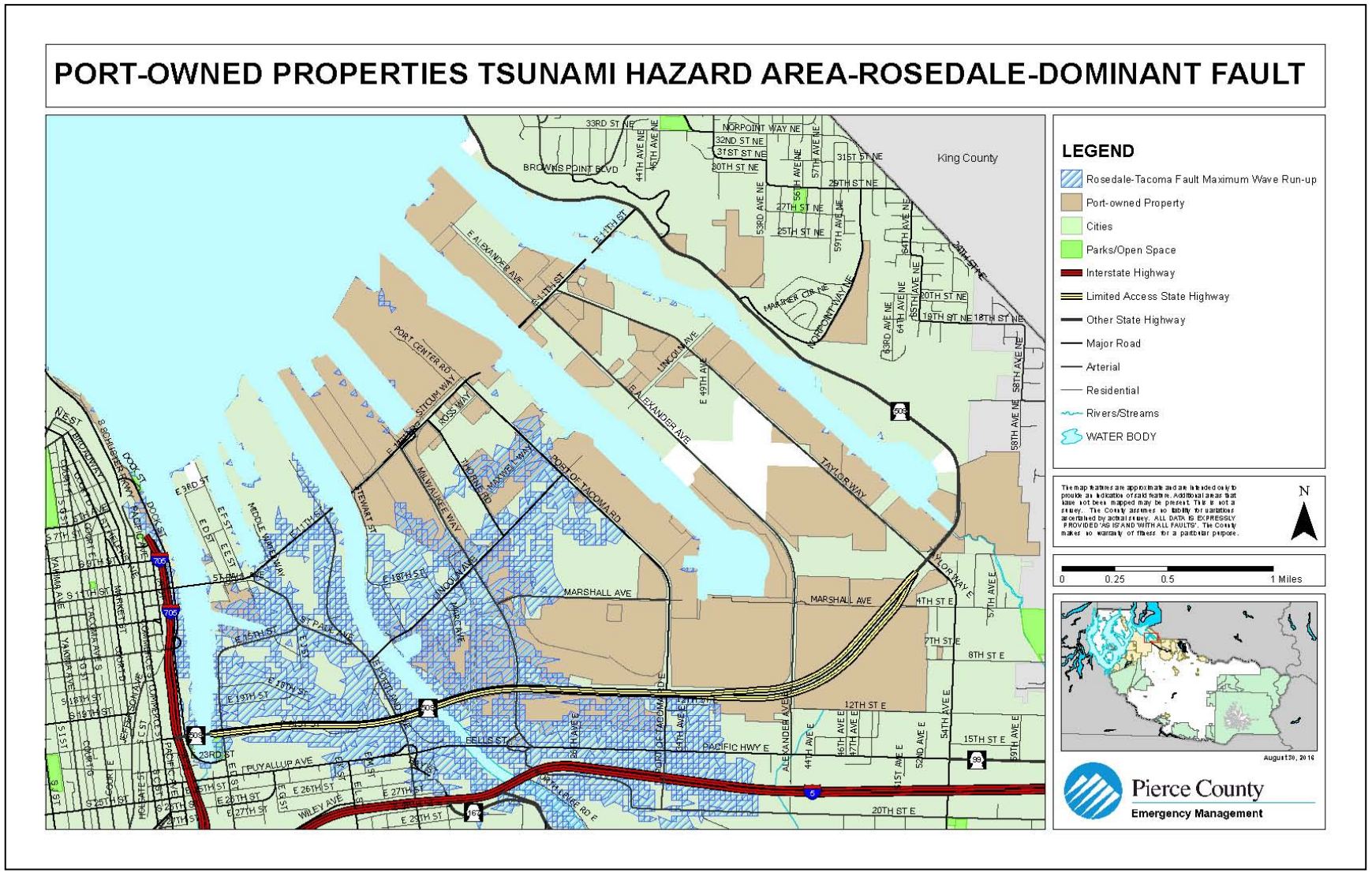
Map 4-3 Port of Tacoma Landslide Hazard Map



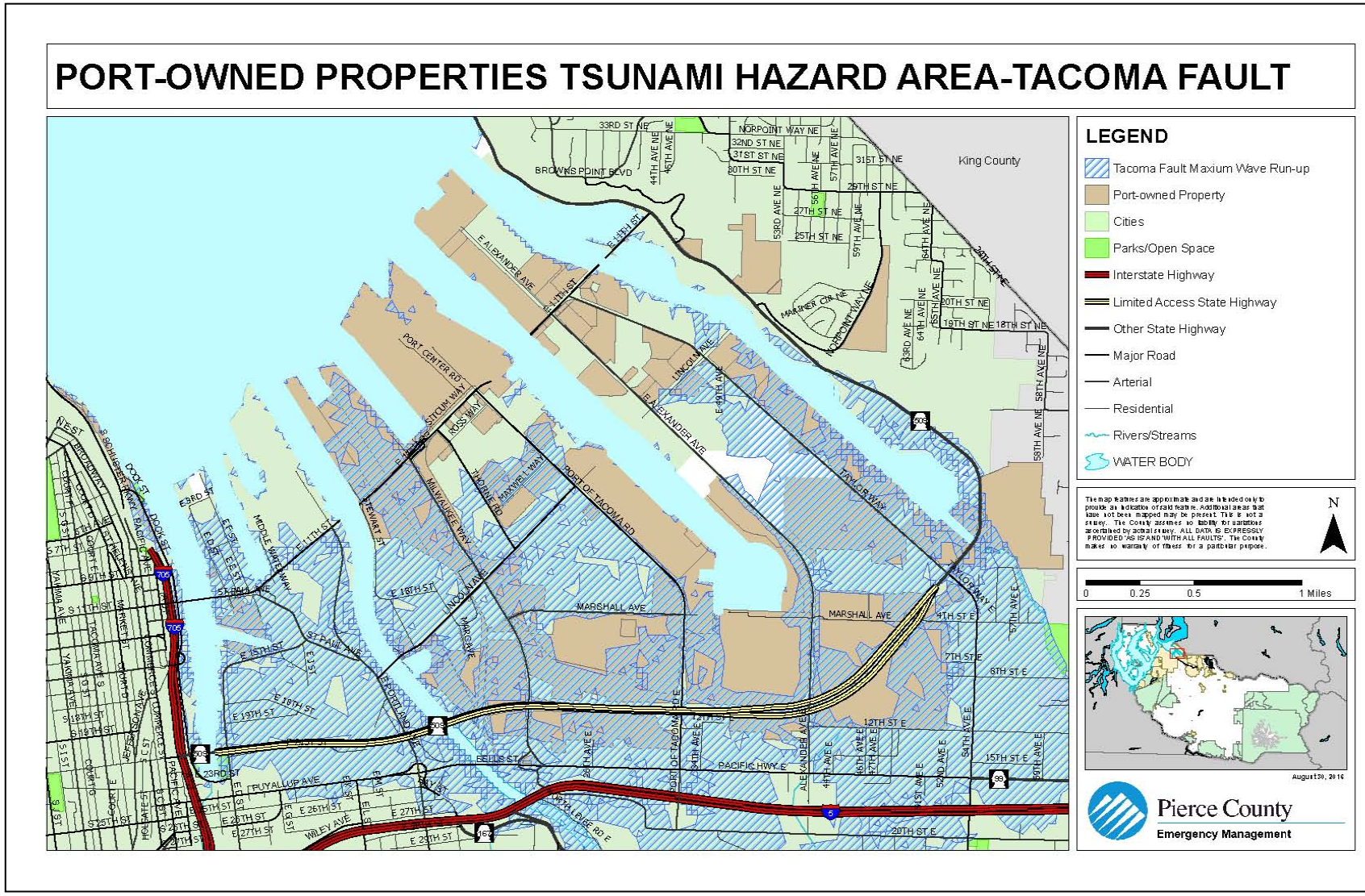
Map 4-4 Port of Tacoma Liquefaction Susceptibility Hazard Map



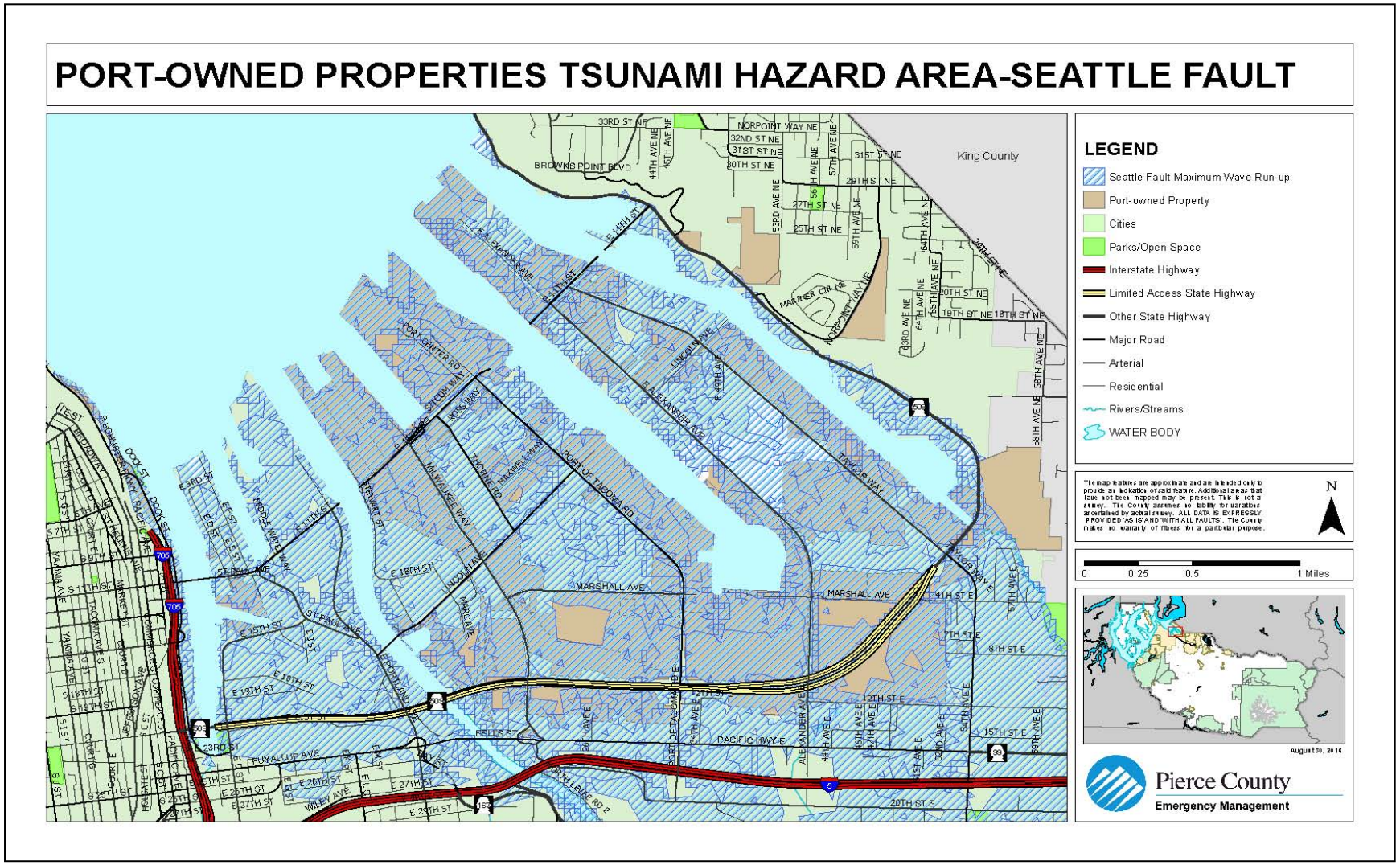
Map 4-5 Port of Tacoma –Tsunami Hazard –Rosedale Tacoma Fault Area Map



