Chapter 6.
Town of South Cle Elum

6.1. HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact

Jim DeVere, Mayor
P.O. Box 160
South Cle Elum, WA 98943
Telephone: (509) 674-4322
Email: cjdevere@msn.com

Alternate Point of Contact

Scott McKenzie, Superintendent
P.O. Box 160
South Cle Elum, WA 98943
Telephone: (509) 674-4322
Email: sce@inlandnet.com

6.2. JURISDICTION PROFILE

The following is a summary of key information about the jurisdiction and its history:

- **Date of Incorporation—**August 20, 1911
- **Current Population—**575 as of 2011
- **Population Growth—**The population in the Town of South Cle Elum (Town) increased 21 percent between 2000 and 2010, averaging 2.32 percent per year. Based on the American Community Survey estimates, the population of the Town decreased from 532 in 2010 to 524 in 2016. Future population growth is limited by remaining available water connections.
- **Location and Description—**South Cle Elum is bordered on the north by the Yakima River and the City of Cle Elum. Interstate 90 is also to the north. Unincorporated Kittitas County surrounds the Town to the east, south and west. Mt. Peoh is to the south, Lookout Mountain is to the east, Mt. Stuart is to the north and the Cascades are to the west. The Iron Horse State Park and the John Wayne Trail run along the Town's southern border.
- **Jurisdiction Vulnerability to Hazards—** South Cle Elum, along with all jurisdictions in Kittitas County, has an overall low vulnerability to avalanche, drought, landslide, and volcano hazards, and an overall high vulnerability to severe weather events. Based on the three dam failure scenarios used in this plan, 95% of South Cle Elum's population and 98% of property is at risk of dam failure. South Cle Elum has high exposure to earthquakes, and various earthquake scenarios result in losses up to 10% of building value. South Cle Elum has 61 buildings (25% of assessed building value) located in the 100- or 500-year floodplain, and therefore a high vulnerability to flooding. South Cle Elum has moderate vulnerability to wildfires, with 5% of buildings exposed to the 0-30 Year Fire Interval.
- **Brief History—**South Cle Elum was initially developed to serve the Milwaukee Railroad. In mid-1909, the Chicago, Milwaukee & Puget Sound Railway chose Cle Elum as a division point between the Coast and Columbia divisions on its future transcontinental line—first as a water, fuel and crew change location, and later as a full service repair shop, complete with roundhouse. After electrification, a substation was added. The population during this time was split between railroaders, coal miners and loggers. When the Milwaukee Railroad went into receivership in the late 1970s, the State of Washington converted the right-of-way into a state park.
- **Climate—**Located between the Cascade Mountains and the plains of central Washington, the Town of South Cle Elum enjoys four distinct seasons. The seasons are tempered by the Town's elevation at close to 2,000 feet above sea level. Summers are usually dry and warm to hot, with

high temperatures between 80ºF and 100ºF and mostly westerly breezes that make the weather seem somewhat cooler. Cooler temperatures and changing foliage mark the change toward winter weather, which generally arrives between Thanksgiving and Christmas. Winter can bring temperatures from +20ºF to –20ºF. Colder temperatures usually come in January. In the spring, the snow melts and temperatures warm again.

- **Governing Body Format—**The town of South Cle Elum is governed by a five-member council and a mayor. This governing body is elected to four-year terms. This body will assume responsibility for adoption, implementation and maintenance of this plan.
- **Development Trends—**Development in South Cle Elum trends towards residential uses at this time and into the foreseeable future. The Town does have space for some light industry and commercial development, but selectively so. Urban growth boundaries are going to be static except to the east, where the city hopes to expand in the future.

6.3. JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY

Table 6-1 lists all past occurrences of natural hazards within the jurisdiction. Repetitive loss records are as follows:

- Number of FEMA Identified Repetitive Flood Loss Properties: 1
- Number of Repetitive Flood Loss Properties that have been mitigated: 0

6.4. HAZARD RISK RANKING

Table 6-2 presents the ranking of the hazards of concern. The 2018 plan rankings remained the same as the previous plan update.

6.5. CAPABILITY ASSESSMENT

The assessment of the jurisdiction's legal and regulatory capabilities is presented in Table 6-3. The assessment of the jurisdiction's administrative and technical capabilities is presented in Table 6-4. The assessment of the jurisdiction's fiscal capabilities is presented in Table 6-5. Classifications under various community mitigation programs are presented in Table 6-6.

6.6. HAZARD MITIGATION ACTION PLAN AND EVALUATION OF RECOMMENDED INITIATIVES

Table 6-7 lists the initiatives that make up the jurisdiction's hazard mitigation plan. Table 6-8 identifies the priority for each initiative. Table 6-9 summarizes the mitigation initiatives by hazard of concern and the six mitigation types.

Table 6-1. Natural Hazard Events

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Flood Event	FEMA 1817 DR	2009	61,688.00
Earthquake		02-28-2001	N/A
Earthquake		05-03-1996	N/A
Earthquake		01-29-1995	N/A
Earthquake		02-14-1981	N/A
Earthquake		04-29-1965	N/A

Table 6-2. Hazard Risk Ranking

Rank	Hazard Type	Risk Rating Score (Probability x Impact)
1	Flood	27
2	Wildfire	27
3	Earthquake	24
4	Dam Failure	18
5	Severe Weather	18
6	Landslide	10
7	Volcano	6
8	Drought	5
9	Avalanche	1

Table 6-3. Legal and Regulatory Capability

	Local Authority	State or Federal Prohibitions	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements					
Building Code	Yes	Yes	No	Yes	Title 15 SCEMC adopts the 2009 IBC, 7/27/2010
Zonings	Yes	No	No	No	Title 17, SCEMC, 2001
Subdivisions	Yes	No	No	No	Title 16, SCEMC, 2005
Stormwater Management	No	No	No	No	
Post Disaster Recovery	No	No	Yes	Yes	RCW 64.06.020
Real Estate Disclosure	Yes	No	No	Yes	RCW 36.70A
Growth Management	Yes	No	No	Yes	Title 15 SCEMC, 2010
Site Plan Review	Yes	No	No	No	Flood damage Prevention: Title 15, Chapter 15.24; 2002 Critical Areas: Title 18, SCEMC, 2010
Special Purpose (flood management, critical areas)	Yes	Yes	No	Yes	Title 15 SCEMC adopts the 2009 IBC, 7/27/2010
Planning Documents					
General or Comprehensive Plan	Yes	No	No	Yes	
Floodplain or Basin Plan	Yes	No	No	No	Kittitas County Comprehensive Floodplain Management Plan, 1996
Stormwater Plan	Yes	No	No	No	
Capital Improvement Plan	Yes	No	No	No	5-year CIP, updated annually for streets, water, sewer and drainage
Habitat Conservation Plan	No	No	No	No	
Economic Development Plan	Yes	No	No	No	Economic Development Group of Kittitas County & Chamber
Emergency Response Plan	No	No	No	No	
Shoreline Management Plan	Yes	Yes	No	No	
Post Disaster Recovery Plan	No	No	No	No	

Table 6-4. Administrative and Technical Capability

Staff/Personnel Resources	Available?
Planners or engineers with knowledge of land development and land management practices	Yes
Engineers or professionals trained in building or infrastructure construction practices	Yes
Planners or engineers with an understanding of natural hazards	Yes
Staff with training in benefit/cost analysis	As-needed basis
Floodplain manager	Yes
Surveyors	Yes
Personnel skilled or trained in GIS applications	Yes
Scientist familiar with natural hazards in local area	As-needed basis
Emergency manager	Yes
Grant writers	Yes

Table 6-5. Fiscal Capability

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Other	

Table 6-6. Community Classifications

	Participating?	Classification	Date Classified
Community Rating System	No	--	--
Building Code Effectiveness Grading Schedule	Yes	3/3	--
Public Protection	No	--	--
Storm Ready	No	--	--
Firewise	No	--	--

