



CITY OF NOOKSACK

Contact Information

Dan MacPhee
Police Chief, City of Everson
P.O. Box 315, Everson, WA 98247
(360) 966-4212

Approving Authority

Mayor Marshall Judy & City Council Members
103 W. Madison Street Nooksack, WA 98276
(360) 966-2531

Planning Process

The City of Nooksack process of reviewing, updating, and adopting the 2021 update of the Whatcom County Natural Hazards Mitigation Plan (NHMP or Plan) included review by multiple City departments and formal adoption by the City Council. Review of the prior plan began in early 2021. The City Planner reviewed the previous plan and met with the City Clerk and Public Works Director to identify sections of the Plan that might need to be updated. From February through April 2021, the City Planner attended a series of coordination meetings hosted by the County Division of Emergency Management (DEM). Initial guidance was received from DEM regarding the update schedule and the main areas to focus on as part of the update.

In early March 2021, the City provided public notice in the Lynden Tribune regarding the planned update of the NHMP and posted information regarding the update on the City website. Information regarding opportunities to provide public comment was also posted on the City website. During March and April of 2021, the City Planner prepared draft revisions to the NHMP and met with the Public Works Director and the Mayor to review the draft revisions and receive additional input. City staff also coordinated with the Everson Chief of Police regarding details contained in the Nooksack section of the Plan because the Everson Police Department provides police protection services to the city of Nooksack on a contract basis. During the same time period, City staff participated in two virtual public meetings hosted by DEM where the public was invited to receive information and ask questions regarding the 2021 update of the NHMP.

The draft revisions to the NHMP addressing the city of Nooksack, incorporating input received from the Public Works Director, Mayor and Chief of Police, were submitted to DEM in late April of 2021. In May of 2021, DEM notified the public regarding the availability of draft revisions to the full Plan and hosted a third virtual public meeting to receive comments from the public. Following review by the City Council in May 2021, the City Council passed a motion supporting the updates contained in the Nooksack section of draft NHMP. Prior to the Plan being



submitted to the Federal Emergency Management Agency for review, the City Council formally adopted the draft Plan on XX, 2021 through Resolution No. XX. It is anticipated that formal adoption by ordinance will follow approval from FEMA.

Key Contributor List

- Rollin Harper, City Planner
- Mayor Marshall Judy
- Virginia Arnason, City Clerk-Treasurer
- Bob Skillman, Public Works Director
- Everson Chief of Police, Dan MacPhee

Meeting Dates and Attendees

- February 18, 2021 – Harper, Arnason and Skillman
- April 15, 2021 – Harper and Arnason
- April 30, 2021 – Harper and Skillman

The information contained in the Natural Hazards Mitigation Plan update regarding hazards, risks, vulnerability, and potential mitigation is based on the best available science and technology currently available. This information and related data on natural hazards potentially impacting the City of Nooksack will be used as a tool when the City updates other plans and programs, such as the following:

- Comprehensive plan required by the Growth Management Act (GMA);
- Development regulations required by the GMA;
- Critical areas ordinance;
- Capital improvement program;
- Capital facilities planning; and
- Water Resource Inventory Area planning.

As additional information becomes available from other planning sources that can enhance this Plan, that information will be incorporated through the periodic update process.

Plan Maintenance for the City of Nooksack

The City of Nooksack will maintain and update the Natural Hazards Mitigation Plan as needed to respond to changed circumstances, to incorporate best available science and to address



changing community priorities. The Plan update process will include community engagement through public meetings and opportunities for public comment. Formal updates of the Plan will be reviewed by the City Council prior to adoption.



Public Outreach and Education

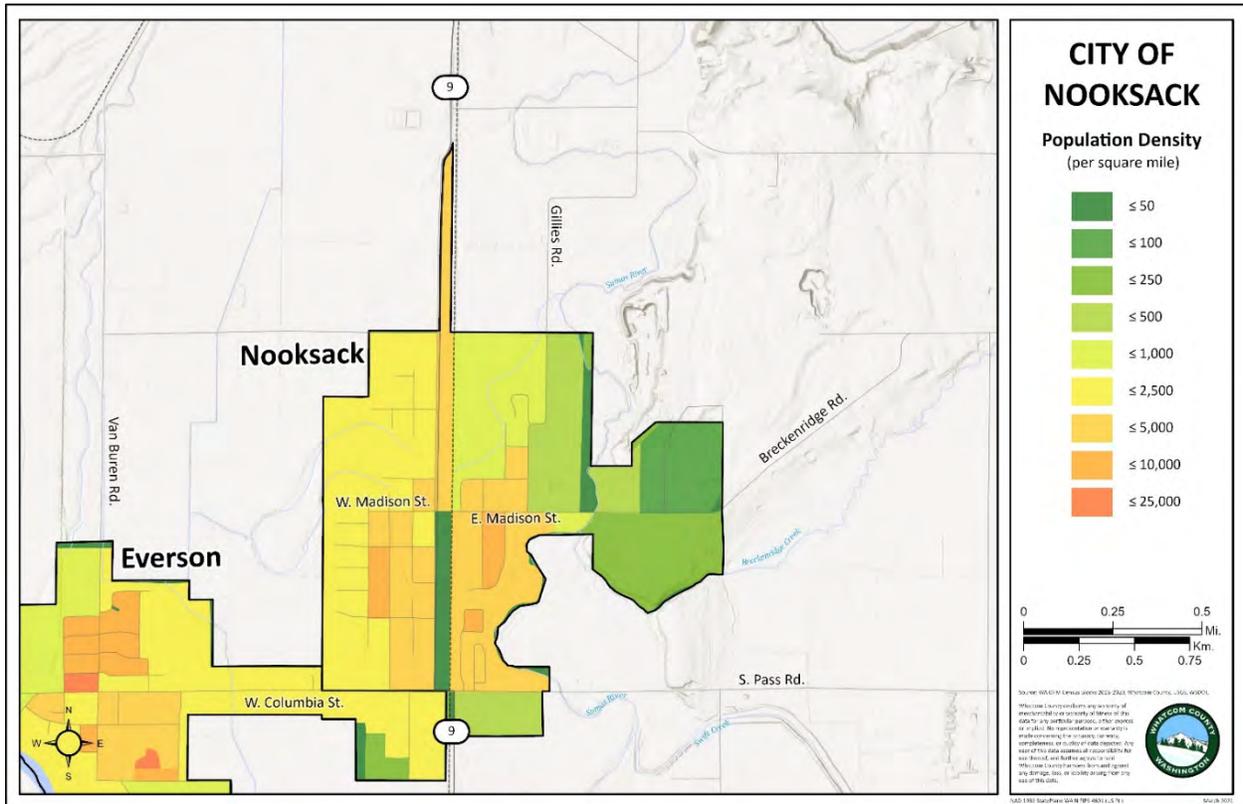
Program	Yes/No, Year Adopted	Description
Nonprofit organizations or local residents groups focused on hazard mitigation, emergency preparedness, vulnerable populations, etc.	No	
Ongoing public education or information programs	YES 2000-City newsletters	Information regarding water conservation and flood preparedness
School-related programs for natural hazard safety	Yes 2005	Semi-annual in-school drills regarding responses to natural disasters
Public education or information program	Yes 2000-City newsletters	Information regarding water conservation and flood preparedness
StormReady certification	No	Whatcom County is StormReady certified.
Firewise Community certification	No	N/A
Public-Private Partnership initiatives addressing disaster-related issues	No	
Other		



Overview of Nooksack, Hazards, and Assets

Geography of Nooksack

Nooksack Population	1,645 (2020 OFM estimate)
Total area	0.82 sq. mi. (within city limits)

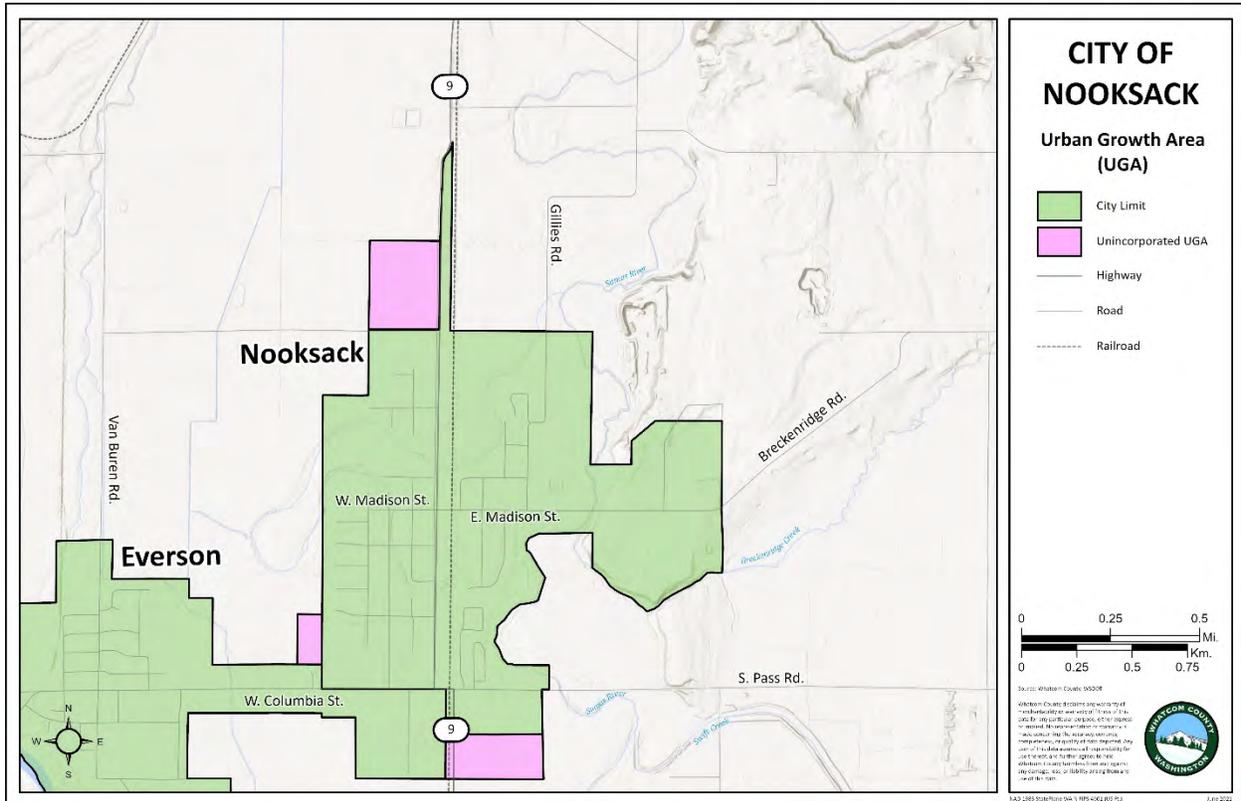


Washington State Office of Financial Management (OFM) 2020 population and housing estimates for 2010-2020 census block data. This map uses the 2016-2020 average population to show population density per square mile.



