

**Skagit County
MULTI-JURISDICTION HAZARD MITIGATION PLAN
2020 UPDATE**

VOLUME 2: PLANNING PARTNER ANNEXES

FINAL

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Prepared for:
Skagit County Department of Emergency Management

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Skagit County
2020 Multi-Jurisdiction Hazard Mitigation Plan Update
Volume 2—Planning Partner Annexes

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Appendices

- A. Planning Partner Expectations
- B. Steering Committee Ground Rules
- C. Procedures for Linking to the Hazard Mitigation Plan Update

CHAPTER 1.

PLANNING PARTNER PARTICIPATION

1.1 BACKGROUND

The Federal Emergency Management Agency (FEMA) encourages multi-jurisdictional planning for hazard mitigation. Such planning efforts require all participating jurisdictions to fully participate in the process and formally adopt the resulting planning document. Chapter 44 of the Code of Federal Regulations (44 CFR) states:

Multi-jurisdictional plans (e.g. watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan. (Section 201.6.a(4))

In the preparation of the *Skagit County 2020 Multi-Jurisdiction Hazard Mitigation Plan Update*, a Planning Partnership was formed to leverage resources and to meet requirements of the federal Disaster Mitigation Act of 2000 (DMA) for as many eligible local governments in Skagit County as possible. The DMA defines a local government as follows:

Any county, municipality, city, town, township, public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; any Indian tribe or authorized tribal organization, or Alaska Native village or organization; and any rural community, unincorporated town or village, or other public entity.

There are two types of Planning Partners in this process, with distinct needs and capabilities:

- Incorporated municipalities (cities and towns)
- Special purpose districts (e.g., fire, hospital, school, water)
- For purposes of this update, the County elected to utilize the base plan as its document, with specific county data identified within the various tables within Volume 1.

1.2 THE PLANNING PARTNERSHIP

Initial Solicitation and Letters of Intent

The planning team solicited the participation of the County and recognized special purpose districts at the outset of this project. Initial letters and emails were sent out in March 2019 to identify potential stakeholders for this process. The purpose of the letter was to introduce the planning process to jurisdictions in the County that could have a stake in the outcome of the planning effort, as well as to invite participation in the effort.

The planning process kickoff meeting was held at the Richeson Training Room in Skagit County on May 28, 2019 to solicit planning partners and inform potential partners of the benefits of participation in this effort. County-identified eligible local governments within the planning area were invited to attend; a press release of the meeting was also published. Various agency and citizen stakeholders were also invited to this meeting. The goals of the meeting were as follows:

- Provide an overview of the Disaster Mitigation Act.
- Provide an update on the planning grant.
- Outline the Skagit County plan update work plan.
- Describe the benefits of multi-jurisdictional planning.
- Solicit planning partners.
- Confirm a Steering Committee.

All interested local governments were provided with a list of planning partner expectations developed by the planning team and were informed of the obligations required for participation. Local governments wishing to join the planning effort were asked to provide the planning team with a “notice of intent to participate” that agreed to the planning partner expectations (see Appendix A) and designated a point of contact for their jurisdiction. Once formal commitment was received from the planning partners, and the Skagit County Planning Partnership was formed. Additional information on the formation on the process is contained within Chapter 2 of Volume 1.

Planning Partner Expectations

The County’s planning team developed the following list of planning partner expectations, which were confirmed at the meeting held on May 28, 2019:

- Each partner will provide a “Letter of Intent to Participate.”
- Each partner will support and participate in the development of the update by providing requested information. Support includes this body making decisions regarding plan development and scope on behalf of the partnership.
- Each partner will provide support for the public involvement strategy developed by the planning team in the form of mailing lists, possible meeting space, and media outreach such as newsletters, newspapers or direct-mailed brochures.
- Each partner will participate in plan update development activities such as:
 - Steering Committee meetings
 - Public meetings or open houses
 - Workshops and planning partner sessions
 - Public review and comment periods prior to adoption.

Attendance will be tracked at such activities, and attendance records will be used to track and document participation for each planning partner. A minimum level of participation was established and confirmed.

- Each partner will be expected to perform a “consistency review” of all technical studies, plans, and ordinances specific to hazards identified within the planning area to determine the existence of plans, studies or ordinances not consistent with the equivalent documents reviewed in preparation of the County plan. For example: if a planning partner has a floodplain management plan that makes recommendations that are not consistent with any of the County’s basin plans, that plan will need to be reviewed for probable incorporation into the plan for the partner’s area.
- Each partner will be expected to review the risk assessment and identify hazards and vulnerabilities specific to its jurisdiction. County or contract resources will provide

jurisdiction-specific mapping and technical consultation to aid in this task if unavailable by the local jurisdiction, but the determination of risk and vulnerability will be up to each partner.

- Each partner will be expected to review the mitigation recommendations chosen for the overall county and determine if they will meet the needs of its jurisdiction. Projects within each jurisdiction consistent with the overall plan recommendations will need to be identified, prioritized and reviewed to determine their benefits and costs.
- Each partner will be required to create its own action plan that identifies each project, who will oversee the task, how it will be financed and when it is estimated to occur.
- Each partner will be required to sponsor or take part in at least one public meeting to present the draft plan at least two weeks prior to adoption (various ways in which this may be met).
- Each partner will be required to formally adopt the plan.

It should be noted that by adopting this plan, each planning partner also agrees to the plan implementation and maintenance protocol established in Volume 1. Failure to meet these criteria may result in a partner being dropped from the partnership, and thus losing eligibility under the scope of this plan.

Linkage Procedures

Eligible local jurisdictions that did not participate in development of this hazard mitigation plan update may comply with DMA requirements by linking to this plan following the procedures outlined in Appendix C.

1.3 ANNEX-PREPARATION PROCESS

Templates

Templates were created to help the Planning Partners prepare their jurisdiction-specific annexes. Since special purpose districts operate differently from incorporated municipalities, separate templates were created for the two types of jurisdictions. The templates were created so that all criteria of 44 CFR Section 201.6 would be met, based on the partners' capabilities and mode of operation. If templates were not completed in advance, each partner was required to participate in a technical assistance workshop during which key elements of the template were completed by a designated point of contact for each partner. The templates were set up to lead each partner through a series of steps that would generate the DMA-required elements that are specific for each partner.

Workshop

Workshops were held for Planning Partners to learn about the templates and the overall planning process. In addition to the workshops, one-on-one meetings and/or telephone conferences were also held to provide assistance. Topics addressed included the following:

- DMA
- Skagit County plan background
- The Annex templates and Instructions
- Risk ranking (Calculated Priority Risk Index - CPRI)
- Developing an action plan
- Cost/benefit review.

The sessions provided technical assistance and an overview of the template completion process. Attendance at this workshop was mandatory under the planning partner expectations.

In the risk-ranking exercise, each planning partner was asked to rank each risk specifically for its jurisdiction, based on the impact on its population or facilities. Cities, towns and tribal partners were asked to base this ranking on probability of occurrence and the potential impact on people, property and the economy. Special purpose districts were asked to base this ranking on probability of occurrence and the potential impact on their constituency, their vital facilities and the facilities' functionality after an event. The methodology followed that used for the countywide risk ranking presented in Volume 1. A principal objective of this exercise was to familiarize the partnership with how to use the risk assessment as a tool to support other planning and hazard mitigation processes. Tools utilized during these sessions included the following:

- The risk assessment results developed for this plan, including identification of critical facilities impacted via an excel spreadsheet, and a loss matrix by municipal jurisdiction.
- Hazard maps for all hazards of concern.
- Special district boundary maps that illustrated the sphere of influence for each special purpose district partner.
- Hazard mitigation catalogs.
- Federal funding and technical assistance catalogs.
- Copies of partners' prior annexes, if applicable.
- Calculated Priority Risk Ranking Excel Worksheet and Table.
- Loss Matrices, Critical Facility Exposure and Impact Tables, and other database attribute tables.

Prioritization

44 CFR requires actions identified in the action plan to be prioritized (Section 201.c.3.iii). The Steering Committee developed a methodology for prioritizing the action plans that meets the needs of the partnership and the requirements of 44 CFR. The actions were prioritized according to the following criteria:

- **High Priority**—Project meets multiple plan objectives, benefits exceed cost, funding is secured under existing programs, or is grant eligible, and project can be completed in 1 to 5 years (i.e., short term project) once funded.
- **Medium Priority**—Project meets at least 1 plan objective, benefits exceed costs, requires special funding authorization under existing programs, grant eligibility is questionable, and project can be completed in 1 to 5 years once funded.
- **Low Priority**—Project will mitigate the risk of a hazard, benefits exceed costs, funding has not been secured, project is not grant eligible, and timeline for completion is long term (5 to 10 years).

These priority definitions are dynamic and can change from one category to another based on changes to a parameter such as availability of funding. For example, a project might be assigned a medium priority because of the uncertainty of a funding source, but be changed to high once a funding source has been identified. The prioritization schedule for this plan will be reviewed and updated as needed annually through the plan maintenance strategy.

Benefit/Cost Review

44 CFR requires the prioritization of the action plan to emphasize a benefit/cost analysis of the proposed actions. Because some actions may not be implemented for up to 10 years, benefit/cost analysis was qualitative and not of the detail required by FEMA for project grant eligibility under the Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation (PDM) grant program. A review of the apparent benefits versus the apparent cost of each project was performed. Parameters were established for assigning subjective ratings (high, medium, and low) to costs and benefits. Assigning cost was also somewhat subjective, and based on the entity's own specific realization of the cost factor, which may vary depending on each planning partner. The application of cost factor is as follows:

- Cost ratings:
 - **High**—Existing funding levels are not adequate to cover the costs of the proposed action; implementation would require an increase in revenue through an alternative source (for example, bonds, grants, and fee increases).
 - **Medium**—The action could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the action would have to be spread over multiple years.
 - **Low**—The action could be funded under the existing budget. The action is part of or can be part of an existing, ongoing program.
- Benefit ratings:
 - **High**—The action will have an immediate impact on the reduction of risk exposure to life and property.
 - **Medium**—The action will have a long-term impact on the reduction of risk exposure to life and property or will provide an immediate reduction in the risk exposure to property.
 - **Low**—Long-term benefits of the action are difficult to quantify in the short term.

Using this approach, projects with positive benefit versus cost ratios (such as high over high, high over medium, medium over low, etc.) are considered cost-beneficial and are prioritized accordingly.

It should be noted that for many of the strategies identified in this action plan, funding might be sought under FEMA's HMGP or PDM programs. Both of these programs require detailed benefit/cost analysis as part of the application process. These analyses will be performed on projects at the time of application preparation. The FEMA benefit-cost model will be used to perform this review. For projects not seeking financial assistance from grant programs that require this sort of analysis, the Partners reserve the right to define "benefits" according to parameters that meet their needs and the goals and objectives of this plan.

Analysis of Mitigation Initiatives

Each planning partner reviewed its recommended initiatives to classify each initiative based on the hazard it addresses and the type of mitigation it involves. Mitigation types used for this categorization are as follows:

- **Prevention** - Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. This includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.

- **Public Information and Education** - Public information campaigns or activities which inform citizens and elected officials about hazards and ways to mitigate them – a public education or awareness campaign, including efforts such as: real estate disclosure, hazard information centers, and school-age and adult education, all of which bring awareness of the hazards of concern.
- **Structural Projects** —Efforts taken to secure against acts of terrorism, manmade, or natural disasters. Types of projects include levees, reservoirs, channel improvements, or barricades which stop vehicles from approaching structures to protect.
- **Property Protection** – Actions taken that protect the properties. Types of efforts include: structural retrofit, property acquisition, elevation, relocation, insurance, storm shutters, shatter-resistant glass, sediment and erosion control, stream corridor restoration, etc. Protection can be at the individual homeowner level, or a service provided by police, fire, emergency management, or other public safety entities.
- **Emergency Services / Response** —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 (e.g., sandbagging).
- **Natural Resource Protection** – Wetlands and floodplain protection, natural and beneficial uses of the floodplain, and best management practices. These include actions that 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.
- **Recovery** —Actions that involve the construction or re-construction of structures in such a way as to reduce the impact of a hazard, or that assist in rebuilding or re-establishing a community after a disaster incident. It also includes advance planning to address recovery efforts which will take place after a disaster. Efforts are focused on re-establishing the planning region in such a way as enhance resiliency and reduce impacts to future incidents. Recovery differs from response, which occurs during, or immediately after an incident. Recovery views long-range, sustainable efforts.

1.4 FINAL COVERAGE UNDER THE PLAN

The majority of the committed planning partners fully met the established participation requirements. Those that met all requirements submitted completed templates. Table 1-1 identifies those partners submitting annex documents for inclusion in this plan.

Table 1-1 Planning Partner Status				
Jurisdiction	Letter of Intent Submitted	Attended Workshop?	Completed Template?	Will Be Covered by This Plan?
City of Anacortes	Yes	No	Yes	Yes
City of Burlington	Yes	Yes	No	No
City of Mount Vernon	Yes	No	Yes	Yes
City of Sedro-Woolley	Yes	Yes	Yes	Yes
Town of Concrete	Yes	No	Yes	Yes
Town of Hamilton	Yes	Yes	Yes	Yes
Town of La Conner	Yes	No	No	No
Town of Lyman	Yes	No	No	No
Concrete School District	Yes	Yes	Yes	Yes
Sauk-Suiattle Indian Tribe (Individual Plan)	Yes	No	No	No
Swinomish Indian Tribe	Yes	Yes	Yes	Yes
Upper Skagit Indian Tribe (Pending completion)	Yes	Yes	Not as of State/FEMA review	Not as of State/FEMA review
Skagit County PUD	Yes	Yes	Yes	Yes
Skagit County Dike Drainage Consortium representing multiple Dike, Drainage and Irrigation Districts	Yes	Yes	Yes	Yes

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CHAPTER 2. CITY OF ANACORTES ANNEX

2.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the City of Anacortes, a participating jurisdiction to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the City of Anacortes. For planning purposes, this Annex provides additional information specific to the jurisdiction, with a focus on providing greater details on the risk assessment and mitigation strategy for this community only. This document serves as an update to the previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

2.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The City of Anacortes followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the City of Anacortes also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Dave A. Oliveri, Fire Chief 1016 13 th Street Anacortes, WA, 98221 (360) 293-1925 davido@cityofanacortes.org	Primary Point of Contact, Fire Chief	Review, modify, update the plan
Fred Buckenmeyer P.O. Box 547 Anacortes, WA, 98221 (360) 299-1954 fredb@cityofancortes.org	Alternate Point of Contact, Director of Public Works	Review, modify, update the plan
Don Measamer P.O. Box 547 Anacortes, WA, 98221 (360) 299-1942 don@cityofanacortes.org	Alternate Point of Contact, Director of Planning, Community, and Economic Development	Review, modify, update the plan

2.3 COMMUNITY PROFILE

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

- **Date of Incorporation**—1891
- **Current Population**— 17,610 as of April 2019 (2019 OFM estimate)
- **Population Growth**—Anacortes has experienced steady growth with new & redevelopment over the past two decades. The overall population has increased by 11.8% since 2010 and has averaged approximately 1.2% per year.
- **Location and Description**— The City of Anacortes is located in western Skagit County on the northern portion of Fidalgo Island. The City encompasses approximately 9,800 acres (15 sq. miles) with approximately 20.4 miles of saltwater shoreline along Burrows Bay, Guemes Channel, Fidalgo Bay, and Padilla Bay. City parks and community forest land account for nearly half of the City’s total area. There are four freshwater lakes, including Little Cranberry, Heart Lake, Whistle Lake, and a portion of Lake Erie. Elevations vary from sea level to 1,270 feet at the top of Mount Erie.
- **Brief History**— For thousands of years prior to incorporation, the area that is now known as Anacortes and its surroundings was home to communities of Native Americans who maintained a culture centered on the abundant saltwater resources. Settlement by Americans and Europeans began in the 1850’s. In 1855, representatives of the tribes and the United States signed the Treaty of Point Elliot, which ceded tribal lands and reserved the southeast peninsula of Fidalgo Island for reservation and future use. In 1889, the settlement was thrust into boom period based on speculation that a western terminal of the transcontinental railroad would be developed in Anacortes to take advantage of the area’s natural deep water harbor. Anacortes was incorporated in 1891 and a local railway soon arrived, but the transcontinental railroad terminus failed to materialize. By the 1890’s the City’s prosperity was based on local natural resources of lumber and fisheries, until the 1950’s when technological changes and resource depletion began to erode the strength of the natural resources base. In 1950’s two refineries were built on March Point. Today, Anacortes is the largest seaport in Skagit County and the County’s second largest city.
- **Climate**— Anacortes temperatures are relatively mild. Summer daytime mean temperatures are in the 70’s with night-time temperatures in the 50’s. Maximum temperatures reach 80 to 85 degrees, with a few 90 to 100 degree days recorded. The highest and lowest relative humidity are recorded during periods of easterly winds. December and January are the coldest months, with average minimum temperatures in the mid-30’s.

The prevailing wind direction is from the southeast in winter and southwest in summer. During late spring and summer, a prevailing westerly and northwesterly flow of air into Puget Sound brings a dry season beginning in May which reaches a peak in July. In late fall and winter, a prevailing southwesterly and westerly air flow from the Pacific Ocean results in a wet season beginning in October which lasts until the beginning of the dry season in May. During winter, the combined influence of low pressure systems off the Pacific coast and cold air from the Fraser River Canyon produce strong northeasterly winds. Although it is not uncommon to have 30 to 40 knot winds under these conditions, the short fetch in the Anacortes area usually limits wind generated wave heights to not more than six feet. Wind gusts up to 73 miles per hour and sustained westerly velocities up to 54 miles per hour have been recorded.

Total precipitation for December is less than 1.9 inches in one winter out of ten; it exceeds 6.5 inches in one winter out of ten. Annual precipitation is less than 18 inches in one year out of ten and it exceeds 33 inches in one out of 10 winters. Most winter precipitation falls as rain,

but it is not uncommon to have 3 to 10 inches of snow. Thunderstorms occur 5 to 10 days a year. Most occur in the summer, but they have been recorded in each month of the year.

- **Governing Body Format**—The City of Anacortes is governed by the Mayor and (7) City Council members that set policy and oversee the various city departments.
- **Development Trends**—Development over the past 20 years has consisted primarily of single family residential housing, which accounts for about 24% of the land use in the community. Multifamily residential development accounts for only 2%. Anacortes has two large areas of undeveloped or underdeveloped property in commercial and industrial areas – the central Fidalgo Bay properties (between 17th and 34th Streets, east of R Ave.) and industrial areas adjacent to SR-20 from approximately Reservation Road to Sharpe’s Corner. The remaining unincorporated Urban Growth Area includes the Shell and Marathon refineries on March Point, and vacant and partially developed land, with scattered industrial development along Padilla Heights Road.

Future growth projections identify a population of 22,293 people by 2036. Recent changes were made to the Comprehensive Plan and implementing development regulations to encourage higher density residential and mixed use development in areas close to downtown and Commercial Avenue, and to promote infill development in lower density residential areas to help meet the community’s housing affordability and diversity goals.

With respect to Anacortes’ land use development trends, the city’s implementation of the new Planning, Zoning & Development guidelines in 2019 has significantly reduced the risk level of flooding events within Anacortes. These updated guidelines adhere to current regulations at the State and Federal level, and follow best practices in order to protect the land while better regulating land use and development throughout the city. Planners, engineers, surveyors & professionals fluent in construction practices and a keen understanding of natural hazards such as flooding are all part of city staff in Public Works & PCED. These professionals provide detailed extensive knowledge of the city’s risk level and work continually to identify methods to reduce and eliminate these risks wherever possible.

Since 2014, Anacortes has undertaken and/or completed many street and road projects that decrease the areas risk level from flooding. New roadways are designed and constructed to control water run-off with adequate curbing and water drainage features. Because Anacortes is responsible for all of its own street maintenance as well as storm water run-off, the city has been proactive with many areas that were subject to flooding but now are not. Due to this proactive stance, the vulnerability and risk level from hazards of concern has been reduced, with no new vulnerability as a result of development beyond discussed.

- **Economy** – The City of Anacortes’ economic base primarily consists of manufacturing, health care, leisure and hospitality industries. Prominent employers as Island Hospital, Dakota Creek Industries, Trident Seafood and various small visitor oriented businesses. The marine industry is a major part of Anacortes’s economy, including ship and boat building, seafood product preparation/packaging, marine cargo handling, boat moorage and storage, marinas, boat dealers, charters, and other marine related businesses. In 2019, the Anacortes City Council adopted the Anacortes Maritime Strategic Plan, which aims to establish Anacortes as the Pacific Northwest’s center for the emerging future maritime industry and a regional and international designation for marine-related tourism.

The jurisdiction boundaries are identified in the map below.

2.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. The City of Anacortes was also impacted by the same events, but has no additional impact data with respect to dollar losses. In addition to the disaster history table identified in Volume 1 of this document, Table 2-1 lists one additional occurrence of a natural hazard event within the jurisdiction. In the context of the planning region, it was determined that the City of Anacortes is also subject to Storm Surges. During the planning process, the internal planning team did assess the risk of storm surge on the City, and included that there are hazards which are unique to the jurisdiction as follows.

Table 2-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Local Area Disaster – Not Declared			
Wildfire-Anacortes Forest Lands		08/2016	None

2.5 CAPABILITY ASSESSMENT

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: National Flood Insurance Information; regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation, and classifications under various community programs.

2.6 NATIONAL FLOOD INSURANCE INFORMATION

The City of Anacortes entered the NFIP on May 5, 2003 by City ordinance 2617. Anacortes also recently completed a revision & updating of the city's Comprehensive Plan and Planning, Zoning & Development regulations in 2019. As part of this update, areas included in the NFIP were addressed to minimize, reduce &/or eliminate the impact of flooding on these properties and the city as a whole. To date, Anacortes has no identified repetitive or severe repetitive loss properties, and have no loss properties in either category that have been mitigated. The City of Anacortes does have a total of forty-two insurance policies in force covered under the NFIP with only one insurance claim made since 2014.

The Planning, Community & Economic Development department (PCED) is responsible for floodplain management within Anacortes. The Director of the PCED is the floodplain administrator, and there are several floodplain managers on city staff in either PCED or Public Works.

Anacortes also has a GIS manager on staff within Public Works that is responsible for maintaining the hazard maps that identify the flood risk within the city. In addition, Anacortes upholds local authority

and jurisdiction over the areas identified in the NFIP through building codes, zoning, subdivision and floodplain ordinances as well as storm water and growth management.

In response to storm surge flooding, the city maintains a Shoreline Master Program that adheres to the State of Washington's Shoreline Management Act. The primary purpose of the Act is to provide for the management and protection of the state's shoreline area resources by planning for reasonable and appropriate uses.

Additional information on the community's National Flood Insurance Program (NFIP) compliance is presented in Table 2-2. This identifies the current status of the jurisdiction's involvement with the NFIP.

Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 0.
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0.
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0.

Table 2-2 National Flood Insurance Compliance	
What department is responsible for floodplain management in your community?	Planning, Community & Economic Development (PCED)
Who is your community's floodplain administrator? (department/position)	Director of PCED
Do you have any certified floodplain managers on staff in your community?	Yes
What is the date of adoption of your flood damage prevention ordinance?	May 5, 2003 (Ord. 2617)
When was the most recent Community Assistance Visit or Community Assistance Contact?	N/A
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification? If not, is your community interested in joining the CRS program?	No

2.6.1 Regulatory Capability

The assessment of the jurisdiction's legal and regulatory capabilities is presented in Table 2-3. This includes planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are currently in place.

Table 2-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code	Yes			IBC & IRC – 2015 version.
Zoning Ordinance	Yes		Yes	AMC Title 19 Unified Development Code
Subdivision Ordinance	Yes		Yes	AMC Title 19 Unified Development Code
Floodplain Ordinance	Yes		Yes	AMC 17.70, Article II Frequently Flooded Areas
Stormwater Management	Yes		Yes	AMC 19.76
Post Disaster Recovery	No		Yes	
Real Estate Disclosure	No			
Growth Management	Yes		Yes	Comprehensive Plan
Site Plan Review	Yes		No	AMC Title 19 Unified Development Code
Public Health and Safety	Yes		Yes	
Coastal Zone Management	No		Yes	Shoreline Master Program
Climate Change Adaptation	Yes			
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)	Yes		Yes	AMC 17.70, Article IV, Geologically Hazardous Areas Shoreline Master Program
Environmental Protection	Yes		Yes	AMC 18.04 State Environmental Policy Act AMC 17.70 Critical Areas Regulations Shoreline Master Program
Planning Documents				
General or Comprehensive Plan	Yes			Comprehensive Plan <i>Is the plan equipped to provide linkage to this mitigation plan?</i> Yes, policy EC-3.9
Floodplain or Basin Plan		Yes		
Stormwater Plan	Yes	No	Yes	
Capital Improvement Plan	Yes	No	Yes	Capital Facilities Plan
Habitat Conservation Plan	Yes	No	No	Anacortes Community Forestland Comprehensive Plan
Economic Development Plan	No	No	No	
Shoreline Management Plan	Yes	No	Yes	Shoreline Master Program
Community Wildfire Protection Plan	Yes	No	No	As part of the HMP update process, this serves as our wildfire chapter.
Transportation Plan	Yes	No	Yes	Anacortes Comprehensive Plan
Response/Recovery Planning				
Comprehensive Emergency Management Plan	Yes		Yes	

Table 2-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Threat and Hazard Identification and Risk Assessment	Yes		Yes	
Terrorism Plan	Yes		Yes	
Post-Disaster Recovery Plan	No		Yes	
Continuity of Operations Plan	Yes			
Public Health Plans	Yes	Yes	Yes	The City relies on the County to provide these services to them.
Boards and Commission				
Planning Commission	Yes			
Mitigation Planning Committee	Yes			The City participated in the 2015 and the 2020 update to the Hazard Mitigation Plan as a Committee Member. In accordance with the Plan Maintenance Strategy, the City will remain a member in good standing on the Committee, and will assist as necessary to ensure the HMP remains a viable document.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	Yes		Yes	
Mutual Aid Agreements / Memorandums of Understanding	Yes	Yes	Yes	
Other				

2.6.2 Administrative and Technical Capabilities

The assessment of the jurisdiction's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 2-4. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 2-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	YES	Public works , PCED

Table 2-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	YES	Public works, PCED
Engineers specializing in construction practices?	YES	Public works
Planners or engineers with an understanding of natural hazards	YES	Public works, PCED
Staff with training in benefit/cost analysis	YES	Public works
Surveyors	YES	Public works
Personnel skilled or trained in GIS applications	YES	Public works
Personnel skilled or trained in Hazus use	NO	
Scientist familiar with natural hazards in local area	NO	
Emergency Manager	YES	
Grant writers		
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	YES	Police & Fire Departments, Skagit 911
Hazard data and information available to public	YES	Fire & Planning Departments
Maintain Elevation Certificates	YES	PCED
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	YES	Fire Department/CERT/Hamm Radio/Red Cross
Local citizen groups or non-profit organizations focused on environmental protection?	YES	Public Works & Parks Department
Organization focused on individuals with access and functional needs populations	YES	Fire Department/CERT/Hamm Radio
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	YES	Fire, Public Works & Planning Departments
Natural disaster or safety related school programs?	YES	Fire, Public Works & Planning Departments
Public-private partnership initiatives addressing disaster-related issues?	YES	City, Red Cross, Salvation Army, Island Hospital, CERT, Hamm Radio
Multi-seasonal public awareness program?	YES	Fire, Public Works & Planning Departments
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	NO	
Noxious Weed Eradication Program or other vegetation management	NO	
Fire Safe Councils	YES	Friends of the Forest

**Table 2-4
Administrative and Technical Capability**

Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Chipper program	NO	
Defensible space inspections program	YES	Fire & Parks Departments
Creek, stream, culvert or storm drain maintenance or cleaning program	YES	Parks & Public Works Departments
Stream restoration program	NO	
Erosion or sediment control program	YES	Public works
Address signage for property addresses	YES	Public Works Department
Other		

2.6.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 2-5. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

**Table 2-5
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	YES
Withhold Public Expenditures in Hazard-Prone Areas	YES
State Sponsored Grant Programs	YES
Development Impact Fees for Homebuyers or Developers	YES
Other	YES

2.6.4 Community Classifications

The jurisdiction's classifications under various hazard mitigation programs are presented in Table 2-6. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community.

Table 2-6. Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	YES	Unknown
Building Code Effectiveness Grading Schedule	5	
Storm Ready	NO	
Firewise	YES	2003
Tsunami Ready (if applicable)	YES	2003

2.7 HAZARD RISK AND VULNERABILITY RANKING

The City of Anacortes' Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect the City of Anacortes.

Table 2-7 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 2-7. Hazard Risk and vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Earthquake	3.85	Very High
2	Wildfire	3.55	High

**Table 2-7.
Hazard Risk and vulnerability Ranking**

Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
3	Landslide/Erosion	3.35	High
4	Tsunami	3.35	High
5	Severe Weather	3.05	Med-High
6	Storm Surge*	2.65	Medium
7	Drought	2.35	Low
8	Flood/Dam	1.85	Low
9	Volcano	1.1	Low

Impact from a storm surge is determined by reviewing both the severe weather and flood (coastal flooding) profiles. It is ranked separately for the purposes of this HMP as a potential hazard of concern for educational purposes to ensure public awareness. Probability and impact from such an event are identified within the hazard ranking spreadsheet contained in Volume 1, with impact closely mirroring both severe weather (wind-driven) and flood events.