Table 6-7. Hazard Mitigation Action Plan Matrix

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
Initiative SCE #1—Retrofit sewer mains in flood hazard areas.						
Existing	Flood, Earthquake	1,2,3,4,5	Town	High, $500,000	General Fund, Capital improvements project funding, FEMA Hazard Mitigation Grants	Long-term, depends on funding
Initiative SCE #2—Retrofit water mains within the flood hazard areas.						
New and Existing	Flood, EQ	1,2,3,4,5	Town	High $750,000	General Fund, Capital improvements project funding, FEMA Hazard Mitigation Grants, CDBG	Long-term, depends on funding
Initiative SCE #3—Maintain and retrofit existing localized flood control structures.						
Existing	Flood	1,2,3,4,5	Town	Low $24,000	General Fund	Short-term Ongoing
Initiative SCE #4—Retrofit all critical infrastructure to enhance resilience to all hazards.						
Existing	All Hazards	1,2,3,4,5	Town	High	General Fund, Capital improvements project funding, FEMA Hazard Mitigation Grants	Long-term, depends on funding
Initiative SCE #5 —Adopt appropriate regulatory standards that will reduce the risk of natural hazards through updates to existing code affecting critical areas regulations, flood hazard regulations, shoreline regulations, and updates to Kittitas County's comprehensive plan.						
New	All Hazards	1,3,4,9,10	Town	Low	General Fund	Short-Term
Initiative SCE #6—Continue to maintain compliance and good standing under the National Flood Insurance Program.						
New and Existing	Flood	1,2,3,4,6,8,10	Town	Low	General Fund	Short-term, ongoing
Initiative SCE #7— Retrofit the overflow for the municipal water supply.						
Existing	All Hazards	1,2,8	Town	High, $150,000	General Fund, Water Fund Reserve	Mid-Term
Initiative SCE #8—Participate in Firewise and conduct a study on wildfire prevention and policies.						
New and existing	Wildfire	1,3,6,7,9	Town	Low	General Fund, Pre-Disaster Mitigation Grant Program	Short-term
Initiative SCE #9—Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to protect structures from future damage, prioritizing properties exposed to repetitive losses.						
Existing	All Hazards	1,2,8,10	Town	High	Hazard Mitigation Grant Program, Local contribution	Long-Term depends on funding

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
Initiative SCE #10—Develop a continuity of operations plan and/or a post-disaster recovery plan to sustain operation of critical Town functions.						
New and existing	All Hazards	1,6,9	Emergency Management Staff	Medium	General fund, Dept. of Homeland Security grant funding	Long-term
Initiative SCE #11—Educate the public on natural hazards, the risks they pose, and ways to reduce those risk through existing public information programs with the Town.						
New and Existing	All Hazards	6,7,9	Town	Low	General Fund	Short-term Ongoing
Initiative SCE #12—Continue to support implementation, monitoring, maintenance and updating of the Kittitas County Hazard Mitigation Plan.						
New and Existing	All Hazards	All	Town	Low	HMGP, General Fund, Road Fund	Short-term, ongoing
Initiative SCE #13—Continue to support through active participation the countywide initiatives identified in Volume 1 of the Kittitas County Hazard Mitigation Plan.						
New and Existing	All Hazards	5,6,9	Town	Low	General Fund	Short-term Ongoing
Initiative SCE #14—Maintain and retrofit critical transportation infrastructure (particularly infrastructure allowing access to the town)						
New and Existing	All Hazards	1,8	Town	Medium	General Fund, Capital improvements project funding, FEMA Hazard Mitigation Grants	Ongoing

Table 6-8. Mitigation Strategy Priority Schedule

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Priority*
1	5	High	High	Yes	Yes	No	Medium
2	5	High	High	Yes	Yes	No	High
3	5	High	Medium	Yes	No	Yes	High
4	5	High	High	Yes	Yes	No	Medium
5	5	Medium	Low	Yes	No	Yes	High
6	7	Medium	Low	Yes	No	Yes	High
7	3	High	Medium	Yes	Yes	Yes	High
8	5	High	Medium	Yes	Yes	No	Medium
9	4	High	High	Yes	Yes	No	Medium
10	3	High	Medium	Yes	Yes	No	Medium
11	3	Low	Low	Yes	No	Yes	High
12	10	Medium	Low	Yes	Yes	Yes	High
13	3	Medium	Low	Yes	No	Yes	High
14	2	High	Medium	Yes	Yes	Yes	High

** See Section 1.3 for definitions of high, medium and low priorities.*

Table 6-9. Analysis of Mitigation Initiatives: Initiative Addressing Hazard, by Mitigation Type

Hazard Type	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Avalanche	5, 12, 13	4, 7, 9, 14	11, 12, 13	--	10, 13, 14	--
Dam failure	5, 12, 13	4, 7, 9, 14	11, 12, 13	--	10, 13, 14	--
Drought	5, 12, 13	4, 7, 9	11, 12, 13	--	10, 13	--
Earthquake	5, 12, 13	1, 2, 4, 7, 9, 14	11, 12, 13	--	10, 13, 14	--
Flood	5, 6, 12, 13	1, 2, 3, 4, 6, 7, 9, 14	6, 11, 12, 13	--	6, 7, 10, 13, 14	--
Landslide	5, 12, 13	4, 7, 9, 14	11, 12, 13	--	10, 13, 14	--
Severe Weather	5, 12, 13	4, 7, 9, 14	11, 12, 13	--	7, 10, 13, 14	--
Volcano	5, 12, 13	4, 7, 9, 14	11, 12, 13	--	10, 13, 14	--
Wildfire	5, 8, 12, 13	4, 7, 8, 9, 14	8, 11, 12, 13	8	8, 10, 13, 14	--

Notes:
1. Prevention: Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. Includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.
2. Property Protection: Modification of buildings or structures to protect them from a hazard or removal of structures from a hazard area. Includes acquisition, elevation, relocation, structural retrofit, storm shutters, and shatter-resistant glass.
3. Public Education and Awareness: Actions to inform citizens and elected officials about hazards and ways to mitigate them. Includes outreach projects, real estate disclosure, hazard information centers, and school-age and adult education.
4. Natural Resource Protection: Actions that minimize hazard loss and preserve or restore the functions of natural systems. Includes sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
5. Emergency Services: Actions that protect people and property during and immediately after a hazard event. Includes warning systems, emergency response services, and the protection of essential facilities.
6. Structural Projects: Actions that involve the construction of structures to reduce the impact of a hazard. Includes dams, setback levees, floodwalls, retaining walls, and safe rooms.