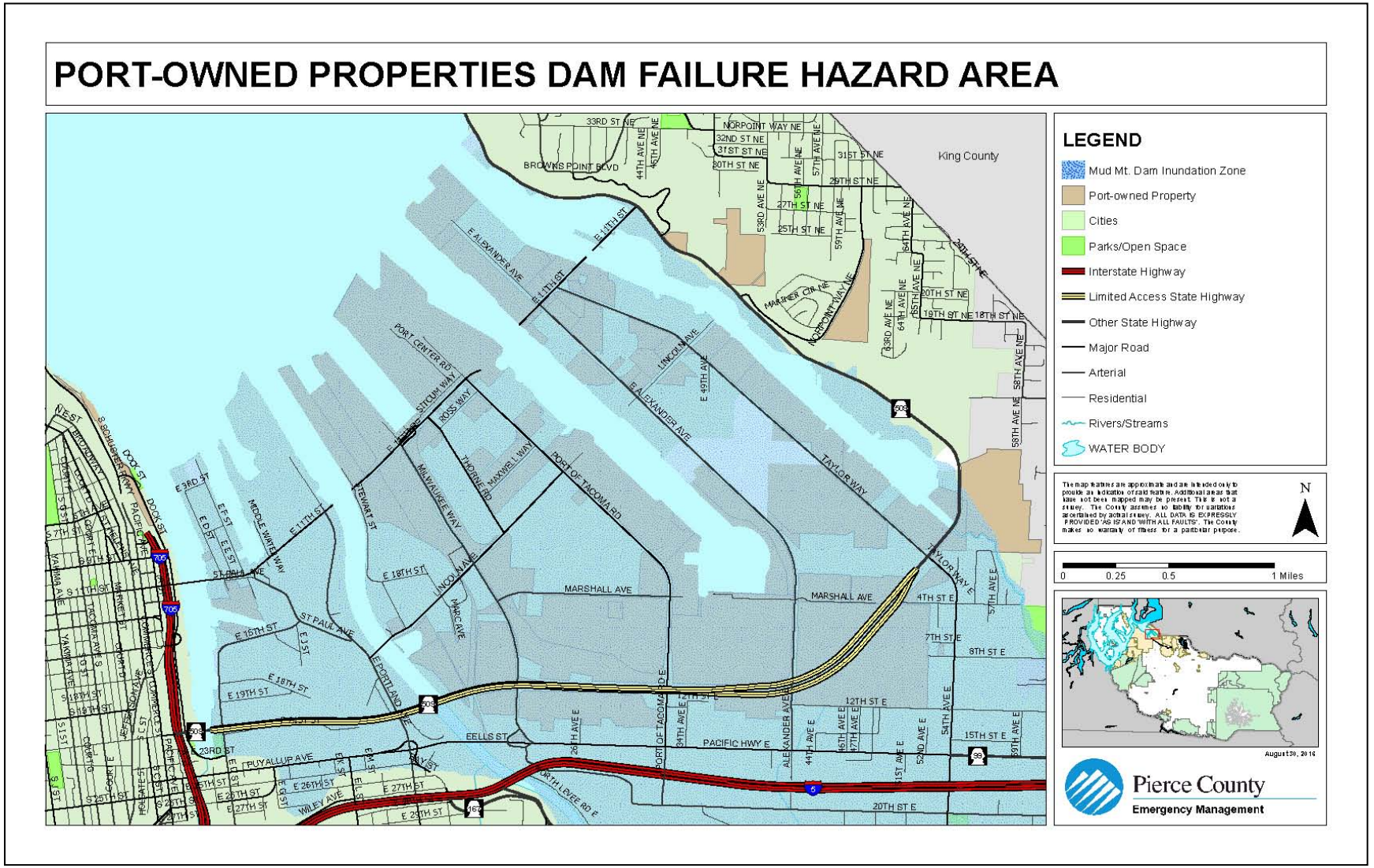
Map 4-7 Port of Tacoma –Tsunami Hazard –Tacoma Fault Area Map



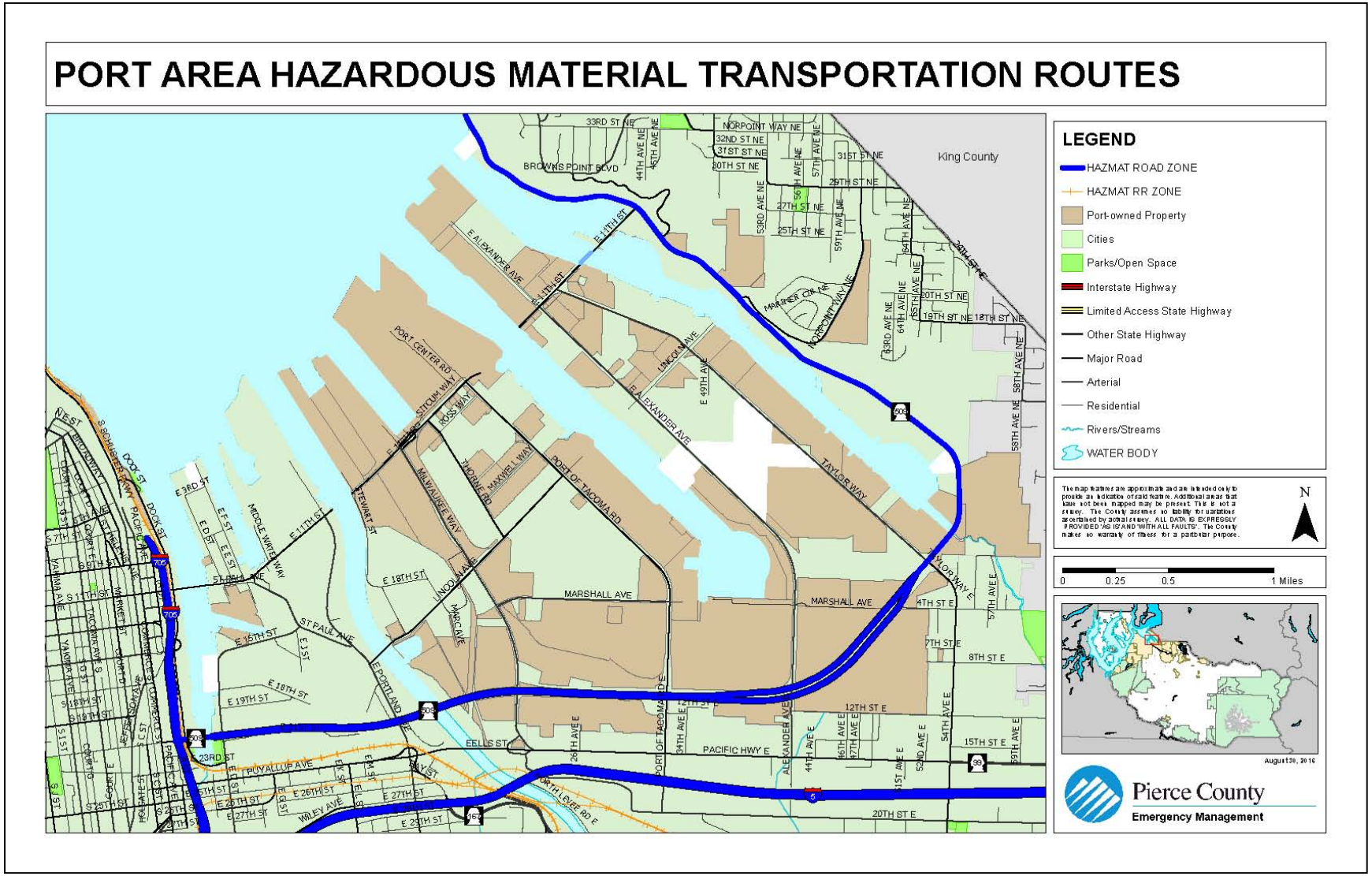
Map 4-8 Port of Tacoma –Tsunami Hazard –Seattle Fault Area Map



Map 4-9 Port of Tacoma –Dam Failure Hazard Area Map



Map 4-10 Port of Tacoma –Hazardous Material Transportation Routes Hazard Area Map



Map 4-11 Port of Tacoma –Pipeline Hazard Area Map

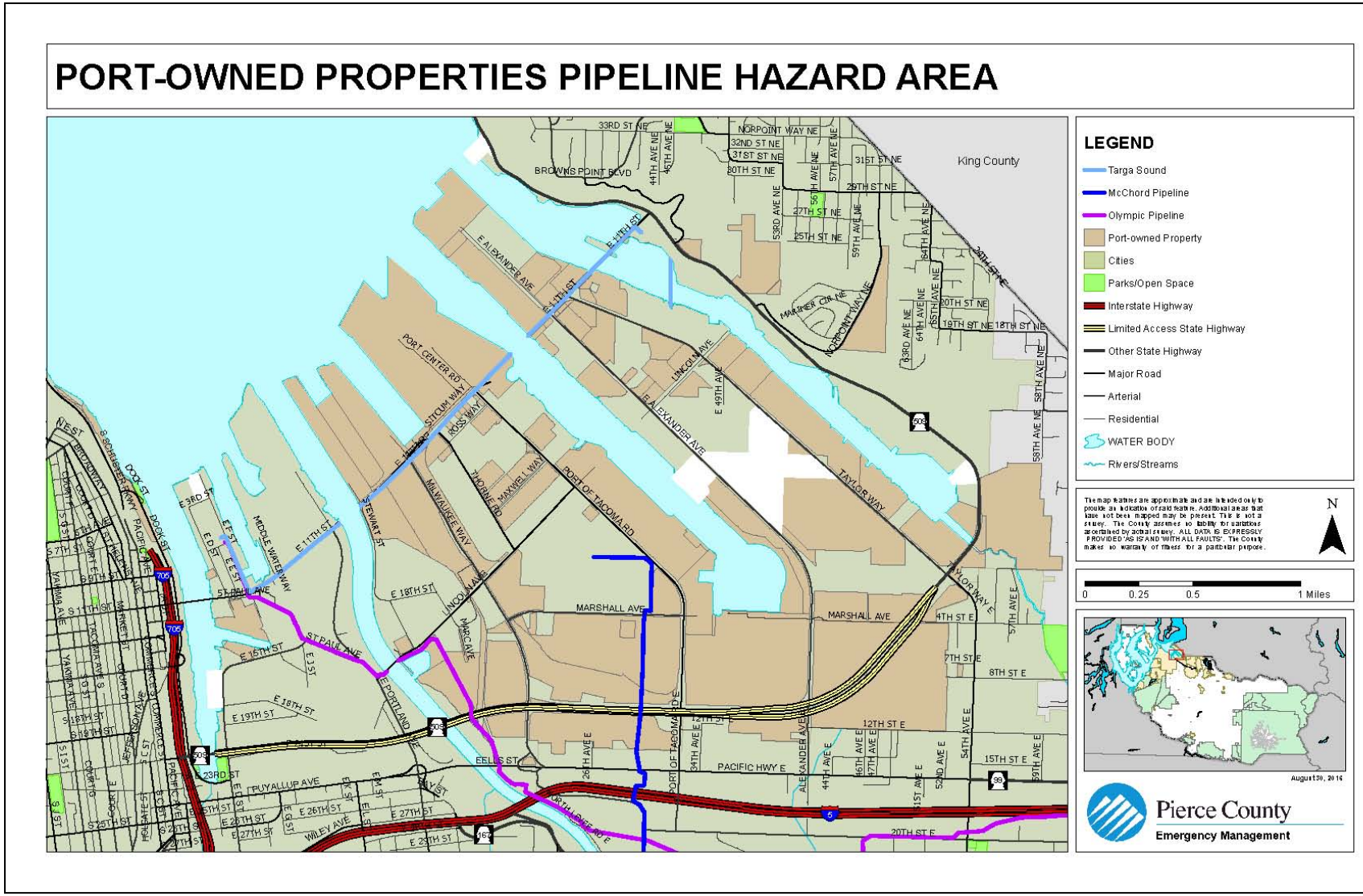


Table 4-2 Vulnerability Analysis: General Exposure[1]