Growth Trends

This map displays the UGA for the City of Nooksack as designated by the Whatcom County Comprehensive Plan.





Presence of Hazards and their Impacts in the City of Nooksack

Flooding is the main natural hazard that affects the City of Nooksack. Flooding events that affect Nooksack occur about every five to ten years and are associated with flooding of both the Nooksack River along the western border of the city and the Sumas River. That forms a portion of the eastern City limits. The most recent event was in February 2020 when the Nooksack River overflowed its banks to the south of the adjacent city of Everson. As is typical in major flooding events on the Nooksack River, these floodwaters diverged from the main channel and flowed north (through what is referred to as the “Nooksack Overflow Corridor”), flooding the western portions of residential subdivisions in the City of Nooksack and continuing north through the City of Sumas and into Canada. The flow of floodwaters through the Nooksack Overflow Corridor in 2020 resulted in the temporary closure of a portion of State Route 544 (W. Main Street through the City of Everson) that is the main connection route between the two cities. This closure can significantly interrupt access to police, fire and emergency services that are located on the opposite side of the Overflow Corridor from the City of Nooksack.

During the same event, flooding occurred on the Sumas River that resulted in temporary closure of a major north-south travel route. Flooding of the Sumas River contributes to an additional hazard that affects the City of Nooksack. Floodwaters from the Sumas River often pick up and carry fine particulate matter that contains naturally occurring asbestos that originates from a landslide on the western slope of the nearby Sumas Mountain. These potentially toxic materials are then deposited throughout the Sumas River floodplain, where they can dry and become airborne.

Since the 2016 NHMP was adopted, the City of Nooksack has grown by roughly 170 people. The great majority of this growth has occurred in locations outside the 100-year floodplain. Since 2016, the City has increased residential densities in non-floodplain areas and in areas where structures and building sites can be elevated above the elevation of the 100-year flood event. The City also worked in cooperation with Whatcom County to add approximately 30 acres outside the floodplain to the City’s designated urban growth area in exchange for removing a larger area from the UGA that was subject to both flooding from the Sumas River and deposition of naturally occurring asbestos. In December 2019 the City annexed an over 100-acre area of higher ground to the east of the Sumas River that is almost entirely outside the 100-year floodplain.

In the table below is a list of the major hazards that effect Whatcom County. The second column provides the percentage of Nooksack’s total area that is exposed to each hazard. The third column indicates the severity of anticipated impacts to community function, considering



the credible worst-case hazard scenario. Severity of anticipated impacts considers effects on basic community function such as shelter, transportation, utilities, commerce, industry, agriculture, education, health, recreation, and cultural identity. Severity ranges from none to extreme, as shown in the key below the table. Finally, the last column of the table describes where the hazard impacts the community and which services the hazard would most significantly impact.



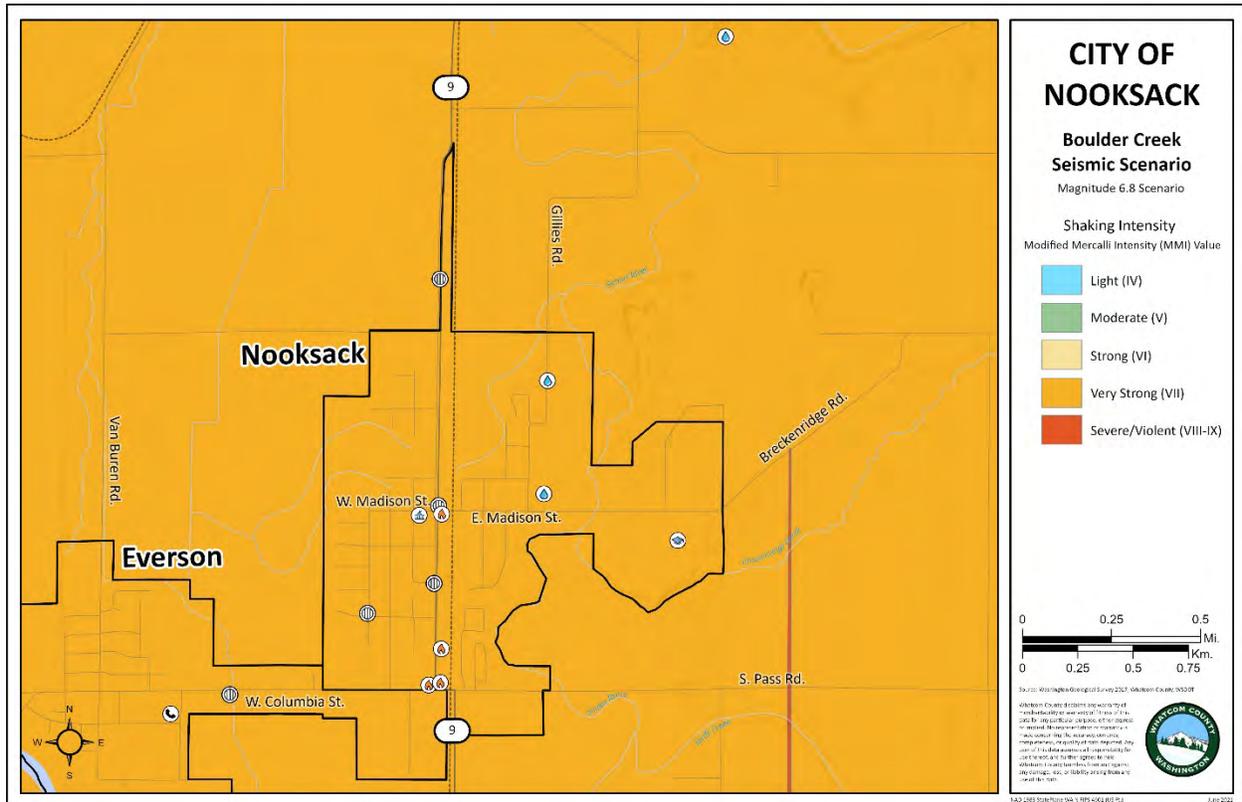
	Hazard	% area Exposed	Severity of Anticipated Impacts	Hazard Descriptions
Geological	Earthquake	100%	Mod	The city is subject to seismic activity.
	Liquefaction	97.2%	Low	Seismically-sensitive soils.
	Landslide	0%	None	N/A
	Volcano	93.9%	Low	All of the area within the city limits would be affected by a Mount Baker lahar.
	Tsunami	0%	None	N/A
	Mine Hazards	0%	None	N/A
Hydrological	Flooding	45.5%	High	This hazard occurs frequently and can be severe, especially due the presence of isolated areas. Major flooding occurred in 1989, 1990, and 1995. Flooding begins in the west side of the City and moves east and north up Highway 9, toward Sumas. A dike was extended in 1991 with money from mitigation. The dike runs parallel to the Nooksack River on the West side, ending on Emerson Road. It prevents water from going to Washington St. and on through to Main Street. The dike diverts Nooksack River overflow to the floodway that runs to the north along the western boundary of Nooksack. The Sumas River can flood east of the City, but does not cause severe problems.
Meteorologic al	Wildfire	20.3%	None	N/A

Severity Scale: **None** = no impact to community function
Low = minor degradation of community functions, not widespread
Moderate = moderate degradation over multiple weeks or widespread
High =degradation or loss over many weeks, widespread