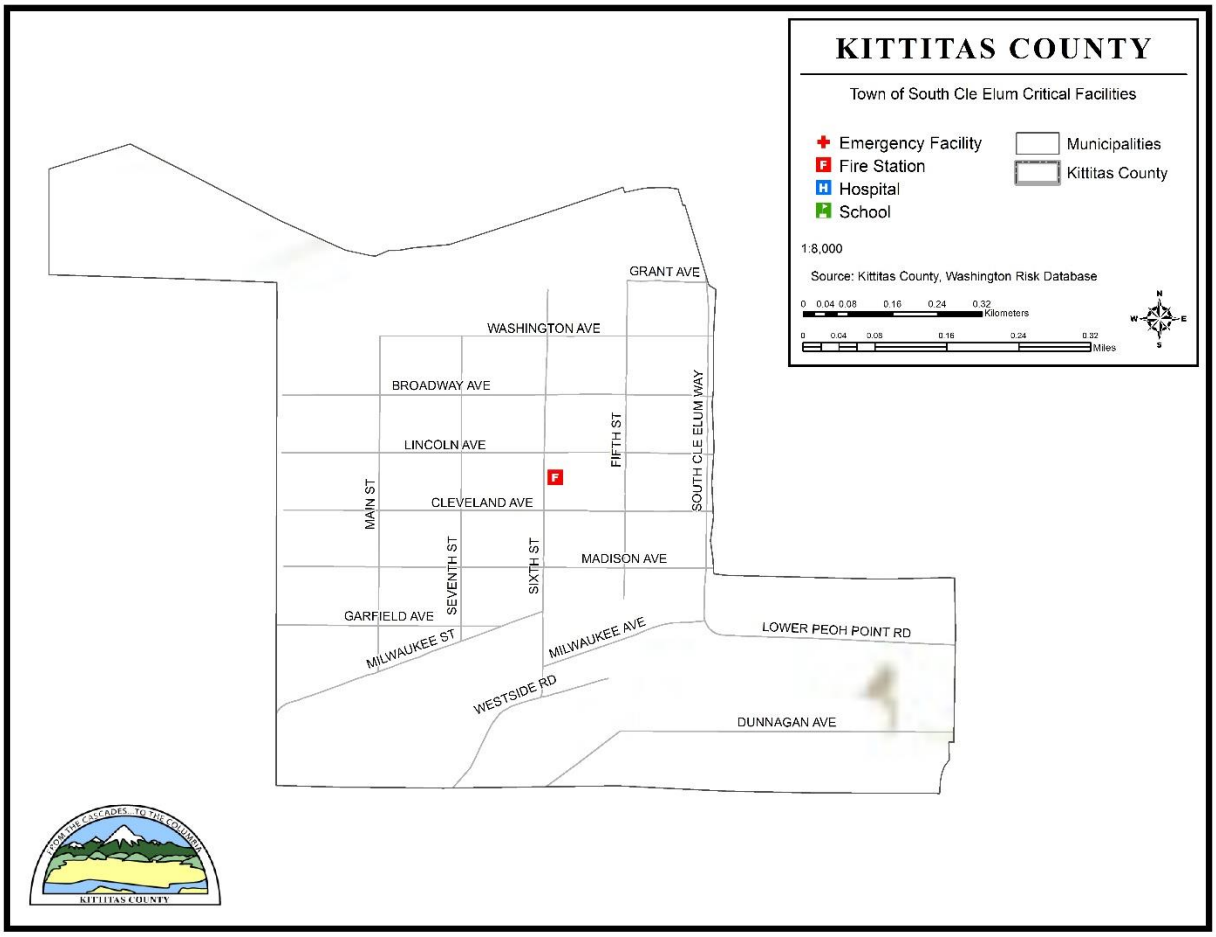

Figure 6-1. Town of South Cle Elum Critical Facilities

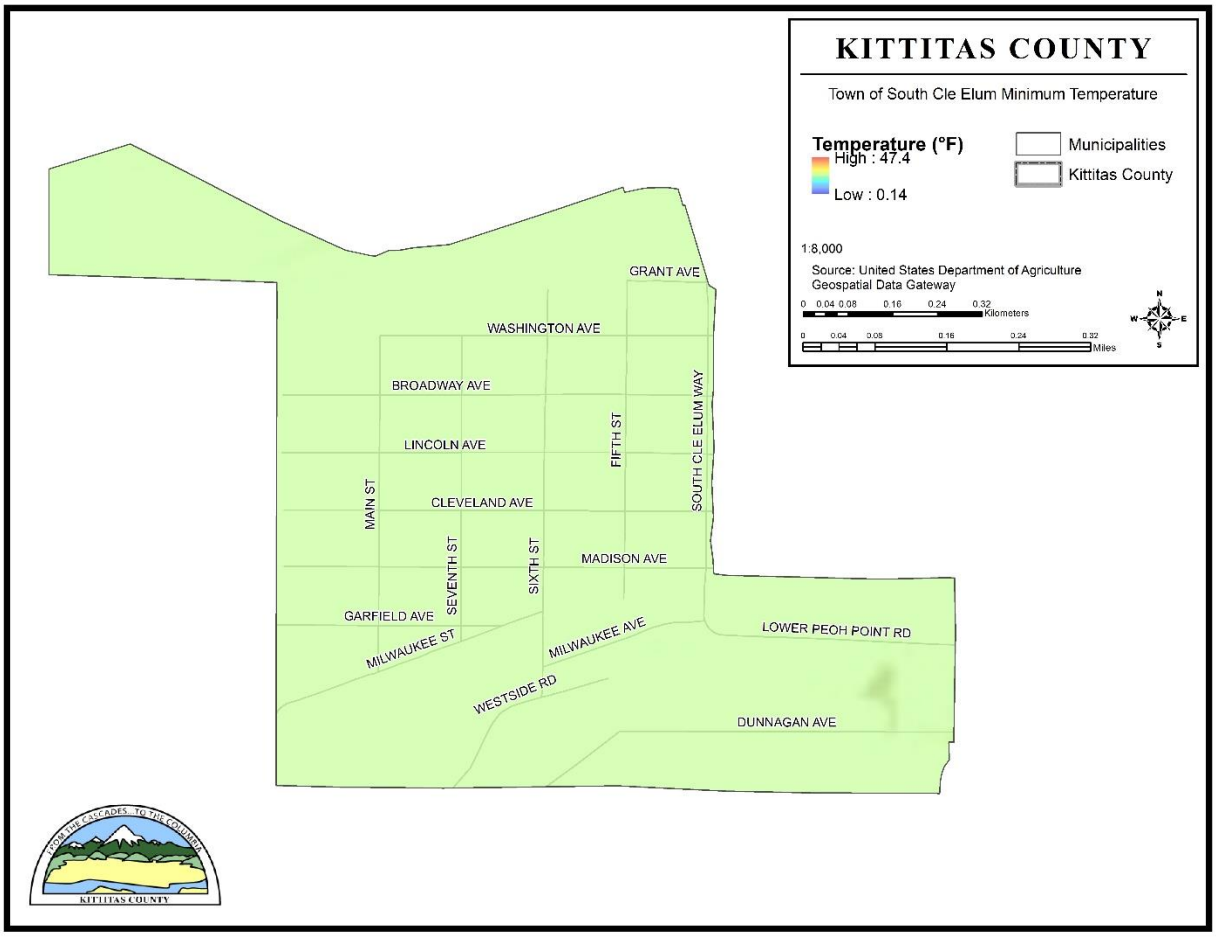

Figure 6-2. Town of South Cle Elum Minimum Temperature

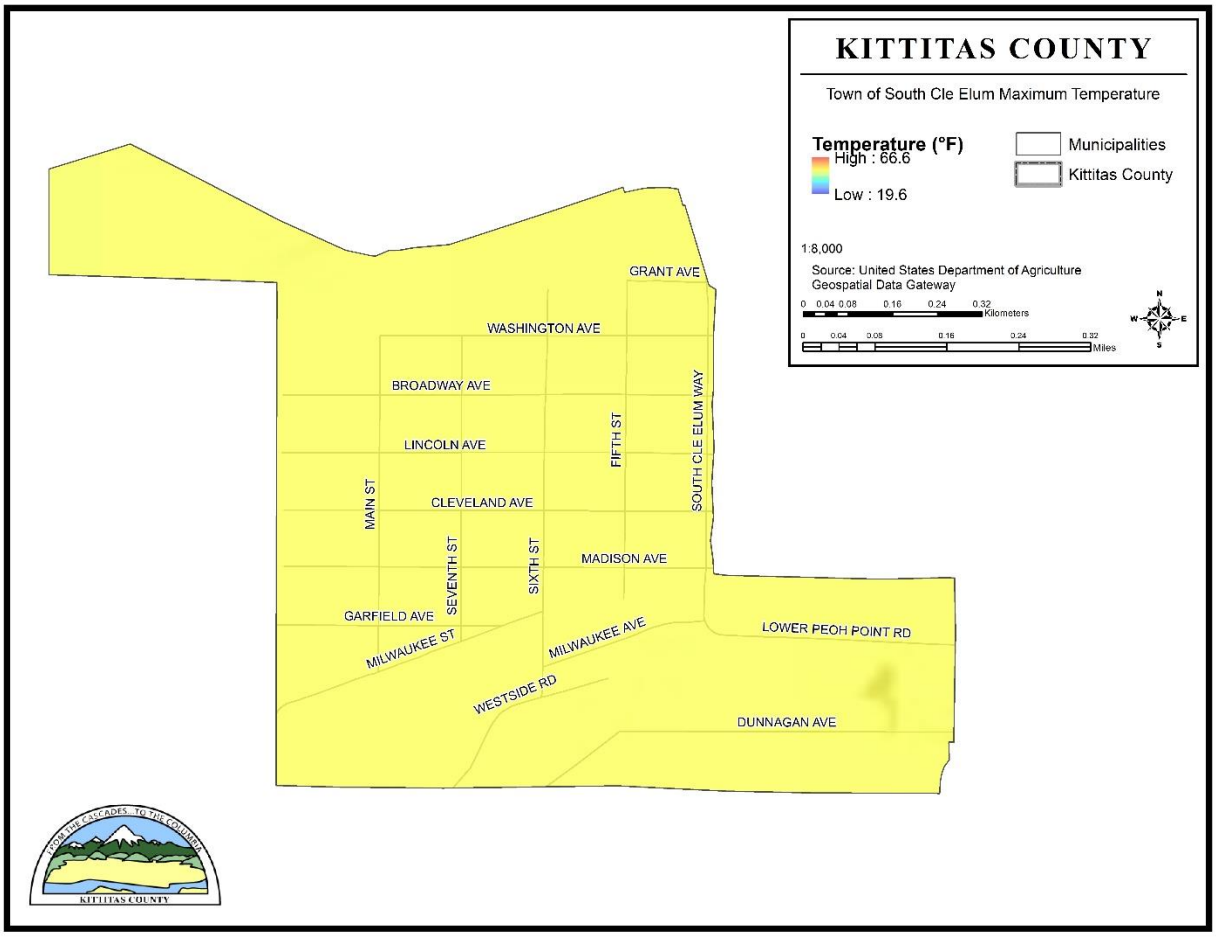

Figure 6-3. Town of South Cle Elum Maximum Temperature