2.8 MITIGATION GOALS AND OBJECTIVES

The City of Anacortes adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

2.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the jurisdiction identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the jurisdiction's assets and hazards of concern. Table 2-8 lists the action items/strategies that make up the jurisdiction's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

**Table 2-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE # 1 Install Tsunami Warning Sirens & Signs									

**Table 2-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
Existing	TS, SW, SS	All	City Council, Facilities	Low	HMGP, PDM, EQ and Tsunami Program Grants General Fund	Short-Term	No	Public Information, Emergency Services, Preventative Activities	Local
INITIATIVE # 2 Shore-Up City Facilities & Buildings for Seismic/Structural Protection									
Existing	E, TS, F	All	City Council, Facilities	High	PDM, General Fund, HMGP	Long-Term	Yes	Protection, Structural, Recovery, Preventive	Facility, Local
INITIATIVE # 3 Enhance Communications countywide. This includes both the technical components (interoperable communications), as well as the ability to provide additional public outreach City wide to citizens and business owners. Such efforts will further enhance risk reduction programs, alert and warning systems, and provide resources necessary for police and fire capabilities.									
Existing	All	All	City Council, Facilities	Medium	Homeland Security (HLS) Grants, General Fund	Long-Term	No	Public Information, Emergency Services, Recovery	Local
INITIATIVE # 4 Construct an EOC Building									
New	All	All	City Council	High	PDM, HMGP, HLS, HUD, DOJ, General Fund	Long-Term	No	Public Information, Emergency Services, Structural	Local, County
INITIATIVE # 5 Develop a Community Shelter at the Anacortes High School.									

**Table 2-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
New	All	All	City Council, School District	High	PDM, HMGP, OSPI, HUD, DOJ, General Fund	Long-Term	No	Emergency Services, Preventive, Structural, Recovery	Local, County
INITIATIVE # 6 Develop/enhance a system to manage stormwater run-off, increase potable water pipelines, and replace and upgrade outdated water/waste water infrastructure and water/wastewater treatment plants, including storm system restoration/upgrade, and pond restoration.									
Existing	TS, SW, SS, F	All	City Council, Facilities	Medium	FMAG, PDM, HMGP, EPA, WA DOE	Long-Term	Yes	Protection, Preventive, Natural Resources	Local
INITIATIVE # 7 Provide Protection of Steep Slopes (Landslides)									
Existing	F, EQ, L, TS, SW,	All	City Council, Facilities	Medium	PDM, HMGP, EPA, DOT	Long-Term	Yes	Protection, Preventive, Natural Resources	Local, County
INITIATIVE # 8 Flood Protection for Water Treatment Plant & Emergency Generator									
Existing	All	All	City Council, Facilities	High	DOE, EPA, PDM, HMGP, General Fund	Long-Term	Yes	Recovery, Protection, Natural Resources, Emergency Services	Local
INITIATIVE # 9 Fire Protection of Municipal Buildings									
Existing	EQ, L, Fire	All	City Council, Facilities	Medium	Various fire grants, PDM, HMGP, General Fund	Long-Term	Yes	Protection, Emergency Services	Local
INITIATIVE # 10 Install Alternate Fuel Source for Generators at Municipal Buildings									
Existing	All	All	City Council, Facilities	Medium	HLS, General Fund	Long-Term	Yes	Emergency Services, Protection	Local

2.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 2-9 identifies the prioritization for each initiative.

Table 2-9. 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 ^a
1	9	High	Low	Yes	Yes	Yes	High
2	9	High	High	Yes	Yes	No	High
3	9	High	Medium	Yes	Yes	No	High
4	9	Medium	Medium	Yes	Yes	No	Medium
5	9	High	High	Yes	Yes	No	High
6	9	Medium	Medium	Yes	Yes	Yes	High
7	9	Medium	Medium	Yes	Yes	Yes	High
8	9	Medium	Medium	Yes	Yes	No	High
9	9	Medium	Medium	Yes	Yes	No	Medium
10	9	Low	Low	Yes	Yes	Yes	Medium
a. See Chapter 1 for explanation of priorities.							

2.11 STATUS OF PREVIOUS PLAN INITIATIVES

Table 2-10 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 2-10.
Status of Previous Plan Initiatives**

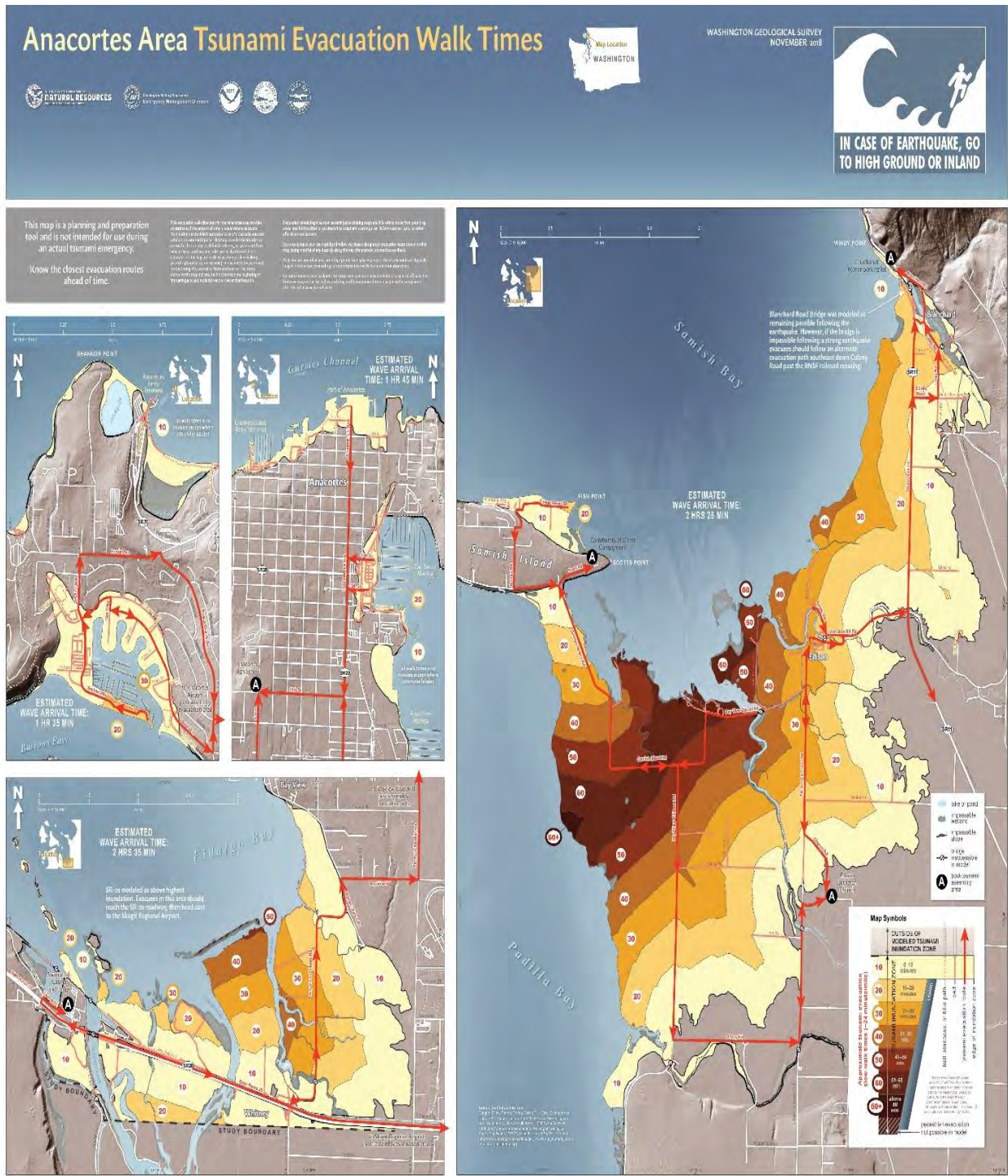
		Current Status			
		Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Mitigation Strategy	Project Status				
Public Education Program within City of Anacortes to educate citizens about potential hazards, proper disaster preparedness and response methods.	The City and planning partners continue to perform regular outreach programs including CERT, HAMM Radio, Disaster Preparedness, Fire Wise Community, and Tsunami awareness & readiness. Regular community programs are held each year in conjunction with Council Presentations to provide information on hazards and progress of planning & preparedness programs.	✓	✓		✓
Power line removal from front of Fire Stations	Completed.	✓		✓	
Installation of propane tanks for electric generators	On-going				✓
Seismic analysis of existing buildings, infrastructure and upgrade	On-going		✓		✓
New Water Reservoir	Completed	✓			
Inter-tie with PUD Water system	Completed	✓			

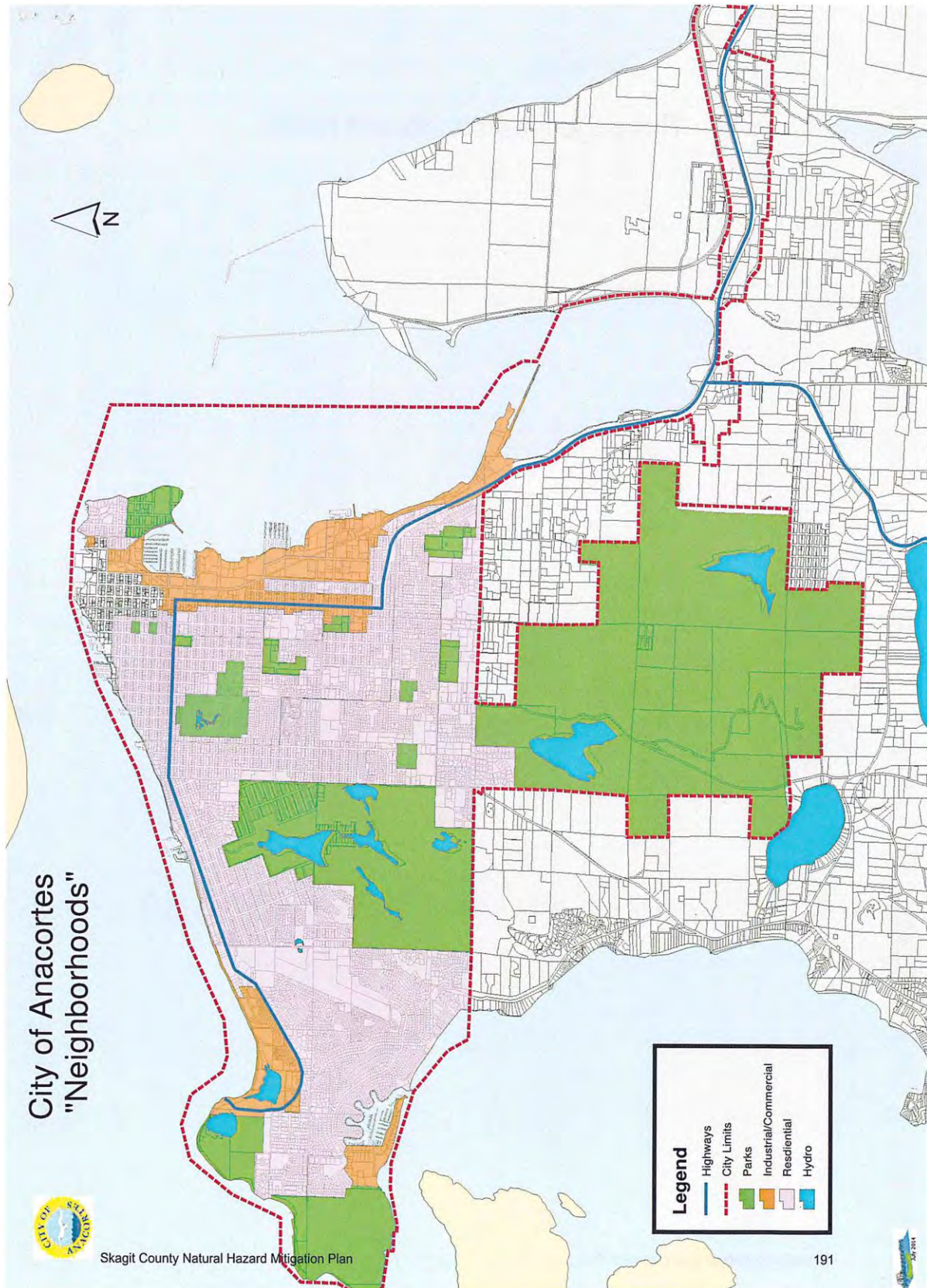
2.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

The City feels that it would be beneficial to initiate efforts to identify potential local climate change impacts on built, natural, and human systems. Once completed, such findings should be utilized to conduct vulnerability assessments.

2.13 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps are included below, and included within the base plan. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. The City of Anacortes does maintain a GIS mapping application available on-line. Viewers are encouraged to review the maps and additional information at that site, as they are regularly updated as new and relevant information becomes available. That site is located at: <https://anacortesgis.maps.arcgis.com/home/index.html>. The City's Comprehensive Plan also contains hazard-specific information, which is regularly updated, and is available at: <https://www.anacorteswa.gov/DocumentCenter/View/384/2016-Comprehensive-Plan-Adopted-PDF>







Future Land Use Map

Land Use Designation

CRD	Central Business District
C	Commercial
CM	Commercial Marine
MMU	Marine Mixed Use
AZ	Airport Zone
HM	Heavy Manufacturing
I	Industrial
LM	Light Manufacturing
MS	Manufacturing/Shipping
P	Public Use
RHD	Residential High Density
RMD	Residential Medium Density
OT	Old Town
RLD-2	Residential Low Density 2
RLD-1	Residential Low Density 1
Overlay Area	Overlay Area
City Limit	City Limit
UGA	UGA



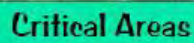


Figure 6

CHAPTER 3.

CITY OF MOUNT VERNON ANNEX

3.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Mount Vernon, a participating jurisdiction to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the Mount Vernon. For planning purposes, this Annex provides additional information specific to the jurisdiction, with a focus on providing greater details on the risk assessment and mitigation strategy for this community only. This document serves as an update to the previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

3.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The Mount Vernon followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the Mount Vernon also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Bryan Brice, Fire Chief 1901 N Laventure Mount Vernon, WA. 98273 360-336-6277 bryanb@mountvernonwa.gov	Primary Contact	Meeting attendance; completed all planning tasks; coordinated functions throughout City. Assisted with public outreach efforts. Completed review of draft plan; assisted with development of mitigation strategies; presented final version of plan to City Council for adoption.
Rebecca Lowell, City Planner 910 Cleveland Mount Vernon, WA. 98273 360-336-6211 rebeccab@mountvernonwa.gov	City Planner	Assisted with planning functions; attended internal planning meetings; provided information as appropriate.

3.3 COMMUNITY PROFILE

As this is an update to your previous plan, start with the profile in the old document. You can then utilize information from other sources to populate this document if a different profile has already been written, e.g., annual reports, other planning documents, budgets – make use of other items and then enhance the data to include the below information.

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

Date of Incorporation—1890

Current Population—31,743 as of 2010 Census

Population Growth— In 2017, Mount Vernon, WA had a population of 33.8k people with a median age of 34.7 and a median household income of \$52,267. Between 2016 and 2017 the population of Mount Vernon, WA grew from 33,388 to 33,787, a 1.2% increase and its median household income grew from \$49,307 to \$52,267, a 6% increase. The population of Mount Vernon, WA is 57.3% White Alone, 34.3% Hispanic or Latino, and 2.85% Asian Alone. N/A% of the people in Mount Vernon, WA speak a non-English language, and 85.7% are U.S. citizens. The largest universities in Mount Vernon, WA are Skagit Valley College (1,383 degrees awarded in 2016). The median property value in Mount Vernon, WA is \$221,000, and the homeownership rate is 60.5%. Most people in Mount Vernon, WA commute by Drove Alone, and the average commute time is 22.8 minutes. The average car ownership in Mount Vernon, WA is 2 cars per household.

Location and Description—The City of Mount Vernon, Washington lies within the Skagit River Valley at elevations ranging up to approximately 200 feet above sea level. Mount Vernon occupies approximately 12 square miles (~8,034 acres) within the Skagit River watershed. The City is just six miles east of Puget Sound and has Interstate-5 running north/south through the City and State Routes 20, 536 and 538 running east/west through the City

Brief History— The earliest recorded settlers in what would later become ‘Mount Vernon’ were Jasper Gates and Joseph F. Dwelley, in 1870. These two likely stopped in Mount Vernon because the Skagit River was not navigable beyond this point due to enormous log jams. In 1876 the log jams were removed permitting river travel to the towns that had grown upriver from Mount Vernon. With the river being opened new logging activities and access to Ruby Creek (where gold had been found) were both possible. These two events reinforced Mount Vernon’s position as an important transportation and trading center along the river. Until 1891, the City was dependent on the river for access to sternwheelers and steamers, fifteen of which connected it to Puget Sound. In 1891, a series of events turned the City away from its dependency. A huge fire destroyed most of the businesses and hotels situated along the waterfront, and many relocated to First Street. The railroad was also being laid through town, 4-5 blocks east of the river. Finally, the river bank eroded, taking Front Street and the west side of Main Street. The construction of the revetment in the 1950s as a final attempt to stabilize the river banks was also the last blow to the City’s increasingly tenuous relationship to the Skagit River.

In 1912, the Sanborn Map Company lists the City population at 2,600. Expansion of the city continued until 1920, when the population decreased, and it was not until 1930 that the population again began to steadily increase. The construction of Interstate-5 during the mid-1950s, reinforced the existing separation of downtown and The Hill, but a replacement for the Second Street Viaduct, as well as the construction of the Blackburn Road Viaduct, possibly improved movement between these two areas. Though Mount Vernon’s influence grew extensively during the 1940s and 1950s, it was not until the 1970s that major portions (2.32 square miles) of the County were annexed by the City. This inaugurated

a conversion of the agricultural lands north and east of the City to significant new commercial and residential zones.

Climate— The climate of Mount Vernon, similar to that of the Puget Sound Region, consists of mild winters with frequent light rain and cool, sunny summers. The warmest month of the year, on average is August with an average temperature of 74.10 degrees Fahrenheit; with January being the coldest month of the year with an average temperature of 34.1 degrees Fahrenheit. The annual average precipitation for the City is approximately 32.7-inches with rainfall fairly evenly distributed throughout the yearⁱⁱ.

Governing Body Format— The City is organized as a non-chartered code city that has a strong mayor-council form of government.

Development Trends— Anticipated development levels for Mount Vernon are moderate to high, consisting primarily of single family residential, commercial development and Historic Downtown redevelopment. The majority of recent development has been single family residential planned unit developments, however, infill zero lot line townhomes, multi-family residential and mixed-use development are being explored by a variety of developers.

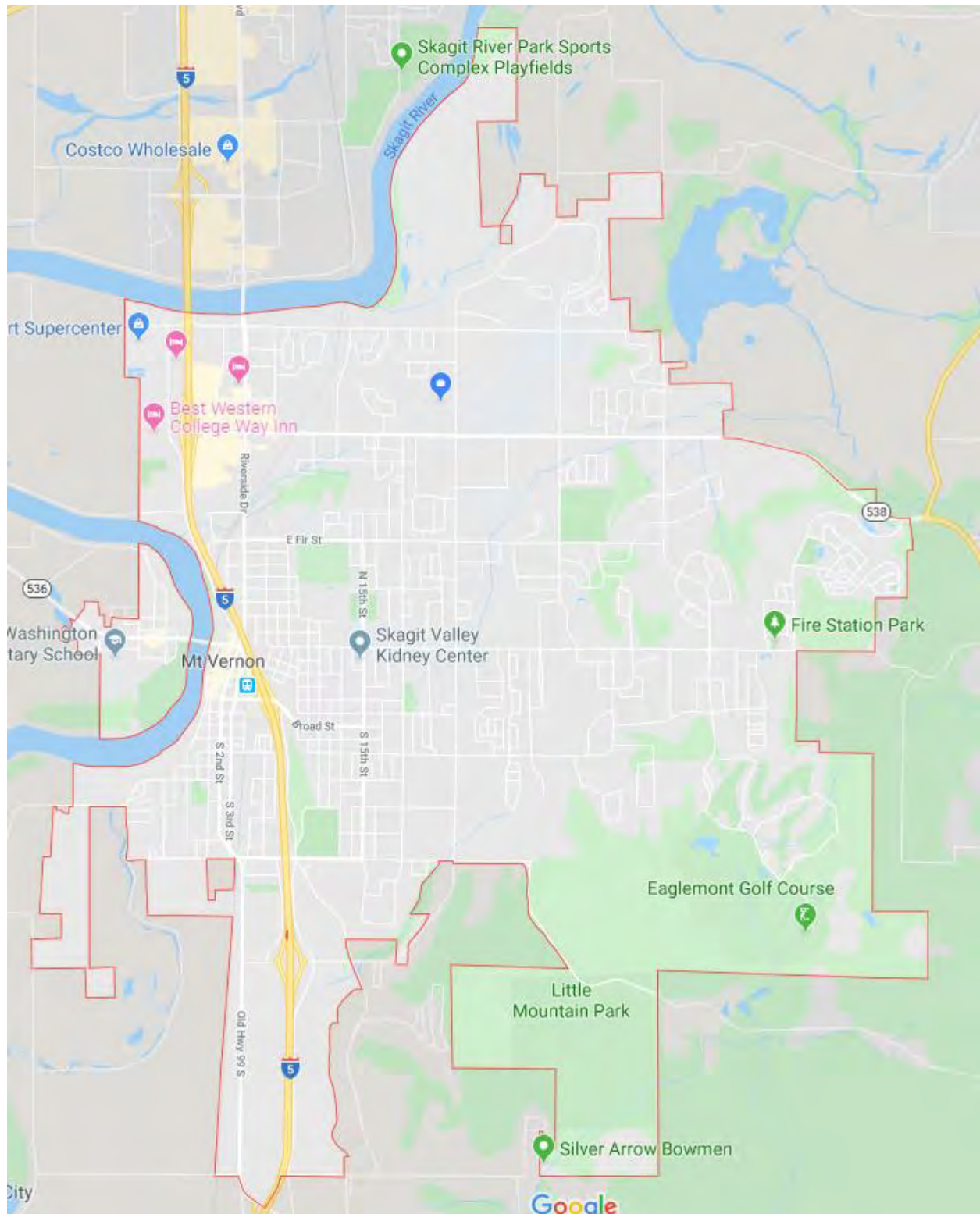
The City of Mount Vernon recently updated its comprehensive plan in 2016 and intends to commence a preliminary document update in 2023. The comprehensive plan focuses on significant community concerns as it relates to future development that include buildable lands analysis, land use zoning, annexation, redevelopment, capital improvements and future growth. Since the last plan was completed, the City has not experienced an increase in risk as a result of development beyond that of increased number of structures and population. In fact, the opposite is true. On August 24, 2010, the City of Mount Vernon was notified by the Federal Emergency Management Agency (FEMA) that FEMA has approved the City's request for a Conditional Letter of Map Revision (CLOMR) for the City's proposed downtown flood protection project. The result of the completed project includes a 1.75 mile river promenade and riverfront park enhancing public river access and providing more public open space downtown near the river. It is anticipated that the combination of increased flood protection and riverfront amenities will attract mixed use redevelopment, generate jobs and increase housing resulting in a larger commercial tax base while preserving Mount Vernon's downtown character. The project was completed in April 2018.

Economy – The City's economic base consists of retail sales and services; recreational and healthcare services; agricultural; and light manufacturing. The major employment segments in Mount Vernon, Washington are healthcare, educational services, construction; agriculture, forestry, fishing and hunting; transportation equipment, and accommodation and food services. Sales and office occupations (24% of the workforce). Management, professional and related occupations (23% of the labor force).

The top employers in Mount Vernon, Washington:

- ☐ Public Hospital District
- ☐ Draper Valley Holdings LLC
- ☐ Skagit Valley Medical Center, Inc P S
- ☐ Hulbert Farms Inc
- ☐ Walmart Stores, Inc
- ☐ Skagit Valley Publishing Company

The jurisdiction boundaries are identified in the map below.



3.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the jurisdiction. Table 3-1 lists all past occurrences of natural hazards within the jurisdiction. If available, dollar loss data is also included.

Table 3-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Flood		2006	Unknown
Flood		2003	Unknown
Flood		1996	Unknown
Flood		1995	Unknown

3.5 CAPABILITY ASSESSMENT

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: National Flood Insurance Information; regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation, and classifications under various community programs.

3.6 NATIONAL FLOOD INSURANCE INFORMATION

The City of Mount Vernon most recently updated their flood damage prevention ordinance in 2016. The city recently submitted and received a FEMA map revision related to the downtown area due to the construction of a flood wall to protect the downtown area.

Management of the NFIP program for the City of Mount Vernon is situated in the public works department, specifically with the Engineering Manager. Building permits go through the City's Development Services department and have coordination for identifying flood plain properties with the experts in that field. Developing property, all or a portion of which is in a regulated floodplain, requires a Floodplain Development Permit. This permit identifies the specific requirements for each proposed project.

Prior to Floodplain Permit release, all plans must be reviewed to ensure that they meet the requirements of the City of Mount Vernon Flood Ordinance. For purposes of development, development includes, but is not limited to: buildings, homes, manufactured and mobile homes, other structures, bridges, culverts, dredging, filling, grading, paving, excavation, docks, etc. Structures may also require flood

proofing under the ordinance, which requires that residential homes be elevated above the level of the base flood elevation (BFE) and commercial structures have the option to flood proof above the BFE. A licensed engineer must design the flood proofing.

The City's flood ordinance also requires Elevation Certificates. The purpose for an Elevation Certificate is to document compliance with permit conditions as Elevation Certificates are the only official document used by FEMA to determine whether a structure is inside or outside a floodplain, and are also used to determine the proper rate when purchasing flood insurance. Elevation Certificates must be completed and stamped by a surveyor licensed in the State of Washington.

Additional information on the community's National Flood Insurance Program (NFIP) compliance is presented in Table 3-2. This identifies the current status of the jurisdiction's involvement with the NFIP.

Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 0
 - FEMA's 2017 Risk Map Report identifies 3 repetitive loss properties (2016 data), but information could not be verified for this 2020 update.
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0
- Based on 2018 data obtained from the State HMP, the City has a total of 103 flood claims valued at approximately \$624,768.36 in losses. Of those claims, as of September 2018, 65 remained open.

Table 3-2 National Flood Insurance Compliance	
What department is responsible for floodplain management in your community?	Public Works
Who is your community's floodplain administrator? (department/position)	Blaine Chesterfield, Engineering Manager
Do you have any certified floodplain managers on staff in your community?	No
What is the date of adoption of your flood damage prevention ordinance?	Most recent update of COMP plan is 2016/2017
When was the most recent Community Assistance Visit or Community Assistance Contact?	Unknown
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Yes, staffing and training
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification? If not, is your community interested in joining the CRS program?	Yes – 6 (as of 2019)

3.6.1 Regulatory Capability

The assessment of the jurisdiction's legal and regulatory capabilities is presented in Table 3-3. This includes planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are currently in place.

Table 3-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code	Yes	No	Yes	The City utilizes the most current codes and standards.
Zoning Ordinance	Yes	No	No	MVMC Title 17
Subdivision Ordinance	Yes	No	No	MVMC Title 16
Floodplain Ordinance	Yes	No	No	MVMC Chapter 15.36
Stormwater Management	Yes	No	Yes	Public Works has a storm water management plan
Post Disaster Recovery	Yes	No	No	
Real Estate Disclosure			Yes	Required under RCW
Growth Management	Yes	No	Yes	Comp Plan
Site Plan Review	Yes	No	No	MVMC 17.70
Public Health and Safety	Yes	Yes	No	Skagit County provides this service to Mount Vernon
Coastal Zone Management	No	No	No	
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)	Yes	No	No	Under the GMA, the City does address critical areas under the Comprehensive Land Use Plan
Environmental Protection	Yes	No	No	Through EPA and through County Health Department.
Landslide Hazard Designation	Yes			The City requires detailed topographic mapping when development applications are submitted for areas that have slopes in excess of ten percent (10%) or where there are suspected land slide hazards.
Planning Documents				
General or Comprehensive Plan	Yes	No	Yes	<i>Is the plan equipped to provide linkage to this mitigation plan? Yes</i>
Floodplain or Basin Plan	Yes	No	No	
Stormwater Plan	Yes	No	No	
Capital Improvement Plan	Yes	No	No	
Economic Development Plan	Yes	No	No	
Shoreline Master Program	Yes	No	No	Adopted by Council in 2011

Table 3-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Community Wildfire Protection Plan	Yes	No	No	As part of this 2020 HMP update, the wildfire chapter has been replaced by the updated 2020 Community Wildfire Protection Plan
Transportation Plan	Yes	No	No	
Response/Recovery Planning				
Comprehensive Emergency Management Plan	Yes	No	Yes	
Threat and Hazard Identification and Risk Assessment	Yes	No	No	
Post-Disaster Recovery Plan	No	No	No	
Continuity of Operations Plan	No	No	No	
Public Health Plans	Yes	No	No	The City relies on the County to provide these services to them.
Boards and Commission				
Planning Commission	Yes	No	No	
Mitigation Planning Committee	Yes	No	No	The City was part of the 2015 HMP planning process, as well as the 2020 update. As part of the adopted plan maintenance section, the City will remain a member in good standing of this committee, providing risk information to citizens as it becomes available, and is requested (Development Services).
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	Yes	No	No	
Mutual Aid Agreements / Memorandums of Understanding	Yes	No	No	

3.6.2 Administrative and Technical Capabilities

The assessment of the jurisdiction's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 3-4 . These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 3-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Development Services
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	Yes	Development Services
Engineers specializing in construction practices?	Yes	Public Works
Planners or engineers with an understanding of natural hazards	Yes	Public Works
Staff with training in benefit/cost analysis	No	
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	Development Services
Personnel skilled or trained in Hazus use	Yes	Fire
Scientist familiar with natural hazards in local area	No	
Emergency Manager	Yes	Fire
Grant writers	No	
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Yes	County 911
Hazard data and information available to public	Yes	Development Services
Maintain Elevation Certificates	Yes	Public Works
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	Yes	CERT
Local citizen groups or non-profit organizations focused on environmental protection?	Yes	Skagit Fisheries Enactment, Skagit Watershed Council
Organization focused on individuals with access and functional needs populations	Yes	Skagit Volunteers of America Chinook
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	Fire
Natural disaster or safety related school programs?	Yes	Fire
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	Yes	Fire
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	No	
Noxious Weed Eradication Program or other vegetation management	No	

Table 3-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	Public Works
Stream restoration program	No	
Erosion or sediment control program	No	
Address signage for property addresses	Yes	Development Services
Other		

3.6.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 3-5. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 3-5 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	Yes
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other	

3.6.4 Community Classifications

The jurisdiction's classifications under various hazard mitigation programs are presented in Table 3-6. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community.