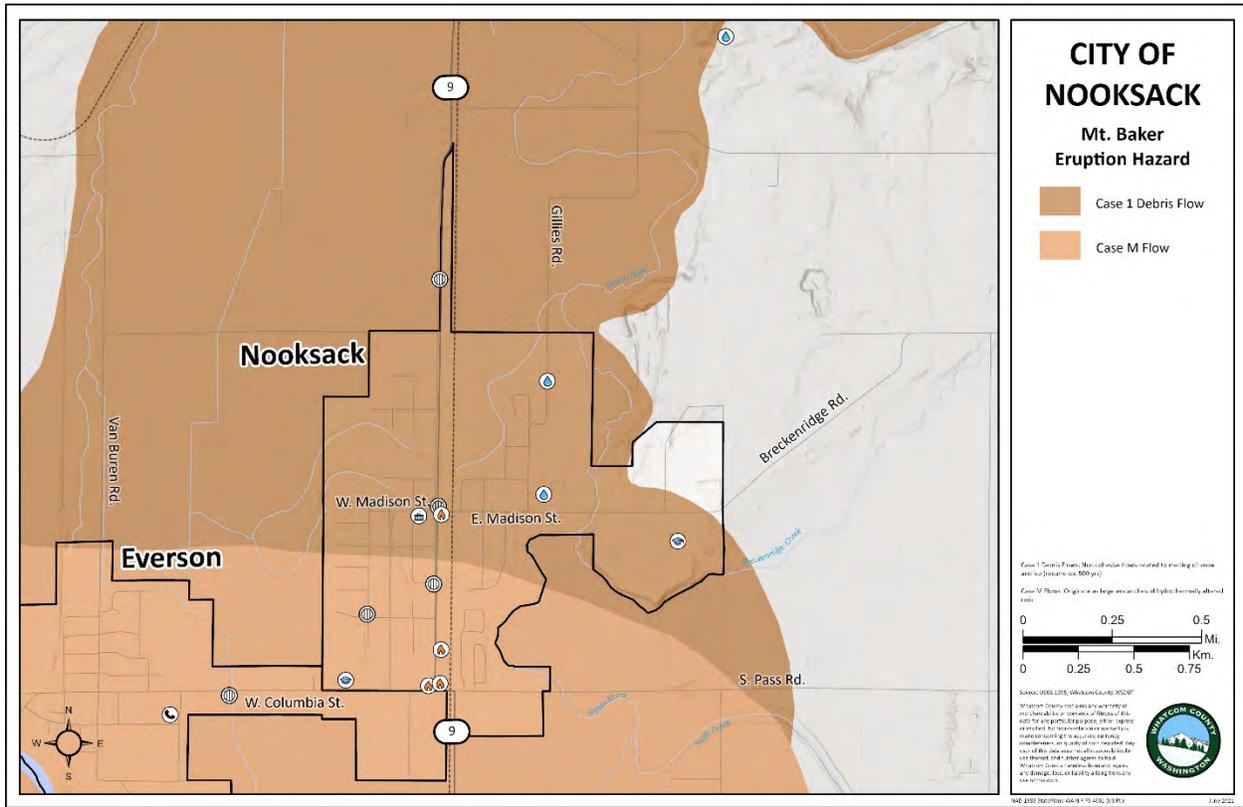


Natural Hazard Maps

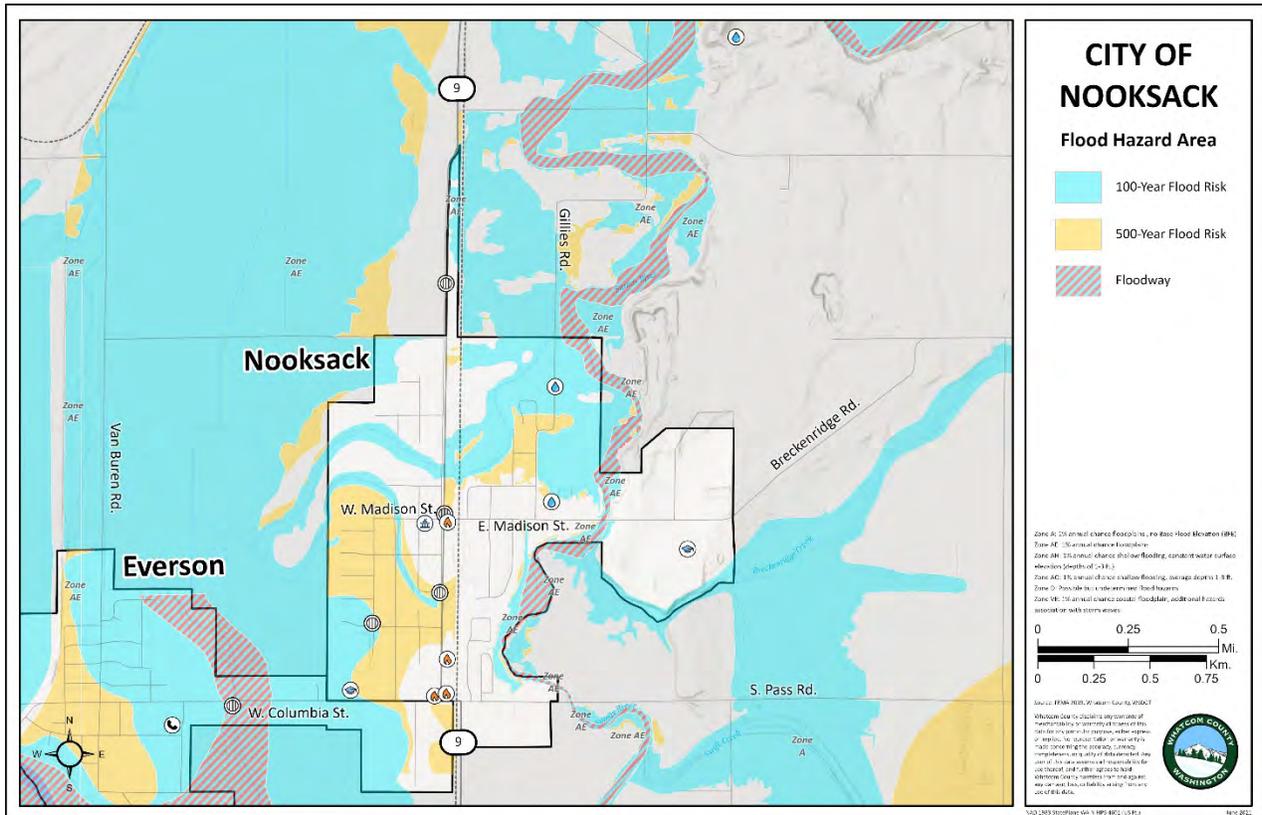
The following figures depict the natural hazards present within the jurisdiction.



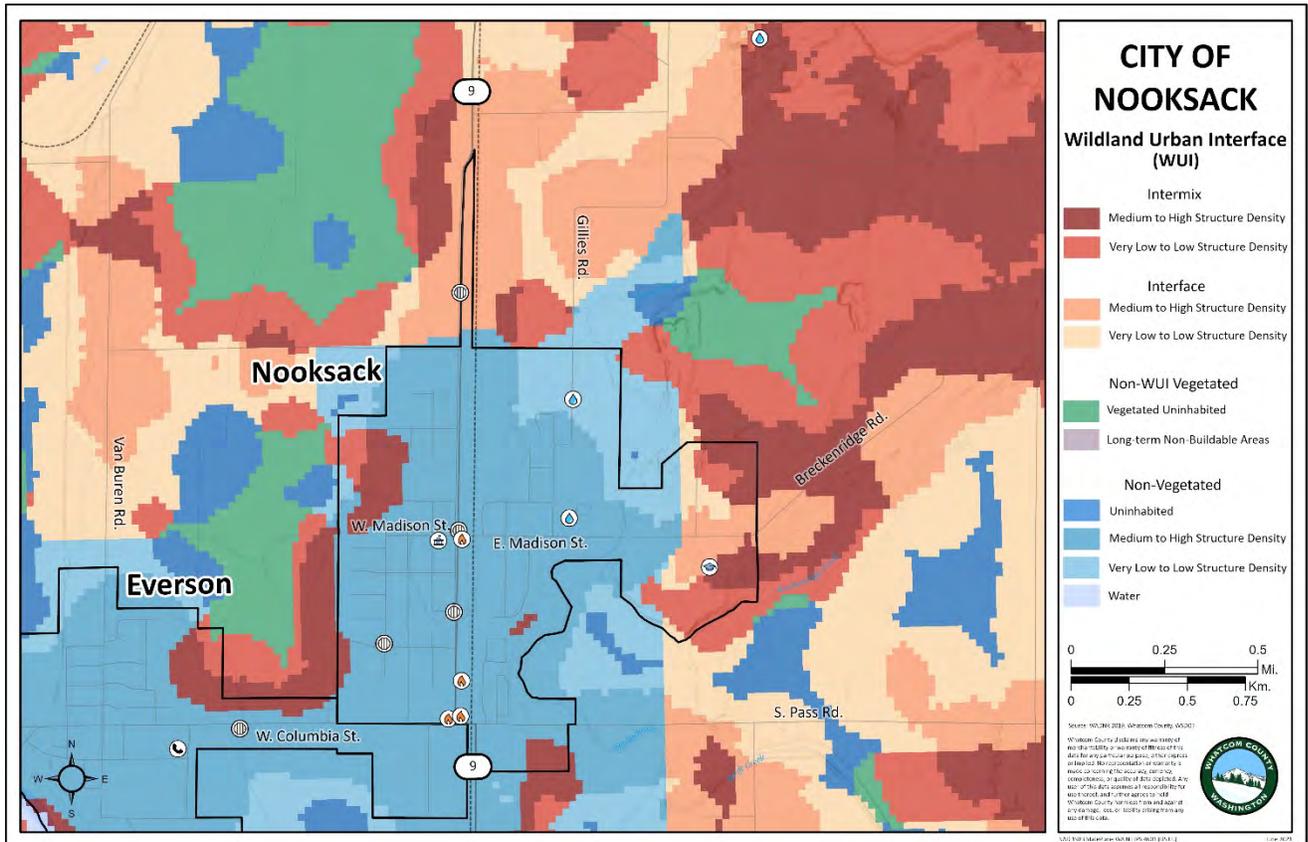
Washington Department of Natural Resources (WA DNR) 2017 Boulder Creek Fault Zone seismic scenario of magnitude 6.8 data. Displays extent and severity of the modeled earthquake in the Modified Mercalli Intensity (MMI) scale.



USGS Hazards from Future Activity of Mount Baker, WA (1995) data shows different volcanic flows. Case M flows originate as large avalanches of hydrothermally altered rock. Case 1 debris flows are non-cohesive flows related to melting of snow and ice, with a recurrence of 500 years. Case 2 debris flows are cohesive flows from small debris avalanches, with a recurrence of 100 years.



FEMA 2019 flood hazard data showing 100-year flooding, 500-year flooding, floodways, and flood zones. FEMA flood data includes both riverine and coastal flooding.



Washington Department of Natural Resources (WA DNR) 2019 mapped data of Washington’s Wildland Urban Interface (WUI). The WUI displays areas of WA where structures and wildland overlap with specific structure densities.