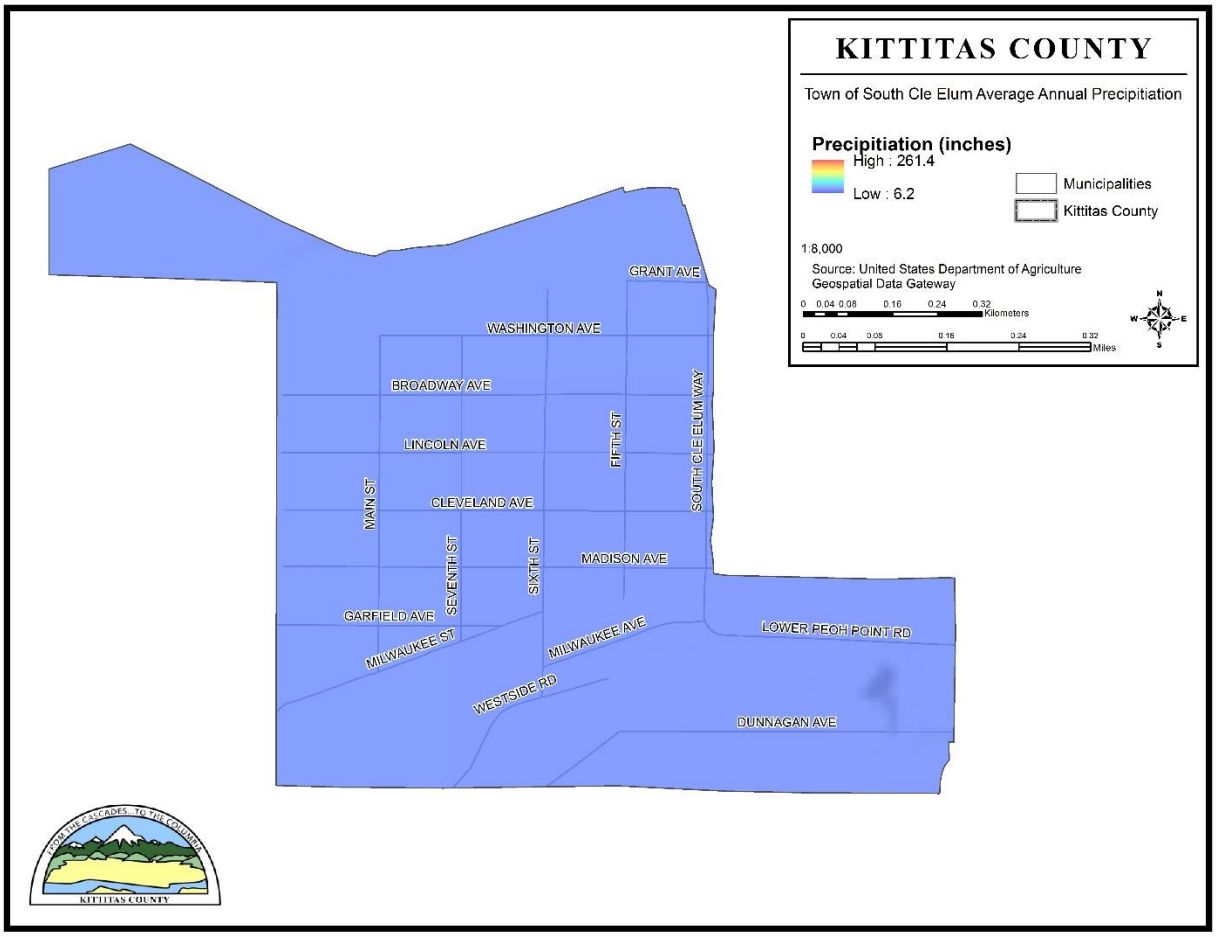

Figure 6-4. Town of South Cle Elum Average Annual Precipitation

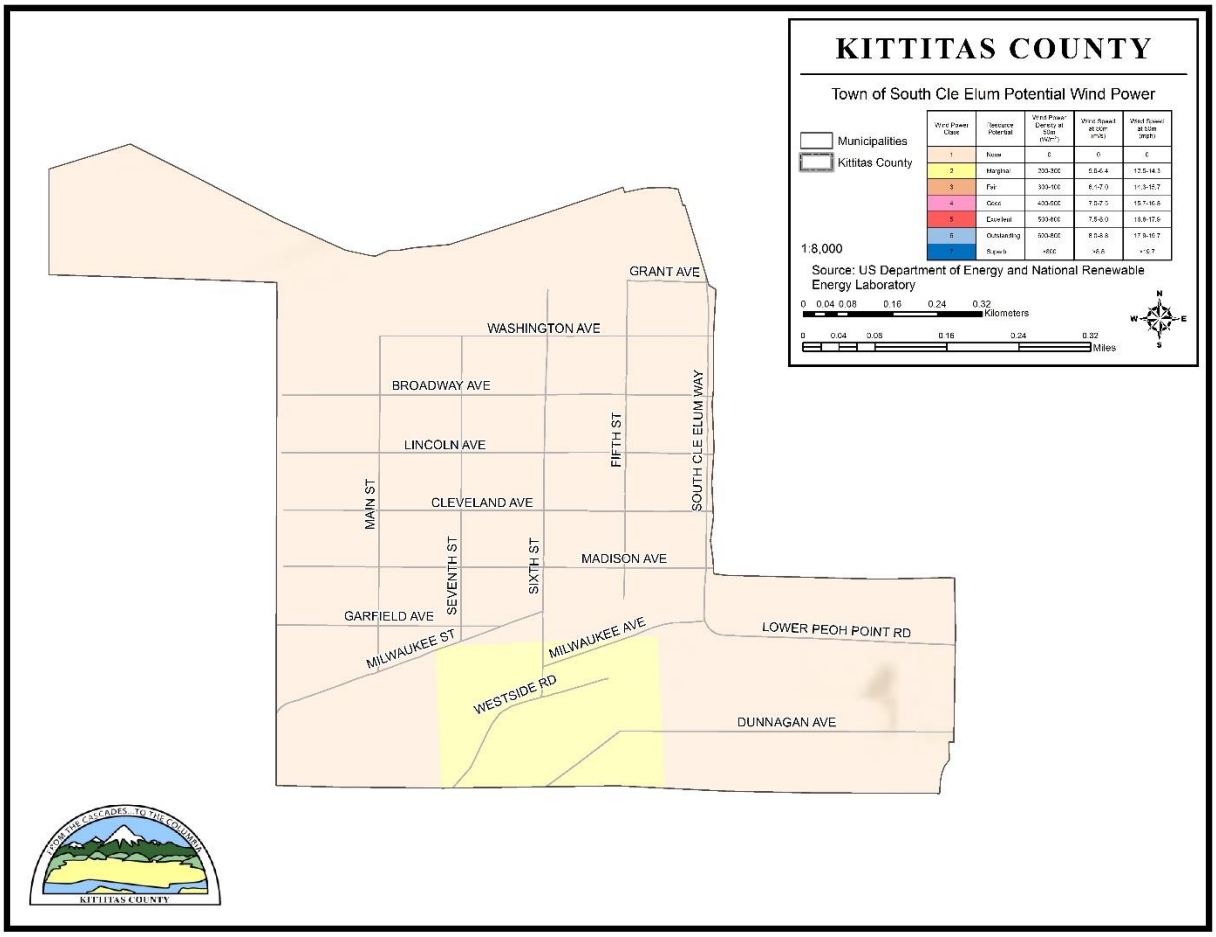

Figure 6-5. Town of South Cle Elum Potential Wind Power

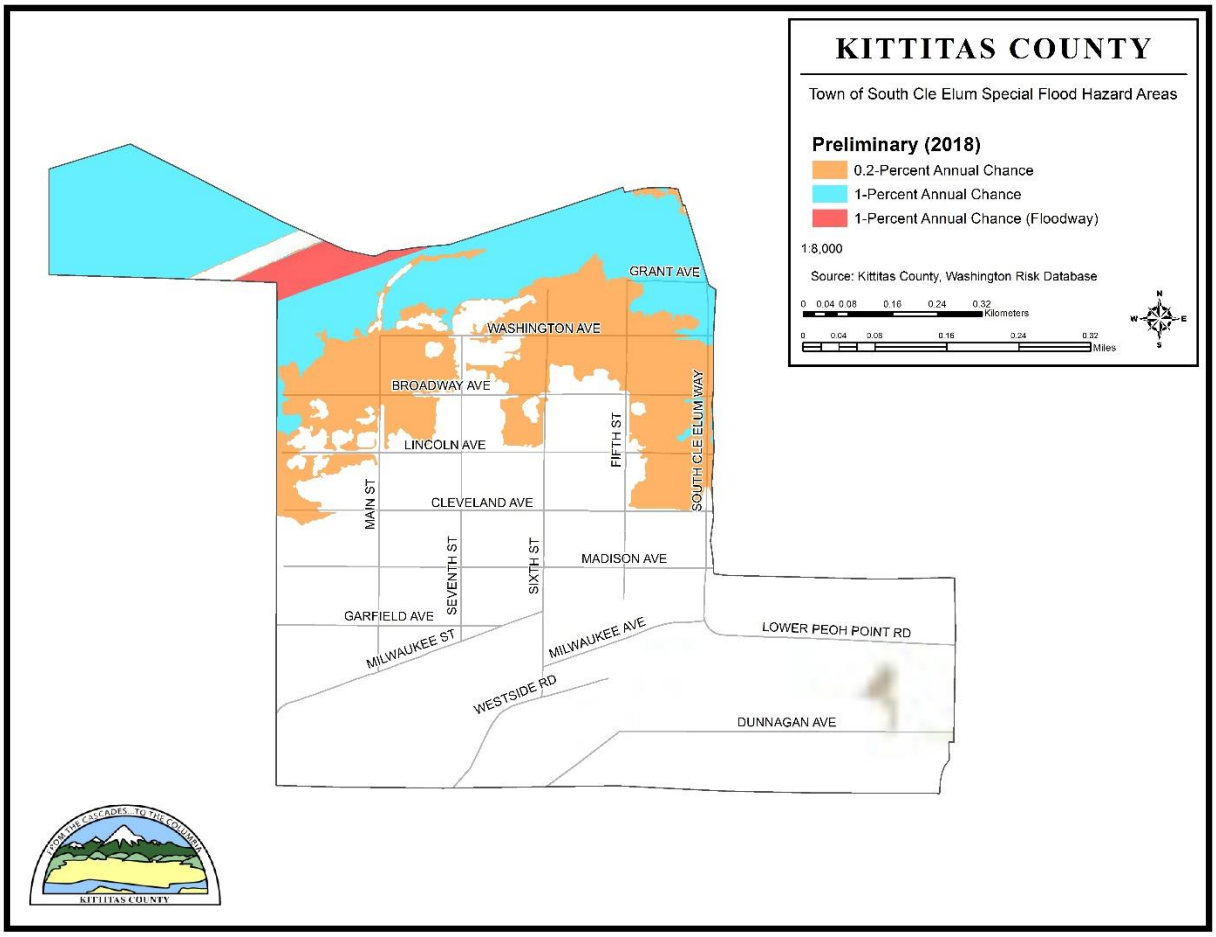