THREAT[2]		AREA (SQ MI)		PARCELS	
		Total	% Base	Total	% Base
BASE		**4.50**	**100%**	**262**	**100%**
Geological	**Avalanche[3]**	NA	NA	NA	NA
	Earthquake[4]	3.67	81.4%	218	83.21%
	Landslide	.13	2.9%	8	3.05%
	Tsunami	3.46	76.9%	207	79.01%
	Volcanic[5]	3.56	79.1%	212	80.92%
Meteorological	**Drought[6]**	4.50	100%	262	100%
	Flood	3.66	81.3%	167	63.74%
	Severe Weather	4.50	100%	262	100%
	WUI Fire[7]	NA	NA	NA	NA
Technological	**Abandoned Mines[8]**	NA	NA	NA	NA
	Civil Disturbance[9]	4.50	100%	262	100%
	Dam Failure[10]	3.53	78.4%	209	79.77%
	Energy Emergency[11]	4.50	100%	262	100%
	Epidemic[12]	4.50	100%	262	100%
	Hazardous Material[13]	2.40	53.3%	148	56.49%
	Pipeline Hazard[14]	2.44	54.1%	121	48.45%
	Terrorism[15]	4.50	100%	262	100%
	Transportation Accidents[16]	2.40	53.3%	148	56.49%

Table 4-3 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		$801,732,100	100%	$3,060,046	$213,397,100	100%	$814,493	$1,015,129,200	100%	$3,874,539
Geological	**Avalanche**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Earthquake	$705,101,700	87.95%	$3,234,411	$164,891,600	77.27%	$756,383	$869,993,300	85.70%	$3990,795
	Landslide	$4,998,500	.62%	$624,813	$0	0%	$0	$4,998,500	.49%	$624,813
	Tsunami	$701,818,100	87.5%	$3,390,426	$164,891,600	77.3%	$796,578	$866,709,700	85.4%	$4,187,003
	Volcanic	$696,441,700	86.87%	$3,285,102	$158,072,300	74.07%	$745,624	$854,514,000	84.18%	$4,030,726
Meteorological	**Drought**	$801,732,100	100%	$3,060,046	$213,397,100	100%	$814,493	$1,015,129,200	100%	$3,874,539
	Flood	$678,061,200	84.57%	$4,060,247	$155,104,300	72.68%	$928,768	$833,165,500	82.07%	$4,989,015
	Severe Weather	$801,732,100	100%	$3,060,046	$213,397,100	100%	$814,493	$1,015,129,200	100%	$3,874,539
	WUI Fire	NA	NA	NA	NA	NA	NA	NA	NA	NA
Technological	**Abandoned Mines**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Civil Disturbance	$801,732,100	100%	$3,060,046	$213,397,100	100%	$814,493	$1,015,129,200	100%	$3,874,539
	Dam Failure	$696,087,400	86.82%	$3,330,562	$158,072,300	74.07%	$756,327	$854,159.700	84.14%	$4,086,889
	Energy Emergency	$801,732,100	100%	$3,060,046	$213,397,100	100%	$814,493	$1,015,129,200	100%	$3,874,539
	Epidemic	$801,732,100	100%	$3,060,046	$213,397,100	100%	$814,493	$1,015,129,200	100%	$3,874,539

	Hazardous Material	$438,470,000	54.69%	$2,962,635	$61,924,100	29.02%	$418,406	$500,394,100	49.29%	$3,381,041
	Pipeline Hazard	$457,164,200	28.31%	$5,495,016	$137,126,700	64.26%	$3,947,557	$364,111,608	35.87%	$5,953,705
	Terrorism	$801,732,100	100%	$3,060,046	$213,397,100	100%	$814,493	$1,015,129,200	100%	$3,874,539
	Transportation Accidents	$438,470,000	54.69%	$2,962,635	$61,924,100	29.02%	$418,406	$500,394,100	49.29%	$3,381,041

Table 4-4a Consequence Analysis Chart – Geological[17,18]

THREAT		CONSEQUENCE	YES OR NO
Geological	**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	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
	Tsunami	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
	Volcanic[19]	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

Table 4-4b 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	No
		Impact to Reputation or Confidence in Jurisdiction	No
	Flood	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	No
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	No
	Severe Weather	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	Yes
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	Yes
	WUI Fire	Impact to the Public	No
		Impact to the Responders	No
		Impact to COG and/or COOP in the Jurisdiction	No
		Impact to Property, Facilities and Infrastructure	No
		Impact to the Environment	No
		Impact to the Jurisdiction Economic Condition	No
		Impact to Reputation or Confidence in Jurisdiction	No

Table 4-4c Consequence Analysis Chart – Technological[20]

THREAT		CONSEQUENCE	YES OR NO
Technological	**Abandoned Mines**	Impact to the Public	No
		Impact to the Responders	No
		Impact to COG and/or COOP in the Jurisdiction	No
		Impact to Property, Facilities and Infrastructure	No
		Impact to the Environment	No
		Impact to the Jurisdiction Economic Condition	No
		Impact to Reputation or Confidence in Jurisdiction	No
	Civil Disturbance	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	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
	Dam Failure	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
	Energy Emergency	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
	Epidemic	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	Yes
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	Yes
	Hazardous Materials	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	Yes
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	Yes
	Pipeline Hazards	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	Yes
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	Yes
	Terrorism	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	Yes
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	Yes
	Transportation Accident	Impact to the Public	Yes
		Impact to the Responders	Yes
		Impact to COG and/or COOP in the Jurisdiction	Yes
		Impact to Property, Facilities and Infrastructure	Yes
		Impact to the Environment	Yes
		Impact to the Jurisdiction Economic Condition	Yes
		Impact to Reputation or Confidence in Jurisdiction	Yes

Summary Vulnerability and Impact Analysis

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 Port of Tacoma is located in the North West portion of Pierce County. The Port is highly susceptible to eight of the eighteen hazards we considered in this plan. The risks are seismic, tsunami, flood, drought, severe weather, civil disturbance, dam failure, energy emergency, epidemic and terrorism. The Port is at

risk from a dike failure at Lake Tapps and dam failure from Mud Mountain Dam. In addition, there is a higher population density located along the major transportation routes including State Route 509, Interstate 705, and the many convergences of all the major railroads are at the Port and are susceptible to any of these hazards. The facilities located in the Port of Tacoma are composed of a variety of construction types, some of which could be impacted by liquefiable properties of local soils or settle differentially in an earthquake. Secondary impacts from hazards such as a tsunami increases the vulnerability. An earthquake could generate a tsunami and devastate the port. Due to the severe weather events, the Port could experience 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 (2016).

[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 Port of Tacoma 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 Port of Tacoma while undergoing development does not have large areas of forested land that could develop into a wildland/urban interface fire. Further study is needed to determine the extent of the area that could be affected.

[8] The definition of Abandoned Mines comes from the 2010 Pierce County HIRA: Abandoned mines are any excavation under the surface of the earth, formerly used to extract metallic ores, coal, or other minerals, and that are no longer in production.

[9] The definition of Civil Disturbance comes from the 2010 Pierce County HIRA: Civil Disturbance (unrest) is the result of groups or individuals within the population feeling, rightly or wrongly, that their needs or rights are not being met, either by the society at large, a segment thereof, or the current overriding political system. When this results in community disruption of a nature where intervention is required to maintain public safety it has become a civil disturbance. Additionally, the Region 5 Strategic Plan includes Operational Objectives 3 & 4: Intelligence Gathering, Indicators, Warnings, etc; and Intelligence and Information Sharing.

[10] The definition of Dam Failure comes from the 2010 Pierce County HIRA: A dam is any "barrier built across a watercourse for impounding water.[10]" Dam failures are catastrophic events "characterized by the sudden, rapid, and uncontrolled release of impounded water. The vulnerability analysis was based on the potential dam failure from Mud Mountain Dam and Lake Tapps using Pierce County's GIS data which originated from each of the dams emergency plans inundation maps.

[11] The definition of an Energy Emergency comes from the 2010 Pierce County HIRA: Energy emergency refers to an out-of-the-ordinary disruption, or shortage, of an energy resource for a lengthy period of time. Additionally the Region 5 Strategic Plan addresses Energy Emergencies in its Operational Objective 32, Restoration of Lifelines which addresses the restoration of critical services such as oil, gas, natural gas, electric, etc.

[12] The definition of epidemic comes from the TPCHD Flu Plan of 2005: A Pandemic is an epidemic occurring over a very wide area and usually affecting a large proportion of the population. Pandemics occur when a wholly new

subtype of influenza A virus emerges. A "novel" virus can develop when a virulent flu strain that normally infects birds or animals infects a human who has influenza; the two viruses can exchange genetic material, creating a new, virulent flu virus that can be spread easily from person-to-person. Unlike the flu we see yearly, no one would be immune to this new flu virus, which would spread quickly, resulting in widespread epidemic disease – a pandemic. (DOH Plan & U.S. Dept. of HHS).

[13] The definition of Hazardous Materials comes from the 2010 Pierce County HIRA: Hazardous materials are materials, which because of their chemical, physical or biological properties, pose a potential risk to life, health, the environment, or property when not properly contained. A hazardous materials release then is the release of the material from its container into the local environment. A general rule of thumb for safety from exposure to hazardous material releases is 1000ft; the Emergency Response Guidebook 2008, established by the US Dept of Transportation, contains advice per specific materials. The vulnerability analysis was broken into two sub sections for a better understanding of the hazard using Pierce County's GIS data with a 500 foot buffer on either side of the railroads and major roadways.

[14] The definition of Pipeline Emergency comes from the 2010 Pierce County HIRA: While there are many different substances transported through pipelines including sewage, water and even beer, pipelines, for the purpose of this chapter, are transportation arteries carrying liquid and gaseous fuels. They may be buried or above ground

[15] The definition of Terrorism comes from the 2010 Pierce County HIRA: Terrorism has been defined by the Federal Bureau of Investigation as, "the unlawful use of force or violence against persons or property to intimidate or coerce a Government, the civilian population or any segment thereof, in furtherance of political or social objectives." These acts can vary considerably in their scope, from cross burnings and the spray painting of hate messages to the destruction of civilian targets. In some cases, violence in the schools has also been labeled as a form of terrorism.

[16] The definition of Transportation Accident comes from the 2010 Pierce County HIRA: Transportation accidents as used in this assessment include accidents involving a method of transportation on the road, rail, air, and maritime systems within the confines of Pierce County. The vulnerability analysis was broken into three sub sections for a better understanding of the hazard using Pierce County's GIS data; Commencement Bay to include inland rivers and streams, railroads, and roads. A 200 foot buffer was applied to all the shorelines and a 500 foot buffer on either side of the railroads and roadways.

[17] In the Impact to Property, Facilities and Infrastructure, both Tables 4-5a and 4-5b, look at the impact to all property, facilities and infrastructure existing in the jurisdiction, not just to that owned by the jurisdiction.

[18] The consideration for each of these hazards, in both Tables 4-5a and 4-5b, as to whether an individual hazard's consequences exist, or not, is based on a possible worst case scenario. It must also be understood that a "yes" means that there is a good possibility that the consequence it refers to could happen as a result of the hazard, not that it will. Conversely "No" means that it is highly unlikely that that consequence will have a major impact, not that there will be no impact at all.

[19] While the major volcanic hazard from Mt. Rainier is from a lahar descending the main river valleys surrounding the mountain, it is not the only problem. Most jurisdictions could receive tephra in greater or lesser amounts, sometimes with damaging results. Consequence analyses in this section take into account the possibility of tephra deposition in addition to a lahar.

[20] The Technological Consequences are added herein to acknowledge the role of human-caused hazards in the health and safety of unincorporated Pierce County. The consequences noted are under the same criteria as natural hazards given their impacts to the departmental assets.