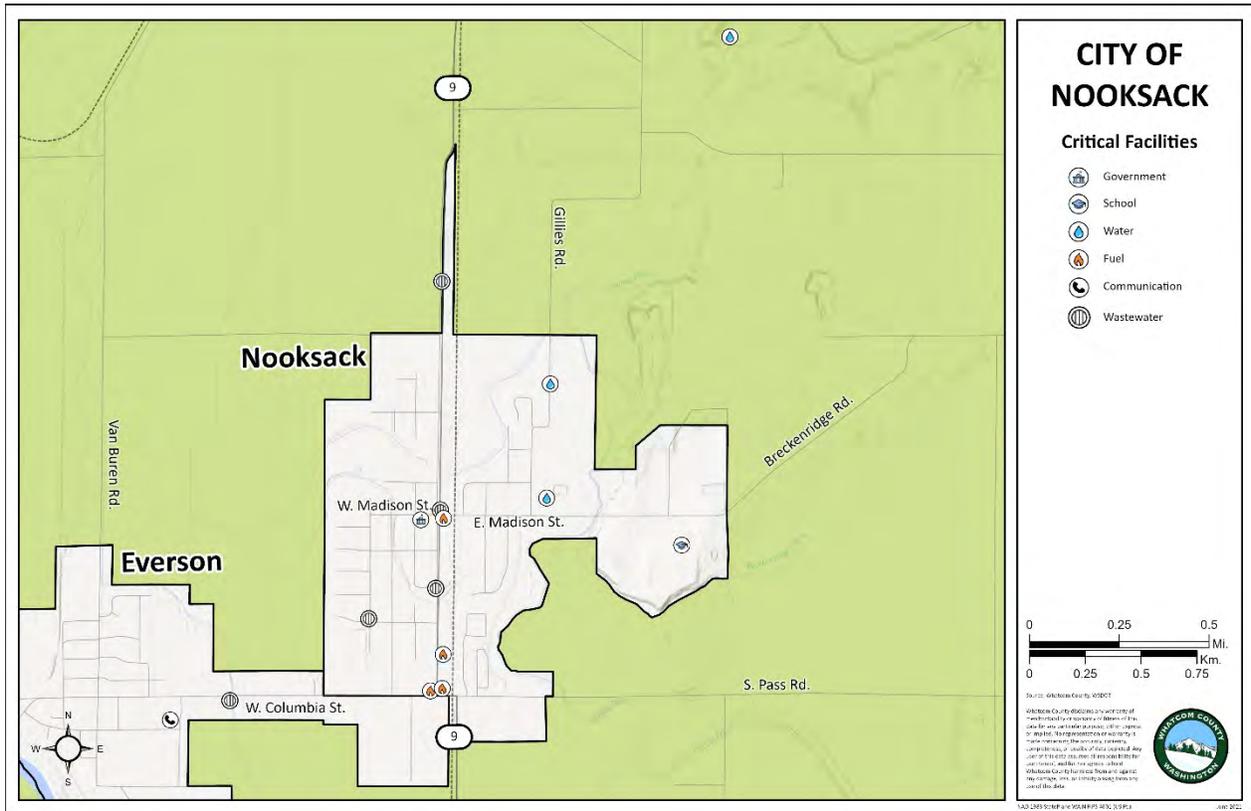


Nooksack Critical Facility List

Facility Name	Facility Type	Significance	Location	Assessed Dollar Value	Notes
Elementary School - Dist. 506	EF	2	3333 Breckenridge Road		Evacuation Center
Nooksack City Hall	EF	3	103 West Madison St		Government
Nooksack Water Tanks	LUS	3	8386 Gillies Rd.		Utility: Water
Post Office	EF	2	108 Blair Drive, Everson		Mail
Pump-Station #1	LUS	3	105 Garfield St.		Utility: Sewer
Pump-Station #2	LUS	2	610 Nooksack Ave.		Utility: Sewer
Pump-Station #3	LUS	2	1216 Nooksack Ave.		Utility: Sewer
Starvin' Sams	HMF	1	102 Columbia St.		Fuel
Pump Station #12	LUS	2	305A West Third St.		Utility: Sewer
Water Booster Pump	LUS	3	1014 Gillies Rd.		Utility: Water
Pacific Pride	HMF	1	204 Nooksack Ave.		Fuel
Whatcom Farmers Co-op Energy	HMF	2	508 Nooksack Ave.		Fuel Propane Depot
Water Pump Station	LUS	2	503 E. Madison St.		Utility: Water
CHS Northwest Store	HMF	1	102 Nooksack Ave.		Fuel
Pump Station #4 (Interceptor)	LUS	3	506 E. Main Street, Everson		Utility: Sewer
CHS Northwest Store	HMF	1	102 Nooksack Avenue		Utility: Sewer
US Border Patrol	EF	3	9648 Garrison Road		

Facility Type: EF = Essential Facility; HMF = Hazardous Materials Facility; HPL = High Potential Loss; LUS = Lifeline Utility System

Significance to community function: 1=Moderate; 2= High; 3 =Very High



Map of critical facilities identified by the City of Nooksack. Across Whatcom County, critical facilities fell into 15 categories. Unique categories developed for this plan update include mass shelter, assisted living, and recovery resources. Mass shelter includes facilities such as fairgrounds and community centers. Recovery resources are facilities that are required post-hazard event, for example public works and private construction companies. Not all jurisdictions identified or included critical facilities in each category.



Critical Facility Rankings for the City of Nooksack

The table below indicates whether each critical facility falls within known hazard zones for earthquake, liquefaction, landslide, tsunami, volcano, riverine flooding, coastal flooding and wildfire zones. A rank assessment in the last column indicates how the relative risk of community impact. This ranking considers the significance of the facility to the community and the number of hazard zones the facility is within. The frequency of each hazard is also considered, such that being in a low frequency hazard zone would receive a lower ranking than that same facility being in a high frequency hazard zone. Ranking is on a scale of 1 to 10, with 1 being the facility with the highest-ranking score, and 10 being a facility with the lowest ranking score in the jurisdiction.

$$\text{Rank} = \text{Significance} * \left[\frac{\text{EQ_Zone}}{\text{EQ_Freq}} + \frac{\text{LQ_Zone}}{\text{LQ_Freq}} + \frac{\text{LS_Zone}}{\text{LS_Freq}} + \dots + \frac{\text{WF_Zone}}{\text{WF_Freq}} \right]$$

Ranking value will be from 0.0 to 1.0, scaled to the highest ranking in the jurisdiction.

Significance: 1=moderate; 2=high; 3=very high, as assessed in the critical facilities list in the previous section

Zone: 0=facility not in hazard zone; 1 = facility in the hazard zone

Frequency (e.g. EQ_Freq, LQ_Freq) is the most difficult variable to which to assign a value. Frequency varies based upon the magnitude of a hazard event and varies from one place to another. It was not possible within the time constraints to assess frequency of hazard at each critical facility location. Instead, a qualitative assessment of the hazard frequency across the entire county was made, as shown in the chart below.

Description	Freq Value used in formula	Hazards
Frequent, occurring on the order of decades	3	Riverine flooding (FL); Coastal flooding (COA)
Rare, occurring on the order of centuries	2	Earthquake (EQ); Liquefaction (LQ); Landslide (LS); Wildfire (WF)
Very rare, occurring on the order of millennia	1	Tsunami (TSU); Volcano (VOL)

Note: Severe storm, a very frequent hazard, was omitted because it is ubiquitous and because no hazard map of storm severity was available.



Critical Facilities Ranking Table

Facility Name	Facility Type	Significance	EQ	LQ	LS	TSU	VOL	FL	COA	WF	Rank Assessment
Elementary School - Dist. 506	EF	2	1	1	0	0	1	1	0	1	0.81
Nooksack City Hall	EF	3	1	1	0	0	1	0	0	0	0.86
Nooksack Water Tanks	LUS	3	1	1	0	0	0	0	0	1	0.64
Post Office	EF	2	1	1	0	0	1	1	0	0	0.66
Pump-Station #1	LUS	3	1	1	0	0	1	1	0	0	1
Pump-Station #2	LUS	2	1	1	0	0	1	0	0	0	0.57
Pump-Station #3	LUS	2	1	1	0	0	1	1	0	1	0.81
Starvin' Sams	HMF	1	1	1	0	0	1	1	0	0	0.33
Pump Station #12	LUS	2	1	1	0	0	1	1	0	0	0.66
Water Booster Pump	LUS	3	1	1	0	0	1	1	0	0	1
Pacific Pride	HMF	1	1	1	0	0	1	0	0	0	0.29
Whatcom Farmers Co-op Energy	HMF	2	1	1	0	0	1	0	0	0	0.57
Water Pump Station	LUS	2	1	1	0	0	1	1	0	0	0.66
Pump Station #4 (Interceptor)	LUS	1	1	1	0	0	1	1	0	0	1
CHS Northwest Store	HMF	1	1	1	0	0	1	0	0	0	.29
US Border Patrol	EF	3	1	1	0	0	1	1	0	0	1

Notes: **EQ** = Earthquake; **LQ** =Liquefaction; **LS** = Landslide; **TSUN** = Tsunami; **VOL** = Volcano; **FL** = Riverine Flooding; **COA** = Coastal Flooding; **WF** = Wildland Fire



Areas and Assets Exposed, Per Hazard

City of Nooksack Exposure to Natural Hazards					
Hazard Susceptibility	Asset County (% of Total)				Critical Facilities Appraised Value (Million)
	Area (sq.mi.)	Population	Parcels	Critical Facilities	
Earthquake, Shaking Intensity					
<i>MMI V</i>	-	-	-	-	-
<i>MMI VI</i>	-	-	-	-	-
<i>MMI VII</i>	100%	100%	100%	93.7%	\$7
<i>MMI VIII - IX</i>	-	-	-	6.3%	\$5
TOTAL	100%	100%	100%	100%	\$12
Liquefaction					
<i>Very Low to Low</i>	14.4%	1.1%	-	6.3%	\$5
<i>Low to Moderate</i>	-	-	-	-	-
<i>Moderate</i>	-	-	-	-	-
<i>Moderate to High</i>	82.8%	98.8%	100%	87.5%	\$7
<i>High</i>	-	-	-	-	-
TOTAL	97.2%	99.9%	100%	93.8%	\$12
Landslide					
<i>Landslide Low</i>	-	-	-	-	-
<i>Landslide Moderate</i>	-	-	-	-	-
<i>Landslide High</i>	-	-	-	-	-
<i>Fan Low</i>	-	-	-	-	-
<i>Fan Moderate</i>	-	-	-	-	-
<i>Fan High</i>	-	-	-	-	-