Figure 6-6. Town of South Cle Elum Special Flood Hazard Areas

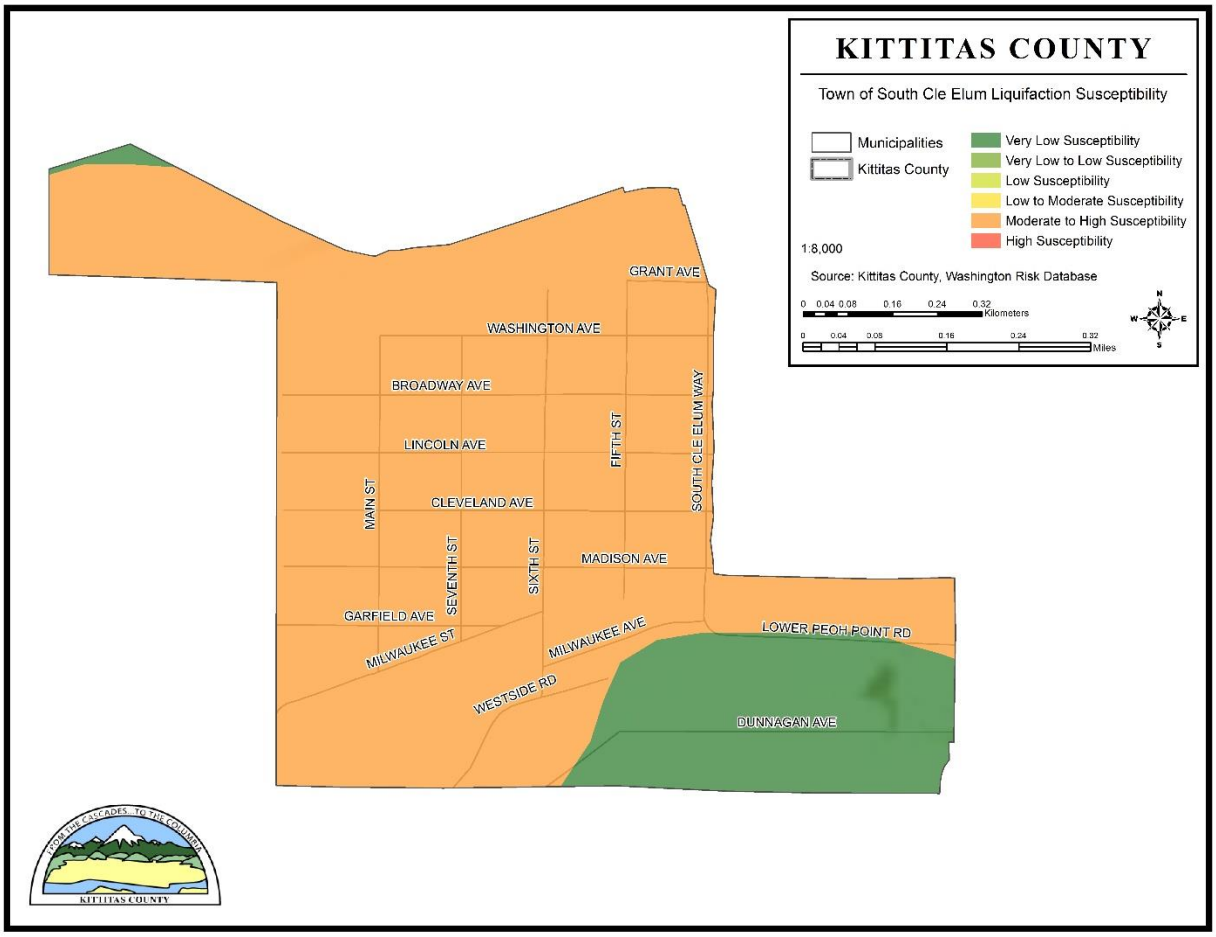

Figure 6-7. Town of South Cle Elum Liquefaction Susceptibility

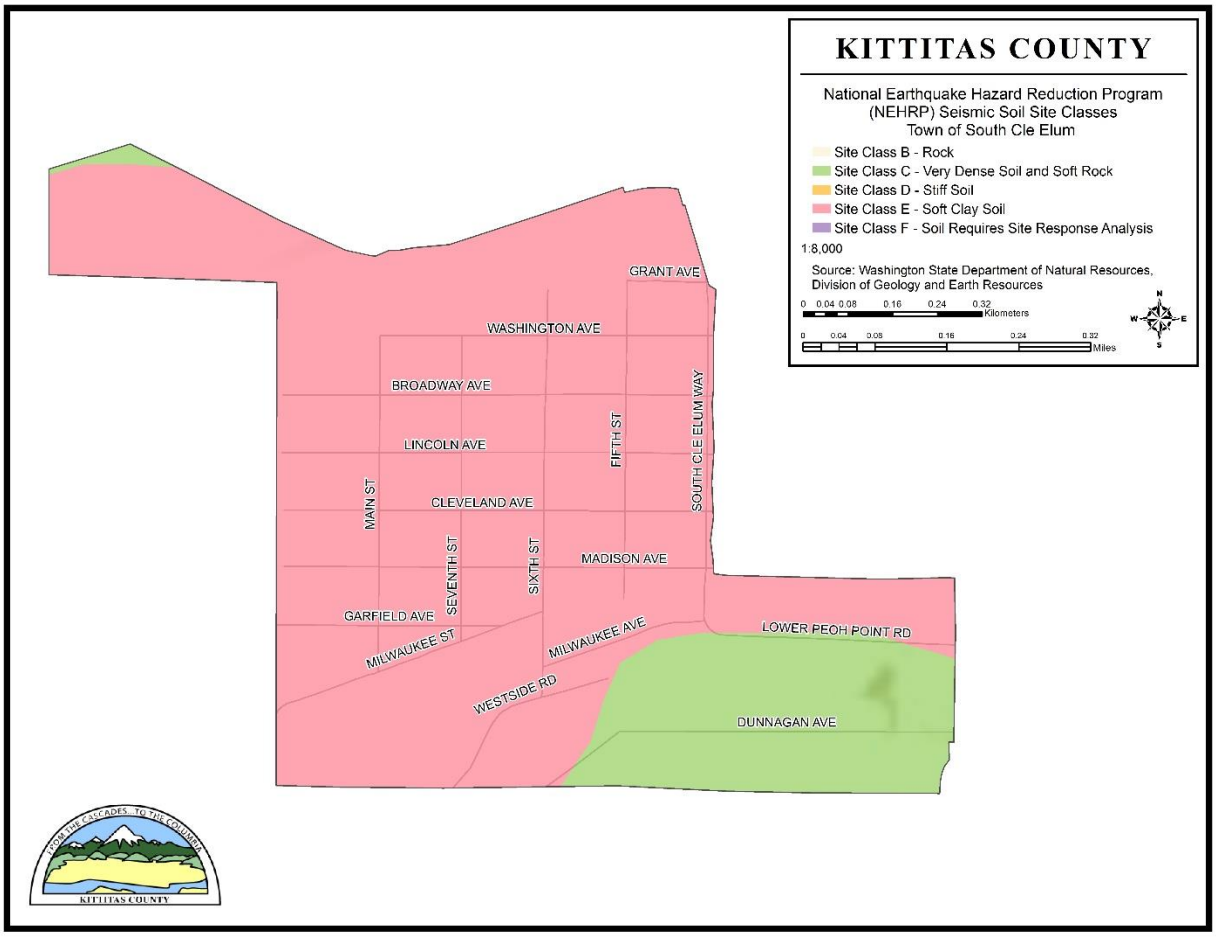

Figure 6-8. NEHRP Seismic Soil Site Classes for the Town of South Cle Elum