SECTION 5

REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
PORT OF TACOMA
MITIGATION STRATEGY SECTION

Table of Contents

Table 5-1 Port of Tacoma Mitigation Strategy Matrix

Implementation Mechanism	Mitigation Measure *(Hazard(s))*[1]	Lead Jurisdiction(s) / Department(s)	Timeline (years)	Plan Goals					
				Life and Property	Operations Continuity	Partnerships	Natural Resources	Preparedness	Sustainable Economy
Startup	1. Existing Mitigation Actions *(E,L,T,V,D,F,SW,WUI,MM)*	Port of Tacoma	Ongoing	✓	✓	✓	✓	✓	✓
	2. Plan Maintenance *(E,L,T,V,D,F,SW,WUI,MM)*	Port of Tacoma	Ongoing	✓	✓	✓	✓	✓	✓
HMF	1. Pierce County Hazard Mitigation Forum *(E,L,T,V,D,F,SW,WUI,MM)*	PC DEM; Port of Tacoma	Ongoing	✓	✓	✓	✓	✓	✓
Port Management	1. Capability Identification and Evaluation *(E,L,T,V,D,F,SW,WUI,MM)*	Port of Tacoma	Ongoing	N/A					
	2. Engineer Future Infrastructure with Auxiliary Power Capability *(E,L,T,V,D,F,SW,WUI,MM)*	Port of Tacoma	Ongoing	✓	✓	✓			✓
	3. Install Seismic Shutoff Valves to Gas Utility Lines Serving Port Facilities *(E,T,SW,MM)*	Port of Tacoma	Ongoing	✓	✓	✓			✓
	4. Install Automatic Fire Sprinklers in New Port Buildings *(E,T,V,F,SW,MM)*	Port of Tacoma	Ongoing	✓	✓	✓			✓
	5. Using Modular Buildings to Ease Replacement and Lower Construction Costs *(E,L,T,V,D,F,SW,WUI,MM)*	Port of Tacoma	Ongoing	✓	✓	✓			✓
	6. Strengthen and Create Redundancy in Utilities Serving the Port of Tacoma *(E,L,T,V,D,F,SW,WUI,MM)*	Port of Tacoma	Ongoing	✓	✓	✓			✓
	7. Support Rail Grade Separation Projects *(E,T,V,F,SW,MM)*	Port of Tacoma	Ongoing	✓	✓	✓			✓
	8. Collaborate with Regional Partners on Mitigation Strategies for the Lower Puyallup River *(E,T,V,F,SW,MM)*	Port of Tacoma with Regional Partners	Ongoing	✓	✓	✓			✓
	9. Develop and Maintain a Port Business Continuity Plan *(E,L,T,V,D,F,SW,WUI,MM)*	Port of Tacoma	Partially Complete	✓	✓	✓		✓	✓
	10. Create and Maintain Emergency "Go Kits" *(E,L,T,V,D,F,SW,WUI,MM)*	Port of Tacoma	Complete	✓	✓	✓		✓	✓
	11. Enroll Senior Management in the Government Emergency Telecommunication Service *(E,L,T,V,D,F,SW,WUI,MM)*	Port of Tacoma	Partially Complete	✓	✓	✓		✓	✓
	12. Develop Emergency Notification and Evacuation Procedures *(E,L,T,V,F,SW,WUI,MM)*	Port of Tacoma with Regional Partners	Complete	✓	✓	✓		✓	✓
	13. Cybersecurity Assessment and Mitigation *(E,L,T,V,F,SW,WUI,MM)*	Port of Tacoma	Partially Complete	✓	✓	✓	✓	✓	✓
	14. Enhanced Use of Geographic Information System (GIS) *(E,L,T,V,F,SW,WUI,MM)*	Port of Tacoma with Regional Partners	Ongoing			✓		✓	✓

Implementation Mechanism	Mitigation Measure *(Hazard(s))*[1]	Lead Jurisdiction(s) / Department(s)	Timeline (years)	Plan Goals					
				Life and Property	Operations Continuity	Partnerships	Natural Resources	Preparedness	Sustainable Economy
	15. Develop Coverage Areas for Reverse 911 System *(E,L,T,V,D,F,SW,WUI,MM)*	Port of Tacoma and PCDEM	Ongoing	✓	✓	✓	✓	✓	✓
	16. Update Terminal Snow Removal Plans *(F,SW)*	Port of Tacoma	Complete	✓	✓	✓			✓
	17. Equip Port Vehicles with Radios (E,L,T,V,F,SW,WUI,MM)	Port of Tacoma	Complete	✓	✓	✓			✓
	18. Create Remote Access Capability for Security Cameras *(E,L,T,V,F,SW,WUI,MM)*	Port of Tacoma	Partially Complete	✓	✓	✓			✓
	19. Continue Support of the County's Lahar Warning System *(V)*	Port of Tacoma	Complete	✓	✓	✓		✓	✓
	20. Stone Column Installation in New Pier Construction *(E)*	Port of Tacoma	Complete	✓	✓	✓	✓	✓	✓
	21. Planning for Potential Sea-Level Rise *(T, F, SW)*	Port of Tacoma	Ongoing	✓	✓	✓	✓	✓	✓
Public Education	1. Continue Hazard Related Training for Port Officials and Employees *(E,L,T,V,F,SW,WUI,MM)*	Port of Tacoma	Partially Complete	✓	✓	✓		✓	✓
	2. Train Port Engineers in Post-Earthquake Building Assessment (ATC-20) Class *(E,SW,MM)*	Port of Tacoma with Regional Partners	Partially Complete	✓	✓	✓		✓	✓
	3. Hazard Related Education and Training for Port Terminal Businesses *(E,L,T,V,D,F,SW,WUI,MM)*	Port of Tacoma with Regional Partners	Ongoing	✓	✓	✓		✓	✓

Startup Mitigation Measures

Existing Mitigation Actions

Hazards: E, L, T, V, D, F, SW, WUI[1], MM[2]

Port of Tacoma will integrate the hazard mitigation plan into existing plans, ordinances, and programs to dictate land uses within the jurisdiction. Further, Port of Tacoma will continue to implement existing programs, policies, and regulations as identified in the Capability Identification Section of this Plan. This includes continuing those programs that are identified as technical and fiscal capabilities.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Preserve or Restore Natural Resources; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be accomplished with local budgets or grants.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Ongoing
6. **Benefit** = Port-Wide
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
		✓		

Origin

Previous Plan	Current Plan
✓	

Plan Maintenance

Hazards: E, L, T, V, D, F, SW, WUI[1], MM[2]

Port of Tacoma will adopt those processes outlined in the Plan Maintenance Section of this Plan.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Preserve or Restore Natural Resources; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Ongoing
6. **Benefit** = Port-Wide
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
✓				

Origin

Previous Plan	Current Plan
✓	

Hazard Mitigation Forum

Pierce County Hazard Mitigation Forum

Hazards: E, L, T, V, D, F, SW, WUI[1], MM[2]

Port of Tacoma will work in conjunction with the County through the Pierce County Hazard Mitigation Forum (HMF). The Forum will continue as a means of coordinating mitigation planning efforts among all jurisdictions within the County that have completed a mitigation plan. This ensures efficient use of resources and a more cooperative approach to making a disaster resistant county. The HMF meets annually; every October. This is addressed in the Plan Maintenance Section of this Plan.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Preserve or Restore Natural Resources; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = Minor
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s) =** PC DEM; Port of Tacoma
5. **Timeline =** Ongoing
6. **Benefit** = Regional
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
	✓			

Origin

Previous Plan	Current Plan
✓	

Port Management Measures

Capability Identification and Evaluation

Hazards: E, L, T, V, D, F, SW, WUI[1], MM[2]

Port of Tacoma will develop a consistent and replicable system for evaluating the Port's capabilities. A comprehensive evaluation will lead to specific policy recommendations to more effectively achieve disaster resistant communities. Further, a capability evaluation involves measurable variables so that capabilities may eventually be tracked in conjunction with the implementation of all mitigation measures. This is a key component in evaluating the success of the Port's overall mitigation strategy.

1. **Goal(s) Addressed** = N/A. Goals addressed are contingent upon the mitigation measures resulting from this priority.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Short-term
6. **Benefit** = Port-Wide
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
		✓		

Origin

Previous Plan	Current Plan
✓	

Engineer Future Infrastructure with Auxiliary Power Capability

Hazards: E, L, T, V, D, F, SW, WUI[1], MM[2]

The measure will involve engineering future infrastructure with auxiliary power capability allowing for temporary power to easily connect.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Long-term
6. **Benefit** = Port of Tacoma, Regional Partners (Terminal Operators)
7. **Life of Measure** = 50 years
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

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Status

Complete	Ongoing	Partially Complete	Deferred	Comments
		✓		Not suitable for gantry crane operations

Origin

Previous Plan	Current Plan
✓	

Install Seismic Shutoff Valves to Gas Utility Lines Serving Port Facilities

Hazards: E, T, SW[1], MM[2]

The measure will involve adding seismic shutoff valves to gas utility lines serving the Port of Tacoma facilities.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Promote a Sustainable Economy.
2. **Cost of Measure** = Approximately $1,500 per building
3. **Funding Source and Situation** = Funding could be obtained through local budget and grants.
4. **Lead Jurisdiction(s) =** Port of Tacoma with regional partners
5. **Timeline =** On-going
6. **Benefit** = Port of Tacoma, Regional Partners (Terminal Operators)
7. **Life of Measure** = 50 years
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

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Status

Complete	Ongoing	Partially Complete	Deferred	Comments
	✓			There is limited use of natural gas at Port-owned facilities.

Origin

Previous Plan	Current Plan
✓	

Install Automatic Fire Sprinklers in New Port Buildings

Hazards: E, T, V, F, SW[1], MM[2]

The measure will involve adding automatic fire sprinklers, beyond minimal code compliance, to new Port Buildings as they are constructed.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Long-term
6. **Benefit** = Port of Tacoma and Regional Partners (Terminal Operators)
7. **Life of Measure** = 50 years
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
		✓		Not included in mobile structures.

Origin

Previous Plan	Current Plan
✓	

Using Modular Buildings to Ease Replacement and Lower Construction Costs

Hazards: E, L, T, V, D, F, SW, WUI[1], MM[2]

The measure will involve maximizing infrastructure life expectancy and terminal space through the use of modular buildings. Using modular buildings eases replacement and lowers construction costs.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Promote A Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budgets or grants.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Long-Term
6. **Benefit** = Port of Tacoma and Regional partners (Terminal operators)
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
		✓		Implemented where functionally suitable.

Origin

Previous Plan	Current Plan
✓	

Strengthen and Create Redundancy in Utilities Serving the Port of Tacoma

Hazards: E, L, T, V, D, F, SW, WUI[1], MM[2]

The measure will involve identifying the regional partners that provide utilities to Port, identifying the specific utility infrastructure that the Port relies upon, identifying the hazard vulnerability in that infrastructure, and developing strategies to strengthen and create redundancies in these infrastructures. This will involve working with regional partners (City of Tacoma, City of Fife, etc.).

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Promote A Sustainable Economy.

2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget and grants.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Long-term
6. **Benefit** = Port of Tacoma and Regional partners (Terminal Operators)
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
		✓		Full implementation will require extensive time and capital expense.

Origin

Previous Plan	Current Plan
✓	

Support Rail Grade Separation Projects

Hazards: E, T, V, F, SW[1], MM[2]

The measure will involve supporting rail grade separation projects. These rail projects improve efficiency at points where freight is transferred between transportation modes such as ports and rail yards. Eliminating at grade roadways crossing rail lines with a grade separation mitigates rail and road congestion benefiting routine as well as emergency traffic.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Promote A Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s) =** Port of Tacoma with Regional Partners
5. **Timeline =** Long-term
6. **Benefit** = Port of Tacoma and Regional Partners (Terminal operators)
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
		✓		Lincoln Avenue Grade Separation completed.