	Mine Hazard	-	-	-	-	-
	TOTAL	-	-	-	-	-
	Volcanic Eruption					
	Case 1 Debris Flows	66.4%	58.1%	57.5%	50%	\$9
	Case 2 Debris Flows	-	-	-	-	-
	Case M Flows	27.5%	41.6%	42.5%	43.8%	\$2
	Pyroclastic Flows, Lava Flows, and Ballistic Debris	-	-	-	-	-
	Lateral Blast Hazard Zone	-	-	-	-	-
	TOTAL	93.9%	99.7%	100%	93.8%	\$11
	Tsunami, Inundation Zone					
	Low to Moderate Inundation Potential	-	-	-	-	-
	Moderate to High Inundation Potential	-	-	-	-	-
	High Inundation Potential	-	-	-	-	-
	TOTAL	-	-	-	-	-
Hydrological	Flooding					
	100-year Flood	25.7%	20.4%	16.2%	18.8%	\$0.8
	500-year Flood	16.9%	25.2%	34.5%	12.5%	\$5
	Floodway	2.9%	2%	0.3%	6.3%	-
	Undetermined (Zone D)	-	-	-	-	-
	TOTAL	45.5%	47.6%	51%	37.6%	\$5.8
Meteorolog	Wildfire Zones					
	Interface Very Low-Low Structure Density	2.3%	0.1%	-	-	-
	Interface Medium-High Structure Density	4.8%	4.3%	4.2%	12.5%	\$4



<i>Intermix Very Low-Low Structure Density</i>	4.9%	1.5%	0.2%	-	-
<i>Intermix Medium-High Structure Density</i>	8.3%	5.7%	3%	6.3%	\$0.3
TOTAL	20.3%	11.6%	7.4%	18.8%	\$4.3



Status of Nooksack’s 2016-2020 and Ongoing Hazard Mitigation Actions

The cities of Everson and Nooksack chose to collaborate in their mitigation strategies because Everson provides Nooksack with police and sewer services. (Note: The following information is copied from Everson.)

This section describes the status of mitigation actions that were proposed in the 2016 Mitigation Plan and are now 1) currently being implemented and are ongoing, 2) are now completed, or 3) are now discontinued because they are no longer needed. The actions are organized by hazard and indicate the lead agency, funding source, and status.

Lead Agency	May be more than one lead agency indicating shared responsibility and coordination
Funding Source	Local; State; FEMA; Private; Other
Current Status	Action Discontinued / Action Completed / Action ongoing and expected completion date

General: All Hazards

G-a. Adopt and enforce building codes. This applies to earthquakes, flooding, winter storms/freezes, and severe winds. The City Planning, Building and Public Works Departments continue to adopt and enforce building codes and development regulations that address natural hazards mitigation.

Lead Agency	Nooksack Planning, Building and Public Works Departments
Funding Source	Local
Current Status	Ongoing

Drought/heat wave

D-a. Assess Vulnerability to Drought Risk. The City Planning Department continues to assess risks related to drought, including as part of the 2016 update to the City’s critical areas ordinance.

Lead Agency	City Planning Dept.
Funding Source	Local
Current Status	Ongoing

D-b. Monitor Drought Conditions. The City Public Works Department continues to monitor drought conditions on annual basis and implements water-related mitigation strategies as



appropriate.

Lead Agency	City Public Works Dept.
Funding Source	Local
Current Status	Ongoing

D-c. Monitor Water Supply. The City Public Works Department continues to monitor the public water supply and implement water conservation strategies as appropriate.

Lead Agency	City Public Works Dept.
Funding Source	Local
Current Status	Ongoing

D-d. Plan for Drought. The City Planning Department continues to plan for droughts, including as part of the 2016 update of the city comprehensive land use plan.

Lead Agency	City Planning Dept.
Funding Source	Local
Current Status	Ongoing

D-e. Require Water Conservation During Drought Conditions. The City Public Works Department continues to monitor drought conditions and implement water conservation measures as appropriate.

Lead Agency	City Public Works Dept.
Funding Source	Local
Current Status	Ongoing

D-f. Educate Residents on Water Saving Techniques. The City Administration continues to support education of residents regarding water conservation efforts, including through provision of information along with monthly utility bills.

Lead Agency	City Administration
Funding Source	Local
Current Status	Ongoing

Earthquake

EQ-a. Incorporate Earthquake Mitigation into Local Planning. The City Planning Department continues to incorporate planning related to earthquakes, including as part of the 2016 update to the city comprehensive plan.



Lead Agency	City Planning Dept.
Funding Source	Local
Current Status	Ongoing

EQ-b. Map and Assess Community Vulnerability to Seismic Hazards. The City Planning Department continues to map and assess vulnerability to seismic hazards, including as part of the 2016 update of the city critical areas ordinance.

Lead Agency	City Planning Dept.
Funding Source	Local
Current Status	Ongoing

EQ-c. Conduct Inspections of Building Safety. The City Building Department continues to conduct inspections related to building safety as required by City building codes.

Lead Agency	City Building Dept.
Funding Source	Local
Current Status	Ongoing

EQ-d. Protect Critical Facilities and Infrastructure. The City Building Department continues to protect critical facilities and infrastructure, including through requiring the local middle school to be constructed with the lowest floor more than 2.5 feet above the FEMA base flood elevation.

Lead Agency	City Building Dept.
Funding Source	Local
Current Status	Ongoing

Extreme Temp

No actions ongoing, discontinued, or completed for this hazard.

Flooding

FL-a. Incorporate Flood Mitigation in Local Planning. The City Planning Department continues to incorporate flood mitigation into local planning, including as part of the 2016 update of the city critical areas ordinance, the 2019 adoption of new FEMA flood insurance rate maps, and updates to the County comprehensive flood hazard management plan currently underway.

Lead Agency	City Planning Dept.
Funding Source	Local



Current Status	Ongoing
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FL-b. Form Partnerships to Support Floodplain Management. The City Planning and Public Works Departments continue to work to form partnerships that support floodplain management, including working closely with County long-range and current planning divisions and the County Public Works River and Flood Division.

Lead Agency	City Planning and Public Works Depts.
Funding Source	Local
Current Status	Ongoing

FL-c. Limit or Restrict Development in Floodplain Areas. The City Planning, Building and Public Works Departments continue to limit development in floodplain areas through amendment and enforcement of City critical areas ordinance regulations, national flood insurance program requirements, and city building codes.

Lead Agency	City Planning, Building and Public Works Depts.
Funding Source	Local
Current Status	Ongoing

FL-d. Improve Stormwater Management Planning. The City Planning Department continues to improve planning, regulation and enforcement related to stormwater management, including through 2016 updates to the City comprehensive plan and the 2016 adoption of the state stormwater management manual for Western Washington.

Lead Agency	City Planning Dept.
Funding Source	Local
Current Status	Ongoing

FL-e. Improve Flood Risk Assessment. The City Public Works Department continues to assess risks related to flooding, including through participation in the federal RISK Map assessment efforts.

Lead Agency	City Public Works Dept.
Funding Source	Local
Current Status	Ongoing

FL-f. Join or Improve Compliance with NFIP. The City continues to participate in the National Flood Insurance Program (NFIP). The City Planning, Building and Public Works Departments



continue to work to improve compliance with the NFIP, including through adoption of 2019 amendments to the City’s NFIP ordinance that included updated flood insurance rate maps.

Lead Agency	City Planning, Building and Public Works Depts.
Funding Source	Local
Current Status	Ongoing

FL-g. Manage the Floodplain Beyond Minimum Requirements. The City Planning and Building Departments continue to manage floodplains beyond minimum requirements, including through amendment of critical areas and floodplain management regulations that require extra elevation of critical facilities and prohibit the placement of fill within floodplains except under certain conditions.

Lead Agency	City Planning and Building Depts.
Funding Source	Local
Current Status	Ongoing

FL-h. Establish Local Funding Mechanisms for Flood Mitigation. The County Flood Control Zone District continues to make locally generated district funds available for local projects, including the purchase of open space areas located in designated floodways adjacent to Nooksack.

Lead Agency	County Flood Control Zone District
Funding Source	County
Current Status	Ongoing

FL-i. Improve Stormwater Drainage System Capacity. The City Public Works Department continues to work to improve stormwater drainage system capacity through annual system upgrades and maintenance projects.

Lead Agency	City Public Works Dept.
Funding Source	Local
Current Status	Ongoing

FL-j. Conduct Regular Maintenance for Drainage Systems and Flood Control Structures. The City Public Works Department continues to work to improve stormwater drainage system capacity through annual maintenance projects, such as inspection and clearing of stormwater conveyance systems.

Lead Agency	City Public Works Dept.
Funding Source	Local



Current Status	Ongoing
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FL-k. Preserve Floodplains as Open Space. The City Planning Department continues to work to preserve floodplains as open space, including through the recording of restrictive covenants required in conjunction with approved subdivisions.

Lead Agency	City Planning Dept.
Funding Source	Local
Current Status	Ongoing; Bi-annual

Landslide/erosion

No actions ongoing, discontinued, or completed for this hazard.

Landslide Subsidence

SU-a. Map and Assess Vulnerability to Subsidence. The City Planning Department continues to map and assess vulnerability to subsidence, including through 2016 updates to the City critical areas ordinance.

Lead Agency	City Planning Dept.
Funding Source	Local
Current Status	Ongoing

SU-b. Manage Development in High-Risk Areas. The City Building Department continues to manage development in high-risk areas, including through required geologically hazardous area site assessment reports.

Lead Agency	City Building Dept.
Funding Source	Local
Current Status	Ongoing

Lightening

No actions ongoing, discontinued, or completed for this hazard.

Severe Storm

No actions ongoing, discontinued, or completed for this hazard.

Severe Wind

SW-a. Protect Power Lines and Infrastructure. The City Public Works Department continues to work to protect power lines and infrastructure through as-needed inspections following major



wind events and coordination with Puget Sound Energy.

Lead Agency	City Public Works Dept.
Funding Source	Local
Current Status	Ongoing

SW-b. Retrofit Public Buildings and Critical Facilities. The City Public Works Department continues to work to protect public buildings and infrastructure, including through undergrounding of power lines and provision of back-up power generation at critical facilities.

Lead Agency	City Public Works Dept.
Funding Source	Local
Current Status	Ongoing

Tornadoes

No actions ongoing, discontinued, or completed for this hazard.