Table 3-6. Community Classifications		
	Participating (Yes/No) or Grade	Date Enrolled
Community Rating System	Yes	
Building Code Effectiveness Grading Schedule - Commercial	3	1997
Building Code Effectiveness Grading Schedule - Dwelling	3	
Protection Classification	5	
Storm Ready	Yes	2003
Firewise	No	
Tsunami Ready (if applicable)	No	

3.7 HAZARD RISK AND VULNERABILITY RANKING

The jurisdiction's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect the Mount Vernon.

Table 3-7 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 3-7. Hazard Risk and vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Earthquake	3.4	High
2	Volcano	2.8	High
3	Flood	2.4	Medium
4	Wildfire	2.35	Medium
5	Severe Weather	1.85	Medium
6	Drought	1.55	Low
7	Climate Change*	1.55	Low
8	Tsunami	1.35	Low
9	Landslides	1.1	Low
Climate change is considered based on its potential impact on other hazards of concern. Probability and impact is identified in the CPRI worksheet contained in Volume 1.			

3.8 MITIGATION GOALS AND OBJECTIVES

The Mount Vernon adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

3.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the jurisdiction identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the jurisdiction's assets and hazards of concern. Table 3-8 lists the action items/strategies that make up the jurisdiction's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

In addition to the items identified below, the City recognizes that flooding of the Skagit River continues to cause damage to the land and critical infrastructure of communities along the Skagit River. Human life, transportation infrastructure, natural resources, commercial and industrial areas, and private property are at risk each flood season. The City is working towards finding cost effective, long term and environmentally responsible methods to reduce the risk from flood damage. The City is aware of the importance of working together with Skagit County, other cities, and the diking and drainage districts to coordinate and fund the development and implementation of measures to reduce flood hazards.

**Table 3-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE # 1: Provide for an increased level of safety to the citizens of Mount Vernon.									
Existing	All	All,	City Council	High	General Fund, Enterprise Funds, Grants, PDM, HMGP, FMA	Long	Yes	Emergency Services, Preventative Activities, Recovery, Public Information	Local and County
INITIATIVE # 2: Excavate a portion of the Edgewater Landfill to provide increased flow capacity.									
Existing	F, SW	1,5,6	Public Works	High	General Fund, Enterprise Funds, Grants, PDM, HMGP, FMA	Long	Yes	Emergency Services, Property Protection, Natural Resource Protection, Preventative	Local and County
INITIATIVE # 3: Increase capacity of the Kulshan Pump Station.									
New and Existing	F, E, SW, WF	1,5,6	Public Works	Medium	General Fund, Enterprise Funds, Grants, PDM, HMGP, FMA	Short	Yes	Property Protection, Recovery, Emergency Services	Local and County
INITIATIVE #4: Provide for an increased level of protection for private property within the city limits.									
New Existing	F, E, WF, T,	1,3,4,5,7	MV City Council	Medium	General Fund, Enterprise Funds, Grants, PDM, HMGP, FMA	Long	No	Property Protection, Structural Projects, Recovery	Local and County
INITIATIVE #5: As needed raise existing streets/roads and sanitary pump stations above 100-year flood elevation									

Table 3-8.
Hazard Mitigation Action Plan Matrix

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
New and Existing	F, E, SW, WF, T,	1,3,4,5,7	MV City Council	Medium	General Fund, Enterprise Funds, Grants ,PDM, HMGP, FMA	Long	Yes	Property Protection, Recovery, Emergency Services, Preventative Activities	Local and County

3.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 3-9 identifies the prioritization for each initiative.

Table 3-9.
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 ^a
1	9	High	High	Yes	Yes	No	High
2	3	High	High	Yes	Yes	No	High
3	3	Medium	Medium	Yes	Yes	Yes	Medium
4	5	Medium	Medium	Yes	Yes	No	Low
5	5	High	High	Yes	Yes	No	High

a. See Chapter 1 for explanation of priorities.

3.11 STATUS OF PREVIOUS PLAN INITIATIVES

Table 3-10 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 3-10.
Status of previous Hazard Mitigation Action Plan**

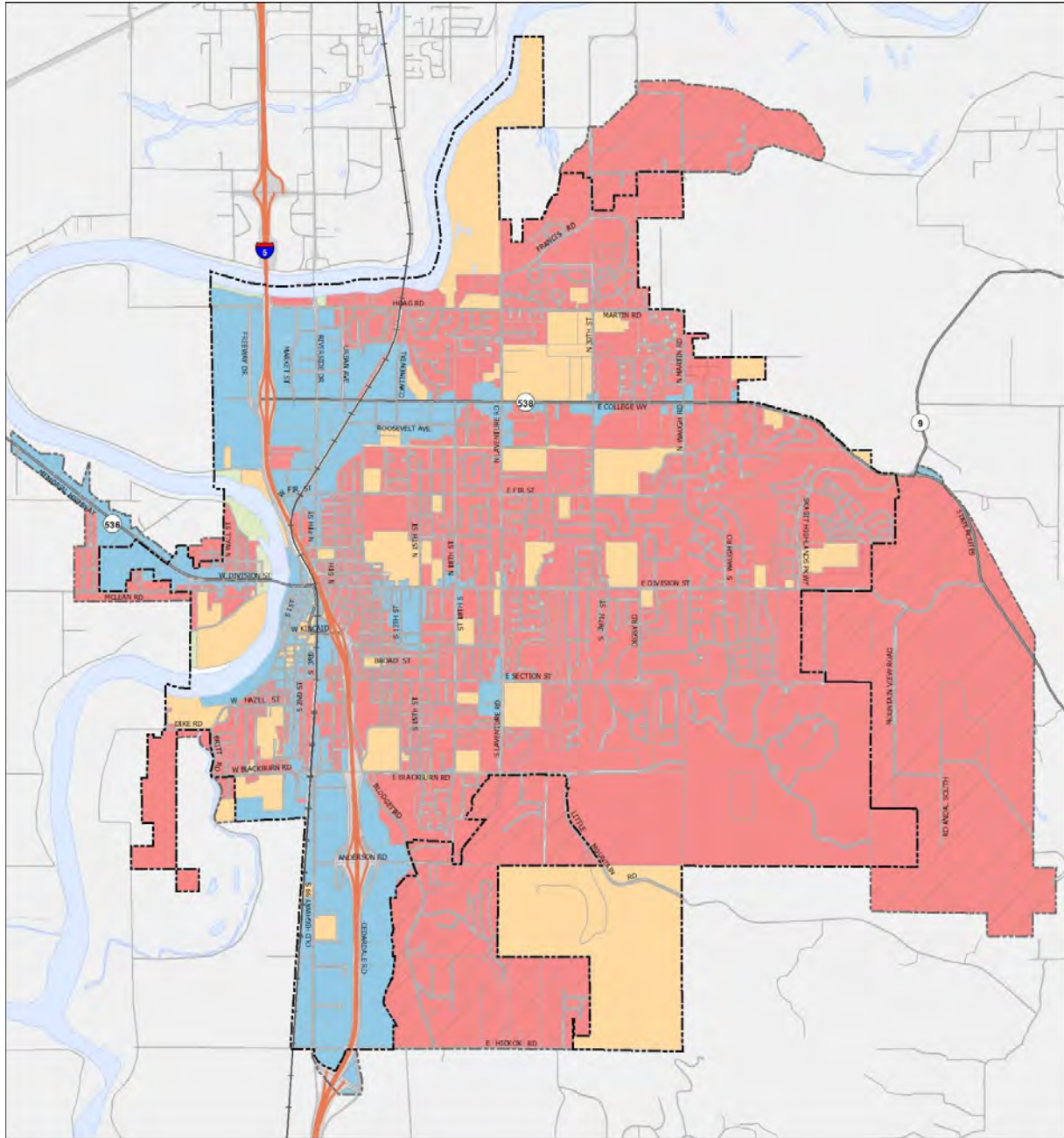
		Current Status			
		Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Mitigation Strategy	Project Status				
Provide 100 Year flood protection for downtown	The flood wall is complete and a FEMA map revision has been approved	✓			
Construct a ring dike around the waste water treatment plant	The dike has been completed	✓			
Remove existing unsafe revetment parking structure and buy-out properties to construct parking out of flood area	The properties have been purchased and the old facilities have been removed and new areas created that are safer for parking	✓			
Provide for an increased level of safety to the citizens	This is an ongoing program that requires funding and council support		✓		✓
Provide for increased maximum flow capacity within the river channel and/or floodway downstream of the Burlington Northern-Santa Fe railroad bridge	This is an ongoing task that requires coordination with the railroad and adequate funding		✓		✓
As needed raise existing streets/roads and sanitary pump stations above 100-year flood elevation	Ongoing project requiring funding and support from city council		✓		✓

3.12 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps are included below. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. These maps were captured from the City of Mount Vernon Land Use Element of its 2016 update to its Comprehensive Plan. Viewers wishing additional or updated information may obtain information from the City's website at:










<http://mountvernonwa.maps.arcgis.com/apps/MapSeries/index.html?appid=594aed008cc2428cb038fa1d8d2874e6>

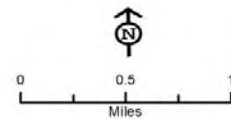
3-17



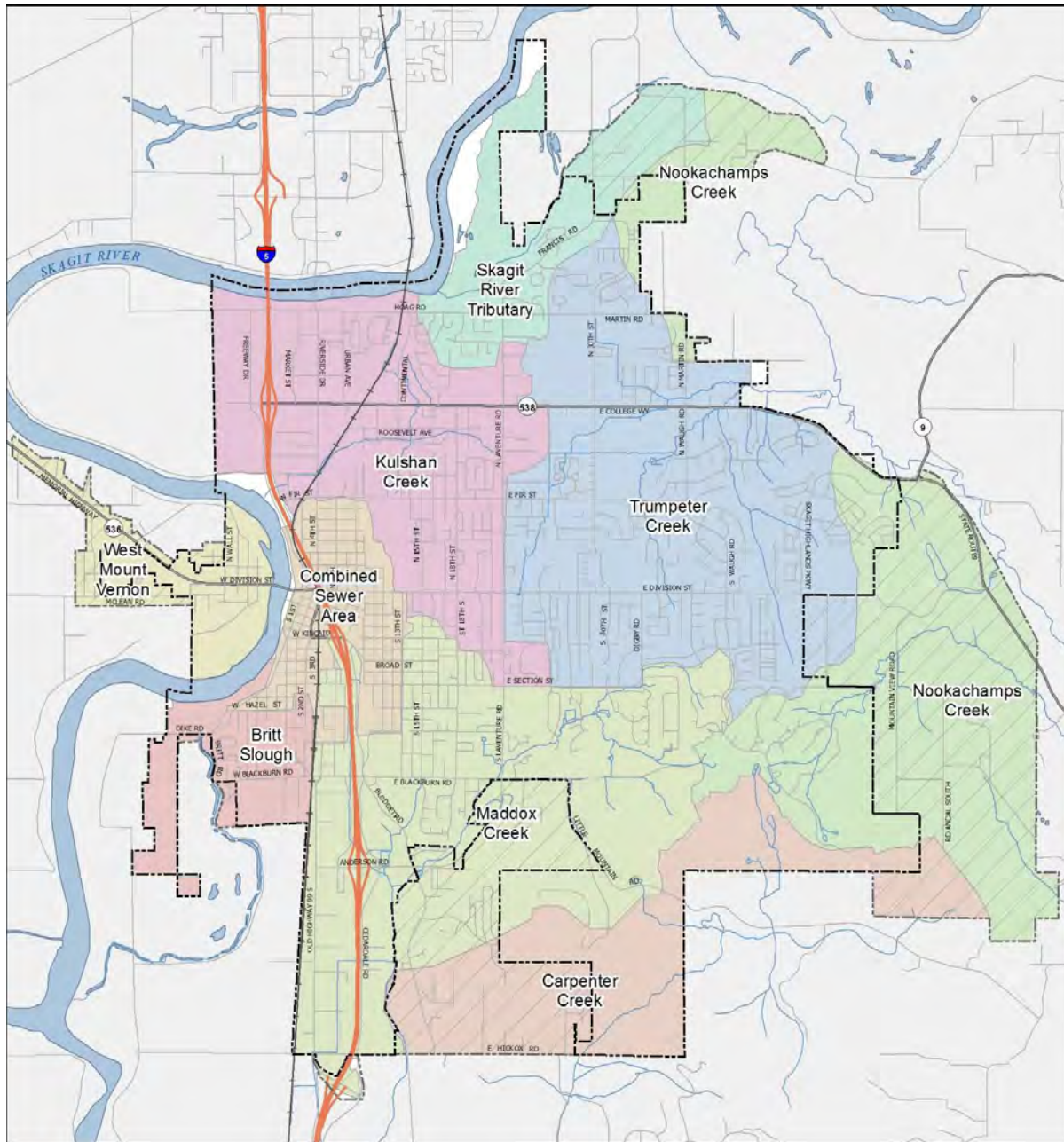
Land Use Element - Figure 2.0 Land Uses



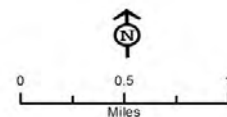
- | | | | |
|---|---------------------|---|-------------------|
|  | Floodplain |  | City Boundary |
|  | Residential |  | Urban Growth Area |
|  | Commercial |  | Railroad |
|  | Public |  | Water Body |
|  | Public Right of Way | | |



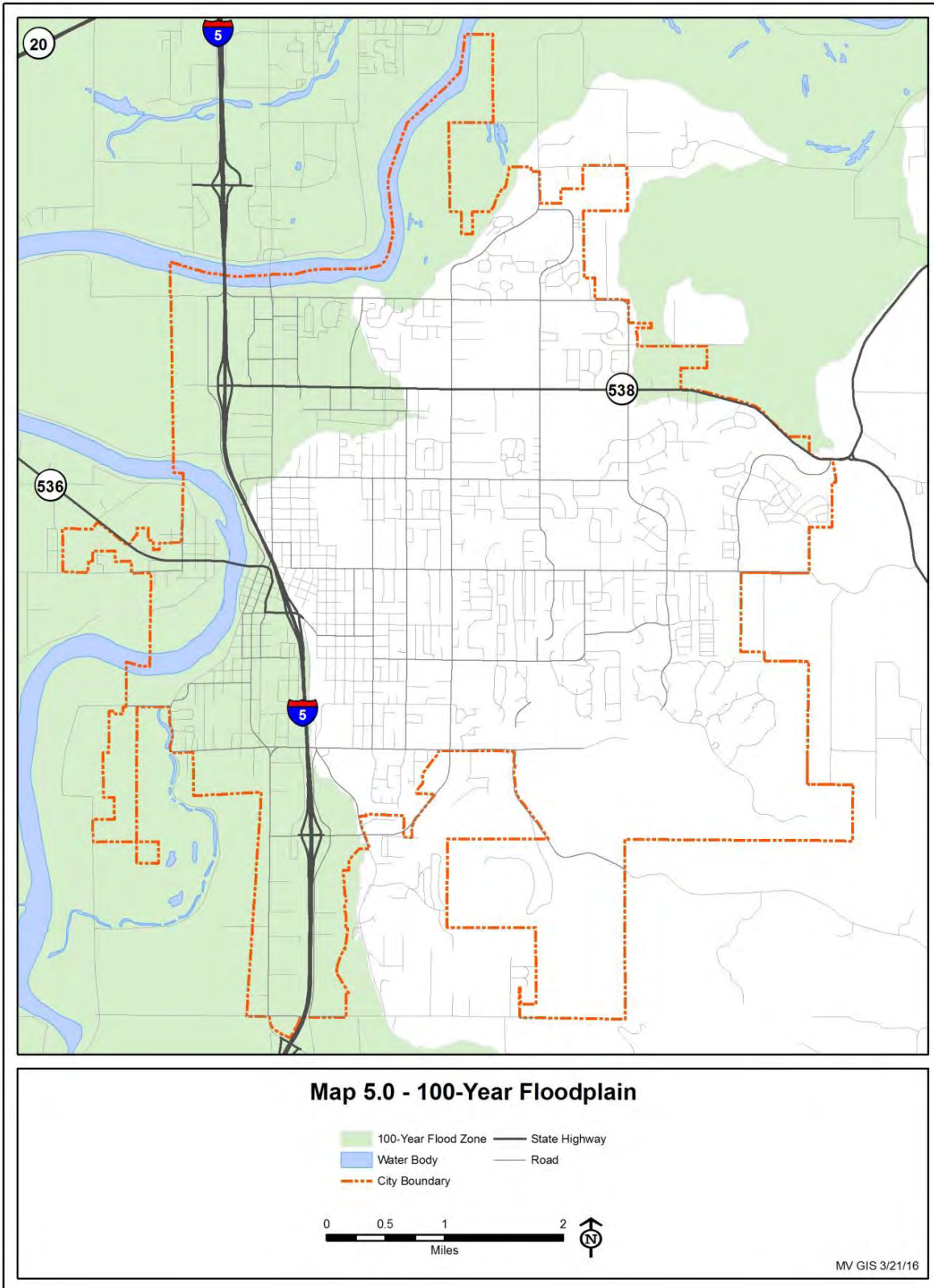
Map by MV GIS 7/5/2016



Land Use Element - Figure LU-7.0 Hydrologic Overview



Map by MV GIS 7/5/2016



**Landslide Topography Map**

The City identifies those areas of steep slopes to be over 40 percent, which is the same percent on which the risk assessment was based. Viewers may wish to review the Landslide Hazard Profile contained in Volume 1, or obtain additional information from the County's website referenced above.

CHAPTER 4.

CITY OF SEDRO-WOOLLEY ANNEX

4.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the City of Sedro-Woolley, a participating jurisdiction to the Skagit Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the City of Sedro-Woolley. For planning purposes, this Annex provides additional information specific to the jurisdiction, with a focus on providing greater details on the risk assessment and mitigation strategy for this community only. This document serves as an update to the previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

4.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The City of Sedro-Woolley followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the City of Sedro-Woolley also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Katherine Weir, Assistant Planner 325 Metcalf St Sedro-Woolley, WA 98284 Telephone: (360)855-3206 e-mail: kweir@ci.sedro-woolley.wa.us	Primary Point of Contact	Meeting attendance; completed all planning tasks; coordinated functions throughout City;
John Coleman, Planning Director/Building Official 325 Metcalf St Sedro-Woolley, WA 98284 Telephone: (360)855-0771 e-mail: jcoleman@ci.sedro-woolley.wa.us	Alternate Point of Contact	Meeting attendance; completed planning tasks; coordinated functions throughout City; presented final plan to City Council for review and approval
Doug Merriman, Finance Director 325 Metcalf St Sedro-Woolley, WA 98284 Telephone: (360)855-1661 e-mail: dmerriman@ci.sedro-woolley.wa.us	Finance Director	Assisted with planning functions; attended internal planning meetings; provided information as appropriate.
Mark Freiburger, Public Works Director 325 Metcalf St Sedro-Woolley, WA 98284 Telephone: (360)855-0771 e-mail: mfreiberger@ci.sedro-woolley.wa.us	Director of Public Works	Assisted with planning functions; attended internal planning meetings; provided information as appropriate.

4.3 COMMUNITY PROFILE

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

- **Date of Incorporation:** December 19, 1898
- **Current Population:** 11, 690 as of April 1, 2019
- **Population Growth:** Based on the data tracked by the Washington Office of Financial Management, the city of Sedro-Woolley has seen roughly a 10% increase in population over the last 10 years.
- **Location and Description:** Sedro-Woolley is known as the "Gateway to the North Cascades" because it is located on the western edge of the Cascade Mountain Range in northwest Washington State. It is situated north of Seattle, Washington and south of Bellingham, Washington on Highway 20, along the banks of the Skagit River.
- **Brief History:** Sedro-Woolley was originally two separate towns called "Sedro" and "Woolley" that merged together in 1889. Key to the development of the area were the three railroads serving the towns of Sedro and Woolley. The railroads and the logging industry contributed to the area's prosperity as local merchants catered to the needs of travelers visiting the area on the trains. Later on, when economics forced a slow-down in logging and related activities and in the closure of the manufacturing site, the city faced severe economic impacts. Likewise, the closure of the former Northern State Hospital heavily impacted the city with its loss of employment opportunities. The city is now attempting to develop a more diversified economic base along with an increase in the number of job opportunities. The Skagit Plant is now a vibrant industrial park, renting out portions of the facility to smaller, independent businesses.
- **Climate:** In Sedro-Woolley, the summers are short, comfortable, and partly cloudy and the winters are very cold, wet, and overcast. Over the course of the year, the temperature typically varies from 35°F to 76°F and is rarely below 23°F or above 85°F.
- **Governing Body Format:** The city of Sedro-Woolley is governed by a seven-member council. The city consists of six departments: Finance, Building, Planning, Public Works, Fire, and Police.
- **Development Trends:** Anticipated development levels for Sedro-Woolley are moderate to high, consisting primarily of residential development. The majority of recent development has been infill, however there has been a push for more mixed-use development such as urban villages. The City of Sedro-Woolley has maintained the status quo for hazard vulnerability with respect to new development. Larger developments are required to provide at least two access points in order to meet the fire and public works department standards, and no new development has occurred within the floodplain.

The City of Sedro-Woolley adopted its comprehensive plan in 1977. The plan focuses on issues of the greatest concern to the community. City actions, such as those relating to land use allocations, annexation, zoning, subdivision and design review, redevelopment, and capital improvements must be consistent with the comprehensive plan. Future growth and development in the city will be managed as identified in the comprehensive plan. The City has experienced no increase in vulnerability as a result of its growth and construction since completion of its last plan.

- **Economy** – The city of Sedro-Woolley's economic base consists of retail and commercial sales and services. The largest employers are Janicki Industries with over 600 employees-- the region's largest aerospace and technology firm, and United General Hospital.

The jurisdiction boundaries are identified in the map below

4.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the jurisdiction. Table 4-1 lists all past occurrences of natural hazards within the jurisdiction. If available, dollar loss data is also included.

Table 4-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Flood		2006	Unknown
Flood		2003	Unknown
Earthquake		2001	Unknown
Flood		1995	Unknown
Flood		1990	Unknown

4.5 CAPABILITY ASSESSMENT

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: National Flood Insurance Information; regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation, and classifications under various community programs.

4.6 NATIONAL FLOOD INSURANCE INFORMATION

The City of Sedro-Woolley participates in the National Flood Insurance Program (NFIP). The identifying, analyzing, and prioritizing of mitigation measures is based on (and will continue to be based on) continued participation and compliance with the NFIP.

For the City of Sedro-Woolley, the Public Works and Planning Departments are tasked with managing the NFIP program. The City does have a dedicated floodplain administrator. Development in the floodplain is regulated by the floodplain ordinance codified in Sedro-Woolley Municipal Code (SWMC) Chapter 17.66. The purpose of the Floodplain Management chapter (SWMC 17.66) is to protect human life and property; minimize the expenditure of public money; ensure that those who occupy the areas of special flood hazard assume responsibility for their actions and maintain the city's flood insurance eligibility while avoiding regulations which are unnecessarily restrictive or difficult to administer.

The building official, who is also the floodplain administrator, reviews the floodplain development permits to ensure that they meet standards for approval. The building inspector ensures that the development is in accordance with the plans approved for the floodplain development permit. The building official/floodplain administrator and the building inspector work in tandem to enforce the regulations.

Developing property, all or a portion of which is in a regulated floodplain, requires a Floodplain Development Permit. This permit identifies the specific requirements for each proposed project. The City's flood ordinance also requires Elevation Certifies. No structure or land shall be constructed, located, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations.

Violations of the provisions of this ordinance by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions), constitutes a misdemeanor.

Additional information on the community's National Flood Insurance Program (NFIP) compliance is presented in Table 4-2. This identifies the current status of the jurisdiction's involvement with the NFIP.

Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 3 (Residential)
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

Table 4-2 National Flood Insurance Compliance	
What department is responsible for floodplain management in your community?	Sedro-Woolley Planning Dept.
Who is your community's floodplain administrator? (department/position)	John Coleman, Planning Director/Building Official
Do you have any certified floodplain managers on staff in your community?	Yes
What is the date of adoption of your flood damage prevention ordinance?	July 10, 1989, Ord #1080
When was the most recent Community Assistance Visit or Community Assistance Contact?	January 12, 2017
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Yes, staffing and training.
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification? If not, is your community interested in joining the CRS program?	No

4.6.1 Regulatory Capability

The assessment of the jurisdiction's legal and regulatory capabilities is presented in Table 4-3. This includes planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are currently in place.

Table 4-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code Version Year	Yes 2015	Yes	Yes	Ch. 15.04 SWMC, adopted July 1, 2016
Zoning Ordinance	Yes		Yes	Ord. 1487 -04, adopted October 18, 2004
Subdivision Ordinance	Yes		Yes	Ord. 712 adopted 1971
Floodplain Ordinance	Yes		Yes	Ord. 976 adopted 1982
Stormwater Management	Yes		Yes	Ord. 1855-16 adopted 2016
Growth Management	Yes		Yes	Ord. 1442-03 adopted 2003
Site Plan Review	Yes			Ch. 2.90 SWMC, adopted June 25, 2003
Public Health and Safety	Yes			Ch. 17. 65 SWMC, adopted May 26, 2016
Natural Hazard Specific Ordinance	Yes		Yes	Ch. 17. 65 SWMC, adopted May 26, 2016
Environmental Protection	Yes		Yes	Ch. 17. 65 SWMC, adopted May 26, 2016
Planning Documents				
General or Comprehensive Plan	Yes		Yes	Adopted April 25, 1977 <i>Is the plan equipped to provide linkage to this mitigation plan?</i> Yes
Floodplain or Basin Plan	Yes		Yes	Comp Plan Ch. 2, Land Use Element
Stormwater Plan	Yes		Yes	Dept. of Ecology Stormwater Management Plan adopted 2016
Capital Improvement Plan	Yes		Yes	Comp Plan Ch. 7, Capital Facilities Element
Habitat Conservation Plan	Yes		Yes	Comp Plan Ch. 2, Land Use Element
Economic Development Plan	Yes		Yes	Comp Plan Ch. 8, Economic Development Element
Shoreline Management Plan	Yes		Yes	Ordinance 1847-16, adopted May 12, 2016
Community Wildfire Protection Plan	Yes			Serves as Wildfire Chapter of the County's HMP
Transportation Plan	Yes		Yes	Comp Plan Ch.3, Transportation Element
Response/Recovery Planning				
Comprehensive Emergency Management Plan	Yes		Yes	City of Sedro-Woolley Emergency Operations Plan, adopted 2019
Threat and Hazard Identification and Risk Assessment	Yes		Yes	Skagit County Natural Hazards Mitigation Plan, adopted February 11, 2015

Table 4-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Terrorism Plan	Yes			City of Sedro-Woolley Emergency Operations Plan, adopted 2019
Post-Disaster Recovery Plan	Yes			Skagit County Comprehensive Emergency Management Plan, adopted August 2013
Continuity of Operations Plan	Yes			Skagit County Comprehensive Emergency Management Plan, adopted August 2013
Boards and Commission				
Planning Commission	Yes			Ordinance 1024, adopted April 14 th , 1986
Mitigation Planning Committee	Yes			The City served as part of the County's 2015 and 2020 HMP Committee.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	Yes			Skagit County Comprehensive Emergency Management Plan, adopted August 2013
Mutual Aid Agreements / Memorandums of Understanding	Yes			Ordinance 1563, adopted December 2006

4.6.2 Administrative and Technical Capabilities

The assessment of the jurisdiction's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 4-4. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 4-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Planning and Engineering Departments
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	Yes	Building and Planning Departments
Engineers specializing in construction practices?	Yes	Engineering Department
Planners or engineers with an understanding of natural hazards	Yes	Planning Department
Staff with training in benefit/cost analysis	Yes	Finance Department
Surveyors		
Personnel skilled or trained in GIS applications	Yes	Planning and Engineering Departments

Table 4-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Scientist familiar with natural hazards in local area		
Emergency Manager	Yes	Administrative Department
Grant writers	Yes	Engineering and Fire Departments
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Yes	Police and Fire Department
Hazard data and information available to public	Yes	Planning and Engineering Departments
Maintain Elevation Certificates		
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	Yes	The County provides training to citizens wishing to become CERT members
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	The County provides an extensive public outreach campaign for all hazards of concern. The City works with the County to ensure its citizens are fully aware.
Natural disaster or safety related school programs?	Yes	The school district provides this service to the students and families.
Public-private partnership initiatives addressing disaster-related issues?		
Multi-seasonal public awareness program?	Yes	Provided by the County.
On-Going Mitigation Efforts		
Noxious Weed Eradication Program or other vegetation management	Yes	Skagit County Noxious Weed Program
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	Public Works Operations Department
Stream restoration program	Yes	Public Works Operations Department
Erosion or sediment control program	Yes	Public Works Operations Department
Address signage for property addresses	Yes	Planning and Public Works Departments

4.6.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 4-5. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 4-5 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

Table 4-5 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
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	Yes
Withhold Public Expenditures in Hazard-Prone Areas	
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes

4.6.4 Community Classifications

The jurisdiction's classifications under various hazard mitigation programs are presented in Table 4-6. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community.

Table 4-6. Community Classifications		
	Participating (Yes/No)	Date Enrolled
Building Code Effectiveness Grading Schedule	Yes	9/2018
Commercial Structures	4	
Dwellings	4	
Building Code Effectiveness Grade	5	

4.7 HAZARD RISK AND VULNERABILITY RANKING

The jurisdiction's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect the City of Sedro-Woolley.