Origin

Previous Plan	Current Plan
✓	

Collaborate with Regional Partners on Mitigation Strategies for the Lower Puyallup River

Hazards: E, T, V, F, SW[1], MM[2]

The measure will involve working with Regional Partners (Cities, County, Tribe, Local District, Army Corp, etc.) on mitigation strategies for the Lower Puyallup River. In 2005, County-wide flood hazard maps were updated and reproduced. Studies have shown the lower Puyallup River Levee System is in need of replacement or rehabilitation in order to provide flood protection from a 100 year flood. Strategies could include: raising levees, creating setback levees, acquisition of property, public education, and response procedures.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Promote A Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s) =** Port of Tacoma with Regional Partners
5. **Timeline =** Long-term
6. **Benefit** = Port of Tacoma and Regional partners (Terminal Operators)
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal would be somewhat controversial.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
	✓			

Origin

Previous Plan	Current Plan
✓	

Develop and Maintain a Port Business Continuity Plan (BCP)

Hazards: E, L, T, V, D, F, SW, WUI[1], MM[2]

The measure will involve developing a Business Continuity Plan for the Port (BCP). This plan will provide guidance for the rapid recovery of critical operations and continuity of government in the event of a disaster.

1. **Goal(s) Addressed** = Protect life and property; Ensure continuity of operations; Establish and strengthen partnerships for implementation; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = Staff time and materials, possible consultant fee
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Long-term
6. **Benefit** = Port of Tacoma and Regional Partners
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
		✓		

Origin

Previous Plan	Current Plan
✓	

Create and Maintain Emergency "Go Kits"

Hazards: E, L, T, V, D, F, SW, WUI[1], MM[2]

The measure will involve ensuring that Go Kits are created and maintained for essential Port personnel for times of emergency or disaster. These Go Kits provide the basis for Port personnel to continue operations. Items that maybe included supporting essential services include but are not limited to: laptops, radios, emergency manual, SOPs, vital records and forms. This measure once completed will become a component of the Port Business Continuity Plan.

1. **Goal(s) Addressed** = Protect life and property; Ensure Continuity of Operations, Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Long-term
6. **Benefit** = Port of Tacoma and Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

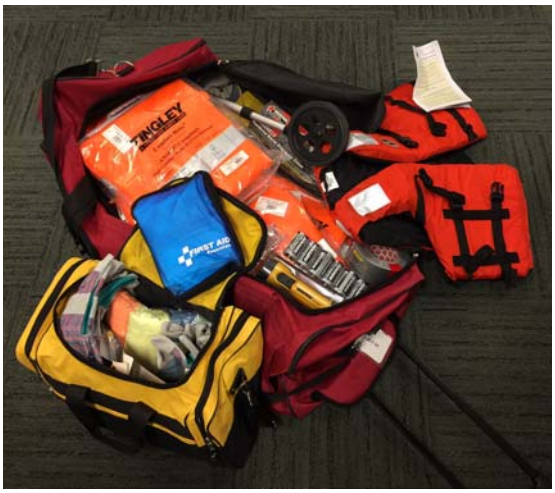
Status

Complete	Ongoing	Partially Complete	Deferred	Comments
✓				*See photographs below* Go Kits are augmented by ATC-20 training.

Origin

Previous Plan	Current Plan
✓	

Sample "Go Kit"



Enroll Senior Management in the Government Emergency Telecommunications Service (GETS) Program

Hazards: E, L, T, V, D, F, SW, WUI[1], MM[2]

The measure will involve using the federal government's telecommunication service that provides emergency access to local and long distance telephone networks increasing the probability of completing emergency calls when normal calling methods fail. This measure once completed will become a component of the Port Business Continuity Plan.

1. **Goal(s) Addressed** = Protect life and property; Ensure Continuity of Operations, Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Long-term
6. **Benefit** = Port of Tacoma and Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal would be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
		✓		

Origin

Previous Plan	Current Plan
✓	

Develop Emergency Notification and Evacuation Procedures

Hazards: E, L, T, V, F, SW, WUI[1], MM[2]

The measure will involve developing emergency notification and evacuation procedures. The objective is an integrated Port-wide system to provide notice of an emergency and information on evacuation via a variety of means such as radio, phone, fax and email.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations, Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budgets or grants.
4. **Lead Jurisdiction(s) =** Port of Tacoma and Regional Partners
5. **Timeline =** Short-term
6. **Benefit** = Port of Tacoma and Regional Partners
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
✓				

Origin

Previous Plan	Current Plan
✓	

Cybersecurity Assessment and Mitigation

Hazards: E, L, T, V, D, F, SW, WUI[1], MM[2]

Implement a host of strategies to secure and protect the Port's networks. These strategies include, but are not limited to, the implementation of enterprise class firewall and intrusion detection devices and best practices, co-located the data center to a secure commercial data center that is sited off the Tacoma Tideflats, installation of redundant connectivity, and contract for provide host-based detection services. In 2015, the Port of Tacoma procured the services of a third party firm to conduct a Cybersecurity Assessment intended to identify vulnerabilities in its information technology infrastructure, systems, policies and practices, and develop a prioritized set of actions to mitigate the risks identified. This assessment resulted in a roadmap that serves as an ongoing work plan for the Port's cybersecurity initiatives. The Port intends to conduct such assessments on a regular basis.

1. **Goal(s) Addressed** = Protect life and property; Ensure Continuity of Operations, Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Long-term
6. **Benefit** = Port of Tacoma and Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal would be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
		✓		

Origin

Previous Plan	Current Plan
	✓

Enhanced Use of Geographic Information System (GIS)

Hazards: E, L, T, V, D, F, SW, WUI[1], MM[2]

This prospective Mitigation Action consists of two components.

1) Work towards integrating existing Statement of Values with existing GIS data to provide improved correlation of values at-risk by hazard type.
2) Explore implementation of HAZUS to provide detailed event-based scenario modeling so as to help direct future mitigation efforts.

1. **Goal(s) Addressed** = Protect life and property; Ensure Continuity of Operations, Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Long-term
6. **Benefit** = Port of Tacoma and Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal would be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
	✓			Currently under evaluation. Final implementation decision pending.

Origin

Previous Plan	Current Plan
	✓

Develop Coverage Areas for Reverse 911 System

Hazards: E, L, T, V, D, F, SW, WUI[1], MM[2]

The measure will involve developing geographic information system coverage areas in the County's Reverse 911 System for the Port. The impacted jurisdiction defines a geographic area and system then calls all land phones in that area alerting them to the given hazard. This system can be used without pre-drawn coverage areas, but by pre-identifying the service areas within the Port the message can be send out more efficiently. The system has proved invaluable in recent floods and windstorms, both declared Federal Disasters, in the County.

1. **Goal(s) Addressed** = Protect life and property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Preserve or Restore Natural Resources; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s) =** Port of Tacoma with PCDEM
5. **Timeline =** Ongoing
6. **Benefit** = Port of Tacoma and Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal would be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
		✓		

Origin

Previous Plan	Current Plan
✓	

Update Terminal Snow Removal Plans

Hazards: F**,** SW[1]

The measure will involve updating the Port's terminal snow removal plans to minimize the interruption of inclement weather.

1. **Goal(s) Addressed** = Protect life and property; Ensure continuity of operations, Establish and Strengthen Partnerships for Implementation; Promote a Sustainable Economy.

2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s) =** Port of Tacoma with Terminal Operators
5. **Timeline =** Long-Term
6. **Benefit** = Port of Tacoma and Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
✓				Response plans updated each Fall.

Origin

Previous Plan	Current Plan
✓	

Equip Port Vehicles with Radios

Hazards: E, L, T, V, F, SW, WUI[1], MM[2]

The measure will involve equipping new Port Vehicles with radios. This measure will enhance the Port's capabilities to communicate during times of emergency or disaster.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Long-Term
6. **Benefit** = Port of Tacoma with Regional partners (terminal operators)
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
✓				Operations, Facilities and Equipment Maintenance vehicles only.

Origin

Previous Plan	Current Plan
✓	

Create Remote Access Capability for Security Cameras

Hazards: E, L, T, V, F, SW, WUI[1], MM[2]

The measure will involve creating the ability to direct and view Port security cameras from locations other than the Security Center such as Port vehicles and alternate work locations.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Long-term
6. **Benefit** = Port of Tacoma and Regional partners (terminal operators)
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
		✓		

Origin

Previous Plan	Current Plan
✓	

Continue Support of the County's Lahar Warning System

Hazards: V[1]

The measure will involve continued support of the County's Lahar Warning System. The lahar warning system notifies the Region when there is impending lahar emanating from the flanks of Mt. Rainier. The system is vital to the welfare of all citizens living and working in the valley and Tideflats area.

1. **Goal(s) Addressed** = Protect life and property; Ensure continuity of operations; Establish and strengthen partnerships for implementation; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Ongoing
6. **Benefit** = Port of Tacoma and Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction =** the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
✓				Tideflats installation of PEWS (Port Emergency Warning System)

Origin

Previous Plan	Current Plan
✓	

Stone Column Installation in New Pier Construction

Hazards: E

The measure involves installation of 'Stone Columns' along new bulkheads (where applicable) to provide for improved soil densification. 'Stone Columns' help prevent soil liquefaction during an earthquake and lessens the amount of ground movement were the pier meets the land helping to avoid slope failure. As an example, the Port is currently installing ~1350 columns (~69,000 LF) at its Pier 4 reconstruction project (anticipated completion mid-2018). These columns are 3.5' in diameter and extend to a depth of elevation -50 feet (*see sample drawing and photos below*)

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Promote A Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s) =** Port of Tacoma with Regional Partners
5. **Timeline =** Long-term
6. **Benefit** = Port of Tacoma and Regional Partners (Terminal operators)
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

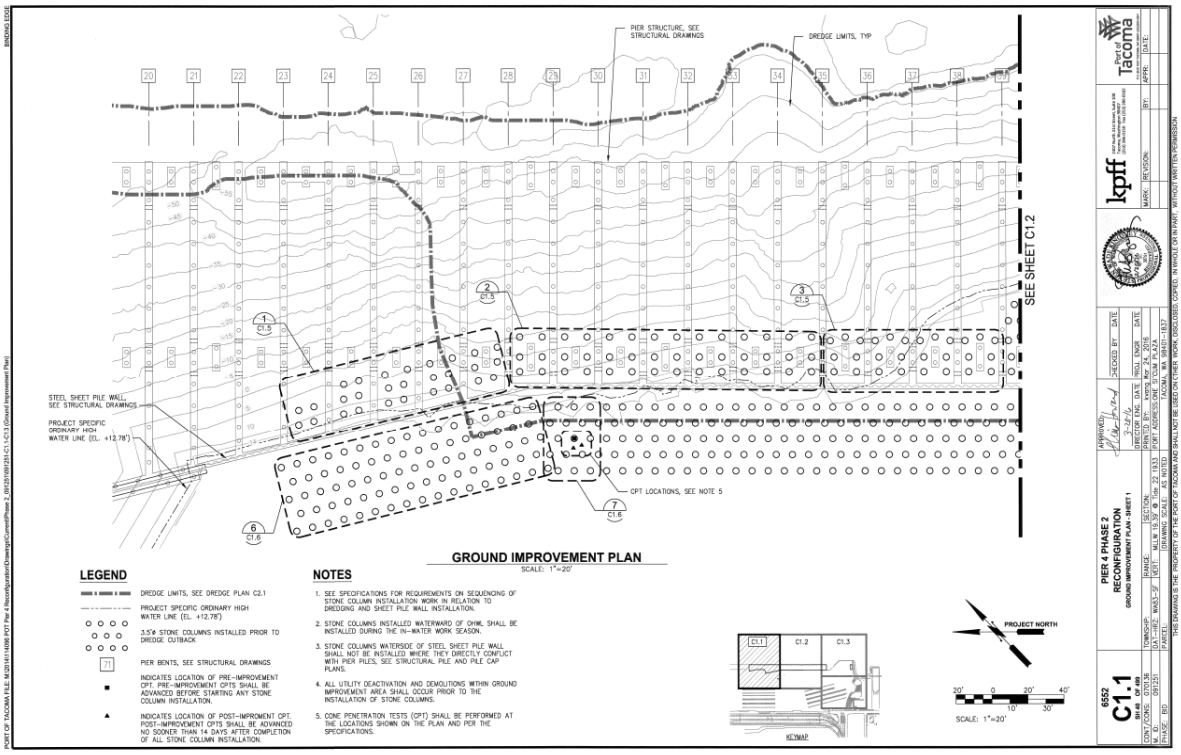
Status

Complete	Ongoing	Partially Complete	Deferred	Comments
✓	✓			Installed at East Blair One (EB-1) and used in Pier 4 reconfiguration project.