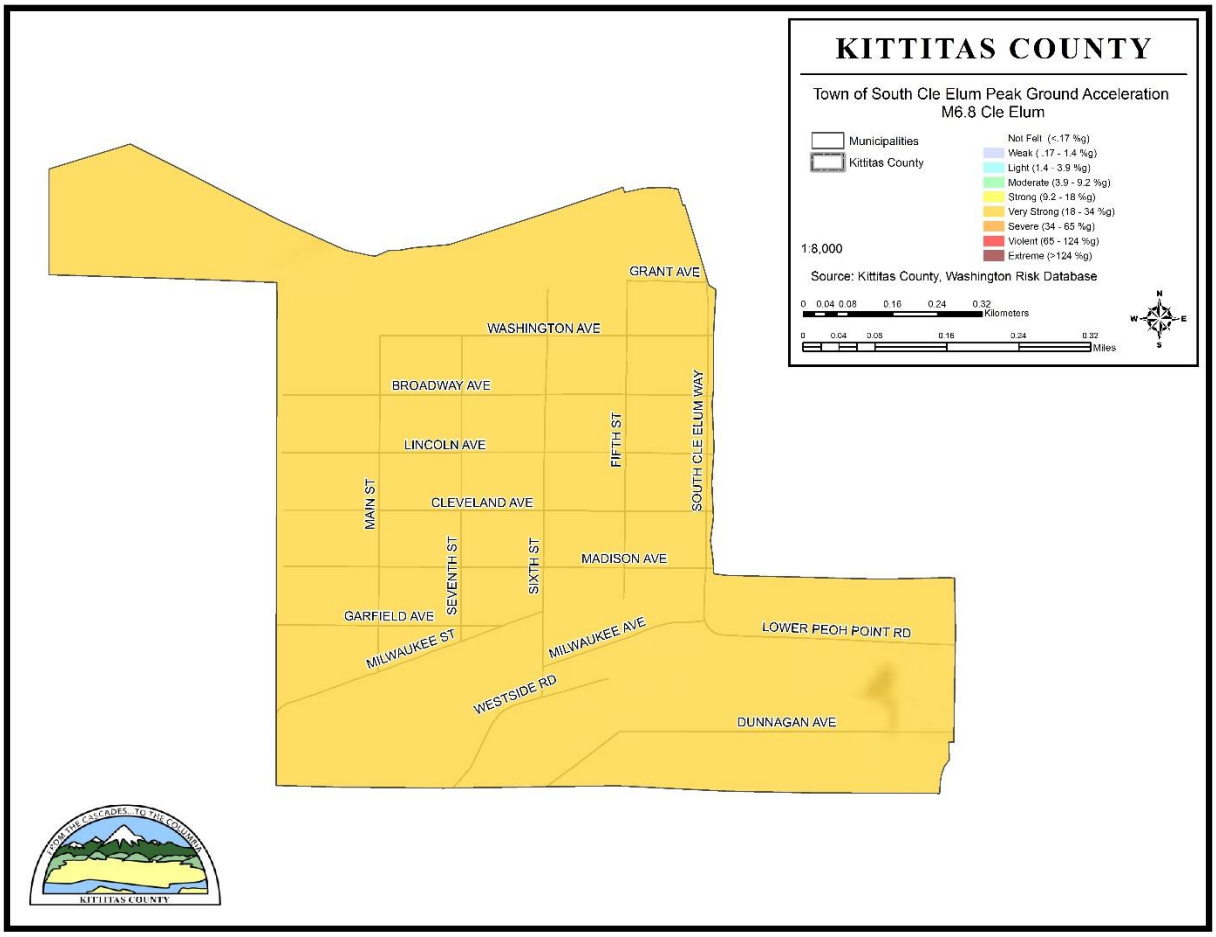

Figure 6-9. Cle Elum Earthquake Scenario Peak Ground Acceleration for the Town of South Cle Elum

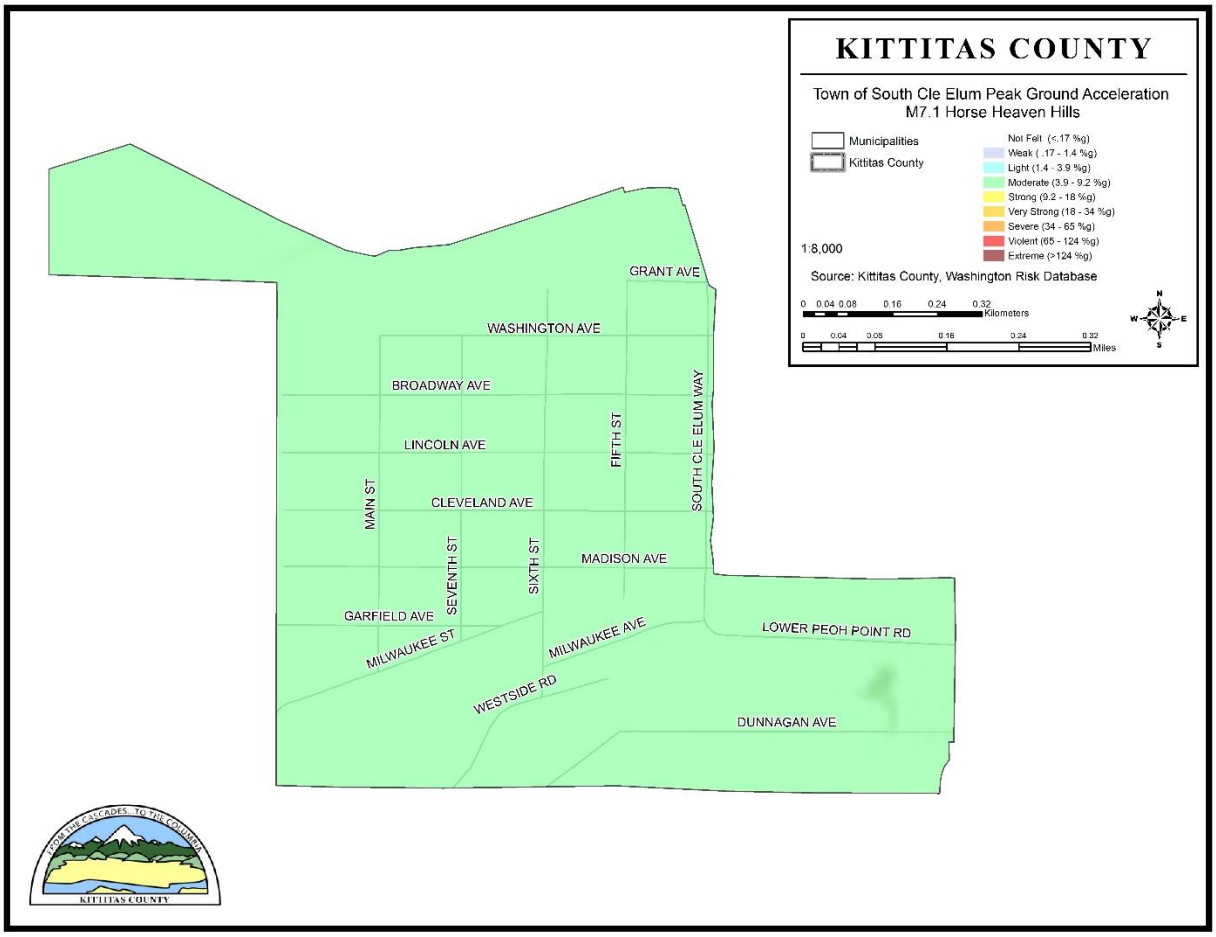

Figure 6-10. Horse Heaven Hills Earthquake Scenario Peak Ground Acceleration for the Town of South Cle Elum