Table 4-7 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.

- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 4-7. Hazard Risk and vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Earthquake	3.65	Very High
2	Severe Weather	3.3	High
3	Flood/Dam	2.65	Medium
4	Drought	2.55	Low
5	Landslides/Erosion	2.45	Low
6	Volcano	2.35	High
7	Wildfire	2.25	Medium
8	Tsunami	NR1	NR

4.8 MITIGATION GOALS AND OBJECTIVES

The City of Sedro-Woolley adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

4.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the jurisdiction identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the jurisdiction's assets and hazards of concern. Table 4-8 lists the action items/strategies that make up the jurisdiction's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

**Table 4-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1: Determine necessity to retrofit City-owned facilities to better withstand damage from flood, wildfire, or earthquake events. Once need is determined, implement tax levy and seek grant funding to retrofit structures.									
Existing	F,WF,E	1, 8, 9	City of Sedro-Woolley - Council	High	Tax Levy, Capital Improvements Project Fund	Short-Term	Yes	Protection Planning / Mitigation / Structural	Facility / Local
INITIATIVE #2: Relocate Public Works Shops and Offices									
Existing	F, SW	1, 2, 7, 8	PW	High	General Fund, PDM Grant, FMA Grant, Ecology Grants, Tax Levy	Short-Term	Yes	Preventive Activities / Structural Project / Property Protection / Natural Resource Protection	Local / Region
INITIATIVE #3: Produce and distribute family and traveler emergency preparedness information about severe winter weather and earthquake hazards									
Existing	SW	1, 2, 3, 4, 5	County DEM	Low	General Fund, PDM Grant	Short-Term	No	Public Information / Preventive Activities / Property Protection	Local
INITIATIVE #4: Assist Vulnerable Populations by identifying areas of greater need and seeking grant funding for necessary preparedness and improvement programs									
New	F,SW,F, E,L	1, 2, 3, 4	Community Action	Medium	PDM Grant	Long-Term	No	Public Information / Preventive Activities / Property Protection	Local
INITIATIVE #5: Map and Assess Vulnerability to Wildfire, seek FEMA or State technical assistance									
Existing	F	1, 2, 3, 4, 5, 8, 9	Fire	Medium	PDM Grant	Long-Term	No	Public Information / Preventive Activities / Property Protection	Facility / Local
INITIATIVE #6: Construct a ring dike around the hospital as part of a settlement with Dike District 12									

**Table 4-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
Existing	F	1, 2, 7, 8	PW	High	Dike District 12 to fund project as settlement	Short-Term	No	Preventive Activities / Property Protection / Emergency Services / Structural Project	Facility / Local / Region
INITIATIVE #7: Develop and implement a multi-hazard public awareness program									
Existing	F,SW,F, E,L	2, 3, 4, 5, 6, 8	Fire & Planning	Low	General Fund, PDM Grant	Long-Term	Yes	Public Information / Preventive Activities / Property Protection	Local

4.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 4-9 identifies the prioritization for each initiative.

**Table 4-9.
Mitigation Strategy Priority Schedule**

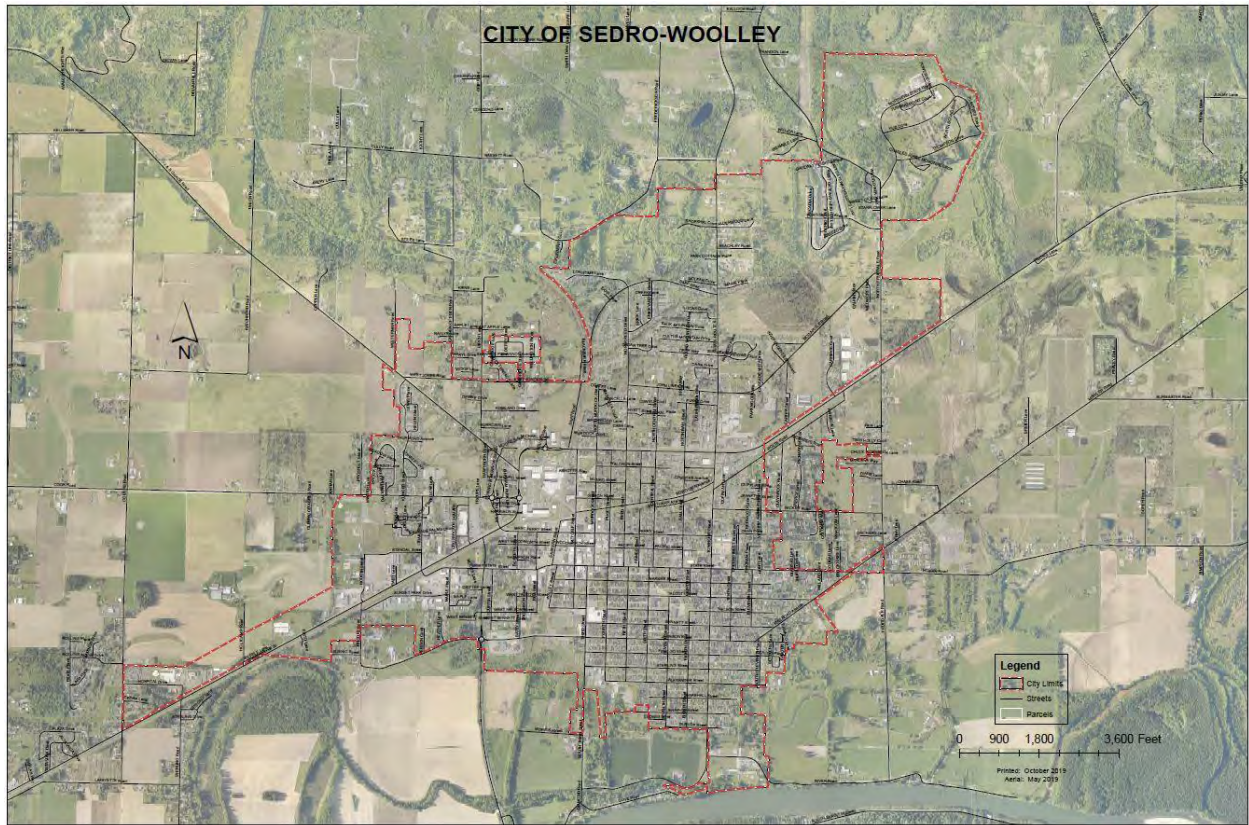
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
1	3	High	High	Yes	Yes	No	High
2	4	Medium	High	Yes	Yes	Yes	High
3	5	Low	Low	Yes	Yes	Yes	High
4	4	Medium	Medium	Yes	Yes	No	Medium
5	7	Medium	Medium	Yes	Yes	Yes	Medium
6	4	High	High	Yes	No	Yes	High
7	6	Low	Low	Yes	Yes	No	Low
a. See Chapter 1 for explanation of priorities.							

4.11 STATUS OF PREVIOUS PLAN INITIATIVES

Table 4-10 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

Table 4-10 Status of previous Hazard Mitigation Action Plan					
		Current Status			
		Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Mitigation Strategy	Project Status				
Construct a ring dike, flood wall or otherwise mitigate the wastewater treatment plant against a 75-year flood event or volcanic lahars.	Carried over as part of initiative #1				✓
Relocate Public Works Shops and Offices. The Street Department shop and offices are located in the floodplain. This should be mitigated in place or moved out of the floodplain.	Funding Source – Local sources, and state and federal grants. Funding not yet available to move the Streets Department. Carried over as Initiative #2				✓
Riverfront Park Landfill Site. Riverfront Park, located at the very southern end of the city limits, is an old abandoned landfill. When flooded, this site has been known to have garbage enter the floodwaters. This site should be excavated and the materials disposed of properly, or mitigated in place.	Project no longer feasible due to lack of funding and political support to complete it.			✓	
Acquire and restore portion of Brickyard Creek.	The City is actively pursuing the acquisition of this property and designing stream channel and riparian zone improvements to both enhance flood storage capacity and fish and wildlife habitat. A floodwater storage project as described above was completed on Brickyard Creek west of Fruitdale Road parallel to McGarigile Road in 2010. Next time a project along a large section of Brickyard Creek is proposed, the City will pursue similar projects.	✓	✓		
Survey of possible alluvial fan hazards by a Professional Geologist to determine risk in Sedro-Woolley.	No action.			✓	
Establish a lahar early warning system.	Achieved through Skagit County resources	✓	✓		

Table 4-10 Status of previous Hazard Mitigation Action Plan					
		Current Status			
		Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Mitigation Strategy	Project Status				
Establish a Community Early Warning Systems based on telephones and tone radio.	Achieved through Skagit County resources.	✓	✓		



CHAPTER 5. TOWN OF CONCRETE ANNEX

5.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Town of Concrete, a participating jurisdiction to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the Town of Concrete. For planning purposes, this Annex provides additional information specific to the jurisdiction, with a focus on providing greater details on the risk assessment and mitigation strategy for this community only. This document serves as an update to the previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

5.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The Town of Concrete followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the Town of Concrete also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

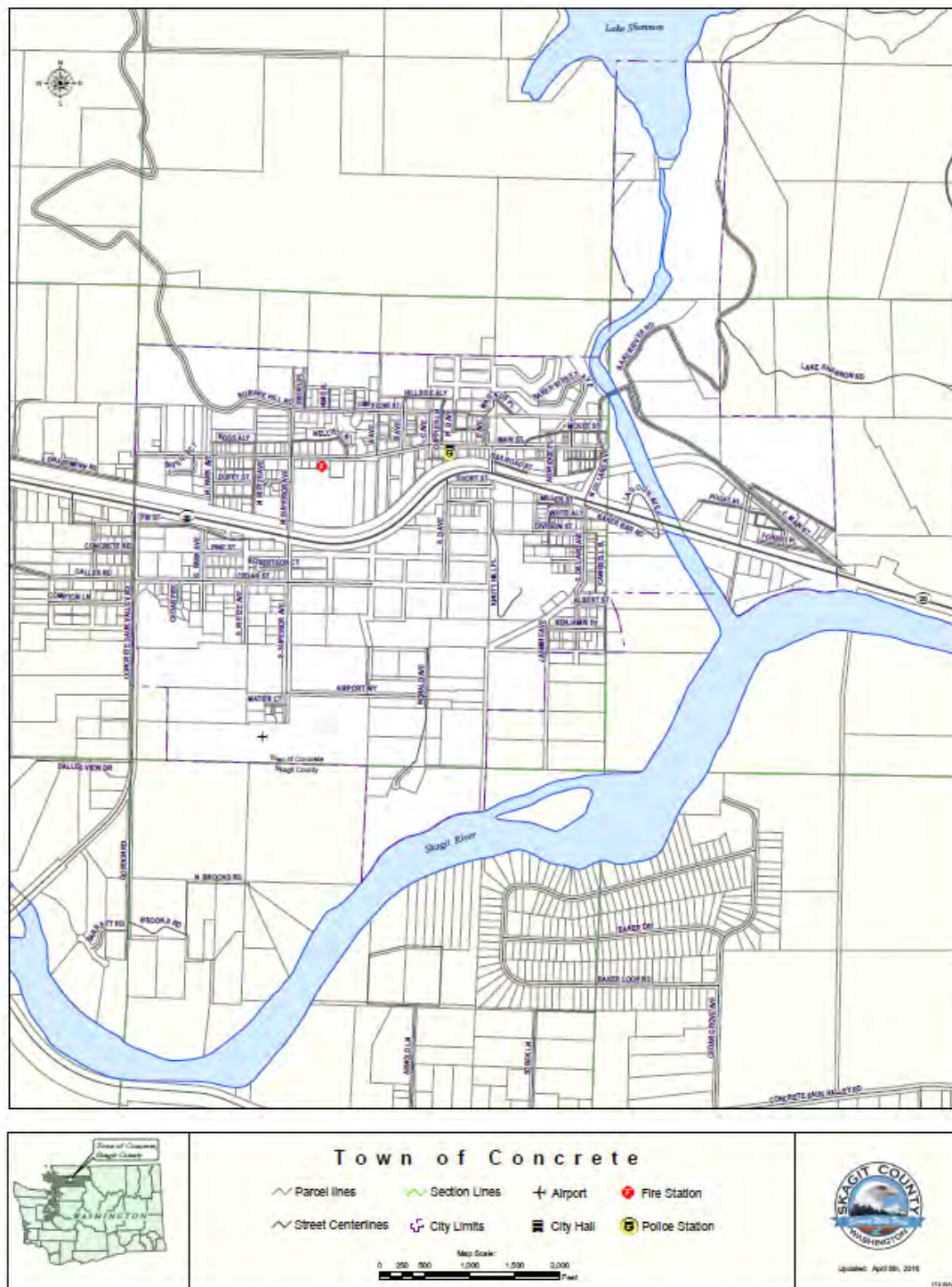
Local Planning Team Members		
Name	Position/Title	Planning Tasks
Marianne Manville-Ailles 45672 Main Street Concrete, WA 98237 360.855.2121 townplanner@concretewa.gov	Town Planner	Provide technical assistance to other Town staff as necessary; drafting of plan, serve as part of County's overall planning team member.
Andrea Fichter 45672 Main Street Concrete, WA 98237 360.853.8401 andrea@concretewa.gov	Clerk Treasurer	Research, Document Updates, Coordination, drafting of plan, serve as part of County's overall planning team member.
Jason Miller 45672 Main Street Concrete, WA 98237 360.853.8213 goodwords@frontier.com	Mayor	Provide information and oversight into plan elements; present plan to Council for approval.
Darrel Reed 45396 Main Street Concrete, WA 98237 360.391.2588 darrel.m.reed@gmail.com	Fire Chief	Provide information regarding hazards and fire and life safety matters during plan development.

5.3 COMMUNITY PROFILE

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

- **Date of Incorporation**—May 9, 1909
- **Current Population**—745 as of April 1, 2019
- **Population Growth**—Based on data tracked by the Washington State Office of Financial Management, population has increased approximately 5% within the town since 2010.
- **Location and Description**— The Town of Concrete is located in the Western Cascade Mountains in Washington, with in Eastern Skagit County, at the confluence of the Baker and Skagit Rivers. The Town of Concrete offers a window into the spectacular Cascade Mountain Range and remains today a rugged reminder of the pioneer spirit that settled the West.
- **Brief History**— Prior to incorporation as the Town of Concrete there was a settlement on the west side of the Baker River originally known as Minnehaha. The east side of the river was known as Baker. The initial settlers to the area relied on timber from the mountains to build homes and run their mills. The settlers soon discovered the mountains yielded more important products for the town’s future, limestone and clay. The settlers of Minnehaha change their town’s name to Cement City when the Washington Portland Cement Plant began construction in 1905. The production of cement was so profitable that a second company, the Superior Portland Cement Company opened for business in 1908. The influence of these companies was so great that when the two towns were incorporated into a single town in 1909, they named the town after their most important business, concrete.
- **Climate**—Town of Concrete climate most closely matches that of the Cascade Mountains West with more snow and annual precipitation and increased summer temperatures than that of western Skagit County.
- **Governing Body Format**— The Town of Concrete is governed by a mayor-council form of government. The mayor-council form consists of an elected mayor who serves as the Town’s Chief Administrative Officer and a council, which serves as the town’s legislative body. The council has the authority to formulate and adopt policies and the mayor is responsible for carrying them out. The Mayor attends and presides over council meetings but does not vote, except in the case of a tie.
- **Development Trends**— Development in Concrete has been slow and is consistent with a small rural town. The community is actively engaged in developing a welcoming environment to attract new businesses and to improve the aging housing stock. Land Use regulations in place have allowed growth to occur without negative impact or increase to vulnerability. Please see Section 2.8 of Volume 1 for additional discussion.
- **Economy** – The Town of Concrete’s economic base consists of educational, health and social services, manufacturing, utilities and retail sales. The largest employers include: Concrete School District and Puget Sound Energy.

The jurisdiction boundaries are identified in the map below.



5.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that

are unique to the jurisdiction. Table 5-1 lists all past occurrences of natural hazards within the jurisdiction. If available, dollar loss data is also included.

Table 5-1 Natural Hazard Events				
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)	
Flood/Severe Winter Storm, Landslides, Mudslides and Flooding	#1817	1/30/09	\$594,706	
Severe Weather	#1825	12/08/08	Unknown	
Landslides		11/23/39	Unknown	
Landslide		5/18/65	Unknown	
Landslide		02/10/90	Unknown	
Flooding	1100-DR-WA	02/96	Unknown	
Winter Storm	0883-DR-WA	1997	Unknown	
Landslides		Jan/Feb 1997	Unknown	
Landslide		12/13/2001	Unknown	
Landslide	1100-DR-WA	02/1996	Unknown	

5.5 CAPABILITY ASSESSMENT

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: National Flood Insurance Information; regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation, and classifications under various community programs.

5.6 NATIONAL FLOOD INSURANCE INFORMATION

In 2004, the Town of Concrete established development regulations for construction within any area of a special flood hazard following the adoption of the Flood Insurance Study for the Town of Concrete dated February 2, 1982 with the accompanying Flood Insurance Maps. The Town of Concrete Municipal Code

(CMC) Section 15.08.050 sets the administrative guidelines for these types of development permits as well as the duties and responsibilities of the floodplain administrator who would review and issue such permits. Review of floodplain development permits include but are not limited to, a determination that all necessary permits, including those from the State and Federal Level, have been obtained, review and documentation of flood elevation data, review of any flood proofing requirements, review and notification requirements for any development that may alter watercourses, and follow any and all provisions for flood hazard reduction that is required per the municipal code as well as any State or Federal rules and regulations.

The Town Planner acts as the Town's floodplain administrator. The Town Planner position is a part time position currently filled by a consultant to the Town. Development within the floodplain is subject to the Town's Floodplain Management Ordinance and NIFP. The CMC requires a development permit before development can occur within the special flood hazard zone. This permit identifies the specific requirements for each proposed project. Prior to Floodplain Permit release, all plans must be reviewed to ensure that they meet the requirements of the Town's Floodplain Management regulations. The CMC defines development for purposes of floodplain management as:

"Development" means any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials located within the area of special flood hazard." Structures may also require floodproofing under the ordinance. The Town's floodplain management regulations also require Elevation Certificates. Elevation Certificates must be completed and stamped by a surveyor licensed in the State of Washington.

Enforcement and penalties for violations for construction within a special flood hazard area without final approval is also outlined within the town's Municipal Code Section 19.54 which includes how violations are processed, the time associated with compliance and the penalties or remedies thereof.

Additional information on the community's National Flood Insurance Program (NFIP) compliance is presented in Table 5-2. This identifies the current status of the jurisdiction's involvement with the NFIP.

Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 1 (Residential)
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

Table 5-2 National Flood Insurance Compliance	
What department is responsible for floodplain management in your community?	Building and Planning Departments
Who is your community's floodplain administrator? (department/position)	Building Inspector and Town Planner
Do you have any certified floodplain managers on staff in your community?	No
What is the date of adoption of your flood damage prevention ordinance?	4/12/2004
When was the most recent Community Assistance Visit or Community Assistance Contact?	2012
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No

Table 5-2
National Flood Insurance Compliance

Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Yes—we need training to get staff trained as a certified floodplain manager
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification? If not, is your community interested in joining the CRS program?	No

5.6.1 Regulatory Capability

The assessment of the jurisdiction's legal and regulatory capabilities is presented in Table 5-3. This includes planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are currently in place.

Table 5-3
Legal and Regulatory Capability

	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code - IBC Version Year - 2015	Yes			
Zoning Ordinance	Yes			CMC Title 19
Subdivision Ordinance	Yes			CMC Title 17
Floodplain Ordinance	Yes			CMC 15.08
Stormwater Management	Yes		X	CMC 16.12, 16.04, 17.08 and 19.68
Post Disaster Recovery	Yes			Rely on coordination with County
Real Estate Disclosure	Yes			Rely on real estate agents
Growth Management	Yes		X	Town of Concrete Comprehensive Plan
Site Plan Review	Yes			CMC 19.68
Public Health and Safety	Yes			Rely on coordination with Skagit County
Coastal Zone Management	No		X	
Climate Change Adaptation	No			
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)	Yes			CMC 16.12
Environmental Protection	Yes		X	CMC Title 16
Planning Documents				
General or Comprehensive Plan	Yes		X	Comprehensive Plan
<i>Is the plan equipped to provide linkage to this mitigation plan?</i>				
				Yes

Table 5-3
Legal and Regulatory Capability

	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Floodplain or Basin Plan	Yes			Rely on FEMA floodplain mapping
Stormwater Plan	Yes			Engineering Standards
Capital Improvement Plan	Yes			Comprehensive Plan Element
Habitat Conservation Plan	Yes			CMC 16.12
Economic Development Plan	Yes			Comprehensive Plan Element
Shoreline Management Plan	Yes			Concrete SMP also Comp Plan Land Use Element
Community Wildfire Protection Plan	Yes			Rely on coordination with neighboring fire Districts and Department of Natural Resources
Transportation Plan	Yes			Comprehensive Plan Element
Response/Recovery Planning				
Comprehensive Emergency Management Plan	Yes			Rely on coordination with Skagit County
Threat and Hazard Identification and Risk Assessment	Yes			Rely on coordination with Skagit County
Terrorism Plan	Yes			Coordinate with Skagit County Sherriff per contract with Town
Post-Disaster Recovery Plan	Yes			Rely on coordination with Skagit County
Continuity of Operations Plan	Yes			Rely on coordination with Skagit County
Public Health Plans	Yes			Town Council Liaison with community action and other health care providers
Boards and Commission				
Planning Commission	Yes			
Mitigation Planning Committee	Yes			The Town served on the countywide mitigation planning committee, and will continue to serve on the committee during the life cycle of this plan in accordance with the mitigation strategy developed during the HMP process.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	Yes			Part of Public Works work program also PSE does routine tree trimming.
Mutual Aid Agreements / Memorandums of Understanding	Town	Multiple Jurisdictions within Skagit County		Mutual Aid for Fire and Emergency Services
Other				

5.6.2 Administrative and Technical Capabilities

The assessment of the jurisdiction's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 5-4 . These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 5-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Planning/Town/Town Planner
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	Yes	Building/Town/Building Inspector Fire/TOC/Fire Chief
Engineers specializing in construction practices?	Yes	Administration/CRH Engineering/Town Engineer
Planners or engineers with an understanding of natural hazards	Yes	Administration/CRH Engineering/Town Engineer Administration/Skagit Surveyors/Town Planner
Staff with training in benefit/cost analysis	Yes	Administration/Town/Clerk Treasurer
Surveyors	Yes	Administration/Skagit Surveyors/Town Planner
Personnel skilled or trained in GIS applications	Yes	Administration/CRH Engineering/Town Engineer
Scientists or personnel familiar with natural hazards in local area	Yes	The County has staff which are subject matter experts in the various hazard fields.
Emergency Manager	Yes	The County provides this service to the Town
Grant writers	Yes	Administration/Town/Clerk Treasurer
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Yes	PSE Dam Failure Warning Sirens Fire Department Sirens
Hazard data and information available to public	Yes	Administration/Town/Clerk Treasurer
Maintain Elevation Certificates	Yes	Building/Town/Building Inspector Administration/Town/Clerk Treasurer
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	Yes	The County provides training throughout the area for CERT members.
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	County Emergency Management, Health Department and Conservation District provide this type of information as a continued process.
Natural disaster or safety related school programs?	Yes	The school districts provide this service to the students and families.
Public-private partnership initiatives addressing disaster-related issues?	Yes	Red Cross assists in meeting this to some extent.

**Table 5-4
Administrative and Technical Capability**

Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Multi-seasonal public awareness program?	Yes	The County has a robust public awareness program that deals with the various hazards of concern, and provides public information to the citizens of the town and the county.
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	Skagit Fisheries Enhancement Group
Noxious Weed Eradication Program or other vegetation management	Yes	Skagit Fisheries Enhancement Group
Fire Safe Councils	No	
Chipper program	Yes	Town Public Works
Defensible space inspections program	Yes	The various fire districts provide this service at times when requested. In some instances, the Conservation District also assists in this regard.
Creek, stream, culvert or storm drain maintenance or cleaning program	No	
Stream restoration program	No	
Erosion or sediment control program	No	
Address signage for property addresses	Yes	Skagit County
Other		

5.6.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 5-5. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

**Table 5-5
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	Yes
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other	Yes

5.6.4 Community Classifications

The jurisdiction's classifications under various hazard mitigation programs are presented in Table 5-6. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community.

Table 5-6. Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule – Commercial	5	
Building Code Effectiveness Grading Schedule – Dwelling	5	
Protection Class	5	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

5.7 HAZARD RISK AND VULNERABILITY RANKING

The jurisdiction's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect the Town of Concrete.

Table 5-7 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.

- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 5-7. Hazard Risk and vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Severe Weather	3.10	Very High
2	Landslide/Erosion	2.90	High
3	Earthquake	3.05	High
4	Volcano	2.80	Medium-High
5	Dam Failure	2.80	Medium-High
6	Flood	2.25	Medium-High
7	Wildfire	2.30	Medium
8	Drought	1.75	Low
9	Tsunami	1.35	Low

5.8 MITIGATION GOALS AND OBJECTIVES

The Town of Concrete adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

5.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the jurisdiction identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the jurisdiction's assets and hazards of concern. Table 5-8 lists the action items/strategies that make up the jurisdiction's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

**Table 5-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 – Replacement and upgrade of existing inefficient 1989 pumper engine.									
Existing	All	All	Fire Department	High	CDBG AFG Local - Fire Reserve Fund USDA	Long Term	Yes	Emergency Services	Local/County
INITIATIVE #2 – Retrofit Town-Owned facilities to better withstand damage from flood, earthquakes, and severe weather.									
Existing	F, EQ, SW	All	Facilities	High	PDM, HMGP, HLS, CDBG, Dept. of Commerce USDA	Long Term	No	Structural Projects Property Protection Emergency Services	Local/County
INITIATIVE #3 – Modify existing electrical service for Town Hall and Skagit County East Detachment Office									
Existing	All	All	Facilities	High	PDM, HMGP, USDA, Dept. of Commerce	Long Term	Yes	Public Information Emergency Services	Local, County
INITIATIVE #4 Continue to support and work with the County to maintain public awareness of the hazards of concern, and to seek out and apply for grant opportunities that will lessen the impact from the hazards of concern.									
New and Existing	All	All	Council	High	General Fund	On-Going	No	Public Information, Emergency Services	Regional

5.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 5-9 identifies the prioritization for each initiative.

Table 5-9.
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 ^a
1	9	Medium	High	No	No	No	Medium
2	9	High	High	Yes	Yes	No	High
3	9	Medium	Medium	Yes	Yes	No	Medium
4	9	High	Low	Yes	No	Yes	High
a. See Chapter 1 for explanation of priorities.							

5.11 STATUS OF PREVIOUS PLAN INITIATIVES

Table 5-10 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

Table 5-10.
Status of previous Hazard Mitigation Action Plan

Mitigation Strategy	Project Status	Current Status			
		Completed	Continual /Ongoing Nature	Removed /No Longer Relevant /	Carried Over
Construct a New Fire Station/Public Safety Building on high ground and out of the 100-year floodplain on Main Street.	Full project completion occurred in 2015.	✓			
Replace existing wood and trancite waterline with ductile iron or similar materials to minimize the breakage of water lines due to land movement.	All previous wood or trancite waterlines have now been replaced. The only remaining wooden reservoir will be replaced by the spring/summer of 2020.	✓			
Replace existing 1989 pumper engine to provide an increased level of fire protection for the Town of Concrete.	This mitigation measure was not accomplished due to a lack of funding.		✓		✓

Table 5-10. Status of previous Hazard Mitigation Action Plan					
Mitigation Strategy	Project Status	Current Status			
		Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant /	Carried Over
Modify existing electrical service for Concrete Town Hall and SCSO East Detachment Office to allow for the rapid installation/connection of a 65KW generator in the event of power outages.	This mitigation measure was not accomplished due to a lack of funding.		✓		✓
Retrofit existing town-owned facilities to better withstand damage from major wind, flood, snow, earthquake or other natural hazard event.	Addition of mitigation measure.		✓		

5.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

The Town of Concrete needs to develop a Town Wide Emergency Action and Response Plan

5.13 ADDITIONAL COMMENTS

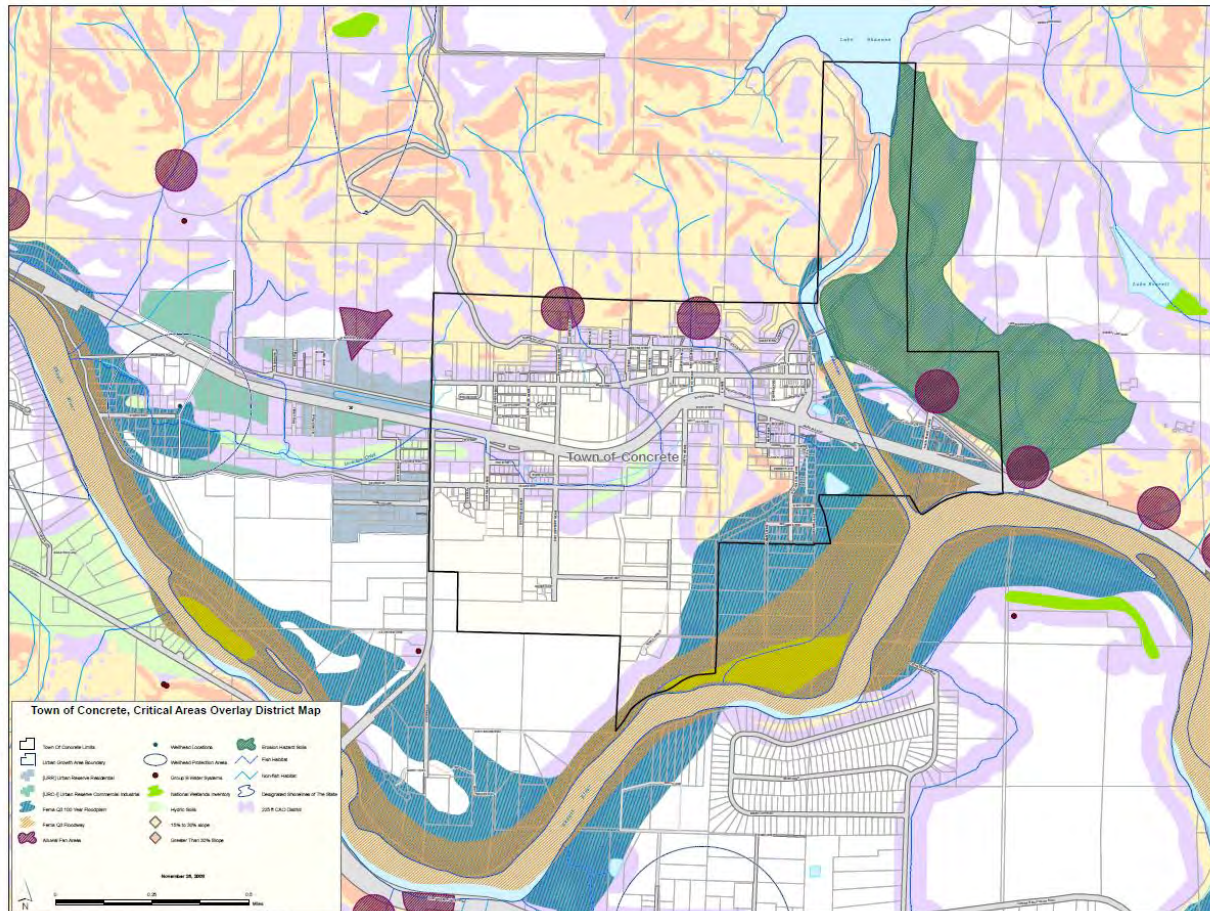
The town operates and maintains its municipal airport. Improvements for this area include the installation of water and sewer services as well as the relocation of the existing, substandard helipad. In the event of a major incident the airport would serve as a primary staging location for the delivery of services or needed supplies. The helipad and airport are also currently used in medical emergencies where transportation by air is necessary.