Origin

Previous Plan	Current Plan
	✓

Sample Ground Improvement Plan



Pier 4 Reconstruction including 'Stone Column' installation

Example of 'Stone Column" installation

Planning for Potential Sea-Level Rise

Hazards: T, F, SW

Evaluate, and if necessary, modify design of future pier structures and related infrastructure (including, but not limited to, rail, rail yards and storm water conveyance systems) in consideration of climate change and the potential for future sea-level rise.

.

1. **Goal(s) Addressed** = Protect life and property; Ensure Continuity of Operations, Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through grants and local budget.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Long-term
6. **Benefit** = Port of Tacoma and Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal would be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
	✓			

Origin

Previous Plan	Current Plan
	✓

Public Education

Continue Hazard Related Training for Port Officials & Employees

Hazards: E, L, T, V, F, SW, WUI[1], MM[2]

The measure will involve continuing the Hazard Related Disaster Preparedness Training for Port officials and employees. This will build on such classes that involve: Preparedness at Work, Home and on the Road, NIMS Training and Hazard Awareness Training. Preparation will help ensure Port operations and provide a faster response and recovery when hazards do threaten the Port.

1. **Goal(s) Addressed** = Protect life and property; Ensure continuity of operations; Establish and strengthen partnerships for implementation; Increase Public Preparedness for Disasters; Promote a Sustainable Economy
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s) =**Port of Tacoma
5. **Timeline =** Short-term
6. **Benefit** = Port of Tacoma and Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
		✓		

Origin

Previous Plan	Current Plan
✓	

Train Port Engineers in Post-Earthquake Building Assessment (ATC-20) Class

Hazards: E, SW[1], MM[2]

The measure will involve the Port engineers taking the ATC-20 Class. This class will provide them with the skills and knowledge to assess damage to buildings after an earthquake. By ensuring this capability at the Port, response and recovery in the aftermath of a seismic event will be faster and more efficient.

1. **Goal(s) Addressed** = Protect life and property; Ensure continuity of operations; Establish and strengthen partnerships for implementation; Increase Public Preparedness for Disasters; Promote a Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s) =** Port of Tacoma
5. **Timeline =** Long-term
6. **Benefit** = Port of Tacoma and Regional Partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal would be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
		✓		57.1 % of Engineering Department staff have completed training. (See also 'Go Kits')

Origin

Previous Plan	Current Plan
✓	

Hazard Related Education and Training for Port Terminal Businesses

Hazards: E, L, T, V, D, F, SW, WUI[1], MM[2]

The measure will involve conducting hazard related education and training for Port Terminal Businesses. The Port businesses play a vital role in the future of the Port. By partnering with other regional governmental partners (Fire District, Cities, County, etc.) the businesses will be provided an awareness level introduction to the hazards in the area building a level of sustainability into Port along with provide a mechanism for leveraging resources before and after an emergency or disaster.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budgets.
4. **Lead Jurisdiction(s) =** Port of Tacoma and Regional Partners
5. **Timeline =** Long-term
6. **Benefit** = Port of Tacoma businesses and Regional partners
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

The following section confirms the status of the Mitigation Action (above) and identifies whether it was listed in the original Plan document approved in November 2008 (i.e., Previous Plan) or is a more recent addition (i.e., Current Plan).

Status

Complete	Ongoing	Partially Complete	Deferred	Comments
	✓			Tenant participation in EQ exercises.

Origin

Previous Plan	Current Plan
✓	

Mitigation Measure Monitoring

In comparison to the last update, the Port of Tacoma has no new mitigation strategies and is continuing all of the mitigation strategies as seen in the table below.

Mitigation Strategy	New	Partially Complete or Continuing	Accomplished	Deferred
Existing Mitigation Actions *(All)*		X		
Plan Maintenance *(All)*			X	
Pierce County Hazard Mitigation Forum *(E,L,T,V,D,F,SW,WUI,MM)*		X		
Capability Identification and Evaluation *(E,L,T,V,D,F,SW,WUI,MM)*		X		
Engineer Future Infrastructure with Auxiliary Power Capability *(E,L,T,V,D,F,SW,WUI,MM)*		X		
Install Seismic Shutoff Valves to Gas Utility Lines Serving Port Facilities *(E,T,SW,MM)*		X		
Install Automatic Fire Sprinklers in New Port Buildings *(E,T,V,F,SW,MM)*		X		
Using Modular Buildings to Ease Replacement and Lower Construction Costs *(E,L,T,V,D,F,SW,WUI,MM)*		X		
Strengthen and Create Redundancy in Utilities Serving the Port of Tacoma *(E,L,T,V,D,F,SW,WUI,MM)*		X		
Support Rail Grade Separation Projects *(E,T,V,F,SW,MM)*		X		
Collaborate with Regional Partners on Mitigation Strategies for the Lower Puyallup River *(E,T,V,F,SW,MM)*		X		

Mitigation Strategy	New	Partially Complete or Continuing	Accomplished	Deferred
Develop and Maintain a Port Business Continuity Plan *(E,L,T,V,D,F,SW,WUI,MM)*		X		
Create and Maintain Emergency "Go Kits" *(E,L,T,V,D,F,SW,WUI,MM)*			X	
Enroll Senior Management in the Government Emergency Telecommunication Service *(E,L,T,V,D,F,SW,WUI,MM)*		X		
Develop Emergency Notification and Evacuation Procedures *(E,L,T,V,F,SW,WUI,MM)*			X	
Cybersecurity Assessment and Mitigation *(E,L,T,V,F,SW,WUI,MM)*	X	X		
Enhanced Use of Geographic Information System (GIS) *(E,L,T,V,F,SW,WUI,MM)*	X	X		
Develop Coverage Areas for Reverse 911 System *(E,L,T,V,D,F,SW,WUI,MM)*		X		
Update Terminal Snow Removal Plans *(F,SW)*			X	
Equip Port Vehicles with Radios (E,L,T,V,F,SW,WUI,MM)			X	
Create Remote Access Capability for Security Cameras *(E,L,T,V,F,SW,WUI,MM)*		X		
Continue Support of the County's Lahar Warning System *(V)*			X	
Stone Column Installation in New Pier Construction *(E)*	X	X		

Mitigation Strategy	New	Partially Complete or Continuing	Accomplished	Deferred
Planning for Potential Sea-Level Rise (T, SW, F)		X		
Continue Hazard Related Training for Port Elected Officials and Employees *(E,L,T,V,F,SW,WUI,MM)*		X		
Train Port Engineers in Post Earthquake Building Assessment (ATC-20) Class *(E,SW,MM)*		X		
Hazard Related Education and Training for Port Terminal Businesses *(E,L,T,V,D,F,SW,WUI,MM)*		X		

Endnotes

[1] Hazard Codes:

Where necessary, the specific hazards addressed are noted as follows:

A:	Avalanche
E:	Earthquake
F:	Flood
D:	Drought
T:	Tsunami
V(L OR T):	Volcanic (lahar or tephra-specific)
SW:	Severe Storm (wind-specific)
L:	Landslide
WUI:	Wildland/Urban Interface Fire
MM:	Manmade to include terrorism
ALL:	All hazards, including some man made. Where only natural hazards are addressed, it is noted.

[2] While the original Plan was strictly a *Natural* hazard mitigation plan, where a measure stemmed from a facility recommendation (Infrastructure Section) that dealt specifically with potential acts of terrorism, the mitigation strategy has, and will continue to, utilize the associated analysis. The current plan is now *All* Hazards. It is not the intent of this notation to imply that all measures were analyzed with regards to human-made hazards. Rather, the notation merely illustrates the potential on this template for the inclusion of human-made hazard analysis.

SECTION 6

REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
PORT OF TACOMA
INFRASTRUCTURE SECTION

Table of Contents

The **Infrastructure** for the **Port of Tacoma** is displayed in following tables and graphics:

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

The tables and graphics show the overview of infrastructure owned by the Port of Tacoma. 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 SUMMARY[1]	
TOTAL INFRASTRUCTURE (#)	147
TOTAL INSURED VALUE ($)	$748,382,432

Table 6-2 Infrastructure Category Summary

INFRASTRUCTURE CATEGORY SUMMARY[2]	
EMERGENCY SERVICES	0
TELECOMMUNICATIONS	0
TRANSPORTATION	147
WATER	0
ENERGY	0
GOVERNMENT	0
COMMERCIAL	0

Table 6-3 Infrastructure Vulnerability – Dependency Summary

DEPENDENCE	# DEPENDENT ON SERVICE	%
RELIANCE ON EMERGENCY SERVICES	147 of 147	100%
RELIANCE ON POWER	147 of 147	100%
RELIANCE ON SEWER	0 of 147	0%
RELIANCE ON TELECOMMUNICATION	147 of 147	100%
RELIANCE ON TRANSPORTATION	147 of 147	100%
RELIANCE ON WATER	0 of 147	0%

Table 6-4 Infrastructure Vulnerability – Hazard Summary

HAZARD	# IN HAZARD ZONE	%
DROUGHT	0 of 147	0%
EARTHQUAKE	147 of 147	100%
FLOOD	147 of 147	100%
LANDSLIDE	0 of 147	0%
TSUNAMI	147 of 147	100%
VOLCANIC	147 of 147	100%
WEATHER	0 of 147	0%
WILDLAND/URBAN FIRE	0 of 147	0%