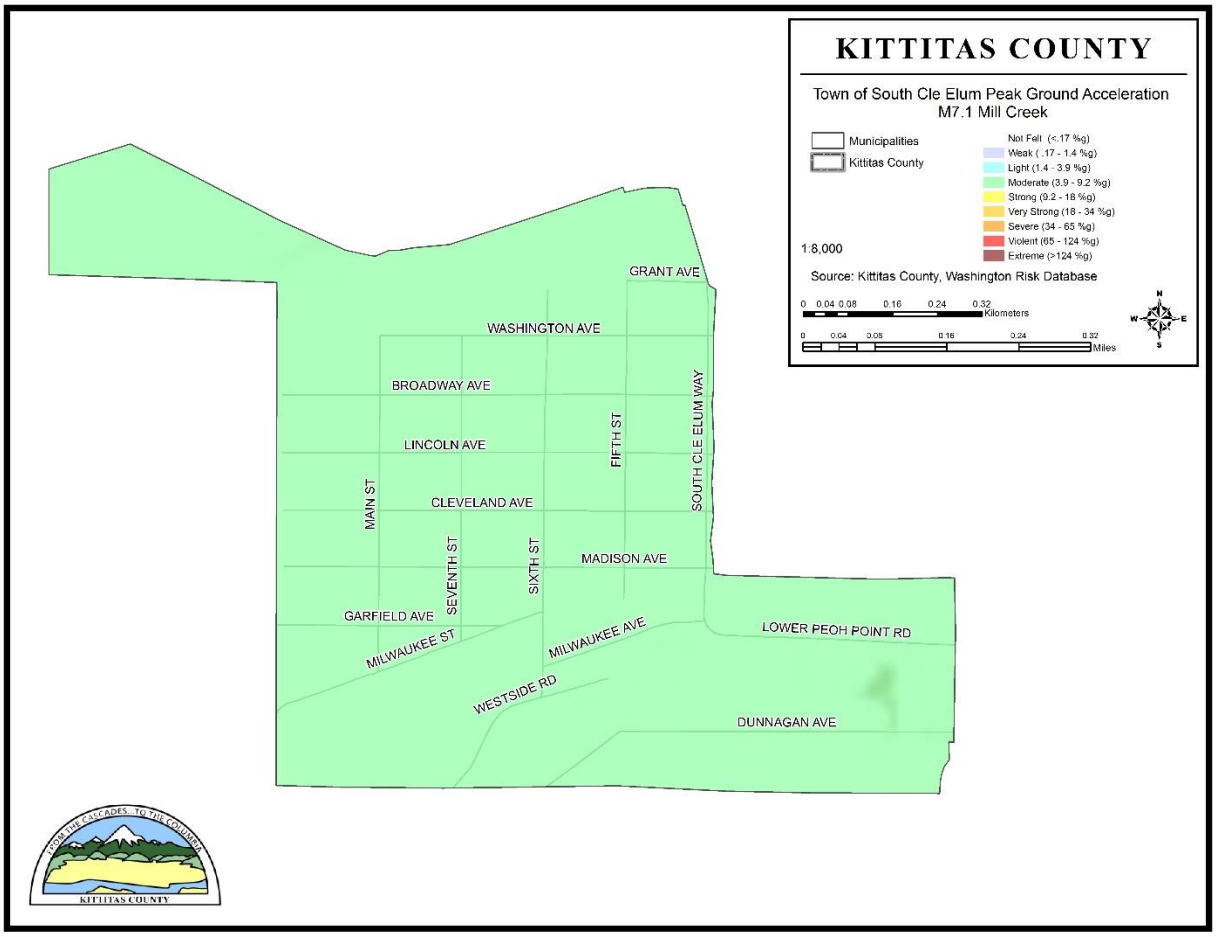

Figure 6-11. Mill Creek Earthquake Scenario Peak Ground Acceleration for the Town of South Cle Elum

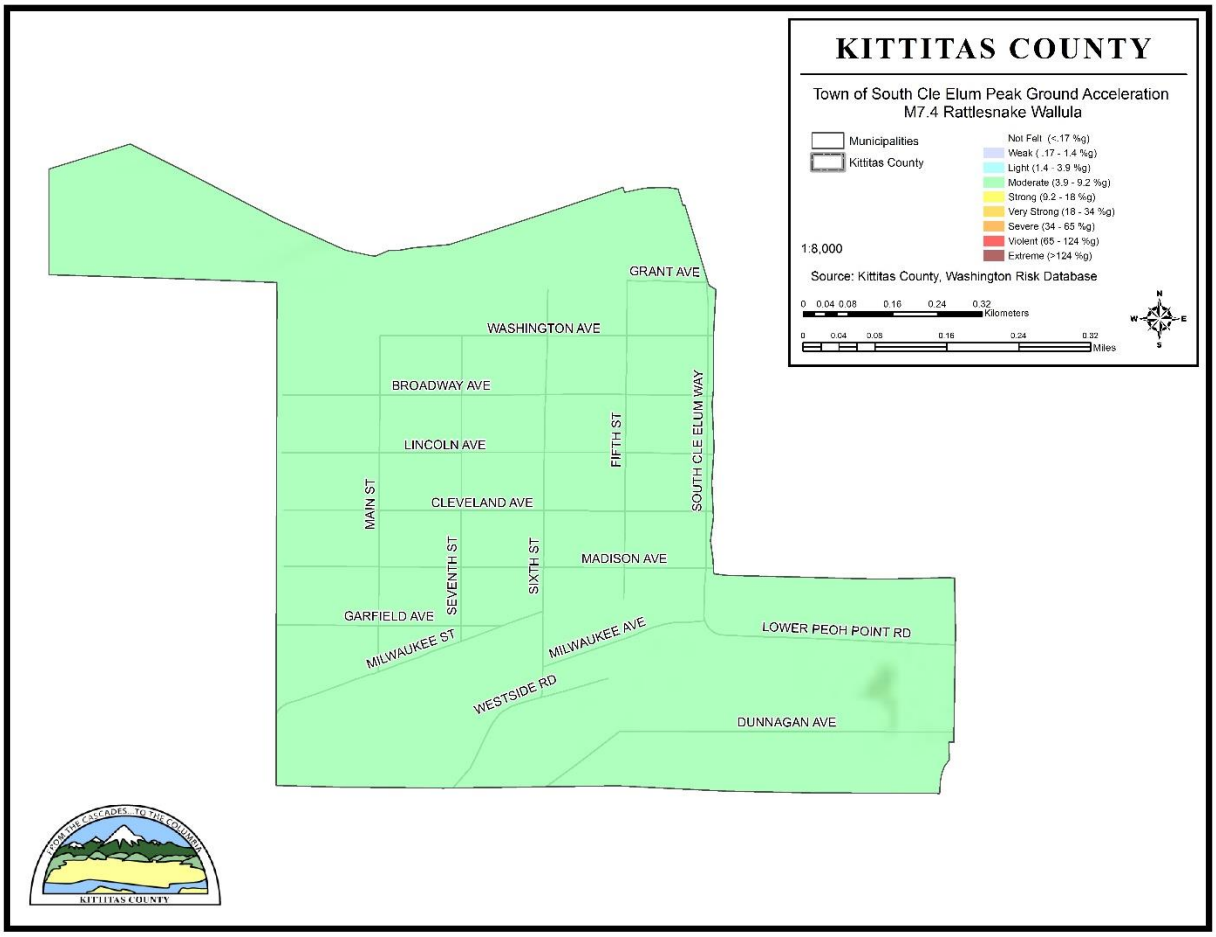

Figure 6-12. Rattlesnake Wallula Earthquake Scenario Peak Ground Acceleration for the Town of South Cle Elum