At this time there is only one usable route to the town's airport. The town has secured partial funding for the construction of a secondary access to the airport, in case the one route is blocked or becomes unusable. The town will continue to seek additional funding for the completion of this project.

5.14 HAZARD AREA EXTENT AND LOCATION

The Lower Baker Dam, which lies within the town limits as well as the Upper Baker Dam just above town limits, could potentially pose major concerns for the Town of Concrete as well as the rest of western Skagit County. The partial or complete failure of either of these dams could result in mass casualties and result in extensive difficulties for emergency and medical services to reach the area.

Hazard area extent and location maps are included below. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes.



CHAPTER 6.

TOWN OF HAMILTON ANNEX

6.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Town of Hamilton, a participating jurisdiction to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the Town of Hamilton. For planning purposes, this Annex provides additional information specific to the jurisdiction, with a focus on providing greater details on the risk assessment and mitigation strategy for this community only. This document serves as an update to the previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

6.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The Town of Hamilton followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the Town of Hamilton also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Joan Cromley, Mayor 584 Maple St Hamilton, WA 98255 Telephone: 360 826 3027 e-mail Address: townofhamilton.2010@gmail.com	Primary Point of Contact	Meeting attendance, plan development, facilitate internal planning team meetings, capturing of information, primary author of plan.
Beth Easterday, Clerk 584 Maple St Hamilton, WA 98255 Telephone: 360 826 3027 e-mail Address: townofhamilton.2010@gmail.com	Alternate Point of Contact	Provide information to plan development; internal planning team attendance, review of plan once completed.
Scott Bates, Fire Chief 584 Maple St Hamilton, WA 98255 Telephone: 360 826 3027 e-mail Address: townofhamilton.2010@gmail.com	Public Safety	Provide information into the hazards of concern and impact; serve as member of internal planning team; review and editing of plan once completed.

6.3 COMMUNITY PROFILE

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

Date of Incorporation—March 1891

Current Population—301 (2010 Census)

Population Growth—Hamilton has had a fairly stable population around 300 since the 1930's. The Urban Growth Area has recently been annexed, and population may grow soon.

Location and Description— The Town of Hamilton is located in Skagit County, approximately 12 miles east of the City of Sedro-Woolley and 12 miles west of Concrete on State Route 20. Hamilton is a small community located in central Skagit County on the banks of the Skagit River. The town is divided by S.R. 20, with the Sutton Annexation, Forterra Annexation and the Centennial Annexation lying to the north and the remaining area of town to the south. The fifteen-acre Sutton Annexation lies north of S.R. 20, west and south of the Hamilton Cemetery Road and is residential housing. The Forterra Annexation is 43 acres to the east of Hamilton Cemetery Road, and is undeveloped. The Centennial Annexation is a 260-acre tract of land that is currently used for industrial forestland, with an emerging gravel pit. This area extends north of S.R. 20 about 3/4 of a mile and then west 1/2 mile forming a large rectangle of land that is connected to Hamilton via Walder's Road and S.R. 20.

Hamilton is one of several communities in the Skagit Valley. The Skagit River shapes the physical landscape of the region forming the east-west valley. The low foothills of Mt. Josephine, north of town, roll down to the valley floor to the gently sloping floodway of the Skagit River. The significant bodies of water within the city limits are Carey's Lake and Alder Creek Slough that is fed by Carey's Creek and appears to be an abandoned path of the Skagit River.

The lowest elevation of the Town is about 50 feet above sea level.

Approximately 310 acres of the Town of Hamilton is located within the 100-year floodplain of the Skagit River. The Skagit has experienced severe flooding in recent years causing excessive property damage. The last major flood to occur in Hamilton was in October 2003 and resulted in evacuations and damage to many homes. The majority of the residential structures, a few commercial buildings, and a handful of recreational vehicles are located in the floodway. This area should be absent of permanent structures that impede floodwater movement and increase the possibility for property damage. The floodway should only be used for seasonal or water dependent facilities such as stream bank stabilization facilities, dams, diversions, storm water facilities, bridges and public access areas.

Timber harvesting occurs in some areas outside the Town and a gravel quarry is located at the north-east corner. Due to flood-plain conditions, future development is limited in the areas to the north.

Brief History— Hamilton's natural resources have been its asset throughout the history of the area. The Skagit river provided transportation routes and food resources for Native Americans making seasonal home sites in the area. The lush river valley provided game and native plants as a plentiful food source. The streams and river provided a fresh water supply and bountiful catches of salmon and trout. The Upper Skagit tribes were a migratory population utilizing the valley as a late spring and early summer settlement area on their seasonal travels between the Pacific Coastal area and Eastern Washington. In addition to game and fish, the valley provided berry harvests. Their return in the fall coincided with the return of the salmon.

The Upper Skagit Valley in the Hamilton and Birdsvew area was first settled in the 1870's. The Hamilton Town Site and Land Company was incorporated on January 17, 1891 with an estimated population of 1,500 or more. Hamilton entertained high hopes of becoming a mining and railroad center of Skagit County with investments by the Great Northern Railroad and Hamilton Iron and Coal Company. Despite closing the closing of the local mines Hamilton did become a booming logging and timber center. The Skagit River and the Great Northern Railroad played a vital role in the transport of

timber, equipment, goods and services. Logs floated down river to sawmills and there was also a strong riverboat commercial trade on the River.

The first school in Hamilton was built in 1884 by William Hamilton and remained the elementary school until 1943. The first high school was built in 1919, a large brick building that later became the grade school. This building remained an elementary school well into the 1970s when classes were finally moved to Lyman.

Enduring numerous major floods, Hamilton remained a bustling town with a rich industrial center and strong sense of community well into the 1940s. However, the slow decline in the timber industry and the rail traffic continued to dwindle the population. Hamilton is now one of the smallest rural communities in Skagit County but maintains a strong sense of community involvement. Currently Hamilton has stabilized with the expansion of Janicki Industries Punkin Center LLC, which is continuing to expand in the area of cutting edge parts manufacturing for aerospace and other industries. Other future commercial focuses are recreation and ecotourism.

Climate— The Town of Hamilton experiences relatively mild temperatures, with relatively low amounts of precipitation falling in the form of snow. Winter months and the prevailing winds result in a wet season beginning on October or November, peaking in February, and gradually decreasing by late spring. Rainfall occurs on average approximately 150 days per year. The Town does experience some type of severe weather event annually, customarily the most damaging in the form of rain and wind.

Governing Body Format—Strong Mayor/Council. 5 Council members, all elected at-large

Development Trends—Industry has been expanding. Housing has been declining. However, as indicated above, the UGA has been expanded, which will hopefully allow the Town to continue to grow and expand. Application of regulatory authority is expected to ensure that increased vulnerability from the hazards of concern does not occur. Additional information on Land Use Development is contained in Volume 1, Section 2.8.

Economy – The Town of Hamilton’s economic base consists of manufacturing and food services. The largest employer is Janicki Industries.

The jurisdiction boundaries are identified in the map below.

6.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the jurisdiction. Table 6-1 lists all past occurrences of natural hazards within the jurisdiction. If available, dollar loss data is also included.

Table 6-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Severe Storm	1963	3/25/2011	Unknown
Severe Storm	1825	3/2/2009	Unknown
Flood	1817	1/30/2009	Unknown

**Table 6-1
Natural Hazard Events**

Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Severe Storm	1734	12/8/2007	Unknown
Severe Storm	1682	2/14/2007	Unknown
Severe Storm	1671	12/12/2006	Unknown
Coastal Storm	3227	9/7/2005	Unknown
Severe Storm	1499	11/7/2003	Unknown
Earthquake	1361	3/1/2001	Unknown
Severe Storm	1159	1/17/1997	Unknown
Flood	1100	2/9/1996	Unknown
Severe Storm	1079	1/3/1996	Unknown
Flood	896	3/8/1991	Unknown
Flood	883	11/26/1990	Unknown
Volcano	623	5/21/1980	Unknown
Flood	612	12/31/1979	Unknown
Flood	492	12/13/1975	Unknown
Flood	300	2/9/1971	Unknown
Local Area Disaster – Not Declared			
Flood		11/25/2017	Unknown

6.5 CAPABILITY ASSESSMENT

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: National Flood Insurance Information; regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going

mitigation efforts; fiscal capabilities which support mitigation, and classifications under various community programs.

6.6 NATIONAL FLOOD INSURANCE INFORMATION

The Town of Hamilton entered the NFIP on December 1, 1981. The effective date for the current countywide FIRM is December 1, 1981. There is one Letter of Map Amendments issued by FEMA for removal of properties erroneously identified as being within the floodplain.

Since 2014, two houses within the Town of Hamilton have been removed, one of which the land is being returned to native habitat, further reducing risk. There have been no permits granted for permanent structures that increase flood risk since 2014.

The two outstanding compliance violations at the time of this writing do not impact the flood risk since the time of the last Natural Hazard Mitigation Plan approval (one is a ground disturbance issue; one is a 2003 building with approved flood openings). By complying with the NFIP standards, risk in the Town of Hamilton has been reduced.

Management of the NFIP program for the Town of Hamilton falls on many shoulders. The Town does not have a floodplain manager per se, but does have a contract with the County floodplain manager for work as needed. Building permits go through a different contractor, who has experience with floodplain properties and also does the permit inspections.

As a brief overview, the only development currently permitted in the floodplain is not allowed to raise ground levels and cannot increase the amount of water on neighbors during flood events. Developing property, all or a portion of which is in a regulated floodplain, requires a Floodplain Development Permit. This permit identifies the specific requirements for each proposed project. Prior to Floodplain Permit release, all plans must be reviewed to ensure that they meet the requirements of the Town of Hamilton Flood Ordinance. For purposes of development, development includes, but is not limited to: buildings, homes, manufactured and mobile homes, other structures, bridges, culverts, dredging, filling, grading, paving, excavation, docks, etc. Structures may also require floodproofing under the ordinance, which requires that residential homes be elevated above the level of the base flood elevation (BFE) and commercial structures have the option to flood proof above the BFE. A licensed engineer must design the flood proofing. The Town's flood ordinance also requires Elevation Certificates. The purpose for an Elevation Certificate is to document compliance with permit conditions as Elevation Certificates are the only official document used by FEMA to determine whether a structure is inside or outside a floodplain, and are also used to determine the proper rate when purchasing flood insurance. Elevation Certificates must be completed and stamped by a surveyor licensed in the State of Washington. Properties that fall out of compliance with NFIP standards are dealt with using the same process as nuisance violations, which are administered by the Town code enforcement.

Additional information on the community's National Flood Insurance Program (NFIP) compliance is presented in Table 6-2. This identifies the current status of the jurisdiction's involvement with the NFIP.

Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 34 (all residential except one business)
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0

- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 1 since 2014
- Total FEMA payments: \$2,171,413

Table 6-2 National Flood Insurance Compliance	
What department is responsible for floodplain management in your community?	Skagit County Planning
Who is your community's floodplain administrator? (department/position)	Skagit County Planning
Do you have any certified floodplain managers on staff in your community?	No, but contracted
What is the date of adoption of your flood damage prevention ordinance?	Aug 2011
When was the most recent Community Assistance Visit or Community Assistance Contact?	Nov 2017
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	Yes, two.
Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	Modification pending FEMA removal of erroneously identified structures.
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification? If not, is your community interested in joining the CRS program?	No

6.6.1 Regulatory Capability

The assessment of the jurisdiction's legal and regulatory capabilities is presented in Table 6-3. This includes planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are currently in place.

Table 6-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code	Yes			Ord 322, Building Codes, 2016
Version	ICC			
Year	2015			
Zoning Ordinance	Yes			Ord 179 Zoning, 1994
Subdivision Ordinance	Yes			Ord 169, Subdivisions, 1994
Floodplain Ordinance	Yes		Yes	Ord 292 Flood Hazard Mitigation, 2011
Stormwater Management	No			

Table 6-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Post Disaster Recovery	No			
Real Estate Disclosure	No			
Growth Management	Yes	Yes	Yes	Ord 335 Comprehensive Plan, 2018
Site Plan Review	Yes			
Public Health and Safety	No			
Coastal Zone Management	No			
Climate Change Adaptation	No			
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)	No			
Environmental Protection	Yes		Yes	Ord 317, Critical Areas, 2015
Planning Documents				
General or Comprehensive Plan	Yes			Ord 335, 2018
				<i>Is the plan equipped to provide linkage to this mitigation plan?</i> No
Floodplain or Basin Plan	No			
Stormwater Plan	No			
Capital Improvement Plan	Yes			Part of Ord 335, Comprehensive Plan, 2018
Habitat Conservation Plan	No			
Economic Development Plan	No			
Shoreline Management Plan	Yes			
Community Wildfire Protection Plan	No			
Transportation Plan	No			
Response/Recovery Planning				
Comprehensive Emergency Management Plan		Yes		Skagit County
Threat and Hazard Identification and Risk Assessment	Yes			
Terrorism Plan	No			
Post-Disaster Recovery Plan	No			
Continuity of Operations Plan	No			
Public Health Plans	No			
Boards and Commission				
Planning Commission	No			

Table 6-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Mitigation Planning Committee	Yes			Served as a member of the County's 2015 and 2020 planning team to develop the HMP.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	Yes			Ongoing by Public Works
Mutual Aid Agreements / Memorandums of Understanding	Yes	Yes		With County, Fire Departments, Red Cross
Other				

6.6.2 Administrative and Technical Capabilities

The assessment of the jurisdiction's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 6-4 . These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 6-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	No	
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	Yes	Under contract
Engineers specializing in construction practices?	Yes	Under contract
Planners or engineers with an understanding of natural hazards	Yes	Under contract
Staff with training in benefit/cost analysis	No	
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	Skagit County GIS
Personnel skilled or trained in Hazus use	No	
Scientist familiar with natural hazards in local area	No	
Emergency Manager	Yes	Skagit County Dept of Emergency Management
Grant writers	No	

Table 6-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Yes	Skagit 911, Skagit Dept of Emergency Management
Hazard data and information available to public	No	
Maintain Elevation Certificates	Yes	Hamilton Clerk
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	Yes	Red Cross, CERT
Local citizen groups or non-profit organizations focused on environmental protection?	Yes	Skagit Fisheries Enhancement Group, Skagit Land Trust
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	Hamilton Clerk
Natural disaster or safety related school programs?	No	
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	Hamilton Public Works
Noxious Weed Eradication Program or other vegetation management	Yes	Hamilton Public Works, Skagit Fisheries Enhancement Group
Fire Safe Councils	No	
Chipper program	Yes	Hamilton Public Works
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	No	
Stream restoration program	No	
Erosion or sediment control program	No	
Address signage for property addresses	Yes	Hamilton

6.6.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 6-5. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

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	Yes
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other	

6.6.4 Community Classifications

The jurisdiction's classifications under various hazard mitigation programs are presented in Table 6-6. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community.

Table 6-6. Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	Yes – Class 4	
Protection Class	7	
Firewise	No	

6.7 HAZARD RISK AND VULNERABILITY RANKING

The jurisdiction's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect the Town of Hamilton.

Table 6-7 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.

- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 6-7. Hazard Risk and Vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Flood	4	Extremely High
2	Volcanic Activity	4	High
3	Earthquake	3.15	High
4	Wildfire	2.8	High
5	Severe Weather	2.6	High
6	Drought	2.15	Medium
7	Landslide	1.7	Low
8	Tsunami	0	NR

6.8 MITIGATION GOALS AND OBJECTIVES

The Town of Hamilton adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

6.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the jurisdiction identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the jurisdiction's assets and hazards of concern. **Error! Reference source not found.** lists the action items/strategies that make up the jurisdiction's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

**Table 6-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
<i>INITIATIVE # 1A Utilize the latest adopted state building code to insure adequate protection in construction against earthquakes in Seismic Zone D, Severe storms with Wind Exposure C, Fire with Fire Resistive Construction Standards, and Land Movement with Grading Standards</i>									
New	EQ, SW, WF, LS	1	Hamilton Planning Dept	None	General Fund	Long-term	Yes	Preventive	Local
<i>INITIATIVE # 1B Utilize the latest adopted state fire code to insure adequate protection against Fire in construction with standards of Fire flow and through the annual Inspection of Commercial Structures</i>									
New	EQ, SW, WF, LS	1	Hamilton Planning, County Fire Marshal	None	General Fund	Long-term	Yes	Preventive	Local
<i>INITIATIVE # 1C The Floodway, Special Flood Risk Zone and the 100 year Flood Plan shall be regulated and flood mitigation activities implemented to protect human life, property and the public health and safety of the citizens of Hamilton; minimize expenditures of public money; and to maintain the town's flood insurance eligibility while avoiding unnecessarily restrictive or administratively difficult regulations.</i>									
Existing	Fl	1	Hamilton Town Council	None	General Fund, Grants	Long-term	Yes	Preventive, Property Protection	Local
<i>INITIATIVE # 1D Manage storm water runoff to improve drainage, control storm water quantity, prevent localized flooding of streets and private property during high water table and rainy conditions, and protect and enhance water quality.</i>									
Existing	Fl	1	Hamilton Public Works	Unknown	Grants	Long-term	Yes	Preventive, Property Protection	Local, County
<i>INITIATIVE # 1E Identify and reserve the majority of Skagit River shoreline for open space and recreational uses due to the unique floodway and flood plain limitations imposed on shoreline uses, particularly with the dike system.</i>									
New, Existing	Fl	1	Hamilton Town Council	Unknown	Grants	Long-term	Yes	Preventive, Natural Resource Protection	Local
<i>INITIATIVE # 1F Utilizing Best Available Science to develop the Critical Areas title to protect, to the greatest extent practical, life, property and the environment from loss, injury and damage by pollution, erosion, flooding, landslides, strong ground motion, soil liquefaction, accelerated soil creep, settlement and subsidence, and other potential hazards, whether from natural causes or from human activity and related goals.</i>									
New	Fl, EQ, LS	1	Hamilton Town Council	unknown	General Fund, grants	Long-term	Yes	Prevention, Property Protection, Natural Resource Protection	Local
<i>INITIATIVE # 1G Coordinate with Skagit County through arrangements such as interlocal agreements, joint programs, consistent standards, and regional boards or committees.</i>									

**Table 6-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
New, Existing	Fl, LS, EQ	1,3,4	Hamilton Town Council, County Commissioners	unknown	General Fund, grants	Long-term, Short-term	Yes	Prevention, Public Information, Property Protection, Emergency Services, Recovery	Local, County
<i>INITIATIVE # 1H Establish Urban Levels of Service Standards to ensure protection of public health, safety and welfare by meeting relevant standards.</i>									
New	Fl, LS, EQ	1, 4	Hamilton Town Council	unknown	General Fund, grants	Long-term	Yes	Prevention, Emergency Services, Recovery	Local
<i>INITIATIVE # 2A Provide protection of steep slopes according to standards in the Critical Areas Ordinance.</i>									
Existing, New	LS	1	Hamilton Public Works	unknown	General Fund, grants	Long-term	Yes	Prevention, Property Protection	Local
<i>INITIATIVE # 2B Regulations and policies shall reflect the existing dikes along the Skagit River until such time as the removal of hydro-modifications is deemed appropriate for Hamilton long-term floodway management and open space habitat creation and restoration.</i>									
Existing	FL	1	Hamilton Town Council	None	General fund, grants	Long-term	Yes	Prevention, Property protection	Local
<i>INITIATIVE # 2C Nonstructural solutions to flood hazards shall be encouraged including restricting new development and reducing existing development in flood-prone areas and storm water runoff management.</i>									
Existing, New	Fl	1	Hamilton Planning	unknown	General fund, grants	Long-term	Yes	Prevention	Local
<i>INITIATIVE # 2D Ensure that standards for flood control measures protect and enhance the biological systems and public access opportunities of the shoreline and adjacent uplands.</i>									
Existing	Fl	1	Hamilton Town Council	None	General Fund, grant	Long-term, Short-term	Yes	Prevention, Natural Resource Protection	Local
<i>INITIATIVE # 2E The Building Official will continue to maintain elevation certificates. Elevation certificates will be pursued for properties without one on record.</i>									
Existing	Fl	1	Hamilton Planning	minimal	General Fund	Long-term	Yes	Prevention, Property Protection	Local
<i>INITIATIVE # 2F The Town staff will continue to provide technical advice to property owners, contractors and design professionals.</i>									
New, Existing	Fl	1,2	Hamilton Planning	minimal	General Fund	Long-term	Yes	Prevention, Property Protection	Local

**Table 6-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
<i>INITIATIVE # 2G Provide adequate emergency power to Fire Department. Update emergency radios to narrow band frequency.</i>									
New, Existing	All	1, 4	Hamilton Fire Dept	unknown	General Fund, Grants	Long-term, Short-term	Yes	Property Protection, Emergency Response	Local
<i>INITIATIVE #2H Upgrade water system construction to latest seismic and wind standards.</i>									
New, Existing	Fl, EQ, SW, Vol	1, 4	Hamilton Water Dept	unknown	General Fund, Grants	Long-term	Yes	Prevention, Structural Projects, Property Protection, Recovery	Local
<i>INITIATIVE # 3A Protect and restore critical areas; plan for flood hazard mitigation, surface water management and pollution control, establishment and maintenance of greenbelts and conservation areas and coordinate with adjoining jurisdictions.</i>									
Existing, New	Fl	1, 2, 4	Hamilton Public Works	unknown	grants	Long-term	Yes	Natural Resource Protection, Emergency Services, Prevention, Property Protection	Local
<i>INITIATIVE # 3B Provide habitat for wildlife species and freshwater fish in close proximity to an urban area.</i>									
Existing, New	Fl	1	Hamilton Public Works	unknown	grants	Long-term	Yes	Natural Resource Protection	Local
<i>INITIATIVE # 3C To protect and restore the wetlands to optimize water quality, habitat, best management practices and ensure that adjacent land use patterns are compatible with the protection and enhancement of the wetlands and take advantage of the unique attributes of the site, allowing no net loss of wetlands, and to remove obstructions to provide for efficient conveyance of water through the city during flood events.</i>									
Existing	Fl, SW	1	Hamilton Planning, Public Works	unknown	General Fund, grants	Long-term	Yes	Prevention, Property Protection, Natural Resource Protection	Local, County, Region
<i>INITIATIVE # 3D To allow limited use of the Skagit River and its shoreline compatible with the Dike system and with regulatory constraints of the Floodway and Special Flood Risk Zone, including transportation, levee improvement, utilities and outfall structures, public access and recreation, open space and agriculture and similar uses. Review based on individual permits.</i>									
New	Fl	1,3	Hamilton Town Council, Public Works	minimal	General Fund	Long-term	Yes	Prevention, Property Protection, Natural Resource Protection, Structural	Local

**Table 6-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
<i>INITIATIVE # 3E Encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks. Integrate the concepts with natural functions such as drainage, agriculture, and topographic features</i>									
Existing	Fl, EQ, LS, WF, SW	1,3,4	Hamilton Town Council, Planning	unknown	General fund, grants	Long-term	Yes	Prevention, Property Protection, Natural Resource Protection	Local
<i>INITIATIVE # 4A Develop and maintain an emergency plan that includes flood warning, earthquake response, and evacuation program for the Town.</i>									
Existing, New	Fl, EQ, Vol	1,3,4	Hamilton Fire Dept	unknown	General Fund, grants	Long-term	Yes	Prevention, Emergency Services, Property Protection	Local
<i>INITIATIVE # 4B The transportation planning goals and level of service is designed to ensure the continued ability of the transportation system to function at a reasonable level of service throughout the urban service area and coordinate the links to the regional transportation system. Critical for evacuation</i>									
New, Existing	Fl, EQ, Vol	1,4	Hamilton Public Works, County Public Works	unknown	General Fund, Grant	Long-term	Yes	Prevention, Public Information, Emergency Services	Local, County
<i>INITIATIVE # 4C Maintain Fire, Water Treatment Critical Facilities up to date with most current technology and standards to ensure operation during hazard events</i>									
New, Existing	Fl, EQ, Vol	1,4	Hamilton Water Dept	unknown	General Fund, Water Fund, Grants	Long-term	Yes	Property Protection, Emergency Services	Local
<i>INITIATIVE # 5A Structural Measures – Maintain existing dike system</i>									
Existing	Fl	1	Hamilton Public Works	unknown	General Fund, Grants	Long-term	Yes	Property Protection, Structural, Emergency Services	Local
<i>INITIATIVE # 5B Relocate the town out of the floodway and north across State Route 20; acquire and transfer development rights from floodway properties.</i>									

**Table 6-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
Existing	Fl, Vol	1	Hamilton Town Council	unknown	Grants	Long-term	Yes	Property Protection, Natural Resource Protection	Local
<i>INITIATIVE # 5C Six-year list of capital projects including specific actions targeted towards natural hazard mitigation.</i>									
Existing, New	All	1	Hamilton Town Council	unknown	General Fund, Capital Fund, Grants	Long-term	Yes	All	Local
<i>INITIATIVE # 5D Upgrade and maintain all community owned critical facilities, including Fire Station and Water System.</i>									
Existing, New	All	1	Hamilton Public Works	unknown	Grants	Long-term	Yes	Property Protection, Emergency Services, Prevention, Structural	Local
<i>INITIATIVE # 6A Provide ongoing public education and outreach using electronic and printed materials and meetings regarding town relocation activities, residential, commercial and industrial best management practice issues, flood hazard mitigation, water quality, and related local issues.</i>									
Existing, New	Fl, Vol	1,2,4	Hamilton Town Council	Unknown	General fund, Grants	Long-term	Yes	Public Information, Emergency Services, Property Protection	Local
<i>INITIATIVE # 6B Make flood map determinations in response to public inquiries.</i>									
Existing, New	Fl, Vol	1,2	Hamilton Planning	minimal	General Fund	Long-term	Yes	Public Information	Local
<i>INITIATIVE # 6C Expand the Public Information program to address other natural hazards where additional public information will be helpful, such as seismic retrofits for homes, and other topics. Hazards identified through Multi-Jurisdictional Planning process.</i>									
Existing, New	All	1,3	Hamilton Planning	unknown	General Fund, Grants	Long-term	Yes	Public Information, Property Protection	Local

6.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 6-9 identifies the prioritization for each initiative.

Table 6-9.
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 ^a
1A	1	Medium	Low	Yes	No	Yes	High
1B	1	High	Low	Yes	No	Yes	High
1C	1	High	High	Yes	Yes	Partially	High
1D	1	High	High	Yes	Yes	No	Medium
1E	1	High	High	Yes	Yes	No	Medium
1F	1	Medium	Medium	Yes	Yes	Yes	Medium
1G	3	High	Unknown	Yes	Yes	Yes	High
1H	2	Medium	Low	Yes	No	Yes	Medium
2A	1	Low	Low	Yes	Yes	Yes	Low
2B	1	High	Low	Yes	No	Yes	High
2C	1	High	Low	Yes	No	Yes	High
2D	1	High	Low	Yes	Yes	Yes	High
2E	1	Medium	Medium	Yes	Yes	Yes	Medium
2F	2	Medium	Low	Yes	No	Yes	Medium
2G	2	High	Medium	Yes	Yes	Yes	High
2H	2	Medium	Medium	Yes	Yes	Yes	Medium
3A	2	High	Medium	Yes	Yes	Yes	High
3B	1	Medium	Medium	Yes	Yes	Yes	Medium
3C	1	High	Medium	Yes	Yes	Yes	Medium
3D	2	High	High	Yes	Yes	Yes	High
3E	3	High	High	Yes	Yes	Yes	High
4A	3	High	Medium	Yes	Yes	Yes	High
4B	2	High	Medium	Yes	Yes	Yes	Medium
4C	2	High	High	Yes	Yes	Yes	Medium
5A	1	High	Medium	Yes	Yes	Yes	High
5B	1	High	High	Yes	Yes	Yes	High
5C	1	Medium	High	Yes	Yes	Yes	Medium
5D	1	Medium	High	Yes	Yes	Yes	Medium
6A	3	High	Medium	Yes	Yes	Yes	Medium
6B	2	High	Low	Yes	Yes	Yes	Medium
6C	2	Medium	Low	Yes	Yes	Yes	Medium

a. See Chapter 1 for explanation of priorities.