Table 6-5 Infrastructure Dependency Matrix

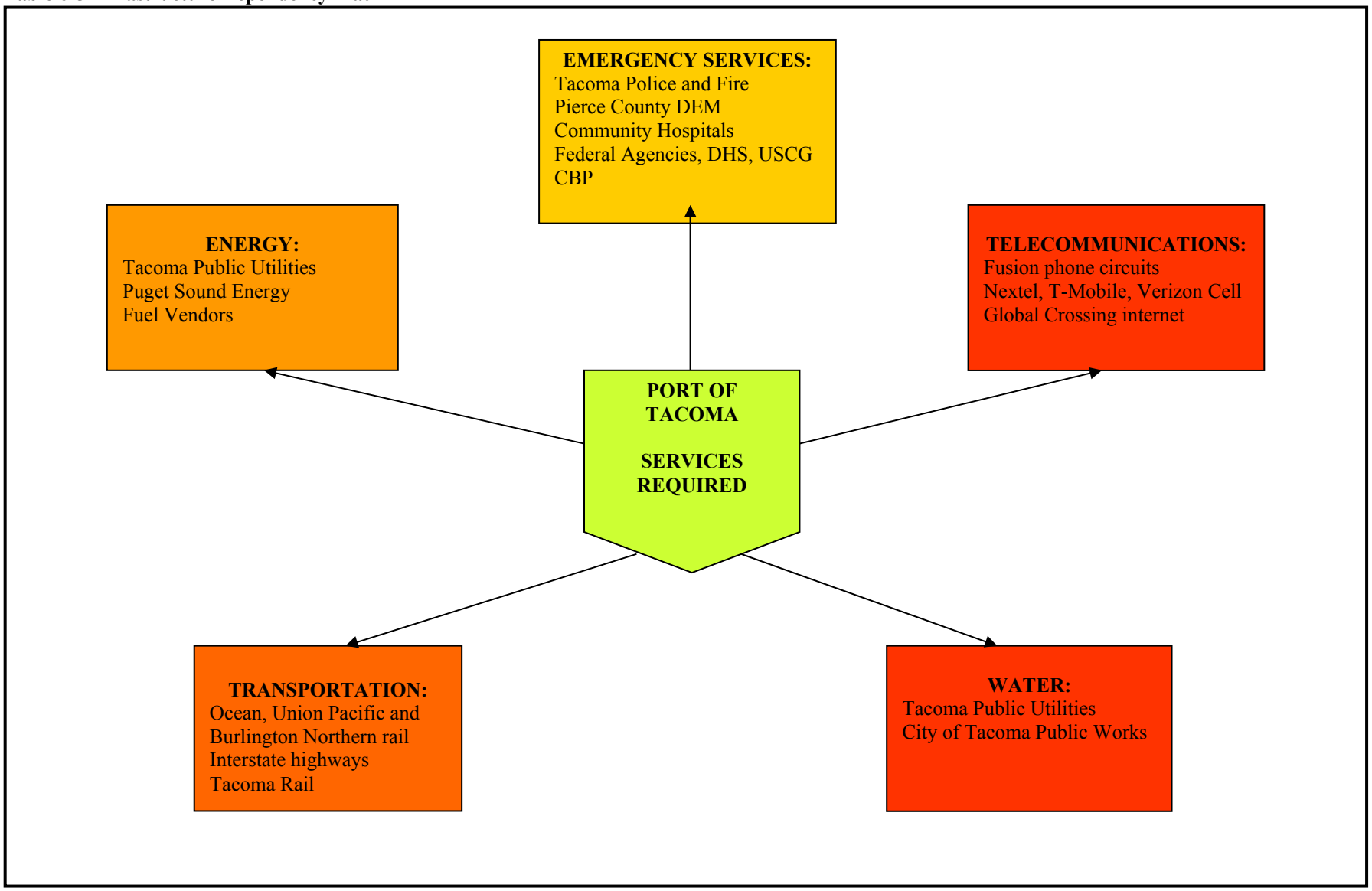


Table 6-6 Infrastructure Table

INFRASTRUCTURE[3]	BUILT[4]	FLOORS	UPGRADES[5]	VALUE	OCCUPANCY	AVALANCHE	DROUGHT	EARTHQUAKE	WULFIRE	FLOOD	LANDSLIDE	TSUNAMI	VOLCANIC	WEATHER	EMERGENCY	POWER	SEWER	TELECOMM	TRANSPORT	WATER
Pier 3 Berth A (16)				$18,996,732		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Pier 3 tower #5 (16)				$139,551		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Maintenance Building # 3 remodel (16)				$830,580		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Utilities (16)				$1,289,020		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Pier 4 (16)				$49,646,759		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Reefer Line (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Tower Wood (16)				$46,952		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Tower New Husky #4 (16)	2005			$570,230		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Terminal 4 Gatehouse & Canopy # 1 (AP,16)				$3,810,000		0	0	2	0	1	0	2	3	1	0	0	0	2	3	0
Terminal 4 Utilities (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Outgate # 2 (16)	2005			$814,070		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Blair Terminal Pier (16)				$21,672,222		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Breakbulk Tent (16)	2004			$915,670		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Utilities (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Berth A & B (16)	1966-78-05			$17,028,175		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Miscellaneous Lighting Electrical (16)				$0		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Warehouse 7A (16)	1971			$25,233,465		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Terminal 7 scale house & scale (16)				$9,632		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Terminal 7 Lunchroom (16)	1962			$98,307		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Security Office (16)	1988			$505,196		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Berth A&B crane rails beams 895' (16)	1966-78			$2,026,401		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Terminal 7 Utilities (16)				$849,469		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Terminal 7 Berth C (16)	1966-78			$17,028,175		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Terminal 7C Misc. Lighting Electrical (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Terminal 7C Utilities (16)				$849,469		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0

INFRASTRUCTURE[3]	BUILT[4]	FLOORS	UPGRADES[5]	VALUE	OCCUPANCY	AVALANCHE	DROUGHT	EARTHQUAKE	WULFIRE	FLOOD	LANDSLIDE	TSUNAMI	VOLCANIC	WEATHER	EMERGENCY	POWER	SEWER	TELECOMM	TRANSPORT	WATER
Berth 7D (16)	1966-78			$17,028,175		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Terminal 7D Gatehouse (16)	1979-88-05			$577,978		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Terminal 7D Tower (16)				$195,876		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Terminal 7D Lighting Electrical (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Terminal 7 D Utilities (16)				$849,469		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Auto Processing Bldg. (16)	1982-03			$9,394,125		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Body Shop (16)	2003			$2,679,946		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Car Wash (16)	2003			$541,508		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Fuel Island & 3 Tanks (16)	2003			$274,178		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Rail yard Bldg. (16)	2003			$65,405		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Auto Processing Paving UG Utilities (16)				$10,051,420		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Puget Sound Truck Office Bldg. (16)	1964			$43,504		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Puget Sound Truck Shop (16)	1963			$118,347		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Berth A&B (16)	2005			$30,162,331		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Berth A & B crane rails (16)	2005			$3,196,415		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Terminal Utilities (16)	2005			$4,755,364		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Administration Bldg. #2 (16)	2005					0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Trouble shack Bldg. #3 (16)	2005					0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Entry Canopy Bldg. #4 (16)	2005					0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Roadability Canopy #5 (16)	2005					0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Roadability Canopy #6 (16)	2005					0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Marine Bldg. #7 (16)	2005					0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Generator Shop #8 (16)	2005					0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Reefer Wash Bldg. #9 (16)	2005					0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Strad Wash Bldg. #10 (16)	2005					0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Maintenance Bldg. #11 (16)	2005					0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Guard Shack Bldg. # 12 (16)	2005					0	0	2	0	1	0	2	3	1	0	3	0	2	3	0

INFRASTRUCTURE[3]	BUILT[4]	FLOORS	UPGRADES[5]	VALUE	OCCUPANCY	AVALANCHE	DROUGHT	EARTHQUAKE	WULFIRE	FLOOD	LANDSLIDE	TSUNAMI	VOLCANIC	WEATHER	EMERGENCY	POWER	SEWER	TELECOMM	TRANSPORT	WATER
Rail Compressor Bldg. #13 (16)	2005					0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Building 407 (16)	1941			$7,774,492		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Building 326 (16)				$739,518		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Building 409 & 411 (16)	1941			$189,842		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Building 532 (16)	1939			$4,005,857		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Building 952 Trident (16)	1941-95			$4,265,005		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Building 424 Jesse Eng. (16)	1970			$3,554,171		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Craneway #8 (16)				$672,540		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Craneway #9 (16)				$672,540		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Blair Waterway Piers (16)				$668,531		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Outer Dolphins Blair (16)				$161,409		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Industrial Yard Barge Piers (16)				$1,059,531		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Alexander Ave Utilities & Paving (16)				$2,220,096		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Building #2602 cold storage (16)	1968			$2,922,828		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Building #2608 (16)	1968			$3,053,417		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Building 2202 Customs (16)	1967			$1,580,797		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Building 8928 Rec Center (16)				$359,618		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
NAMPAC (16)				$777,937		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Key Bank (16)				$762,000		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Port Business Center (16)	1984			$11,445,875	~200	0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
West Sitcum Pier (16)	1984			$32,473,932		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Marine Services Building (16)	1984			$1,190,043		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Container Freight Station (16)	1984					0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Maintenance Garage (16)	1984-01			$2,068,852		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Marine Break Room (16)	1984			$651,059		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Domestic Engineering Control (16)	1984			$302,312		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Domestic Tire Repair (16)	1984			$40,555		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0

INFRASTRUCTURE[3]	BUILT[4]	FLOORS	UPGRADES[5]	VALUE	OCCUPANCY	AVALANCHE	DROUGHT	EARTHQUAKE	WULFIRE	FLOOD	LANDSLIDE	TSUNAMI	VOLCANIC	WEATHER	EMERGENCY	POWER	SEWER	TELECOMM	TRANSPORT	WATER
Domestic Inspection (16)	1984			$118,595		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Yard Control & Supervisor Office (16)	1984			$119,300		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
International Eq Control (16)	1984			$460,992		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Covered Platform (16)	1984			$1,110,016		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
International Tire Repair (16)	1984			$74,398		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
International Inspection (16)	1984			$116,385		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Truck Transfer Dock (16)	1984			$434,315		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Freight Dispatch (16)	1984			$123,946		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Facility Utilities (16)	1984			$3,704,081		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Sitcum Administration Bldg. (C,AP,16)	1984-03			$5,855,928	~150	0	0	2	0	1	0	2	3	1	0	0	0	2	3	0
Drawings (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Microfilm (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Documents (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Photographing Archives (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Observation Tower (16)	1988			$310,726		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Fine Art (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Facility Utilities (16)				$37,038		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Pier 24 (16)				$3,589,099		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Pier 25 (16)	1941			$11,357,296		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Trident Seafood (16)	1995			$1,188,136		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Trident Seafood (16)	1941-95			$466,809		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Pier 24 crane rails & beams 565' (16)				$1,285,404		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Pier 25 crane rails & beams 1835' (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
North Guard Berth Bldg. #1 (16)	2003			$22,210		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Lane #4 Booth Bldg. # 2 (16)	2003			$12,494		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Driver Service Bldg. #3 (16)	2003			$156,694		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Land Canopy #4 (16)	1983					0	0	2	0	1	0	2	3	1	0	3	0	2	3	0

INFRASTRUCTURE[3]	BUILT[4]	FLOORS	UPGRADES[5]	VALUE	OCCUPANCY	AVALANCHE	DROUGHT	EARTHQUAKE	WULFIRE	FLOOD	LANDSLIDE	TSUNAMI	VOLCANIC	WEATHER	EMERGENCY	POWER	SEWER	TELECOMM	TRANSPORT	WATER
Land Canopy #5 (16)	1983			$66,728		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Roloc Shop #5 (16)	2003			$308,271		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Vessel Stores #6 (16)	2003			$106,992		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Tower #7 (16)	1983			$218,631		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Vehicle Processing #8 (16)	2003			$195,209		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Dry Out Shed #11 (16)	2003			$429,301		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Storage Vessel #10 (16)	1999			$1,139,742		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Maintenance #9 (16)	2003			$617,210		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Administration #4 (16)	1983			$1,194,166		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Pier (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Paving Utilities (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Building #50 (16)	1941			$1,069,650		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Building #53 (16)	1982			$538,813		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Utilities (16)				$1,421,315		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Maintenance Shed (16)	1978			$189,033		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Strad Shop (16)	1976			$4,857,055		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Small Tools (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Employees tools (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Storage Area #5 (16)				$69,694		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Shop Utilities (16)				$666,732		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Control Tower (16)	1989			$509,807		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Tracks & Paving (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Yard Utilities (16)				$844,530		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Gatehouse (16)	1990			$107,109		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Shop Vehicle Maintenance (16)				$14,215		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Office Trailer (16)				$46,683		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Office Building (16)				$129,526		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0