Tsunami

No actions ongoing, discontinued, or completed for this hazard.

Wildfire

No actions ongoing, discontinued, or completed for this hazard.

Winter storms/Freezes

WW-a. Protect Buildings and Infrastructure. The City Public Works Department continues to work to protect public buildings and infrastructure from severe winter storms, including through replacing and upgrading all City water meters to increase system resiliency.

Lead Agency	City Public Works Dept.
Funding Source	Local
Current Status	Ongoing

WW-b. Protect Power Lines. The City Public Works Department continues to work to protect power lines through as-needed inspections following major winter storm events and coordination with Puget Sound Energy.

Lead Agency	City Public Works Dept.
Funding Source	Local
Current Status	Ongoing



WW-c. Reduce Impacts to Roadways. The City Public Works Department continues to work to reduce impacts to roadways, including through implementation of road closures during major freeze/thaw events.

Lead Agency	City Public Works Dept.
Funding Source	Local
Current Status	Ongoing

Multiple Hazards

MU-a. Assess Community Risk. The City Planning and Public Works Departments continue to assess risks to the public from natural hazards, including through review of repetitive loss properties and review and adoption of updated hazard maps.

Lead Agency	City Planning and Public Works Depts.
Funding Source	Local
Current Status	Ongoing

MU-b. Map Community Risk. The City Planning Department continues to work to map natural hazard areas and assess the risks associated with such areas, including through the 2016 update of the City’s critical areas ordinance.

Lead Agency	City Planning Dept.
Funding Source	Local
Current Status	Ongoing

MU-c. Prevent Development in Hazard Areas. The City Building and Planning Departments continue to prevent development in hazard areas, including through enforcement of floodway, steep slopes and erosion hazard area regulations.

Lead Agency	City Building and Planning Depts.
Funding Source	Local
Current Status	Ongoing

MU-d. Adopt Development Regulations in Hazard Areas. The City Building and Planning Departments continue to work to adopt regulations addressing hazard areas, including through the 2016 update to the City’s critical areas ordinance and the 2019 adoption of updated FEMA flood insurance rate maps and National Flood Insurance Program ordinance.

Lead Agency	City Building and Planning Depts.
Funding Source	Local



Current Status	Ongoing
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MU-e. Limit Density in Hazard Areas. The City Planning Department continues to work to limit density in hazard areas, including through adoption of floodway regulations and establishment of low-density zones in hazard areas, such as Open Space/Agriculture.

Lead Agency	City Planning Dept.
Funding Source	Local
Current Status	Ongoing

MU-f. Integrate Mitigation into Local Planning. The City Planning Department continues to integrate mitigation into local planning, including through establishment and enforcement of mitigation requirements under the City’s critical areas regulations.

Lead Agency	City Planning Dept.
Funding Source	Local
Current Status	Ongoing

MU-g. Strengthen Land Use Regulations. The City Planning Department continues to work to strengthen local land use regulations, including through the 2016 update of the City’s critical areas ordinance and 2019 updates to the City’s National Flood Insurance Program ordinance.

Lead Agency	City Planning Dept.
Funding Source	Local
Current Status	Ongoing

MU-h. Monitor Mitigation Plan Implementation. The City Planning and Public Works Departments continue to monitor implementation of the Natural Hazards Mitigation Plan through the required annual review process.

Lead Agency	City Planning and Public Works Depts.
Funding Source	Local
Current Status	Ongoing

MU-i. Protect Structures. The City Building and Public Works Departments continue to work to protect structures within the City through enforcement of local building codes and critical areas regulations.



Lead Agency	City Building and Public Works Depts.
Funding Source	Local
Current Status	Ongoing

MU-j. Protect Infrastructure and Critical Facilities. The City Public Works Department continues to work to protect infrastructure and critical facilities, including through regular inspections, annual maintenance projects and capital improvement projects, such as elevating critical facilities above minimum standards.

Lead Agency	Public Works Dept.
Funding Source	Local
Current Status	Ongoing

MU-k. Increase Hazard Education and Risk Awareness. The City Public Works Department continues to work to increase hazard education and risk awareness, including through informational materials sent out with monthly utility bills.

Lead Agency	Public Works Dept.
Funding Source	Local
Current Status	Ongoing



Nooksack 2021-2025 Hazard Mitigation Strategy

Whatcom County Hazard Mitigation Goals

Whatcom County has identified five overarching hazard mitigation goals, which represent what a community seeks to achieve through mitigation actions.

- Goal 1.** Protect Life, Property and Public Welfare
- Goal 2.** Increase Public Awareness
- Goal 3.** Preserve and Enhance Natural Systems
- Goal 4.** Encourage Partnership for Implementation
- Goal 5.** Ensure Continuity of Emergency Services

These countywide goals help guide any prioritization and implementation of mitigation actions, ensuring that the actions contribute to a community's vision for the future.

Nooksack-Specific Hazard Mitigation Goals

Nooksack supports the above county-wide goals. No additional community-specific mitigation planning goals have been identified at this time.

Mitigation Action Options

Appendix E of the Whatcom County Natural Hazard Mitigation Plan provides a list of mitigation options. Nooksack considered mitigation options related to earthquakes, drought, land subsidence, winter storms, severe wind, and erosion, especially those related to flooding, because these hazards have the potential to cause the greatest loss and damage. Not all mitigation options in Appendix E were relevant or a strong priority for Nooksack. Some options have already been implemented or are ongoing in Nooksack, as documented in the section above on the status of 2016-2020 and ongoing hazard mitigation actions.

Mitigation Action Prioritization

The mitigation actions in this section are new actions that Nooksack has prioritized for the 2021-2025 planning period and beyond. Mitigation options were prioritized based upon review of the following two criteria: 1) The action's Overall Feasibility based on engineering, environmental, financial and political considerations, 2) The Criticality of the action, based upon a consideration of which actions had the greatest potential to protect life, property and public welfare. Nooksack is working in cooperation with the County and other participating communities and special districts to develop a systematic methodology that would use multiple evaluation criteria to determine mitigation action prioritization. This new methodology will be



used in future updates of this Plan.

In the following Identified Mitigation Actions 2021-2025 table, each priority action is listed by hazard. Each action is followed by planning goals, lead agency, the priority evaluation, timeline, funding source and estimated cost, where such information is available. This information can be used by local decision makers in pursuing strategies for implementation.

1	Goals	Indicates the hazard mitigation planning goal or goals this action addresses; countywide and/or community-specific
2	Lead Agency	May be more than one lead agency indicating shared responsibility and coordination
3	Priority	H (High); M (Medium); L (Low)
4	Timeline	Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years)
5	Funding Source	Local; State; FEMA; Private; Other
6	Estimated Cost	Actual; Estimated



Nooksack Identified Mitigation Actions 2021-2025

City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1) Goals	(2) Lead Responsibility	(3) Priority	(4) Timeline	(5) Funding Source	(6) Estimat ed Cost
Hazard	Action Items						
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.						
	<i>G-a. Ongoing -- Adopt and enforce building codes.</i> This applies to earthquakes, flooding, winter storms/freezes, and severe winds. The City Planning, Building and Public Works Departments continue to adopt and enforce building codes and development regulations that address natural hazards mitigation.	1,5	Nooksack Planning, Building and Public Works		O		
Hazard Specific (Reference: Whatcom County Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.						
Dam/Levee Failures (See: Flooding)	No actions are currently being considered/All mitigation actions are ongoing, discontinued, or complete.						

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1)	(2)	(3)	(4)	(5)	(6)
Hazard	Action Items	Goals	Lead Responsibility	Priority	Timeline	Funding Source	Estimated Cost
Droughts/Heat Waves	D-a. Ongoing -- Assess Vulnerability to Drought Risk. The City Planning Department continues to assess risks related to drought, including as part of the 2016 update to the City's critical areas ordinance.	1, 2	City Planning Dept		O		
	D-b. Ongoing -- Monitor Drought Conditions. The City Public Works Department continues to monitor drought conditions on annual basis and implements water-related mitigation strategies as appropriate.	1, 2	City Public Works Dept.		O		
	D-c. Ongoing -- Monitor Water Supply. The City Public Works Department continues to monitor the public water supply and implement water conservation strategies as appropriate.	1, 2	City Public Works Dept.		O		
	D-d. Ongoing -- Plan for Drought. The City Planning Department continues to plan for droughts, including as part of the 2016 update of the city comprehensive land use plan.	1	City Planning Dept		O		

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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Exhibit A



SECTION 3. JURISTITION PROFILES AND MITIGATION STRATEGIES –NOOKSACK

City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1) Goals	(2) Lead Responsibility	(3) Priority	(4) Timeline	(5) Funding Source	(6) Estimat ed Cost
Hazard	Action Items						
	<i>D-e. Ongoing -- Require Water Conservation During Drought Conditions.</i> The City Public Works Department continues to monitor drought conditions and implement water conservation measures as appropriate.	1, 5	City Public Works Dept.		O		
	<i>D-f. Ongoing -- Educate Residents on Water Saving Techniques.</i> The City Administration continues to support education of residents regarding water conservation efforts, including through provision of information along with monthly utility bills.	2, 5	City Administration		O		
Volcano	VOL-1 Lahar Early Warning System The USGS has designed a number of systems that automatically detect lahars as they descend neighboring valleys. These systems then automatically trigger various types of early warning systems, such as sirens or telephone-based warning systems.	1, 2, 5	Whatcom County Fire District 1, Everson Police Department, Whatcom County Department of Emergency Management, Whatcom County	L	L	Local sources, and state and federal grants	Unknow n

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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Exhibit A