6.11 STATUS OF PREVIOUS PLAN INITIATIVES

Table 6-10 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

Table 6-10. Status of Previous Hazard Mitigation Action Plan					
		Current Status			
		Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Mitigation Strategy	Project Status				
Utilize the latest adopted state building code to insure adequate protection in construction against earthquakes in Seismic Zone D, Severe storms with Wind Exposure C, Fire with Fire Resistive Construction Standards, and Land Movement with Grading Standards	Action carried over as 1A in updated action plan. Needs updated to latest standards		✓		✓
Utilize the latest adopted state fire code to insure adequate protection against Fire in construction with standards of Fire flow and through the annual Inspection of Commercial Structures	Action carried over as 1B in updated action plan. Interlocal with County for fire inspections.		✓		✓
The Floodway, Special Flood Risk Zone and the 100 year Flood Plan shall be regulated and flood mitigation activities implemented to protect human life, property and the public health and safety of the citizens of Hamilton; minimize expenditures of public money; and to maintain the town's flood insurance eligibility while avoiding unnecessarily restrictive or administratively difficult regulations.	Action carried over as 1C in updated action plan. Ongoing.		✓		✓
Manage storm water runoff to improve drainage, control storm water quantity, prevent localized flooding of streets and private property during high water table and rainy conditions, and protect and enhance water quality.	Action carried over as 1D in updated action plan. Ongoing.		✓		✓
Identify and reserve the majority of Skagit River shoreline for open space and recreational uses due to the unique floodway and flood plain limitations imposed on shoreline uses, particularly with the dike system.	Action carried over as 1E in updated action plan. Ongoing.		✓		✓

**Table 6-10.
Status of Previous Hazard Mitigation Action Plan**

		Current Status			
		Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Mitigation Strategy	Project Status				
Utilizing Best Available Science to develop the Critical Areas title to protect, to the greatest extent practical, life, property and the environment from loss, injury and damage by pollution, erosion, flooding, landslides, strong ground motion, soil liquefaction, accelerated soil creep, settlement and subsidence, and other potential hazards, whether from natural causes or from human activity and related goals.	Action carried over as 1F in updated action plan. Critical Areas Ordinance undergoes periodic update.		✓		✓
Coordinate with Skagit County through arrangements such as interlocal agreements, joint programs, consistent standards, and regional boards or committees.	Action carried over as 1G in updated action plan. Ongoing.		✓		✓
Establish Urban Levels of Service Standards to ensure protection of public health, safety and welfare by meeting relevant standards.	Action carried over as 1H in updated action plan. Ongoing.		✓		✓
Provide protection of steep slopes according to standards in the Critical Areas Ordinance.	Action carried over as 2A in updated action plan. Ongoing.		✓		✓
Regulations and policies shall reflect the existing dikes along the Skagit River until such time as the removal of hydro-modifications is deemed appropriate for Hamilton long-term floodway management and open space habitat creation and restoration.	Action carried over as 2B in updated action plan. Ongoing.		✓		✓
Nonstructural solutions to flood hazards shall be encouraged including restricting new development and reducing existing development in flood-prone areas and storm water runoff management.	Action carried over as 2C in updated action plan. Ongoing.		✓		✓
Ensure that standards for flood control measures protect and enhance the biological systems and public access opportunities of the shoreline and adjacent uplands.	Action carried over as 2D in updated action plan. Ongoing.		✓		✓
The Building Official will continue to maintain elevation certificates. Elevation certificates will be pursued for properties without one on record.	Action carried over as 2E in updated action plan. Ongoing.		✓		✓

**Table 6-10.
Status of Previous Hazard Mitigation Action Plan**

		Current Status			
		Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Mitigation Strategy	Project Status				
The Town staff will continue to provide technical advice to property owners, contractors and design professionals.	Action carried over as 2F in updated action plan. Ongoing.		✓		✓
Provide adequate emergency power for Town water system and Fire Department. Update emergency radios to narrow band frequency.	Action carried over as 2G in updated action plan. Water has an emergency generator, Fire does not. Radios are being replaced on an ongoing schedule.		✓		✓
Move water system including wells, storage and treatment facilities out of the flood plain; provide Emergency Generator capability; upgrade construction to latest seismic and wind standards.	Action carried over as 2H in updated action plan. Water system facilities are located outside of floodplain, have generator. Seismic and wind standards ongoing.		✓		✓
Protect and restore critical areas; plan for flood hazard mitigation, surface water management and pollution control, establishment and maintenance of greenbelts and conservation areas and coordinate with adjoining jurisdictions.	Action carried over as 3A in updated action plan. Ongoing.		✓		✓
Provide habitat for wildlife species and freshwater fish in close proximity to an urban area.	Action carried over as 3B in updated action plan. Ongoing.		✓		✓
To protect and restore the wetlands to optimize water quality, habitat, best management practices and ensure that adjacent land use patterns are compatible with the protection and enhancement of the wetlands and take advantage of the unique attributes of the site, allowing no net loss of wetlands, and to remove obstructions to provide for efficient conveyance of water through the city during flood events.	Action carried over as 3C in updated action plan. Ongoing.		✓		✓

**Table 6-10.
Status of Previous Hazard Mitigation Action Plan**

		Current Status			
		Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Mitigation Strategy	Project Status				
To allow limited use of the Skagit River and its shoreline compatible with the Dike system and with regulatory constraints of the Floodway and Special Flood Risk Zone, including transportation, levee improvement, utilities and outfall structures, public access and recreation, open space and agriculture and similar uses. Review based on individual permits.	Action carried over as 3D in updated action plan. Ongoing.		✓		✓
Encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks. Integrate the concepts with natural functions such as drainage, agriculture, and topographic features	Action carried over as 3E in updated action plan. Ongoing.		✓		✓
Develop and maintain an emergency plan that includes flood warning, earthquake response, and evacuation program for the Town.	Action carried over as 4A in updated action plan. Ongoing.		✓		✓
The transportation planning goals and level of service is designed to ensure the continued ability of the transportation system to function at a reasonable level of service throughout the urban service area and coordinate the links to the regional transportation system. Critical for evacuation	Action carried over as 4B in updated action plan. LOS set in Comprehensive Plan, which is routinely updated. Ongoing.		✓		✓
Maintain Fire, Water Treatment Critical Facilities up to date with most current technology and standards to ensure operation during hazard events	Action carried over as 4C in updated action plan. Ongoing.		✓		✓
Structural Measures – Maintain existing dike system	Action carried over as 5A in updated action plan. Repairs made after 2017 event. Ongoing.		✓		✓

**Table 6-10.
Status of Previous Hazard Mitigation Action Plan**

		Current Status			
		Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Mitigation Strategy	Project Status				
Relocate the town out of the floodway and north across State Route 20; acquire and transfer development rights from floodway properties.	Some effort was made since completion of the 2015 plan was adoption with the most recent activity being the annexation of Forterra property, which was completed 2019. This action carried over as 5B in updated action plan as it is ongoing in nature.	✓	✓		✓
Six-year list of capital projects including specific actions targeted towards natural hazard mitigation.	Action carried over as 5C in updated action plan. Ongoing.		✓		✓
Upgrade and maintain all community owned critical facilities, including Fire Station and Water System.	Action carried over as 5D in updated action plan. Ongoing.		✓		✓
Provide ongoing public education and outreach using electronic and printed materials and meetings regarding town relocation activities, residential, commercial and industrial best management practice issues, flood hazard mitigation, water quality, and related local issues.	Action carried over as 6A in updated action plan. Annual letters mailed to residents regarding water quality and flood hazards. Information dispersed through social media as needed. Ongoing.	✓	✓		✓
Make flood map determinations in response to public inquiries.	Action carried over as 6B in updated action plan. Ongoing.		✓		✓
Expand the Public Information program to address other natural hazards where additional public information will be helpful, such as seismic retrofits for homes, and other topics. Hazards identified through Multi-Jurisdictional Planning process.	Action carried over as 6C in updated action plan. Ongoing. The Town does participate in public information efforts completed by the County as well as completing its own public outreach efforts.	✓	✓		✓

6.12 ADDITIONAL COMMENTS

The process of finding a way to move people out of the floodplain in Hamilton is continuing. The Forterra annexation will attempt to create affordable housing while trying to find inventive funding mechanisms so that people can afford to move out of the floodplain as they decide to do so.

6.13 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps are included in Volume 1. These maps are based on the best available data at the time of the preparation of this plan and are considered to be adequate for planning purposes.

CHAPTER 7.

SKAGIT COUNTY CONSOLIDATED DIKE, DRAINAGE, AND IRRIGATION DISTRICT 22

7.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Skagit County Dike, Drainage and Irrigation District 22 (CDD22), a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by CDD22. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district's previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

7.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

CDD22 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the district also formulated their own internal planning team to support the broader planning process. This planning team was led by Daryl Hamburg chair of the Skagit County Dike District Partnership and Jenna Friebe of the Skagit Drainage and Irrigation Districts consortium. The planning team leads worked with district commissioners, staff, and attorneys from 15 different Skagit County Dike, Drainage and Irrigation Special Purpose Districts to evaluate and rank hazards, identified a suite of initiatives and prioritize those initiatives. Because there are many similarities among Skagit County Dike, Drainage and Irrigation Special Purpose Districts this process was conducted via all-district e-mails, all district meetings, as well as individual meetings. Although this work was done collectively, the local planning team for each district ultimately identified the hazard rankings and initiatives specific to their district. The individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
John Wolden PO Box 535 Conway, WA 98238 e-mail: scdike22@gmail.com	District 22 Commissioner Chair	Plan, review and adopt Annex Base Plan
Greg Lee	District 22 Commissioner Secretary	Plan, review and adopt Annex Base Plan
David Hughes	District 22 Commissioner	Plan, review and adopt Annex Base Plan
Robert Hughes	District 22 Commissioner	Plan, review and adopt Annex Base Plan

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Matt Nelson	District 22 Commissioner	Plan, review and adopt Annex Base Plan
Jenna Friebe Skagit Drainage and Irrigation District Consortium 2017 Continental Place Suite 4 Mount Vernon, WA 98273 Telephone: 360-395-2189 jfriebe@skagitdidc.org	Exec. Director Drainage and Irrigation Districts Consortium	Lead for development of Annex Base Plan Point of contact for training and information

7.3 DISTRICT PROFILE

Skagit County Dike, Drainage and Irrigation District 22 is a special-purpose district created around the turn of the 19th century to provide flood protection, drainage, and irrigation water supply to portions of unincorporated Skagit County located on Fir Island. CDD22 is bordered by the North Fork Skagit River to the west, South Fork Skagit River to the east, and Skagit Bay to the South. The predominant land uses include commercial agriculture with some hobby farms and residential housing within the district's boundaries. A five-member elected Board of Commissioners governs the District. The Board assumes responsibility for the adoption of this plan; and will work with the Executive Director of the Skagit Drainage and Irrigation Districts Consortium to oversee its implementation. Funding comes primarily through assessments.

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

- **Governing Authority**— The district is governed by five elected commissioners serving six year terms
- **Population Served**—less than 2,000/2018
- **Land Area Served**—7,000 acres
- **Value of Area Served**— \$ 79,111,750 /2018
- **Land Area Owned**—8 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

Hall Slough Pump Station: 36-inch dia culvert Tidegate	\$500,000
Gene King/Skagit Bay: 36-inch Tidegate	\$80,000
Brown Slough/Skagit Bay: 48-inch Tidegate	\$90,000
Brown Slough/Skagit Bay: 48-inch screwgate	\$90,000
Brown Slough/ Fir Island: 48-inch Tidegate	\$90,000
Davis Slough: (2) 48-inch Tidegate	\$180,000
Dry Slough: (3) 48-inch Tidegate	\$270,000
Wiley Slough: 36-inch Tidegate	\$80,000
Wiley Slough: (2) 9' x 7' box Tidegate	\$500,000
Fir Island Farm: Pump Station	\$500,000

Wiley Slough: Pump Station	\$500,000
Misc. Equipment	\$100,000

- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$2,980,000.
- **List of Critical Facilities Owned by the Jurisdiction: None**
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is \$0.
- **Key Resources** – The District also manages approximately 15.0 miles of PL84-99 River Levees and 6.0 miles of marine dikes which would be highly impacted in the event of a large natural hazard. The District also manages 461,500 LF of drainage and irrigation watercourses.
- **Current and Anticipated Service Trends**—It is likely that climate change will alter coastal flooding patterns resulting in increases in the frequency and magnitude of coastal flood events. The District is planning to continue to maintain existing levees and implement capital improvement plans for levee improvements.

7.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 7-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 7-1 Natural Hazard Events 1975 to Present			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Skagit River Flood, 129,000 cfs	492	December 4, 1975	Unknown
Skagit River Flood, 142,000 cfs	883	November 11, 1990	Included with Nov. 25 event
Skagit River Flood, 152,000 cfs	883	November 25, 1990	\$8,000,000
Skagit River Flood, 151,000 cfs	1079	November 30, 1995	\$3,000,000
Skagit River Flood, 135,000 cfs	1499	October 22, 2003	Unknown
Skagit River Flood, 138,000 cfs	1671	November 7, 2006	\$1,012,000
Local Area Disaster – Not Declared			
Extreme Weather/Coastal Flood		Mar. 10, 2016	Unknown
Skagit River Flood 96,000 cfs		November 23, 2017	\$450,000

7.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

7.5.1 Regulatory Capability

The District has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

General Capabilities (Examples):

- District's Annual Capital Improvement Plan (CIP) supports projects that are identified in this plan update. The CIP is updated annually by the District and adopted by the Board of Commissioners in the fall of each year.
- RCW 85
- Skagit County Comprehensive Flood Hazard Management Plan – 1989
- Corps of Engineers Skagit County Flood Damage Reduction Study
- The Disaster Mitigation Act of 2000 requires state, tribal and local governments to develop a hazard mitigation plan as a condition of receiving certain types of non-emergency disaster assistance. The District's current approved Hazard Mitigation Plan Update supports the effort of this regulation and plan update.

7.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 7-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 7-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	District Commissioners
Planners or engineers with an understanding of natural hazards.	Yes	Skagit Drainage and Irrigation Consortium/Director

Table 7-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Staff with training in benefit/cost analysis.	No	
Personnel skilled or trained in GIS or Hazus use.	No	
Emergency Manager.	Yes	District Commissioners
Grant writers.	Yes	Skagit Drainage and Irrigation Consortium/Director
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?).	No	
Hazard data and information available to public.	No	
Specific equipment response plans.	No	
Specific operational plans.	No	
Water Shortage Contingency Plan.	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural disaster or safety related school programs?	No	
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	District Commissioners
Noxious Weed Eradication Program or other vegetation management	No	Part of maintenance plan
Fire Safe Councils	No	
Chipper program	No	

Table 7-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Stream restoration program	No	
Erosion or sediment control program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Address signage for property addresses	No	
Staff resources to make declarations and request assistance on all PL84-99 Skagit Levees and file Corps Reports		Dike District 3/ Dike District Partnership

7.5.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 7-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 7-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
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	

7.6 COMMUNITY CLASSIFICATION

The district's classifications under various hazard mitigation programs are presented in Table 7-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 7-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	No	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

7.7 HAZARD RISK AND VULNERABILITY RANKING

The district's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect CDD22. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses.

Table 7-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 7-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Earthquake	3.65	Very high	All of the levees and critical facilities are located on liquefiable soil and could be impacted by an earthquake. While the probability of an earthquake is low, the impact could be large and failures to levees and other critical facilities could also result in flooding making response times and repairs difficult and delayed.
2	Flood	3.05	high	All of the levees and critical facilities are located within the floodplain and could be damaged during flood events
3	Severe Weather	3.05	high	The marine dikes, lower river levees and tidegate facilities are located near Skagit Bay and could be impact by coastal flooding, storm surge, waves and debris.
4	Tsunami	2.95	medium	The marine dikes, lower river levees, and tidegate facilities are located within tsunami zones and could be impacted
5	Volcano/Lahar	2.35	Medium	Levees and critical facilities are located within lahar zone and would likely be damaged in the event of a lahar
6	Landslide	1.7	Low	Levees and critical facilities are not located within landslide hazard areas
7	Wildfire	1.45	Low	Levees and critical facilities are not located within wildfire hazard areas
8	Drought	1.15	Low	Levees and critical facilities would not be impacted by drought

7.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

7.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 7-6 lists the action items/strategies that make up the district's hazard mitigation plan. Background information and information

on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

**TABLE 7-6
HAZARD MITIGATION ACTION PLAN MATRIX**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE # 1: Inventory coastal dikes and evaluate extreme coastal events. Identify deficiencies and develop capital improvement plan; become eligible for grant funding, repair and improve coastal dikes to reduce the risk of coastal flooding.									
Existing	SW/TS	1, 8	District	Medium	Grant general	Short term	no	structural	local
INITIATIVE # 2 Enhance existing PL-84-99 levees. Improve existing levee structural integrity to reduce flooding risk per recommendations of the Corps Skagit General Investigation Study.									
Existing	F	1, 8	District	Low	District	Long term	no	structural	county
INITIATIVE # 3 Inventory Tidegate(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
Existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE # 4. Inventory Flood Return Structure(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
Existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #5. Conduct studies to identify and design additional flood return/tidegate structures. Improve flood return capacity to reduce the duration of flooding.									
New	F	1, 7, 8	County PW	Medium	County/ Grants	Long term	no	preventative	county
INITIATIVE #6. Inventory pump(s). replace/improve aging infrastructure to reduce the duration of upland flooding.									
Existing	F	1, 8	District	Medium	Districts/ Grants	Long term	no	preventative	local
INITIATIVE #7. Develop a flood fight protocols manual. Make sure emergency contacts and protocols are in place for natural hazard events to improve response times									
New	F/SW/ TS	6, 7, 8, 9	District	Low	Grant	Short term	no	Emergency Services	local
INITIATIVE #8. Increase flood storage and change in timing at the SCL Ross Reservoir. Reduce flood risk and changes in the seasonality of flood events.									
Existing	F	7, 8	US ACOE	Medium	Federal FERC	Long term	no	Prevention	County
INITIATIVE #9. Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									

**TABLE 7-6
HAZARD MITIGATION ACTION PLAN MATRIX**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
New	F/SW/TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local
INITIATIVE #10. Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
New	F/SW/TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local
INITIATIVE #11. Construct seepage berms. Improve existing levee structural integrity to reduce the risk of flooding.									
Existing	F	1, 8	District	Medium	District/Grant	Short term	no	Structural	Local

7.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of different initiative types for each identified action item was conducted. Table 7-7 identifies the prioritization for each initiative.

**Table 7-7.
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 ^a
1	2	Medium	Medium	Yes	Yes	No	High
2	2	High	Low	Yes	No	Yes	High
3	2	High	Medium	Yes	Yes	No	Medium
4	2	High	Medium	Yes	Yes	No	Medium
5	3	Medium	Medium	Yes	Yes	No	Medium
6	2	High	Medium	Yes	No	No	Medium
7	4	High	Low	Yes	Yes	No	High
8	2	Medium	Medium	Yes	No	No	Medium
9	3	High	Low	Yes	No	No	High
10	3	High	Low	Yes	Yes	No	High
11	2	High	Medium	Yes	No	Yes	High

Table 7-7. Mitigation Strategy Priority Schedule							
Initiative	# of Objectives	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
#	Met						
a. See Chapter 1 for explanation of priorities.							

7.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

CDD22 needs an evaluation of their marine dikes to better understand the risk and vulnerability of that system. CDD22 will work on comprehensive flood mitigation planning with Skagit County to identify additional flood return structure capacity or other improvements that are needed.

CHAPTER 8.

SKAGIT DIKE, DRAINAGE AND IRRIGATION DISTRICT 5

8.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Skagit Dike, Drainage, and Irrigation District 5 (District 5), a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by District 5. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district's previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

8.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

District 5 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the district also formulated their own internal planning team to support the broader planning process. This planning team was led by Daryl Hamburg chair of the Skagit County Dike District Partnership and Jenna Friebe of the Skagit Drainage and Irrigation Districts consortium. The planning team leads worked with district commissioners, staff, and attorneys from 15 different Skagit County Dike, Drainage and Irrigation Special Purpose Districts to evaluate and rank hazards, identified a suite of initiatives and prioritize those initiatives. Because there are many similarities among Skagit County Dike, Drainage and Irrigation Special Purpose Districts this process was conducted via all-district e-mails, all district meetings, as well as individual meetings. Although this work was done collectively, the local planning team for each district ultimately identified the hazard rankings and initiatives specific to their district. The individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Norman Hoffman 8174 Bayview-Edison Rd Baw, WA 98232 Telephone: 425-308-5420 e-mail: nhoffman8174@gmail.com	District 5 Commissioner Secretary	Plan, review and adopt Annex Base Plan
Ryan Nelson 8174 Bayview-Edison Rd Baw, WA 98232	District 5 Commissioner	Plan, review and adopt Annex Base Plan
Jim Sullivan 8174 Bayview-Edison Rd Baw, WA 98232	District 5 Commissioner	Plan, review and adopt Annex Base Plan

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Jenna Friebe Skagit Drainage and Irrigation District Consortium 2017 Continental Place Suite 4 Mount Vernon, WA 98273 Telephone: 360-395-2189 jfriebe@skagitdidc.org	Exec. Director Drainage and Irrigation District Consortium	Lead for development of Annex Base Plan Point of contact for training and information

8.3 DISTRICT PROFILE

Skagit County Dike, Drainage, and Irrigation District 5 is a special-purpose district created in 1897 to provide drainage, irrigation water supply, and flood protection to portions of unincorporated Skagit County located in the Samish River delta, southwest of the Town of Edison, south of Samish Island, east of Padilla Bay and north of Joe Leary Slough. District 5 is bordered by Padilla Bay to the west, Joe Leary Slough to the south, the Samish River to the east and Samish Bay to the north. The predominant Land Uses include commercial agriculture and dairy farming with hobby farms, gun clubs and residential housing scattered within the district's boundaries. A three-member elected Board of Commissioners governs the District. The Board assumes responsibility for the adoption of this plan; and will work with the Executive Director of the Skagit Drainage and Irrigation Districts Consortium to oversee its implementation. Funding comes primarily through assessments.

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

- **Governing Authority**— The district is governed by three elected commissioners serving six year terms
- **Population Served**—less than 2,000/2018
- **Land Area Served**—2,989 acres
- **Value of Area Served**— \$23,524,800.00/2018
- **Land Area Owned**—less than 10 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

D'Arcy Rd 4-ft x 4ft Drain Vault	\$15,000.00
Shroeder Pl. 48-in Tidegate	\$90,000.00
Alice Bay (4) 48-inch Tidegate	\$500,000.00
Samish River (4) 48-inch Floodgate	\$500,000.00
Joe Leary 36-in Tidegate	\$80,000.00
Joe Leary Pump Station	\$500,000.00
Joe Leary 12-inch tidegate	\$50,000.00
Alice Bay Pump Station	\$500,000.00

- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$2,235,000.
- **List of Critical Facilities Owned by the Jurisdiction: None**
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is \$0.
- **Key Resources** – The District also manages approximately 4.0 miles of river levees and 7.5 miles of marine dikes which would be highly impacted in the event of a large natural hazard. The District also manages 24.4 miles of drainage and irrigation watercourses.
- **Current and Anticipated Service Trends**—It is likely that continued development in the contributing basins will alter runoff and flows in the Samish River. It is likely that the frequency and magnitude of peak flows will increase as development increases. In addition, it is likely that climate change will alter coastal flooding patterns resulting in increases in the frequency and magnitude of coastal flood events. The District is planning to continue to maintain existing levees and implement capital improvement plans for levee improvements.

8.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 8-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 8-1 Natural Hazard Events 1975 to Present			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Skagit River Flood (152,00 cfs)	#883	Nov 11/25, 1990	30,000
Skagit River Flood (151,000 cfs)	#1079	Nov. 30, 1995	60,000
Flood#1499-DR-WA		2004	60,000
Extreme Weather/Coastal Flood	1499	10/15/2003	60,000
Local Area Disaster – Not Declared			
Samish River Flood		Nov. 30, 1995	25,000
Extreme Weather/Coastal Flood		Mar. 10, 2016	62,000
Extreme Lowland Weather Event		Feb. 5, 2017	15,000

8.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

8.5.1 Regulatory Capability

The District has adopted/enacted codes, resolutions, policies and plans that complete and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

General Capabilities:

District's Annual Capital Improvement Plan (CIP) supports projects that are identified in this plan update. The CIP is updated annually by the District and adopted by the Board of Commissioners in the fall of each year.

- RCW 85
- Skagit County Comprehensive Flood Hazard Management Plan – 1989
- Corps of Engineers Skagit County Flood Damage Reduction Study
- The Disaster Mitigation Act of 2000 requires state, tribal and local governments to develop a hazard mitigation plan as a condition of receiving certain types of non-emergency disaster assistance. The District's current approved Hazard Mitigation Plan Update supports the effort of this regulation and plan update.

8.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 8-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 8-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	District Commissioners
Planners or engineers with an understanding of natural hazards.	Yes	Skagit Drainage and Irrigation Consortium/Director
Staff with training in benefit/cost analysis.	No	
Personnel skilled or trained in GIS or Hazus use.	No	
Emergency Manager.	Yes	District Commissioners
Grant writers.	Yes	Skagit Drainage and Irrigation Consortium/Director
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?).	No	
Hazard data and information available to public.	No	
Specific equipment response plans.	No	
Specific operational plans.	No	
Water Shortage Contingency Plan.	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural disaster or safety related school programs?	No	

Table 8-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	District Commissioners
Noxious Weed Eradication Program or other vegetation management	No	Part of maintenance plan
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Stream restoration program	No	
Erosion or sediment control program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Address signage for property addresses	No	
Staff resources to make declarations and request assistance on all PL84-99 Skagit Levees and file Corps Reports		Dike District 3/ Dike District Partnership

8.5.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 8-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 8-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes

Table 8-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
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	

8.6 COMMUNITY CLASSIFICATION

The district's classifications under various hazard mitigation programs are presented in Table 8-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 8-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	No	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

8.7 HAZARD RISK AND VULNERABILITY RANKING

The district's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect District 5. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses.

Table 8-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 8-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Earthquake	3.65	Very High	All of the dikes, levees, and critical facilities are located on liquefiable soil and could be impacted by an earthquake. While the probability of an earthquake is low, the impact could be large and failures to levees and other critical facilities could also result in flooding making response times and repairs difficult and delayed.
2	Flood	3.05	High	All of the dikes, levees and critical facilities are located within the floodplain and could be damaged during flood events
3	Severe Weather	3.05	High	The lower portions of the dikes and levees are located near Padilla and Samish Bays and could be impact by coastal flooding, storm surge, waves and debris.

Table 8-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
4	Tsunami	2.95	High	All of the dikes, levees and critical facilities are located within tsunami zones and would likely be damaged by a tsunami
5	Volcano/Lahar	2.35	Medium	Dikes, levees and critical facilities are located within lahar zone and would likely be damaged in the event of a lahar
6	Drought	2.35	Medium	Dikes, levees and critical facilities would not be impacted by drought
7	Landslide	1.70	Low	Dikes, levees and critical facilities are not located within landslide hazard areas
8	Wildfire	1.30	Low	Dikes, levees and critical facilities are not located within wildfire hazard areas

8.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

8.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 8-6 lists the action items/strategies that make up the district's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

TABLE 8-6 HAZARD MITIGATION ACTION PLAN MATRIX									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE # 1. Inventory coastal dikes and evaluate extreme coastal events. Identify deficiencies and develop capital improvement plan; become eligible for grant funding, repair and improve coastal dikes to reduce the risk of coastal flooding.									

**TABLE 8-6
HAZARD MITIGATION ACTION PLAN MATRIX**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
existing	SW/TS	1, 8	District	Medium	Grant general	Short term	no	structural	local
INITIATIVE #2 Inventory Non -L84-99 levees. Identify deficiencies and develop capital improvement plan; become eligible for grant funding, repair and improve levees to reduce the risk of flooding.									
existing	F	1, 8	District	Medium	Grant: General	Short term	no	prevention	local
INITIATIVE #3 Inventory Tidegate(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE # 4. Inventory Flood Return Structure(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #5. Conduct studies to identify and design additional flood return/tidegate structures. Improve flood return capacity to reduce the duration of flooding.									
new	F	1, 7, 8	County PW	Medium	County/ Grants	Long term	no	preventative	county
INITIATIVE #6. Inventory pump(s). replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	Districts/ Grants	Long term	no	preventative	local
INITIATIVE #7. Develop a flood fight protocols manual. Make sure emergency contacts and protocols are in place for natural hazard events to improve response times									
new	F/SW/ TS	6, 7, 8, 9	District	Low	Grant	Short term	no	Emergency Services	local
INITIATIVE #8. Increase flood storage and change in timing at the SCL Ross Reservoir. Reduce flood risk and changes in the seasonality of flood events.									
existing	F	7, 8	US ACOE	Medium	Federal FERC	Long term	no	Prevention	County
INITIATIVE #9. Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local
INITIATIVE #10. Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local

8.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of different initiative types for each identified action item was conducted. Table 8-7 identifies the prioritization for each initiative.