INFRASTRUCTURE[3]	BUILT[4]	FLOORS	UPGRADES[5]	VALUE	OCCUPANCY	AVALANCHE	DROUGHT	EARTHQUAKE	WULFIRE	FLOOD	LANDSLIDE	TSUNAMI	VOLCANIC	WEATHER	EMERGENCY	POWER	SEWER	TELECOMM	TRANSPORT	WATER
Tracks & Paving (16)				$11,007,597		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Yard Utilities (16)				$807,489		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Clear Creek Improvements (16)				$450,581		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Administration Building (16)	1998			$1,402,382	~50	0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Marine Building (16)	1998			$359,169		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Service Maintenance (16)	1998			$1,541,413		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Guardhouse (16)	1998			$40,345		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Pier (16)	1998			$50,955,522		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Container Yard, Utilities, Scales (16)				$20,578,836		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Wash Rack Trackage (16)				$6,107,873		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Tracks Arrival Departure (16)				$2,282,063		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Wash United Access Track (16)				$2,013,585		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Backup Track (16)				$2,013,585		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
Auto Bridge (16)						0	0	2	0	1	0	2	3	1	0	3	0	2	3	0
East Blair One (EB-1) (16)	2009			$33,100,615		0	0	2	0	1	0	2	3	1	0	3	0	2	3	0

Table 6-7 Infrastructure Table Key – Hazard Ratings

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

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

Table 6-8 Infrastructure Table Key – Dependency Ratings

EXTERNAL DEPENDENCY CATEGORY	RATING	SELECTION FACTOR OR DESCRIPTION
Emergency Services	0	The infrastructure can maintain essential functions without emergency services.
	0	The infrastructure has ability to independently provide emergency services to all essential functions of infrastructure.
	1	The infrastructure would have to curtail operations somewhat without emergency services with no direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to curtail operations somewhat without emergency services with some direct economic/environmental/safety/health consequences. OR stop operations with no direct economic/environmental/safety/health consequences.
	3	The infrastructure would have to stop its operations without emergency services and significant 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 curtail operations somewhat without gas or electrical supply, with no direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to curtail operations somewhat without gas or electrical supply, with some direct economic/environmental/safety/health consequences. OR stop operations with no direct economic/environmental/safety/health consequences.
	3	The infrastructure would have to stop its operations without gas or electrical supply and significant 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 curtail operations somewhat without wastewater service, with no direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to curtail operations somewhat without wastewater service, with some direct economic/environmental/safety/health consequences. OR stop operations with no direct economic/environmental/safety/health consequences.
	3	The infrastructure would have to stop its operations without wastewater service and significant 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 curtail operations somewhat without telecommunication service, with no direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to curtail operations somewhat without telecommunication service, with some direct economic/environmental/safety/health consequences. OR stop operations with no direct economic/environmental/safety/health consequences.
	3	The infrastructure would have to stop its operations without telecommunication service and significant 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 curtail operations somewhat without transportation routes with no direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to curtail operations somewhat without transportation routes with some direct economic/environmental/safety/health consequences. OR stop operations with no direct economic/environmental/safety/health consequences.

EXTERNAL DEPENDENCY CATEGORY	RATING	SELECTION FACTOR OR DESCRIPTION
	3	The infrastructure would have to stop its operations without transportation routes and significant 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 curtail operations somewhat without water supply, with no direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to curtail operations somewhat without water supply, with some direct economic/environmental/safety/health consequences. OR stop operations with no direct economic/environmental/safety/health consequences.
	3	The infrastructure would have to stop its operations without its water supply and significant 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

REGION 5 ALL HAZARD MITIGATION PLAN
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PLAN MAINTENANCE SECTION

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The planning process undertaken in the last two years provides an important foundation element for planning a disaster resistant Port of Tacoma and Pierce County Region 5.

This Section details the formal process that will guarantee the Port of Tacoma 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 Port of Tacoma Commission. The Section also describes the method and schedule of monitoring, evaluating, and updating the Plan within a five-year cycle, the process for incorporating the mitigation strategy into existing mechanisms, and the process for integrating stakeholder participation.

Plan Adoption

Upon completion of the Port of Tacoma Plan, it will be submitted to Washington State Emergency Management Division (EMD) for a Pre-Adoption Review. The EMD has 30 days to then take action on the Plan and forward it to the Federal Emergency Management Agency (FEMA) Region X for review. This review, which is allowed 45 days by law, will address the federal criteria outlined in FEMA Interim Final Rule 44 CFR Part 201.6. In completing this review there may be revisions requested by the EMD and/or FEMA. Revisions could include changes to background information, editorial comments, and the alteration of technical content. Pierce County Department of Emergency Management (PC DEM) will call a Planning Team Meeting to address any revisions needed and resubmit the changes.

The Port of Tacoma Commission will be invited to formally adopt the Plan via resolution after the Pre-Adoption Review is completed. Once the Commission adopts the Plan, the Port of Tacoma employee assigned risk management duties will be initially responsible for submitting it, with a copy of the resolution, to the State Hazard Mitigation Officer at the Washington State EMD. EMD will then take action on the Plan and forward it to the FEMA Region X for final approval. Upon approval by FEMA, the District will secure eligibility for both Hazard Mitigation Grant Program and Pre-Disaster Mitigation Grant Program funds.

Appendix A will list the dates and include a copy of the signed Resolution from the jurisdiction as well as a copy of the FEMA approval of the jurisdiction’s Plan. In future updates of the Plan, Appendix C will be used to track changes and/or updates. This plan will have to be re-adopted and re-approved prior to the five year deadline of February 9, 2020.

Maintenance Strategy

The Port of Tacoma maintenance strategy for implementation, monitoring, and evaluation provides a structure that encourages collaboration, information transference, and innovation. The Port will provide its stakeholders 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 stakeholder involvement and adaptability to changing risks and vulnerabilities. Finally, it will provide a tangible link between stakeholders and the various levels of government service, ranging from tenant customers, labor leaders and other

stakeholders to the Department of Homeland Security. Through this strategy, the Port will take action to break the disaster cycle on a local level and help achieve a more disaster resistant industrial community.

Implementation

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

The Port will work in conjunction with those departments, agencies and 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 Port's Capital Improvement Plan and the various departments involved through their normal budget schedule. Any regulatory and land use measures will continue to be implemented through collaboration with the various regulatory agencies and, where applicable, the Puyallup Tribe. Other measures will be implemented through collaboration with the identified jurisdictions 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.

This method ensures that implementation addresses 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 Port, the region, and the times.

Jurisdiction-Level: Risk Management and Planning

Initially, the Port of Tacoma's Director, Strategic Operations Projects and Risk Management will be responsible for the overall review of the plan and will designate mitigation measures to those departments responsible for advancing efforts towards implementation.

Following adoption by the Port of Tacoma Commission, the Port's Senior Manager, Planning will assume overall program responsibility and will review the Plan on an annual basis with the support of the individual responsible for risk management. Evaluations and updates will be completed. Recommendations will be made to coincide with the normal budgeting processes in order to provide ample time period for review and adoption of any necessary changes to the implementation schedule.

Region 5 Hazard Mitigation Forum

The Pierce County Hazard Mitigation Forum (HMF) represents a broader and multi-jurisdictional approach to mitigation implementation. The 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 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 more disaster resistant Pierce County. Members of the HMF will include the following jurisdictions who have completed, or who have begun the process of completing, compliant hazard mitigation plans:

- 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
- 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
- Puyallup Tribe of Indians

The HMF will meet annually in November and will be coordinated by the Pierce County Department of Emergency Management (PC DEM). The Port of Tacoma will be an active participant in the PC HMF, and will be represented by the Port employee assigned risk management responsibilities, a representative of Port Security or the Senior Manager, Planning. 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 update process began in early 2012 following the current CFR 201.6 Hazard Mitigation Planning Requirements. Based on new requirements in the Stafford Act, the Port of Tacoma 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 Port of Tacoma Plan will guide the Port's mitigation efforts for the foreseeable future. Port of Tacoma representatives on the Planning Team have developed a method to ensure that regular review and update of the Plan occur within a five year cycle. The Port's Senior Manager, Planning (herein after Senior Planning Manager) will coordinate any reviews noted above.

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

This report will drive the meeting agendas and will include the following:

- Updates on implementation throughout the Port;
- Updates on the PC HMF and mitigation activities undertaken by neighboring jurisdictions;
- Changes or anticipated changes in hazard risk and vulnerability at the City, County, regional, State, FEMA, and Homeland Security levels.
- Problems encountered or success stories;

- Any technical or scientific advances that may alter, make easier, or create measures.

The Senior Planning Manager and local experts will decide on updates to the strategy based on the above information and a discussion of:

- The various resources available through budgetary means as well as any relevant grants;
- The current and expected political environment and public opinion;
- Meeting the mitigation goals with regards to changing conditions.

PC DEM will work with Senior Planning Manager to review the Risk Assessment Section to determine if the current assessment should be updated or modified based on new information. This will be done during the regularly scheduled reviews of the regional partners Hazard Identification and Vulnerability Analyses and their Comprehensive Emergency Management Plans.

Additional reviews of this Plan will be required following disaster events and will not substitute for the annual meeting. Within ninety days following a significant disaster or an emergency event impacting the Port, the individual responsible for risk management and/or the Senior Planning Manager will provide an assessment that captures any "success stories" and/or "lessons learned." The assessment will detail direct and indirect damages to the Port 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 limit similar losses due to future hazard events. In this manner, recovery efforts and data will be used to analyze mitigation activities and spawn the development of new measures that better address any changed vulnerabilities or capabilities. Any updates to the Plan will be addressed at the annual November meeting.

As per 44 CFR 201.6, the Port of Tacoma 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 2020 and every five years following at the Hazard Mitigation Forum, the Port of Tacoma will submit the updated plan to PC DEM. The PC DEM Mitigation and Recovery Program Coordinator will collect updates from the Region 5 Plan jurisdictions and submit them to the State EMD and FEMA.

Stakeholder and Public Involvement

Each of the 76 Region 5 jurisdictions has been tasked with providing documentation on stakeholder and public involvement including a brief description for each meeting held, a summary on attendance, any feedback received from stakeholder and the public and the an overall description of what was accomplished.

Prior to submitting the Plan to the Washington State Department of Emergency Management and FEMA for the five year review, the Senior Planning Manager, Director, Strategic Operations Projects and Risk Manager or alternate will hold a stakeholder information and comment meeting. This meeting will provide a stakeholder forum wherein terminal operators, labor leaders and others can express their concerns, opinions, or ideas about the Port of Tacoma Plan.

Thereafter, the Port of Tacoma will conduct a review on a yearly basis to ensure all elements of the mitigation plan are updated and accurate and the Port of Tacoma will look for new innovative ways for stakeholder and public involvement.

The Senior Planning Manager will retain copies of the Plan and will make it available to stakeholders and, upon request, to members of the general public.

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APPENDIX B

REGION 5 ALL HAZARD MITIGATION PLAN
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Region 5 Hazard Mitigation Planning Team

Port of Tacoma

NAME	TITLE	JURISDICTION-DEPARTMENT
Louis Cooper	Senior Director, Security and Labor Relations	Port of Tacoma
Lou Paulsen	Director, Strategic Operations Projects and Risk Management	Port of Tacoma
Paula Reeves	Senior Manager, Planning	Port of Tacoma

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APPENDIX C

REGION 5 ALL HAZARD MITIGATION PLAN
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Plan Revisions

RECORD OF CHANGES			
Change Number	**Description of Change (with page numbers)**	**Date**	**Authorized by:**
1	The logo was updated and changed	6/1/2016	Marty Kapsh
	Updated changes were done to Section 1		Lou Paulsen
	Updated changes were done to Section 2 The basemap was corrected and additional maps were inserted.	8/30/2016	Lou Paulsen
	Updated changes were done to Section 3 Additional capabilities were added to this section.	9/2/2016	Lou Paulsen
	Updated changes were done to Section 4 Hazard maps were updated with corrected boundaries and GIS hazard analysis rerun.	9/7/2016	Lou Paulsen
	Updated changes were done to Section 5 Mitigation measures were updated and status for each was added under each measure.	9/2/2016	Lou Paulsen
	Updated changes were done to Section 6 Infrastructure was updated.	9/2/2016	Lou Paulsen
	Updated changes were done to Section 7 The maintenance responsibility of the plan was updated.	9/2/2016	Lou Paulsen

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