SECTION 3. JURISTITION PROFILES AND MITIGATION STRATEGIES –NOOKSACK

City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1) Goals	(2) Lead Responsibility	(3) Priority	(4) Timeline	(5) Funding Source	(6) Estimat ed Cost
Hazard	Action Items						
			Public Works				
Earthquakes	EQ-a. Ongoing -- Incorporate Earthquake Mitigation into Local Planning. The City Planning Department continues to incorporate planning related to earthquakes, including as part of the 2016 update to the city comprehensive plan.	1	City Planning Dept	O			
	EQ-b. Ongoing -- Map and Assess Community Vulnerability to Seismic Hazards. The City Planning Department continues to map and assess vulnerability to seismic hazards, including as part of the 2016 update of the city critical areas ordinance.	1,2	City Planning Dept	O			
	EQ-c. Ongoing -- Conduct Inspections of Building Safety. The City Building Department continues to conduct inspections related to building safety as required by City building codes.	1	City Building Dept	O			
	EQ-d. Ongoing -- Protect Critical Facilities	1,5	City Building Dept	O			

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1) Goals	(2) Lead Responsibility	(3) Priority	(4) Timeline	(5) Funding Source	(6) Estimat ed Cost
Hazard	Action Items						
	and Infrastructure. The City Building Department continues to protect critical facilities and infrastructure, including through requiring the local middle school to be constructed with the lowest floor more than 2.5 feet above the FEMA base flood elevation.						
	EQ-1 Retrofit City Hall Nooksack City Hall would suffer significant damage in the event of an earthquake. This facility should be retrofitted, replaced, or relocated so that it can survive a 6.0 magnitude or greater earthquake event.	1, 5	Nooksack City Council, Whatcom County Building Department, Whatcom County Fire District 1 Commissioners	L	L	Local sources, and state and federal grants	\$1 Million
Extreme Temperatures	ET-1 No actions are currently being considered/All mitigation actions are ongoing, discontinued, or complete.						
Flooding	FL-a. Ongoing -- Incorporate Flood Mitigation in Local Planning. The City Planning Department continues to incorporate flood mitigation into local	1	City Planning Dept.		O		

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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SECTION 3. JURISTITION PROFILES AND MITIGATION STRATEGIES –NOOKSACK

City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1) Goals	(2) Lead Responsibility	(3) Priority	(4) Timeline	(5) Funding Source	(6) Estimat ed Cost
Hazard	Action Items						
	planning, including as part of the 2016 update of the city critical areas ordinance, the 2019 adoption of new FEMA flood insurance rate maps, and updates to the County comprehensive flood hazard management plan currently underway.						
	<i>FL-b. Ongoing -- Form Partnerships to Support Floodplain Management.</i> The City Planning and Public Works Departments continue to work to form partnerships that support floodplain management, including working closely with County long-range and current planning divisions and the County Public Works River and Flood Division.	4	City Planning and Public Works Dept.		O		
	<i>FL-c. Ongoing -- Limit or Restrict Development in Floodplain Areas.</i> The City Planning, Building and Public Works Departments continue to limit development in floodplain areas through amendment and enforcement of City critical areas ordinance regulations, national flood insurance program requirements, and city building codes.	1,3	City Planning, Building, and Public Works Dept		O		
	<i>FL-d. Ongoing -- Improve Stormwater</i>	1,5	City Planning		O		

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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SECTION 3. JURISTITION PROFILES AND MITIGATION STRATEGIES –NOOKSACK

City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1) Goals	(2) Lead Responsibility	(3) Priority	(4) Timeline	(5) Funding Source	(6) Estimat ed Cost
Hazard	Action Items						
	<p>Management Planning. The City Planning Department continues to improve planning, regulation and enforcement related to stormwater management, including through 2016 updates to the City comprehensive plan and the 2016 adoption of the state stormwater management manual for Western Washington.</p>		Dept.				
	<p>FL-e. Ongoing -- Improve Flood Risk Assessment. The City Public Works Department continues to assess risks related to flooding, including through participation in the federal RISK Map assessment efforts.</p>	1,2	City Public Works Dept		0		
	<p>FL-f. Ongoing -- Join or Improve Compliance with NFIP. The City continues to participate in the National Flood Insurance Program (NFIP). The City Planning, Building and Public Works Departments continue to work to improve compliance with the NFIP, including through adoption of 2019 amendments to the City's NFIP ordinance that included updated flood insurance rate maps.</p>	1,4	City Planning, Building, and Public Works Dept		0		
	<p>FL-g. Ongoing -- Manage the Floodplain</p>	1,3,5	City Planning,		0		

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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SECTION 3. JURISTITION PROFILES AND MITIGATION STRATEGIES –NOOKSACK

City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1) Goals	(2) Lead Responsibility	(3) Priority	(4) Timeline	(5) Funding Source	(6) Estimat ed Cost
Hazard	Action Items						
	Beyond Minimum Requirements. The City Planning and Building Departments continue to manage floodplains beyond minimum requirements, including through amendment of critical areas and floodplain management regulations that require extra elevation of critical facilities and prohibit the placement of fill within floodplains except under certain conditions.		Building Dept				
	FL-h. Ongoing -- Establish Local Funding Mechanisms for Flood Mitigation. The County Flood Control Zone District continues to make locally generated district funds available for local projects, including the purchase of open space areas located in designated floodways adjacent to Nooksack.	1	County Flood Control Zone District		O		
	FL-i. Ongoing -- Improve Stormwater Drainage System Capacity. The City Public Works Department continues to work to improve stormwater drainage system capacity through annual system upgrades and maintenance projects.	1,5	City Public Works Dept.		O		
	FL-j. Ongoing -- Conduct Regular	1,5	City Public Works		O		

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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SECTION 3. JURISTITION PROFILES AND MITIGATION STRATEGIES –NOOKSACK

City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1) Goals	(2) Lead Responsibility	(3) Priority	(4) Timeline	(5) Funding Source	(6) Estimat ed Cost
Hazard	Action Items						
	<p>Maintenance for Drainage Systems and Flood Control Structures. The City Public Works Department continues to work to improve stormwater drainage system capacity through annual maintenance projects, such as inspection and clearing of stormwater conveyance systems.</p>		Dept.				
	<p>FL-k. Ongoing -- Preserve Floodplains as Open Space. The City Planning Department continues to work to preserve floodplains as open space, including through the recording of restrictive covenants required in conjunction with approved subdivisions.</p>	1,3	City Planning Dept.		O		
	<p>FL-1 Mitigate Nooksack Slough. Remove sediment deposited from the Sumas River that blocks the section of the Nooksack Slough Between Gillies Road and the Sumas River</p>	1, 3, 4	Nooksack City Council. Whatcom County	H	M	Local sources, and state and federal grants	\$300,000
Landslide/ Erosion	ER-1 No actions are currently being considered/All mitigation actions are ongoing, discontinued, or complete.						

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1) Goals	(2) Lead Responsibility	(3) Priority	(4) Timeline	(5) Funding Source	(6) Estimat ed Cost
Hazard	Action Items						
Land Subsidence	SU-a. Ongoing -- Map and Assess Vulnerability to Subsidence. The City Planning Department continues to map and assess vulnerability to subsidence, including through 2016 updates to the City critical areas ordinance.	1,2	City Planning Dept.		O		
	SU-b. Ongoing -- Manage Development in High-Risk Areas. The City Building Department continues to manage development in high-risk areas, including through required geologically hazardous area site assessment reports.	1	City Building Dept.		O		
Lightning	L-1 No actions are currently being considered/All mitigation actions are ongoing, discontinued, or complete.						
Severe Storms	SS-1 No actions are currently being considered/All mitigation actions are ongoing, discontinued, or complete.						
Severe Wind	SW-a. Ongoing -- Protect Power Lines and Infrastructure. The City Public Works	1,5	City Public Works Dept.		O		

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1)	(2)	(3)	(4)	(5)	(6)
Hazard	Action Items	Goals	Lead Responsibility	Priority	Timeline	Funding Source	Estimated Cost
	Department continues to work to protect power lines and infrastructure through as-needed inspections following major wind events and coordination with Puget Sound Energy.						
	SW-b. Retrofit Public Buildings and Critical Facilities. The City Public Works Department continues to work to protect public buildings and infrastructure, including through undergrounding of power lines and provision of back-up power generation at critical facilities.	1,5	City Public Works Dept.		0		
Tornadoes	T-1 No actions are currently being considered/All mitigation actions are ongoing, discontinued, or complete.						
Tsunami	NA						
Wildfires	WF-1 No actions are currently being considered/All mitigation actions are						

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1) Goals	(2) Lead Responsibility	(3) Priority	(4) Timeline	(5) Funding Source	(6) Estimat ed Cost
Hazard	Action Items						
	ongoing, discontinued, or complete.						
Winter Storms/ Freezes (Severe Winter Weather)	WW-a. Ongoing -- Protect Buildings and Infrastructure. The City Public Works Department continues to work to protect public buildings and infrastructure from severe winter storms, including through replacing and upgrading all City water meters to increase system resiliency.	1,5	City Public Works		O		
	WW-b. Ongoing -- Protect Power Lines. The City Public Works Department continues to work to protect power lines through as-needed inspections following major winter storm events and coordination with Puget Sound Energy.	1,5	City Public Works		O		
	WW-c. Ongoing -- Reduce Impacts to Roadways. The City Public Works Department continues to work to reduce impacts to roadways, including through implementation of road closures during major freeze/thaw events.	1,5	City Public Works		O		
Multi Hazard	MU-a. Ongoing -- Assess Community Risk. The City Planning and Public Works	1,2	City Planning Public Works		O		

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1) Goals	(2) Lead Responsibility	(3) Priority	(4) Timeline	(5) Funding Source	(6) Estimat ed Cost
Hazard	Action Items						
	Departments continue to assess risks to the public from natural hazards, including through review of repetitive loss properties and review and adoption of updated hazard maps.		Depts.				
	MU-b. Ongoing -- Map Community Risk. The City Planning Department continues to work to map natural hazard areas and assess the risks associated with such areas, including through the 2016 update of the City’s critical areas ordinance.	1,2	City Planning Dept.		0		
	MU-c. Ongoing -- Prevent Development in Hazard Areas. The City Building and Planning Departments continue to prevent development in hazard areas, including through enforcement of floodway, steep slopes and erosion hazard area regulations.	1,3	City Building and Planning Depts.		0		
	MU-d. Ongoing -- Adopt Development Regulations in Hazard Areas. The City Building and Planning Departments continue to work to adopt regulations addressing hazard areas, including through the 2016 update to the City’s critical areas ordinance	1	City Building and Planning Depts.		0		