Table 8-7. 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 ^a
1	2	Medium	Medium	Yes	Yes	No	High
2	2	Medium	Medium	Yes	Yes	No	High
3	2	High	Medium	Yes	Yes	No	Medium
4	2	High	Medium	Yes	Yes	No	Medium
5	3	Medium	Medium	Yes	Yes	No	Medium
6	2	High	Medium	Yes	No	No	Medium
7	4	High	Low	Yes	Yes	No	High
8	2	Medium	Medium	Yes	No	No	Medium
9	3	High	Low	Yes	No	No	High
10	3	High	Low	Yes	Yes	No	High
a. See Chapter 1 for explanation of priorities.							

8.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

District 5 needs an evaluation their marine dikes to better understand the risk and vulnerability of those dikes, specifically the portion of the dikes system on private property located to the north of the district boundary. District 5 will continue to work on comprehensive flood mitigation planning with Skagit County to identify additional drainage and flood return structures, specifically looking Alice Bay.

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CHAPTER 9.

SKAGIT COUNTY DIKE DISTRICT 1

9.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Skagit County Dike District 1 (District 1), a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by District 1. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district's previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

9.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

District 1 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the district also formulated their own internal planning team to support the broader planning process. This planning team was led by Daryl Hamburg chair of the Skagit County Dike District Partnership and Jenna Friebe of the Skagit Drainage and Irrigation Districts consortium. The planning team leads worked with district commissioners, staff, and attorneys from 15 different Skagit County Dike, Drainage and Irrigation Special Purpose Districts to evaluate and rank hazards, identified a suite of initiatives and prioritize those initiatives. Because there are many similarities among Skagit County Dike, Drainage and Irrigation Special Purpose Districts this process was conducted via all-district e-mails, all district meetings, as well as individual meetings. Although this work was done collectively, the local planning team for each district ultimately identified the hazard rankings and initiatives specific to their district. The individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Charles Michael Elde 17208 Bradshaw Rd Mount Vernon, WA 98273 Phone: 360-445-3588 mike.elde@skagitvalleyfarm.com	District 1 Commissioner, Position 1	Plan, review and adopt Annex Base Plan
Robert Jungquist 15962 Beaver Marsh Rd Mount Vernon, WA 98273 Phone: 360-428-1961 bobbyjungquist@hotmail.com	District 1 Commissioner, Position 2	Plan, review and adopt Annex Base Plan
Jason Vander Kooy 15000 Van Pelt Ln Mount Vernon, WA 98273 Phone: 360-661-3480 jasonvkooy@gmail.com	District 1 Commissioner, Position 3	Plan, review and adopt Annex Base Plan

Local Planning Team Members		
Name	Position/Title	Planning Tasks
John A. Shultz Shultz Law Offices 127 E Fairhaven Avenue Burlington, WA 98274 Phone: 360-404-2017 shultzja@comcast.net	District Attorney	Coordination of information for Annex Base Plan
Jenna Friebe Skagit Drainage and Irrigation District Consortium 2017 Continental Place Suite 4 Mount Vernon, WA 98273 Phone: 360-395-2189 jfriebe@skagitdidc.org	Exec. Director, Drainage and Irrigation District Consortium	Lead for development of Annex Base Plan Point of contact for training and information

9.3 DISTRICT PROFILE

Skagit County Dike District 1 is a special-purpose district established in 1896 to provide flood protection to portions of the City of Mount Vernon to the west of the Skagit River and of certain additional unincorporated areas located west and south of the City limits. District 1 is bordered by Pleasant Ridge/Best Road to the West, the North Fork of the Skagit River to the South, and Memorial Highway and the Skagit River to the north and east. The predominant land uses include commercial, agriculture, and industrial, including hobby farms, residential housing and portions of the City of Mount Vernon (Westside) within the district's boundaries. A three-member elected Board of Commissioners governs the District. The Board assumes responsibility for the adoption of this plan and will work with the Executive Director of the Skagit Drainage and Irrigation Districts Consortium to oversee its implementation. Funding comes primarily through assessments.

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

- **Governing Authority**— The district is governed by three elected commissioners serving six year terms
- **Population Served**—approximately 2,700 (2019)
- **Land Area Served**—7,621 acres
- **2018 Assessed Value**— \$341,897,500.00 (2019)
- **Land Area Owned**—approximately 20 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

Sandbagger Machine, 60,000 sandbags,	\$139,000
response vehicles, tools	
- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is approximately \$139,000.
- **List of Critical Facilities Owned by the Jurisdiction:**

Flood Headquarters Building and other bare land	\$250,000
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- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is \$250,000.
- **Key Resources** – The District also manages approximately 9.0 miles of PL84-99 River Levees, which would be highly impacted in the event of a large natural hazard.
- **Current and Anticipated Service Trends**—It is likely that continued development and population growth in the contributing basins will alter runoff and flows to the Skagit River in Westside Mount Vernon. It is likely that the frequency and magnitude of peak flows will increase as development increases. The District is planning to continue to maintain existing levees and implement capital improvement plans for levee improvements, including potential relocation of levees, which would involve land acquisition, construction of keyways, sheet piling, seepage berms, and additional routine maintenance. The District is also continuing to develop and coordinate its evacuation plan and emergency warning system for protection of life and property.

9.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 9-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 9-1 Natural Hazard Events 1975 to Present			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Skagit River Flood, 129,000 cfs	492	December 4, 1975	Unknown
Skagit River Flood, 142,000 cfs	883	November 11, 1990	Included with Nov. 25 event
Skagit River Flood, 152,000 cfs	883	November 25, 1990	\$2,000,000
Skagit River Flood, 151,000 cfs	1079	November 30, 1995	\$2,500,000
Skagit River Flood, 135,000 cfs	1499	October 22, 2003	\$804,000
Skagit River Flood, 138,000 cfs	1671	November 7, 2006	\$3,105,000
Local Area Disaster – Not Declared			
Skagit River Flood 96,000 cfs		November 23, 2017	\$ 721,000

9.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated

into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents. Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

9.5.1 Regulatory Capability

The District has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

General Capabilities:

- District's Annual Capital Improvement Plan (CIP) supports projects that are identified in this plan update. The CIP is updated annually by the District and adopted by the Board of Commissioners in the fall of each year.
- RCW 85
- Skagit County Comprehensive Flood Hazard Management Plan – 1989
- Corps of Engineers Skagit County Flood Damage Reduction Study
- The Disaster Mitigation Act of 2000 requires state, tribal and local governments to develop a hazard mitigation plan as a condition of receiving certain types of non-emergency disaster assistance. The District's current approved Hazard Mitigation Plan Update supports the effort of this regulation and plan update.

9.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 9-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 9-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	District Commissioners
Planners or engineers with an understanding of natural hazards.	Yes	Skagit Drainage and Irrigation Consortium/Director
Staff with training in benefit/cost analysis.	No	
Personnel skilled or trained in GIS or Hazus use.	No	

Table 9-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Emergency Manager.	Yes	District Commissioners
Grant writers.	Yes	Skagit Drainage and Irrigation Consortium/Director
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?).	No	
Hazard data and information available to public.	No	
Specific equipment response plans.	No	
Specific operational plans.	No	
Water Shortage Contingency Plan.	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural disaster or safety related school programs?	No	
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	District Commissioners
Noxious Weed Eradication Program or other vegetation management	No	Part of maintenance plan
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director

Table 9-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Stream restoration program	No	
Erosion or sediment control program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Address signage for property addresses	No	
Staff resources to make declarations and request assistance on all PL84-99 Skagit Levees and file Corps Reports		Dike District 3/ Dike District Partnership

9.5.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 9-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 9-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
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	

9.6 COMMUNITY CLASSIFICATION

The district's classifications under various hazard mitigation programs are presented in Table 9-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 9-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	No	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

9.7 HAZARD RISK AND VULNERABILITY RANKING

The District's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect District 12. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses. Table 9-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 9-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Earthquake	3.65	Very High	All of the levees and critical facilities are located on liquefiable soil and could be impacted by an earthquake. While the probability of an earthquake is low, the impact could be large and failures to levees and other critical facilities could also result in flooding making response times and repairs difficult and delayed.
2	Flood	3.05	High	All of the levees and critical facilities are located within the floodplain and could be damaged during flood events
3	Volcano/ Lahar	2.35	Medium	Levees and critical facilities are located within lahar zone and would likely be damaged in the event of a lahar
4	Tsunami	2.15	Low	The lower sections of the levees are located within tsunami zones; could be impacted.
5	Severe Weather	1.85	Low	The lower sections of the levees impact by coastal flooding, storm surge, waves and debris.
6	Drought	1.95	Low	Levees and critical facilities would not be impacted by drought
7	Landslide	1.70	Low	Levees and critical facilities are not located within landslide hazard areas
8	Wildfire	1.30	Low	Levees and critical facilities are not located within wildfire hazard areas

9.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

9.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 9-6 lists the action items/strategies that make up the district's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

**Table 9-6
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Enhance existing PL-84-99 levees. Improve existing levee structural integrity to reduce flooding risk per recommendations of the Corps Skagit General Investigation Study.									
existing	F	1, 8	District	Low	District	Long term	no	structural	county
INITIATIVE #2 Inventory Tidegate(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #3. Inventory Flood Return Structure(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #4. Conduct studies to identify and design additional flood return/tidegate structures. Improve flood return capacity to reduce the duration of flooding.									
new	F	1, 7, 8	County PW	Medium	County/ Grants	Long term	no	preventative	county
INITIATIVE #5. Inventory pump(s). replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	Districts/ Grants	Long term	no	preventative	local
INITIATIVE #6. Develop a flood fight protocols manual. Make sure emergency contacts and protocols are in place for natural hazard events to improve response times									
new	F/SW/ TS	6, 7, 8, 9	District	Low	Grant	Short term	no	Emergency Services	local
INITIATIVE #7. Increase flood storage and change in timing at the SCL Ross Reservoir. Reduce flood risk and changes in the seasonality of flood events.									
existing	F	7, 8	US ACOE	Medium	Federal FERC	Long term	no	Prevention	County
INITIATIVE #8. Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local
INITIATIVE #9. Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local
INITIATIVE #10. Construct seepage berms. Improve existing levee structural integrity to reduce the risk of flooding.									

**Table 9-6
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
existing	F	1, 8	District	Medium	District/Grant	Short term	no	Structural	Local
INITIATIVE #11. Work with BNSF to evaluate options to replace the BNSF bridge to reduce flooding risk									
existing	F	1, 7	BNSF	Low	BNSF	short term	no	Structural	County

9.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of different initiative types for each identified action item was conducted. Table 9-7 identifies the prioritization for each initiative.

**Table 9-7.
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 ^a
1	2	High	Low	Yes	No	Yes	High
2	2	High	Medium	Yes	Yes	No	Medium
3	2	High	Medium	Yes	Yes	No	Medium
4	3	Medium	Medium	Yes	Yes	No	Medium
5	2	High	Medium	Yes	No	No	Medium
6	4	High	Low	Yes	Yes	No	High
7	2	Medium	Medium	Yes	No	No	Medium
8	3	High	Low	Yes	No	No	High
9	3	High	Low	Yes	Yes	No	High
10	2	High	Medium	Yes	No	Yes	High
11	2	Medium	Low	Yes	No	No	Low

a. See Chapter 1 for explanation of priorities.

9.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

District 1 needs to work with other district and Skagit County to better understand and develop measure to protect against natural hazards.

CHAPTER 10.

SKAGIT COUNTY DIKE DISTRICT 12

10.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Skagit County Dike District 12 (Dike 12), a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by Dike 12. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district's previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

10.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

Dike 12 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the district also formulated their own internal planning team to support the broader planning process. This planning team was led by Daryl Hamburg chair of the Skagit County Dike District Partnership and Jenna Friebe of the Skagit Drainage and Irrigation Districts consortium. The planning team leads worked with district commissioners, staff, and attorneys from 15 different Skagit County Dike, Drainage and Irrigation Special Purpose Districts to evaluate and rank hazards, identified a suite of initiatives and prioritize those initiatives. Because there are many similarities among Skagit County Dike, Drainage and Irrigation Special Purpose Districts this process was conducted via all-district e-mails, all district meetings, as well as individual meetings. Although this work was done collectively, the local planning team for each district ultimately identified the hazard rankings and initiatives specific to their district. The individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
John E. Burt	District 12 Commissioner	Plan, review and adopt Annex Base Plan
Ed Tjeerdsma	District 12 Commissioner	Plan, review and adopt Annex Base Plan
Lorna Ellestad	District 12 Commissioner	Plan, review and adopt Annex Base Plan
Dan Lefebber	Director of Operations	Lead for development of Annex Base Plan

Local Planning Team Members		
Name	Position/Title	Planning Tasks
		Point of contact for training and information
Jenna Friebel Skagit Drainage and Irrigation District Consortium 2017 Continental Place Suite 4 Mount Vernon, WA 98273 Telephone: 360-395-2189 jfriebel@skagitdidec.org	Exec. Director Drainage and Irrigation District Consortium	Support for development of Annex Base Plan

10.3 DISTRICT PROFILE

Skagit County Dike District 12 is a special-purpose district created in 1895. The original goals of Dike 12 were to keep fall and spring high waters off of the farmland within the district. There was minimal development in the area at the time and farmers simply wanted to preserve the land in order to maximize crop production.

As time went on, the levees were developed to provide increased flood control. As the citizens of Skagit County found security in the level of flood risk management of Dike 12, residential and commercial encroachment began into the District's boundaries. The building of Interstate 5 created additional demand on flood risk management and the Dike District. Continued development and commercial sprawl creates a demand for larger levees to further lower flood risk.

Today, the demands on Dike 12 for flood risk management are higher than ever. The proposed revisions of the FEMA flood mapping in Skagit Valley will place the 100-year flood level well above the risk management level of the existing levees. Development demands are growing at an exponential rate as population growth continues. Environmental constraints on levee construction further increase costs to provide flood protection. In order for Dike District 12 to evolve to meet the new demands and environmental impacts, we will need to take a team approach to flood risk management with the Dike District as the lead.

A three-member elected Board of Commissioners governs the District. The Board assumes responsibility for the adoption of this plan; and will work with the Executive Director of the Skagit Drainage and Irrigation Districts Consortium to oversee its implementation. Funding comes primarily through assessments.

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

- **Governing Authority**— The district is governed by three elected commissioners serving six year terms
- **Population Served**—approximately 20,000/2018
- **Land Area Served**—approximately 7,000 acres
- **2018 Assessed Value**— \$ 3,000,000,000/2018
- **Land Area Owned**—20 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

Dike 12 Headquarters

\$ 3,000,000

No Name Slough/Telegraph Tidegates	\$ 1,000,000
Pump Station	\$ 500,000
Equipment	\$ 2,000,000

- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$3,000,000.
- **List of Critical Facilities Owned by the Jurisdiction:** two buildings and one pump house
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is \$3,500,000.
- **Key Resources** – The District also manages approximately 8.0 miles of PL84-99 River Levees and 8.0 miles of marine dikes which would be highly impacted in the event of a large natural hazard.
- **Current and Anticipated Service Trends**—The District is planning to continue to maintain existing levees and implement capital improvement plans for levee and dike improvements. They are also investing in replacement of aging tidegate infrastructure.

10.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 10-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 10-1 Natural Hazard Events 1975 to Present			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Skagit River Flood, 129,000 cfs	492	December 4, 1975	Unknown
Skagit River Flood, 142,000 cfs	883	November 11, 1990	Included with Nov. 25 event
Skagit River Flood, 152,000 cfs	883	November 25, 1990	\$500,000
Skagit River Flood, 151,000 cfs	1079	November 30, 1995	\$900,000
Skagit River Flood, 135,000 cfs	1499	October 22, 2003	
Skagit River Flood, 138,000 cfs	1671	November 7, 2006	
Local Area Disaster – Not Declared			
Extreme Weather/Coastal Flood		Mar. 10, 2016	
Skagit River Flood 96,000 cfs		November 23, 2017	
Extreme Lowland Weather Event		Feb. 5, 2017	

10.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

10.5.1 Regulatory Capability

The District has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

General Capabilities (Examples):

- District's Annual Capital Improvement Plan (CIP) supports projects that are identified in this plan update. The CIP is updated annually by the District and adopted by the Board of Commissioners in the fall of each year.
- RCW 85
- Skagit County Comprehensive Flood Hazard Management Plan – 1989
- Corps of Engineers Skagit County Flood Damage Reduction Study
- The Disaster Mitigation Act of 2000 requires state, tribal and local governments to develop a hazard mitigation plan as a condition of receiving certain types of non-emergency disaster assistance. The District's current approved Hazard Mitigation Plan Update supports the effort of this regulation and plan update.
- Specific incident response plan
- Operations plans or policies
- Employee Handbooks and Safety Manuals
- Mutual Aid Agreements
- Continuity of Business Plan

10.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 10-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 10-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	District Commissioners and staff
Planners or engineers with an understanding of natural hazards.	Yes	Skagit Drainage and Irrigation Consortium/Director
Staff with training in benefit/cost analysis.	No	
Personnel skilled or trained in GIS or Hazus use.	No	
Emergency Manager.	Yes	Manager and District Commissioners
Grant writers.	Yes	Skagit Drainage and Irrigation Consortium/Director
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?).	No	
Hazard data and information available to public.	No	
Specific equipment response plans.	No	
Specific operational plans.	No	
Water Shortage Contingency Plan.	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural disaster or safety related school programs?	No	
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		

Table 10-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Hazardous Vegetation Abatement Program	Yes	District Staff
Noxious Weed Eradication Program or other vegetation management	No	Part of maintenance plan
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	District Staff and Skagit Drainage and Irrigation Consortium/Director
Stream restoration program	No	
Erosion or sediment control program	Yes	District Staff and Skagit Drainage and Irrigation Consortium/Director
Address signage for property addresses	No	
Staff resources to make declarations and request assistance on all PL84-99 Skagit Levees and file Corps Reports		Dike District 12/ Dike District Partnership

10.5.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 10-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 10-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
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-operating and emergency Funds	Yes
Liability Insurance	Yes

10.6 COMMUNITY CLASSIFICATION

The District's classifications under various hazard mitigation programs are presented in Table 10-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 10-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	No	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

10.7 HAZARD RISK AND VULNERABILITY RANKING

The District's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect District 12. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses. Table 10-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this

category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.

- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 10-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Earthquake	3.65	Very High	All of the levees and critical facilities are located on liquefiable soil and could be impacted by an earthquake. While the probability of an earthquake is low, the impact could be large and failures to levees and other critical facilities could also result in flooding making response times and repairs difficult and delayed.
2	Flood	3.05	High	All of the levees and critical facilities are located within the floodplain and could be damaged during flood events
3	Severe Weather	3.05	High	The marine dikes and tidegate facilities are located near Padilla Bay and could be impact by coastal flooding, storm surge, waves and debris.
4	Tsunami	2.95	Medium	The marine dikes and tidegate facilities are located within tsunami zones and could be impacted
5	Volcano/Lahar	2.35	Medium	Levees and critical facilities are located within lahar zone and would likely be damaged in the event of a lahar
6	Landslide	1.7	Low	Levees and critical facilities are not located within landslide hazard areas
7	Wildfire	1.45	Low	Levees and critical facilities are not located within wildfire hazard areas
8	Drought	1.15	Low	Levees and critical facilities would not likely be impacted by drought

10.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

10.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 10-6 lists the action items/strategies that make up the district's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

Table 10-6 Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE # 1: Inventory coastal dikes and evaluate extreme coastal events. Identify deficiencies and develop capital improvement plan; become eligible for grant funding, repair and improve coastal dikes to reduce the risk of coastal flooding.									
existing	SW/TS	1, 8	District	Medium	Grant general	Short term	no	structural	local
INITIATIVE #2 Inventory Non -L84-99 levees. Identify deficiencies and develop capital improvement plan; become eligible for grant funding, repair and improve levees to reduce the risk of flooding.									
existing	F	1, 8	District	Medium	Grant: General	Short term	no	prevention	local
INITIATIVE #3 Enhance existing PL-84-99 levees. Improve existing levee structural integrity to reduce flooding risk per recommendations of the Corps Skagit General Investigation Study.									
existing	F	1, 8	District	Low	District	Long term	no	structural	county
INITIATIVE #4 Inventory Tidegate(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE # 5. Inventory Flood Return Structure(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #6. Conduct studies to identify and design additional flood return/tidegate structures. Improve flood return capacity to reduce the duration of flooding.									
new	F	1, 7, 8	County PW	Medium	County/ Grants	Long term	no	preventative	county
INITIATIVE #7. Inventory pump(s). replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	Districts/ Grants	Long term	no	preventative	local
INITIATIVE #8. Develop a flood fight protocols manual. Make sure emergency contacts and protocols are in place for natural hazard events to improve response times									

**Table 10-6
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
new	F/SW/TS	6, 7, 8, 9	District	Low	Grant	Short term	no	Emergency Services	local
INITIATIVE #9. Increase flood storage and change in timing at the SCL Ross Reservoir. Reduce flood risk and changes in the seasonality of flood events.									
existing	F	7, 8	US ACOE	Medium	Federal FERC	Long term	no	Prevention	County
INITIATIVE #10. Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local
INITIATIVE #11. Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local
INITIATIVE #12. Construct seepage berms. Improve existing levee structural integrity to reduce the risk of flooding.									
existing	F	1, 8	District	Medium	District/Grant	Short term	no	Structural	Local
INITIATIVE #13. Work with BNSF to evaluate options to replace the BNSF bridge to reduce flooding risk									
existing	F	1, 7	BNSF	Low	BNSF	short term	no	Structural	County

10.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of different initiative types for each identified action item was conducted. Table 10-7 identifies the prioritization for each initiative.

**Table 10-7.
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 ^a
1	2	Medium	Medium	Yes	Yes	No	High
2	2	Medium	Medium	Yes	Yes	No	High
3	2	High	Low	Yes	No	Yes	High

**Table 10-7.
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 ^a
4	2	High	Medium	Yes	Yes	No	Medium
5	2	High	Medium	Yes	Yes	No	Medium
6	3	Medium	Medium	Yes	Yes	No	Medium
7	2	High	Medium	Yes	No	No	Medium
8	4	High	Low	Yes	Yes	No	High
9	2	Medium	Medium	Yes	No	No	Medium
10	3	High	Low	Yes	No	No	High
11	3	High	Low	Yes	Yes	No	High
12	2	High	Medium	Yes	No	Yes	High
13	2	Medium	Low	Yes	No	No	Low

a. See Chapter 1 for explanation of priorities.

10.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

District 12 needs to continue evaluating marine dikes to better understand the risk and vulnerability of that system. District 12 will work on comprehensive flood mitigation planning with Skagit County and other districts to identify additional flood return structure capacity or other improvements that are needed. Make investments necessary to facilitate the replacement of BNSF Bridge to ensure the levees continue to provide the same level of flood protection.

CHAPTER 11. SKAGIT COUNTY DIKE DISTRICT 3

11.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Skagit County Dike District 3 (District 3), a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by District 3. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district's previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

11.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

District 3 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the district also formulated their own internal planning team to support the broader planning process. This planning team was led by Daryl Hamburg chair of the Skagit County Dike District Partnership and Jenna Friebel of the Skagit Drainage and Irrigation Districts consortium. The planning team leads worked with district commissioners, staff, and attorneys from 15 different Skagit County Dike, Drainage and Irrigation Special Purpose Districts to evaluate and rank hazards, identified a suite of initiatives and prioritize those initiatives. Because there are many similarities among Skagit County Dike, Drainage and Irrigation Special Purpose Districts this process was conducted via all-district e-mails, all district meetings, as well as individual meetings. Although this work was done collectively, the local planning team for each district ultimately identified the hazard rankings and initiatives specific to their district. The individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Dave Olson PO Box 223 Clear Lake, WA 98235 e-mail: djolson27@gmail.com	District 3 Commissioner	Plan, review and adopt Annex Base Plan
Darrin Morrison e-mail: dlmorrison@frontier.com	District 3 Commissioner	Plan, review and adopt Annex Base Plan
Brad Smith e-mail: brad.sbfarms@gmail.com	District 3 Commissioner	Plan, review and adopt Annex Base Plan
Jenna Friebel Skagit Drainage and Irrigation District Consortium 2017 Continental Place Suite 4 Mount Vernon, WA 98273 Telephone: 360-395-2189 jfriebel@skagitdidc.org	Exec. Director Drainage and Irrigation District Consortium	Lead for development of Annex Base Plan Point of contact for training and information

11.3 DISTRICT PROFILE

Skagit County Dike District 3 is a special-purpose district created in the early 1900s to provide flood protection to portions of unincorporated Skagit County located south of Mount Vernon in the Skagit River delta. District 3 is bordered by the South Fork Skagit River to the west, Fisher Slough to the south, Hill Ditch/Stackpole Road to the east and Mount Vernon to the north. The predominant land uses include commercial agriculture with hobby farms, residential housing, commercial and industrial development, public roads, and the city of Conway within the district's boundaries. I-5 and BNSF railroad run north to south through the middle of the district. A three-member elected Board of Commissioners governs the District. The Board assumes responsibility for the adoption of this plan; and will work with the Executive Director of the Skagit Drainage and Irrigation Districts Consortium to oversee its implementation. Funding comes primarily through assessments.

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

- **Governing Authority**— The district is governed by three elected commissioners serving six year terms
- **Population Served**—less than 2,000/2018
- **Land Area Served**—4,537 acres
- **Value of Area Served**— \$ 566,201,750/2018
- **Land Area Owned**—8 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

Skagit River (3) 10-ft X 15-ft Flood Return Gates	\$300,000
Fisher Slough MTR	\$500,000
Misc. Equipment	\$100,000

- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$900,000.
 - **List of Critical Facilities Owned by the Jurisdiction:**
- | | |
|-----------------------------|-----------|
| Flood Headquarters Building | \$250,000 |
|-----------------------------|-----------|
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is \$250,000.
 - **Key Resources** – The District also manages approximately 13.0 miles of PL84-99 River Levees, which would be highly impacted in the event of a large natural hazard.
 - **Current and Anticipated Service Trends**—It is likely that continued development in the contributing basins will alter runoff and flows in Hill Ditch/Carpenter Creek. It is likely that the frequency and magnitude of peak flows will increase as development increases. The District is planning to continue to maintain existing levees and implement capital improvement plans for levee improvements.

11.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that

are unique to the special purpose district. Table 11-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 11-1 Natural Hazard Events 1975 to Present			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Skagit River Flood, 129,000 cfs	492	December 4, 1975	Unknown
Skagit River Flood, 142,000 cfs	883	November 11, 1990	Included with Nov. 25 event
Skagit River Flood, 152,000 cfs	883	November 25, 1990	\$2,000,000.00
Skagit River Flood, 151,000 cfs	1079	November 30, 1995	\$2,500,000.00
Skagit River Flood, 135,000 cfs	1499	October 22, 2003	\$804,000.00
Skagit River Flood, 138,000 cfs	1671	November 7, 2006	\$3,105,000.00
Local Area Disaster – Not Declared			
Extreme Weather/Coastal Flood		Mar. 10, 2016	
Skagit River Flood 96,000 cfs		November 23, 2017	
Extreme Lowland Weather Event		Feb. 5, 2017	

11.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

11.5.1 Regulatory Capability

The District has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

General Capabilities:

- District's Annual Capital Improvement Plan (CIP) supports projects that are identified in this plan update. The CIP is updated annually by the District and adopted by the Board of Commissioners in the fall of each year.
- RCW 85
- Skagit County Comprehensive Flood Hazard Management Plan – 1989
- Corps of Engineers Skagit County Flood Damage Reduction Study
- The Disaster Mitigation Act of 2000 requires state, tribal and local governments to develop a hazard mitigation plan as a condition of receiving certain types of non-emergency disaster assistance. The District's current approved Hazard Mitigation Plan Update supports the effort of this regulation and plan update.

11.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 11-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 11-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	District Commissioners
Planners or engineers with an understanding of natural hazards.	Yes	Skagit Drainage and Irrigation Consortium/Director
Staff with training in benefit/cost analysis.	No	
Personnel skilled or trained in GIS or Hazus use.	No	
Emergency Manager.	Yes	District Commissioners
Grant writers.	Yes	Skagit Drainage and Irrigation Consortium/Director
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?).	No	
Hazard data and information available to public.	No	
Specific equipment response plans.	No	
Specific operational plans.	No	

Table 11-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Water Shortage Contingency Plan.	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural disaster or safety related school programs?	No	
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	District Commissioners
Noxious Weed Eradication Program or other vegetation management	No	Part of maintenance plan
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Stream restoration program	No	
Erosion or sediment control program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Address signage for property addresses	No	
Staff resources to make declarations and request assistance on all PL84-99 Skagit Levees and file Corps Reports		Dike District 3/ Dike District Partnership

11.5.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 11-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 11-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
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	

11.6 COMMUNITY CLASSIFICATION

The district's classifications under various hazard mitigation programs are presented in Table 11-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 11-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	No	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

11.7 HAZARD RISK AND VULNERABILITY RANKING

The district's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect District 3. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses.

Table 11-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 11-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Earthquake	3.65	Very High	All of the levees and critical facilities are located on liquefiable soil and could be impacted by an earthquake. While the probability of an earthquake is low, the impact could be large and failures to levees and other critical facilities could also result in flooding making response times and repairs difficult and delayed.
2	Flood	3.05	High	All of the levees and critical facilities are located within the floodplain and could be damaged during flood events
3	Volcano/Lahar	2.35	Medium	Levees and critical facilities are located within lahar zone and would likely be damaged in the event of a lahar
4	Tsunami	2.15	Low	The lower sections of the levees are located within tsunami zones; could be impacted.