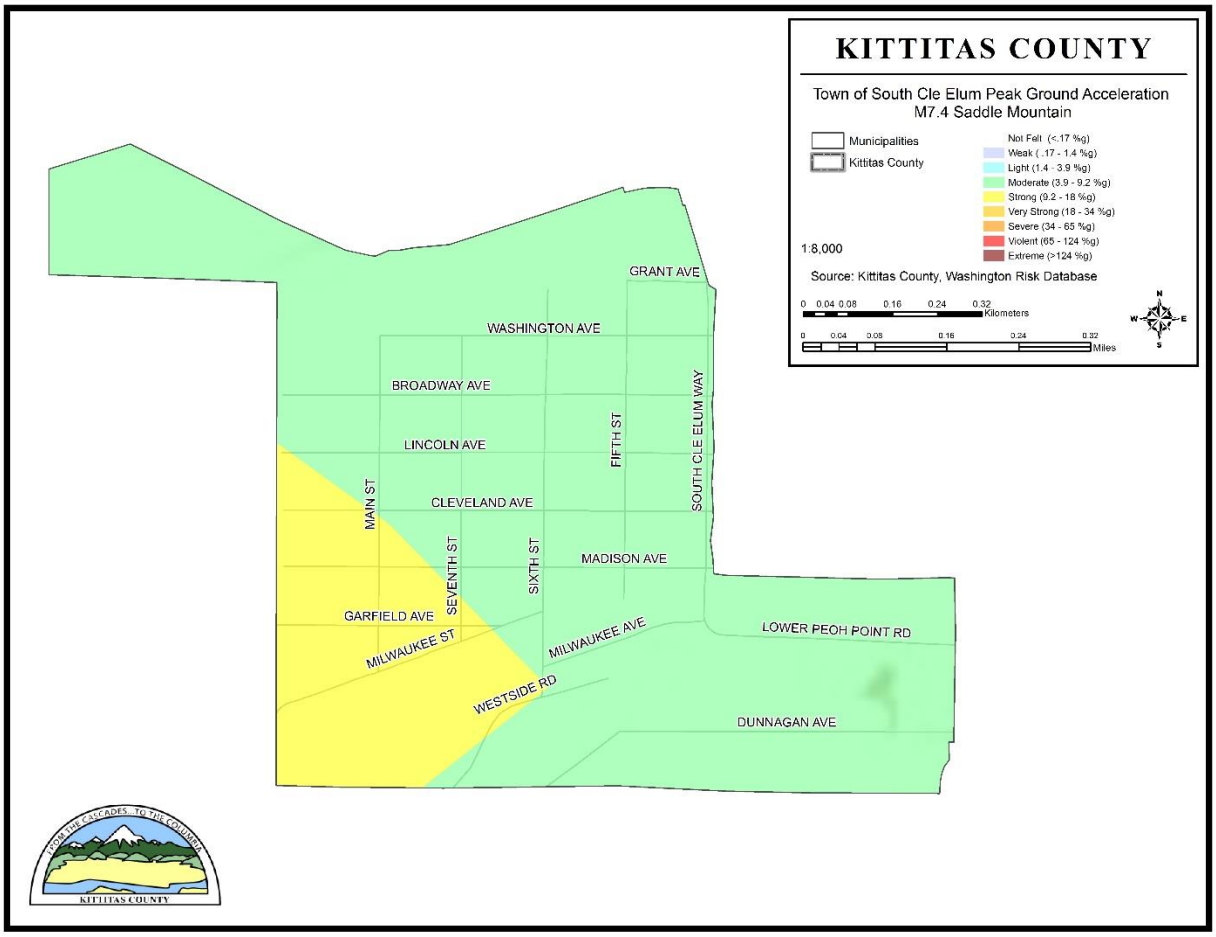

Figure 6-13. Saddle Mountain Earthquake Scenario Peak Ground Acceleration for the Town of South Cle Elum

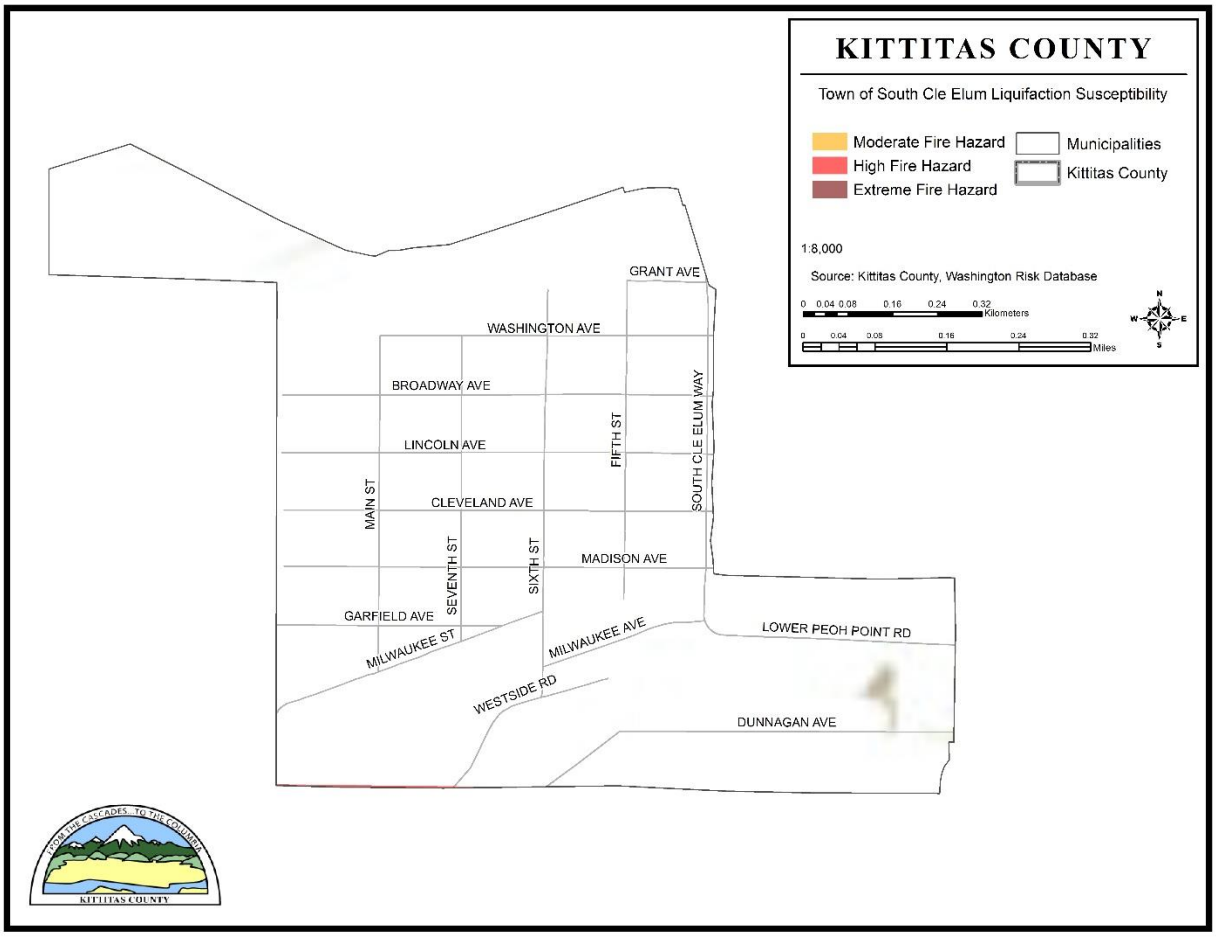

Figure 6-14. Town of South Cle Elum Liquefaction Susceptibility

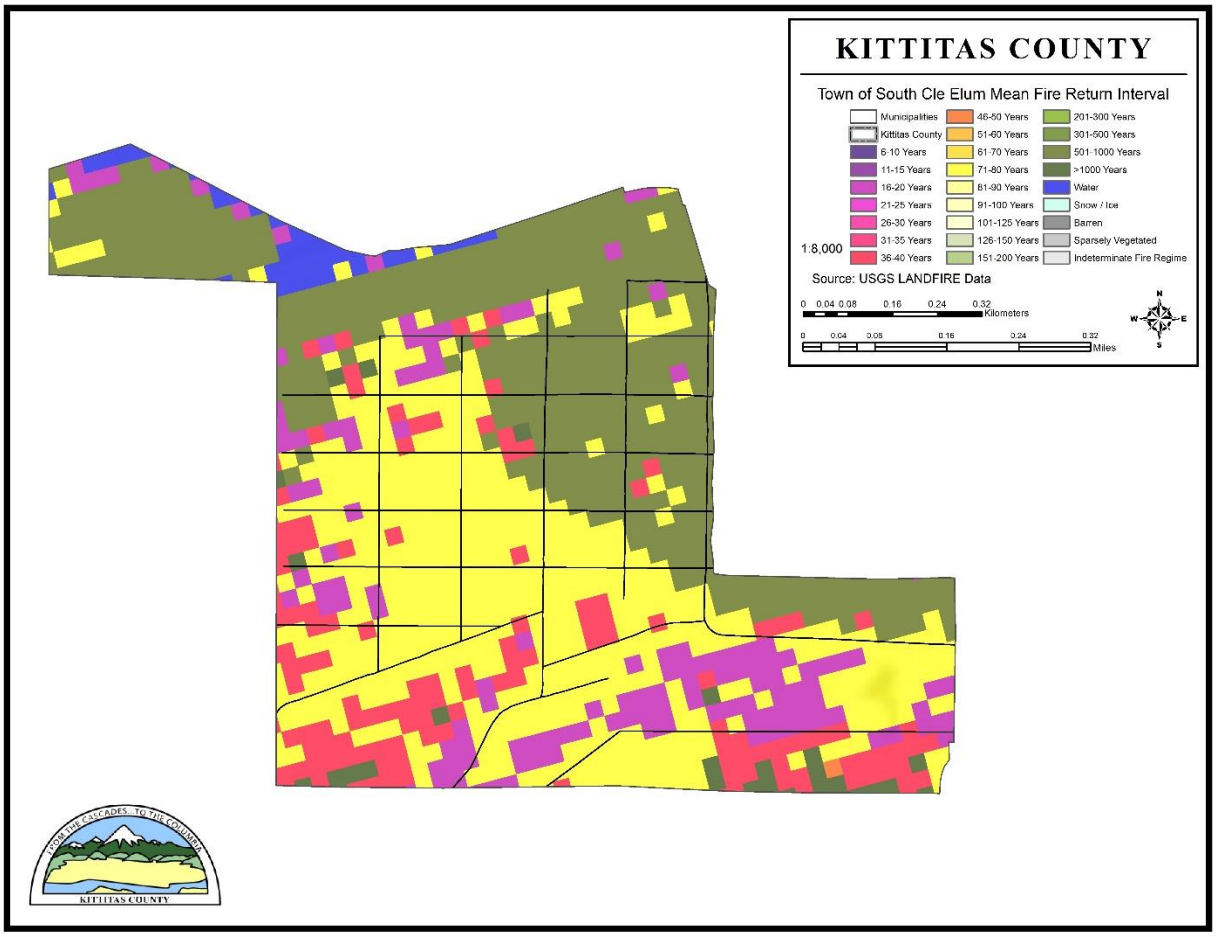

Figure 6-15. Town of South Cle Elum Mean Fire Return Interval