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1) Goals	(2) Lead Responsibility	(3) Priority	(4) Timeline	(5) Funding Source	(6) Estimat ed Cost
Hazard	Action Items						
	and the 2019 adoption of updated FEMA flood insurance rate maps and National Flood Insurance Program ordinance.						
	MU-e. Ongoing -- Limit Density in Hazard Areas. The City Planning Department continues to work to limit density in hazard areas, including through adoption of floodway regulations and establishment of low-density zones in hazard areas, such as Open Space/Agriculture.	1	City Planning Dept.		0		
	MU-f. Ongoing -- Integrate Mitigation into Local Planning. The City Planning Department continues to integrate mitigation into local planning, including through establishment and enforcement of mitigation requirements under the City's critical areas regulations.	1,4	City Planning Dept.		0		
	MU-g. Ongoing -- Strengthen Land Use Regulations. The City Planning Department continues to work to strengthen local land use regulations, including through the 2016 update of the City's critical areas ordinance and 2019 updates to the City's National Flood	1,4	City Planning Dept.		0		

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1) Goals	(2) Lead Responsibility	(3) Priority	(4) Timeline	(5) Funding Source	(6) Estimat ed Cost
Hazard	Action Items						
	Insurance Program ordinance.						
	MU-h. Ongoing -- Monitor Mitigation Plan Implementation. The City Planning and Public Works Departments continue to monitor implementation of the Natural Hazards Mitigation Plan through the required annual review process.	1	City Planning and Public Works Depts.		0		
	MU-i. Ongoing -- Protect Structures. The City Building and Public Works Departments continue to work to protect structures within the City through enforcement of local building codes and critical areas regulations.	1	City Building and Public Works Depts.		0		
	MU-j. Ongoing -- Protect Infrastructure and Critical Facilities. The City Public Works Department continues to work to protect infrastructure and critical facilities, including through regular inspections, annual maintenance projects and capital improvement projects, such as elevating critical facilities above minimum standards.	1,5	Public Works Dept.		0		
	MU-k. Ongoing -- Increase Hazard Education and Risk Awareness. The City Public Works	2	Public Works Dept.		0		

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1) Goals	(2) Lead Responsibility	(3) Priority	(4) Timeline	(5) Funding Source	(6) Estimat ed Cost
Hazard	Action Items						
	Department continues to work to increase hazard education and risk awareness, including through informational materials sent out with monthly utility bills.						
	MU-1 Tone Radio Based Early Warning System Tone Radios turn on when triggered by a central transmitter and then information or instructions are announced over the radio. Such a system is currently used for various types of weather radios, for tornados and severe storms hazard areas. A similar system could be put into place for warning of flooding, lahars, and other related natural hazards.	1, 2, 5	Whatcom County Department of Emergency Management, NOAA Radio		L	Local sources, and state and federal grants	
Advanced Mitigation Projects (Dream List)	Earthquake Early Warning System Such a system could warn residence of an impending earthquake. Technology doesn't currently exist for such a system, but will likely be possible in the future.	1, 2, 5	Federal, State, County, and local entities	L	L	Local sources, and state and federal grants	Unknow n

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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City of Nooksack IDENTIFIED MITIGATION ACTIONS 2021-2025							
MITIGATION ACTIONS		(1) Goals	(2) Lead Responsibility	(3) Priority	(4) Timeline	(5) Funding Source	(6) Estimat ed Cost
Hazard	Action Items						
	Mitigate against 100-year flood event or volcanic lahar	1, 2, 5	DEM	L	L	Local sources, and state and federal grants	Unknow n
	<p>Cell Phone-Based Early Warning System A computerized early warning system that automatically dials each landline telephone number within a specified area, and play a recorded message when the phone is answered is currently provided to the City by the Whatcom County Sheriff's Office Division of Emergency Management. A larger capacity system that can also contact cell phones through the use of a federally licensed COG would help to address a variety of natural and manmade problems.</p>	1, 2, 5	WCDEM/LFD	L	L	Local sources, and state and federal grants	Unknow n

Priority: H (High); M (Medium); L (Low)	Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	Funding Source: Local; State; FEMA; Private; Other	Estimated Cost: Actual; Estimated
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Nooksack Annual Review and Progress for Hazard-Specific Mitigation Actions 2021-2025

Progress monitoring means tracking the implementation of the hazard specific mitigation actions over time. Each jurisdiction must identify how, when, and by whom action items will be monitored. The responsible agency assigned to each mitigation action is responsible for tracking and reporting on each of their actions.

Annual review and progress reporting includes the following:

- Step One:** Identify mitigation actions that your planning team has identified for the annual review. The planning team has the option to address ALL action items, or only those that should be acted on during each review cycle.
- Step Two:** Use the table below to track annual progress. For each action item selected for annual review insert the appropriate letter that indicates the status of that action item.
- Step Three:** Complete a progress report form as illustrated in Appendix G for each mitigation action item selected for annual review
- Step Four:** Submit the completed form(s) to the Whatcom County DEM.



City of Nooksack Hazard-Specific Action Items 2021-2025 – Annual Review and Progress						
Action Items	Status (Choose One & Enter Letter):					Notes on yearly progress
	2021	2022	2023	2024	2025	
GENERAL: ALL HAZARDS						
<i>G-a. Adopt and enforce building codes.</i>						
<i>Add New Action Items if Applicable</i>						
DAM/LEEVE FAILURES						
<i>Add New Action Items if Applicable</i>						
DROUGHTS/HEAT WAVES						
<i>D-a. Assess Vulnerability to Drought Risk.</i>						
<i>D-b. Monitor Drought Conditions.</i>						
<i>D-c. Monitor Water Supply.</i>						
<i>D-d. Plan for Drought.</i>						
<i>D-e. Require Water Conservation During Drought Conditions.</i>						
<i>D-f. Educate Residents on Water Saving Techniques.</i>						
<i>Add New Action Items if Applicable</i>						
EARTHQUAKES						
<i>EQ-a. Incorporate Earthquake Mitigation into Local Planning.</i>						
<i>EQ-b. Map and Assess Community Vulnerability to Seismic Hazards.</i>						
<i>EQ-c. Conduct Inspections of Building Safety.</i>						
<i>EQ-d. Protect Critical Facilities and</i>						



City of Nooksack Hazard-Specific Action Items 2021-2025 – Annual Review and Progress						
Action Items	Status (Choose One & Enter Letter):					Notes on yearly progress
	2021	2022	2023	2024	2025	
Infrastructure.						
EQ-1 Retrofit City Hall						
Add New Action Items if Applicable						
VOLCANO						
VOL-1 Lahar Early Warning System						
Add New Action Items if Applicable						
FLOODING						
FL-a. Incorporate Flood Mitigation in Local Planning.						
FL-b. Form Partnerships to Support Floodplain Management.						
FL-c. Limit or Restrict Development in Floodplain Areas.						
FL-d. Improve Stormwater Management Planning.						
FL-e. Improve Flood Risk Assessment.						
FL-f. Join or Improve Compliance with NFIP.						
FL-g. Manage the Floodplain Beyond Minimum Requirements.						
FL-h. Establish Local Funding Mechanisms for Flood Mitigation.						
FL-i. Improve Stormwater Drainage System Capacity						
FL-j. Conduct Regular Maintenance for Drainage Systems and Flood Control Structures.						



City of Nooksack Hazard-Specific Action Items 2021-2025 – Annual Review and Progress						
Action Items	Status (Choose One & Enter Letter):					Notes on yearly progress
	2021	2022	2023	2024	2025	
FL-k. Preserve Floodplains as Open Space.						
FL-1 Mitigate Nooksack Slough						
Add New Action Items if Applicable						
LANDSLIDES/EROSION						
Add New Action Items if Applicable						
LAND SUBSIDENCE						
SU-a. Map and Assess Vulnerability to Subsidence.						
SU-b. Manage Development in High-Risk Areas.						
Add New Action Items if Applicable						
TORNADOES						
Add New Action Items if Applicable						
TSUNAMI						
Add New Action Items if Applicable						
WILDFIRES						
Add New Action Items if Applicable						
WINTER STORMS/FREEZES (SEVERE WINTER WEATHER)						
WW-a. Protect Buildings and Infrastructure.						
WW-b. Protect Power Lines.						
WW-c. Reduce Impacts to Roadways.						
Add New Action Items if Applicable						



City of Nooksack Hazard-Specific Action Items 2021-2025 – Annual Review and Progress						
Action Items	Status (Choose One & Enter Letter):					Notes on yearly progress
	2021	2022	2023	2024	2025	
EXTREME TEMPERATURES						
<i>Add New Action Items if Applicable</i>						
LANDSLIDE						
<i>Add New Action Items if Applicable</i>						
LIGHTNING						
<i>Add New Action Items if Applicable</i>						
SEVERE WIND						
<i>SW-a. Protect Power Lines and Infrastructure.</i>						
<i>SW-b. Retrofit Public Buildings and Critical Facilities.</i>						
<i>Add New Action Items if Applicable</i>						
MULTIPLE HAZARDS						
<i>MU-a. Assess Community Risk.</i>						
<i>MU-b. Map Community Risk.</i>						
<i>MU-c. Prevent Development in Hazard Areas.</i>						
<i>MU-d. Adopt Development Regulations in Hazard Areas.</i>						
<i>MU-e. Limit Density in Hazard Areas.</i>						
<i>MU-f. Integrate Mitigation into Local Planning.</i>						
<i>MU-g. Strengthen Land Use Regulations.</i>						
<i>MU-h. Monitor Mitigation Plan Implementation.</i>						



City of Nooksack Hazard-Specific Action Items 2021-2025 – Annual Review and Progress						
Action Items	Status (Choose One & Enter Letter):					Notes on yearly progress
	2021	2022	2023	2024	2025	
<i>MU-i. Protect Structures.</i>						
<i>MU-j. Protect Infrastructure and Critical Facilities.</i>						
<i>MU-k. Increase Hazard Education and Risk Awareness.</i>						
MU-1 Tone Radio Based Early Warning System						
<i>Add New Action Items if Applicable</i>						



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