Table 11-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
5	Severe Weather	1.85	Low	The lower sections of the levees impact by coastal flooding, storm surge, waves and debris.
6	Drought	1.95	Low	Levees and critical facilities would not be impacted by drought
7	Landslide	1.70	Low	Levees and critical facilities are not located within landslide hazard areas
8	Wildfire	1.30	Low	Levees and critical facilities are not located within wildfire hazard areas

11.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

11.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 11-6 lists the action items/strategies that make up the district's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

Table 11-6 Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Inventory Non -L84-99 levees. Identify deficiencies and develop capital improvement plan; become eligible for grant funding, repair and improve levees to reduce the risk of flooding.									
existing	F	1, 8	District	Medium	Grant: General	Short term	no	prevention	local
INITIATIVE #2 Enhance existing PL-84-99 levees. Improve existing levee structural integrity to reduce flooding risk per recommendations of the Corps Skagit General Investigation Study.									
existing	F	1, 8	District	Low	District	Long term	no	structural	county

**Table 11-6
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #3 Inventory Tidegate(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #4. Inventory Flood Return Structure(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #5. Conduct studies to identify and design additional flood return/tidegate structures. Improve flood return capacity to reduce the duration of flooding.									
new	F	1, 7, 8	County PW	Medium	County/ Grants	Long term	no	preventative	county
INITIATIVE #6. Inventory pump(s). replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	Districts/ Grants	Long term	no	preventative	local
INITIATIVE #7. Develop a flood fight protocols manual. Make sure emergency contacts and protocols are in place for natural hazard events to improve response times									
new	F/SW/ TS	6, 7, 8, 9	District	Low	Grant	Short term	no	Emergency Services	local
INITIATIVE #8. Increase flood storage and change in timing at the SCL Ross Reservoir. Reduce flood risk and changes in the seasonality of flood events.									
existing	F	7, 8	US ACOE	Medium	Federal FERC	Long term	no	Prevention	County
INITIATIVE #9. Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local
INITIATIVE #10. Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local
INITIATIVE #11. Construct seepage berms. Improve existing levee structural integrity to reduce the risk of flooding.									
existing	F	1, 8	District	Medium	District/ Grant	Short term	no	Structural	Local
INITIATIVE #12. Work with BNSF to evaluate options to replace the BNSF bridge to reduce flooding risk									
existing	F	1, 7	BNSF	Low	BNSF	short term	no	Structural	County

11.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of different initiative types for each identified action item was conducted. Table 11-7 identifies the prioritization for each initiative.

Table 11-7. 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 ^a
1	2	Medium	Medium	Yes	Yes	No	High
2	2	High	Low	Yes	No	Yes	High
3	2	High	Medium	Yes	Yes	No	Medium
4	2	High	Medium	Yes	Yes	No	Medium
5	3	Medium	Medium	Yes	Yes	No	Medium
6	2	High	Medium	Yes	No	No	Medium
7	4	High	Low	Yes	Yes	No	High
8	2	Medium	Medium	Yes	No	No	Medium
9	3	High	Low	Yes	No	No	High
10	3	High	Low	Yes	Yes	No	High
11	2	High	Medium	Yes	No	Yes	High
12	2	Medium	Low	Yes	No	No	Low
a. See Chapter 1 for explanation of priorities.							

11.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

District 3 needs an evaluation their flood return gates to better understand the risk and vulnerability of that structure. District 3 will continue to work on comprehensive flood mitigation planning with Skagit County to identify additional flood return structure capacity or other improvements that are needed. District 3 also needs to work with the City of Mount Vernon to ensure the FEMA LOMR has been signed and completed and has there been an official transfer of the floodwall.

CHAPTER 12.

SKAGIT COUNTY DRAINAGE, AND IRRIGATION DISTRICT 14

12.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Skagit County Drainage and Irrigation District 14 (District 14), a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by District 14. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district's previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

12.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

District 14 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the district also formulated their own internal planning team to support the broader planning process. This planning team was led by Daryl Hamburg chair of the Skagit County Dike District Partnership and Jenna Friebe of the Skagit Drainage and Irrigation Districts consortium. The planning team leads worked with district commissioners, staff, and attorneys from 15 different Skagit County Dike, Drainage and Irrigation Special Purpose Districts to evaluate and rank hazards, identified a suite of initiatives and prioritize those initiatives. Because there are many similarities among Skagit County Dike, Drainage and Irrigation Special Purpose Districts this process was conducted via all-district e-mails, all district meetings, as well as individual meetings. Although this work was done collectively, the local planning team for each district ultimately identified the hazard rankings and initiatives specific to their district. The individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Roger Knutzen 9255 Chuckanut Drive Burlington, WA 98233 e-mail: roger@knutzenfarms.com	District 14 Commissioner Secretary	Plan, review and adopt Annex Base Plan
Oscar Lagerlund e-mail: lagerwood@frontier.com	District 14 Commissioner	Plan, review and adopt Annex Base Plan
Steve Sakuma e-mail: steves@sakumabros.com	District 14 Commissioner	Plan, review and adopt Annex Base Plan

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Jenna Friebe Skagit Drainage and Irrigation District Consortium 2017 Continental Place Suite 4 Mount Vernon, WA 98273 Telephone: 360-395-2189 jfriebe@skagitdide.org	Exec. Director Drainage and Irrigation Districts Consortium	Lead for development of Annex Base Plan Point of contact for training and information

12.3 DISTRICT PROFILE

Skagit County Drainage and Irrigation District 14 is a special-purpose district created around 1900 to provide drainage, and irrigation water supply to portions of unincorporated Skagit County located in the Samish River Delta north and east of Sedro Woolley and north of Burlington. District 14 is bordered by Farm to Market Road to the west, Bayview Ridge to the southwest, approximately Truman Loop Road, Allen West Road, Bradley Road, Cook Road, Kelleher Road to the north, F&S Grade Road to the northeast, Town of Sedro Woolley, Sterling Hill and Town of Burlington to the southeast, and Peterson Road to the south. south of the Town of Edison, west of Interstate Highway 5, and north of Joe Leary Slough. The predominant land uses include commercial agriculture with some hobby farms and residential housing within the district's boundaries. A three-member elected Board of Commissioners governs the District. The Board assumes responsibility for the adoption of this plan; and will work with the Executive Director of the Skagit Drainage and Irrigation Districts Consortium to oversee its implementation. Funding comes primarily through assessments.

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

- **Governing Authority**— The district is governed by three elected commissioners serving six year terms
- **Population Served**—less than 2,000/2018
- **Land Area Served**—9,259 acres
- **Value of Area Served**— \$ 283,419,500 /2018
- **Land Area Owned**—less than 10 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**
 - Joe Leary Slough (2) 10' x 8' Box Tidegate \$1,100,000
- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$1,100,000.
- **List of Critical Facilities Owned by the Jurisdiction:** None
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is none.
- **Key Resources** – The District also manages 175 miles of drainage and irrigation watercourses.
- **Current and Anticipated Service Trends**—It is likely that climate change will alter coastal flooding patterns resulting in increases in the frequency and magnitude of coastal flood events. The District is planning to continue to maintain existing levees and implement capital improvement plans for levee improvements.

12.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 12-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 12-1 Natural Hazard Events 1975 to Present			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Skagit River Flood (152,00 cfs)	#883	Nov 11/25, 1990	30,000
Skagit River Flood (151,000 cfs)	#1079	Nov. 30, 1995	60,000
Flood#1499-DR-WA		2004	60,000
Extreme Weather/Coastal Flood	1499	10/15/2003	60,000
Local Area Disaster – Not Declared			
Samish River Flood		Nov. 30, 1995	25,000
Extreme Weather/Coastal Flood		Mar. 10, 2016	62,000
Extreme Lowland Weather Event		Feb. 5, 2017	15,000

12.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

12.5.1 Regulatory Capability

The District has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

General Capabilities:

- District's Annual Capital Improvement Plan (CIP) supports projects that are identified in this plan update. The CIP is updated annually by the District and adopted by the Board of Commissioners in the fall of each year.
- RCW 85
- Skagit County Comprehensive Flood Hazard Management Plan – 1989
- Corps of Engineers Skagit County Flood Damage Reduction Study
- The Disaster Mitigation Act of 2000 requires state, tribal and local governments to develop a hazard mitigation plan as a condition of receiving certain types of non-emergency disaster assistance. The District's current approved Hazard Mitigation Plan Update supports the effort of this regulation and plan update.

12.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 12-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 12-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	District Commissioners
Planners or engineers with an understanding of natural hazards.	Yes	Skagit Drainage and Irrigation Consortium/Director
Staff with training in benefit/cost analysis.	No	
Personnel skilled or trained in GIS or Hazus use.	No	
Emergency Manager.	Yes	District Commissioners
Grant writers.	Yes	Skagit Drainage and Irrigation Consortium/Director
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?).	No	
Hazard data and information available to public.	No	
Specific equipment response plans.	No	
Specific operational plans.	No	
Water Shortage Contingency Plan.	No	

Table 12-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural disaster or safety related school programs?	No	
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	District Commissioners
Noxious Weed Eradication Program or other vegetation management	No	Part of maintenance plan
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Stream restoration program	No	
Erosion or sediment control program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Address signage for property addresses	No	
Staff resources to make declarations and request assistance on all PL84-99 Skagit Levees and file Corps Reports		Dike District 3/ Dike District Partnership

12.5.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 12-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 12-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
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	

12.6 COMMUNITY CLASSIFICATION

The district's classifications under various hazard mitigation programs are presented in Table 12-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 12-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	No	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

12.7 HAZARD RISK AND VULNERABILITY RANKING

The District's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect District 14. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses.

Table 12-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 12-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Earthquake	3.65	Very High	All of the critical facilities are located on liquefiable soil and could be impacted by an earthquake. While the probability of an earthquake is low, the impact could be large and failures to critical facilities could also result in flooding making response times and repairs difficult and delayed.
2	Flood	3.05	High	All critical facilities are located within the floodplain and could be damaged during flood events
3	Severe Weather	3.05	High	The critical facility located near Padilla Bay could be impact by coastal flooding, storm surge, waves and debris.

Table 12-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
4	Tsunami	2.95	High	The critical facility located near Padilla Bay is within a tsunami zone and would likely be damaged by a tsunami
5	Volcano/Lahar	2.35	Medium	Critical facilities are located within lahar zone and would likely be damaged in the event of a lahar
6	Drought	2.35	Medium	Critical facilities would not be impacted by drought
7	Landslide	1.7	Low	Critical facilities are not located within landslide hazard areas
8	Wildfire	1.30	Medium	Critical facilities are not located within wildfire hazard areas

12.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

12.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 12-6 lists the action items/strategies that make up the district's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

TABLE 12-6 HAZARD MITIGATION ACTION PLAN MATRIX									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1. Conduct studies to identify and design additional flood return/tidegate structures. Improve flood return capacity to reduce the duration of flooding.									

**TABLE 12-6
HAZARD MITIGATION ACTION PLAN MATRIX**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
new	F	1, 7, 8	County PW	Medium	County/ Grants	Long term	no	preventative	county
INITIATIVE #2. Inventory pump(s). replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	Districts/ Grants	Long term	no	preventative	local
INITIATIVE #3. Increase flood storage and change in timing at the SCL Ross Reservoir. Reduce flood risk and changes in the seasonality of flood events.									
existing	F	7, 8	US ACOE	Medium	Federal FERC	Long term	no	Prevention	County
INITIATIVE #4. Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local

12.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of different initiative types for each identified action item was conducted. Table 12-7 identifies the prioritization for each initiative.

**Table 12-7.
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 ^a
1	3	medium	medium	yes	yes	no	Medium
2	2	high	medium	yes	no	no	Medium
3	2	medium	medium	yes	no	no	Medium
4	3	high	low	yes	yes	no	High

a. See Chapter 1 for explanation of priorities.

12.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

District 14 will continue to work with Skagit County to better understand flood risks and opportunities to reduce impacts from large floods.

CHAPTER 13.

SKAGIT COUNTY DRAINAGE, AND IRRIGATION DISTRICT 15

13.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Skagit County Drainage and Irrigation District 15 (District 15), a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by District 15. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district's previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

13.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

District 15 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the district also formulated their own internal planning team to support the broader planning process. This planning team was led by Daryl Hamburg chair of the Skagit County Dike District Partnership and Jenna Friebe of the Skagit Drainage and Irrigation Districts consortium. The planning team leads worked with district commissioners, staff, and attorneys from 15 different Skagit County Dike, Drainage and Irrigation Special Purpose Districts to evaluate and rank hazards, identified a suite of initiatives and prioritize those initiatives. Because there are many similarities among Skagit County Dike, Drainage and Irrigation Special Purpose Districts this process was conducted via all-district e-mails, all district meetings, as well as individual meetings. Although this work was done collectively, the local planning team for each district ultimately identified the hazard rankings and initiatives specific to their district. The individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Jen Hart 15920 Best Road Mount Vernon, WA 98273 e-mail: skagitdiid15.com	District 15 Commissioner Secretary	Plan, review and adopt Annex Base Plan
Steve Elde	District 15 Commissioner	Plan, review and adopt Annex Base Plan
Zachary Barborinas	District 15 Commissioner	Plan, review and adopt Annex Base Plan

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Jenna Friebel Skagit Drainage and Irrigation District Consortium 2017 Continental Place Suite 4 Mount Vernon, WA 98273 Telephone: 360-395-2189 jfriebel@skagitdidc.org	Exec. Director Drainage and Irrigation Districts Consortium	Lead for development of Annex Base Plan Point of contact for training and information

13.3 DISTRICT PROFILE

Skagit County Drainage and Irrigation District 15 is a special-purpose district created in 19XX to provide drainage and irrigation water supply to portions of unincorporated Skagit County located in the Skagit River Delta west of the City of Mount Vernon. District 15 is bordered by Whitney LaConner Road to the west, the Skagit River to the east, the Skagit River and Chillberg Road to the south and approximately McLean Road to the north. The predominant land uses include commercial agriculture with some hobby farms and residential housing within the district's boundaries. A three-member elected Board of Commissioners governs the District. The Board assumes responsibility for the adoption of this plan; and will work with the Executive Director of the Skagit Drainage and Irrigation Districts Consortium to oversee its implementation. Funding comes primarily through assessments.

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

- **Governing Authority**— The district is governed by three elected commissioners serving six year terms
- **Population Served**—less than 2,000/2018
- **Land Area Served**—9,978 acres
- **Value of Area Served**— \$ 175,181,450 /2018
- **Land Area Owned**—less than 10 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

Sullivan Slough Pump Station	\$500,000
Sullivan Slough (4) 36-inch Tidegate	\$500,000
White Slough 36-in tidegate	\$80,000
NF Skagit River Pump Station	\$500,000
Rexville Floodgate 24-in	\$50,000
Rexville Floodgate 30-in	\$80,000
- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$1,710,000.
- **List of Critical Facilities Owned by the Jurisdiction:** None

- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is none.
- **Key Resources** – The District also manages approximately 47.7 miles of drainage and irrigation watercourses.
- **Current and Anticipated Service Trends**—It is likely that climate change will alter coastal flooding patterns resulting in increases in the frequency and magnitude of coastal flood events. The District is planning to continue to maintain existing levees and implement capital improvement plans for levee improvements.

13.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 13-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 13-1 Natural Hazard Events 1975 to Present			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Skagit River Flood, 129,000 cfs	492	December 4, 1975	Unknown
Skagit River Flood, 142,000 cfs	883	November 11, 1990	Unknown
Skagit River Flood, 152,000 cfs	883	November 25, 1990	Unknown
Skagit River Flood, 151,000 cfs	1079	November 30, 1995	Unknown
Skagit River Flood, 135,000 cfs	1499	October 22, 2003	Unknown
Skagit River Flood, 138,000 cfs	1671	November 7, 2006	Unknown
Local Area Disaster – Not Declared			
Extreme Weather/Coastal Flood		Mar. 10, 2016	Unknown
Skagit River Flood 96,000 cfs		November 23, 2017	Unknown

13.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

13.5.1 Regulatory Capability

The District has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

General Capabilities:

- District's Annual Capital Improvement Plan (CIP) supports projects that are identified in this plan update. The CIP is updated annually by the District and adopted by the Board of Commissioners in the fall of each year.
- RCW 85
- Skagit County Comprehensive Flood Hazard Management Plan – 1989
- Corps of Engineers Skagit County Flood Damage Reduction Study
- The Disaster Mitigation Act of 2000 requires state, tribal and local governments to develop a hazard mitigation plan as a condition of receiving certain types of non-emergency disaster assistance. The District's current approved Hazard Mitigation Plan Update supports the effort of this regulation and plan update.

13.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 13-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 13-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	District Commissioners
Planners or engineers with an understanding of natural hazards.	Yes	Skagit Drainage and Irrigation Consortium/Director
Staff with training in benefit/cost analysis.	No	
Personnel skilled or trained in GIS or Hazus use.	No	
Emergency Manager.	Yes	District Commissioners
Grant writers.	Yes	Skagit Drainage and Irrigation Consortium/Director
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.).	No	

Table 13-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Hazard data and information available to public.	No	
Specific equipment response plans.	No	
Specific operational plans.	No	
Water Shortage Contingency Plan.	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural disaster or safety related school programs?	No	
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	District Commissioners
Noxious Weed Eradication Program or other vegetation management	No	Part of maintenance plan
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Stream restoration program	No	
Erosion or sediment control program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Address signage for property addresses	No	

Table 13-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Staff resources to make declarations and request assistance on all PL84-99 Skagit Levees and file Corps Reports		Dike District 3/ Dike District Partnership

13.5.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 13-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 13-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
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	

13.6 COMMUNITY CLASSIFICATION

The District's classifications under various hazard mitigation programs are presented in Table 13-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 13-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	No	

Table 13-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

13.7 HAZARD RISK AND VULNERABILITY RANKING

The District's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect District 15. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses.

Table 13-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 13-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Earthquake	3.65	Very High	All of the critical facilities are located on liquefiable soil and could be impacted by an earthquake. While the probability of an earthquake is low, the impact could be large and failures to critical facilities could also result in flooding making response times and repairs difficult and delayed.
2	Flood	3.05	High	All critical facilities are located within the floodplain and could be damaged during flood events
3	Severe Weather	3.05	High	The critical facility located near Padilla Bay could be impact by coastal flooding, storm surge, waves and debris.
4	Tsunami	2.95	High	Critical facilities located within tsunami zones and would likely be damaged by a tsunami
5	Volcano/Lahar	2.35	Medium	Critical facilities are located within lahar zone and would likely be damaged in the event of a lahar
6	Drought	2.35	Medium	Critical facilities would not be impacted by drought
7	Landslide	1.7	Low	Critical facilities are not located within landslide hazard areas
8	Wildfire	1.30	Medium	Critical facilities are not located within wildlife hazard areas

13.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

13.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 13-6 lists the action items/strategies that make up the district's hazard mitigation plan. Background information and information

on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

Table 13-6 Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Inventory Tidegate(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #2 Inventory Flood Return Structure(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #3 Conduct studies to identify and design additional flood return/tidegate structures. Improve flood return capacity to reduce the duration of flooding.									
new	F	1, 7, 8	County PW	Medium	County/ Grants	Long term	no	preventative	county
INITIATIVE #4 Inventory pump(s). replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	Districts/ Grants	Long term	no	preventative	local
INITIATIVE #5 Increase flood storage and change in timing at the SCL Ross Reservoir. Reduce flood risk and changes in the seasonality of flood events.									
existing	F	7, 8	US ACOE	Medium	Federal FERC	Long term	no	Prevention	County
INITIATIVE #6 Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local

13.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of different initiative types for each identified action item was conducted. Table 13-7 identifies the prioritization for each initiative.

Table 13-7. 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 ^a
1	2	High	Medium	Yes	Yes	No	Medium
2	2	High	Medium	Yes	Yes	No	Medium
3	3	Medium	Medium	Yes	Yes	No	Medium
4	2	High	Medium	Yes	No	No	Medium
5	2	Medium	Medium	Yes	No	No	Medium
6	3	High	Low	Yes	Yes	No	High
a. See Chapter 1 for explanation of priorities.							

13.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

District 15 needs an evaluation their tidegates to better understand the risk and vulnerability of those structures. District 15 will work on comprehensive flood mitigation planning with Skagit County to identify additional flood return structure capacity or other improvements that are needed.

CHAPTER 14.

SKAGIT COUNTY DRAINAGE, AND IRRIGATION DISTRICT 16

14.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Skagit County Drainage and Irrigation District 16 (District 16), a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by District 16. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district's previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

14.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

District 16 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the district also formulated their own internal planning team to support the broader planning process. This planning team was led by Daryl Hamburg chair of the Skagit County Dike District Partnership and Jenna Friebe of the Skagit Drainage and Irrigation Districts consortium. The planning team leads worked with district commissioners, staff, and attorneys from 15 different Skagit County Dike, Drainage and Irrigation Special Purpose Districts to evaluate and rank hazards, identified a suite of initiatives and prioritize those initiatives. Because there are many similarities among Skagit County Dike, Drainage and Irrigation Special Purpose Districts this process was conducted via all-district e-mails, all district meetings, as well as individual meetings. Although this work was done collectively, the local planning team for each district ultimately identified the hazard rankings and initiatives specific to their district. The individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Dave Lohman 15283 Sunset Road Bow WA 98232 e-mail: skagitdid16.com	District 16 Commissioner Secretary	Plan, review and adopt Annex Base Plan
Ron Wesen	District 16 Commissioner	Plan, review and adopt Annex Base Plan
Jenna Friebe Skagit Drainage and Irrigation District Consortium 2017 Continental Place Suite 4 Mount Vernon, WA 98273 Telephone: 360-395-2189 jfriebe@skagitdidc.org	Exec. Director Drainage and Irrigation Districts Consortium	Lead for development of Annex Base Plan Point of contact for training and information

14.3 DISTRICT PROFILE

Skagit County Drainage and Irrigation District 16 is a special-purpose district created around 1900 to provide drainage and irrigation water supply to portions of unincorporated Skagit County located in the Samish River Delta, south of the Town of Edison. District 16 is bounded by the Samish River to the west, Edison Slough to the north and northeast, Worline Road to the east and Field Road to the south.

The predominant land uses include commercial agriculture with some hobby farms and residential housing within the district's boundaries. A three-member elected Board of Commissioners governs the District. The Board assumes responsibility for the adoption of this plan; and will work with the Executive Director of the Skagit Drainage and Irrigation Districts Consortium to oversee its implementation. Funding comes primarily through assessments.

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

- **Governing Authority**— The district is governed by three elected commissioners serving six year terms
- **Population Served**—less than 2,000/2018
- **Land Area Served**—2,847 acres
- **2018 Assessed Value**— \$ 45,044,500/2018
- **Land Area Owned**—less than 10 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

South Edison (3) 36-in Tidegate	\$240,000
South Edison Pump Station	\$500,000
Edison Slough (4) 48-inch dia Tidegate	\$500,000

- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$1,240,000.
- **List of Critical Facilities Owned by the Jurisdiction: None**
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is none.
- **Key Resources** – The District also manages approximately 24 miles of ditches, which would be highly impacted in the event of a large natural hazard.
- **Current and Anticipated Service Trends**—The District is planning to continue to maintain existing drainage infrastructure and implement capital improvement plans for improvements. The District will also work with Skagit County to improve drainage in Edison Slough, which is located along the northern boundary of the district.

14.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 14-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 14-1 Natural Hazard Events 1975 to Present			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Local Area Disaster – Not Declared			
Extreme Lowland Weather Event		Feb. 5, 2017	

14.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents. Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

14.5.1 Regulatory Capability

The District has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

General Capabilities:

- District's Annual Capital Improvement Plan (CIP) supports projects that are identified in this plan update. The CIP is updated annually by the District and adopted by the Board of Commissioners in the fall of each year.
- RCW 85
- Skagit County Comprehensive Flood Hazard Management Plan – 1989
- Corps of Engineers Skagit County Flood Damage Reduction Study
- The Disaster Mitigation Act of 2000 requires state, tribal and local governments to develop a hazard mitigation plan as a condition of receiving certain types of non-emergency disaster assistance. The District's current approved Hazard Mitigation Plan Update supports the effort of this regulation and plan update.

14.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 14-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 14-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	District Commissioners
Planners or engineers with an understanding of natural hazards.	Yes	Skagit Drainage and Irrigation Consortium/Director
Staff with training in benefit/cost analysis.	No	
Personnel skilled or trained in GIS or Hazus use.	No	
Emergency Manager.	Yes	District Commissioners
Grant writers.	Yes	Skagit Drainage and Irrigation Consortium/Director
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?).	No	
Hazard data and information available to public.	No	
Specific equipment response plans.	No	
Specific operational plans.	No	
Water Shortage Contingency Plan.	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural disaster or safety related school programs?	No	
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		

Table 14-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Hazardous Vegetation Abatement Program	Yes	District Commissioners
Noxious Weed Eradication Program or other vegetation management	No	Part of maintenance plan
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Stream restoration program	No	
Erosion or sediment control program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Address signage for property addresses	No	
Staff resources to make declarations and request assistance on all PL84-99 Skagit Levees and file Corps Reports		Dike District 3/ Dike District Partnership

14.5.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 14-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 14-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
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	

14.6 COMMUNITY CLASSIFICATION

The district's classifications under various hazard mitigation programs are presented in Table 14-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 14-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	No	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

14.7 HAZARD RISK AND VULNERABILITY RANKING

The District's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect District 16. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses.

Table 14-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this

category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.

- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 14-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Earthquake	3.65	Very High	All of the critical facilities are located on liquefiable soil and could be impacted by an earthquake. While the probability of an earthquake is low, the impact could be large and failures to critical facilities could also result in flooding making response times and repairs difficult and delayed.
2	Flood	3.05	High	All of the critical facilities are located within the floodplain and could be damaged during flood events
3	Severe Weather	3.05	High	Critical infrastructure near Alice Bay could be impact by coastal flooding, storm surge, waves and debris.
4	Tsunami	2.95	High	All of the critical facilities are located within tsunami zones and would likely be damaged by a tsunami
5	Volcano/Lahar	2.35	Medium	Critical facilities are located within lahar zone and would likely be damaged in the event of a lahar
6	Drought	2.35	Medium	Critical facilities would not be impacted by drought
7	Landslide	1.7	Low	Critical facilities are not located within landslide hazard areas
8	Wildfire	1.30	Low	Critical facilities are not located within wildfire hazard areas

14.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

14.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 14-6 lists the action

items/strategies that make up the district's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

**TABLE 14-6
HAZARD MITIGATION ACTION PLAN MATRIX**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Inventory Tidegate(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #2 Inventory Flood Return Structure(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #3 Conduct studies to identify and design additional flood return/tidegate structures. Improve flood return capacity to reduce the duration of flooding.									
new	F	1, 7, 8	County PW	Medium	County/ Grants	Long term	no	preventative	county
INITIATIVE #4 Inventory pump(s). replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	Districts/ Grants	Long term	no	preventative	local
INITIATIVE #5 Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local

14.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of different initiative types for each identified action item was conducted. Table 14-7 identifies the prioritization for each initiative.

Table 14-7. 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 ^a
1	2	High	Medium	Yes	Yes	No	Medium
2	2	High	Medium	Yes	Yes	No	Medium
3	3	Medium	Medium	Yes	Yes	No	Medium
4	2	High	Medium	Yes	No	No	Medium
5	3	High	Low	Yes	Yes	No	High
a. See Chapter 1 for explanation of priorities.							

14.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

District 16 needs coordinate with other special purpose districts to better understand and plan for natural hazards such as coastal flooding, flooding, and tsunamis.

CHAPTER 15.

SKAGIT COUNTY DRAINAGE, AND IRRIGATION DISTRICT 17

15.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Skagit County Drainage and Irrigation District 17 (District 17), a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by District 17. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district's previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

15.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

District 17 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the district also formulated their own internal planning team to support the broader planning process. This planning team was led by Daryl Hamburg chair of the Skagit County Dike District Partnership and Jenna Friebe of the Skagit Drainage and Irrigation Districts consortium. The planning team leads worked with district commissioners, staff, and attorneys from 15 different Skagit County Dike, Drainage and Irrigation Special Purpose Districts to evaluate and rank hazards, identified a suite of initiatives and prioritize those initiatives. Because there are many similarities among Skagit County Dike, Drainage and Irrigation Special Purpose Districts this process was conducted via all-district e-mails, all district meetings, as well as individual meetings. Although this work was done collectively, the local planning team for each district ultimately identified the hazard rankings and initiatives specific to their district. The individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Brian Waltner 17065 Britt Road Mount Vernon, WA e-mail: skagitdiid17.com	District 17 Commissioner Secretary	Plan, review and adopt Annex Base Plan
Jeff Boon	District 17 Commissioner	Plan, review and adopt Annex Base Plan
Dave Christianson	District 17 Commissioner	Plan, review and adopt Annex Base Plan
Jenna Friebe Skagit Drainage and Irrigation District Consortium 2017 Continental Place Suite 4 Mount Vernon, WA 98273 Telephone: 360-395-2189	Exec. Director Drainage and Irrigation Districts Consortium	Lead for development of Annex Base Plan Point of contact for training and information

Local Planning Team Members		
Name	Position/Title	Planning Tasks
jfriebel@skagitdidc.org		

15.3 DISTRICT PROFILE

Skagit County Drainage and Irrigation District 17 is a special-purpose district created in 19XX to provide drainage, and irrigation water supply to portions of unincorporated Skagit County located in the Skagit River Delta. The District is bordered by the City of Mount Vernon to the north, the South Fork Skagit River to the west, Fisher Slough to the south, and Carpenter Creek/Hill Ditch to the east. District 17 also retains a maintenance easement along both sides of Big Ditch from the District's southern boundary to the terminal tidegate complex. I-5 bisects District 17 geographically in a north to south direction. Land use along the I-5 corridor from the northern boundary of District 17 to Hickox Road is dominated by commercial development. Except for residential and commercial land uses associated with the Town of Conway and the Conway/I-5 interchange, land use for the remainder of District 17 is predominantly agriculture.

A three-member elected Board of Commissioners governs the District. The Board assumes responsibility for the adoption of this plan; and will work with the Executive Director of the Skagit Drainage and Irrigation Districts Consortium to oversee its implementation. Funding comes primarily through assessments.

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

- **Governing Authority**— The district is governed by three elected commissioners serving six year terms
- **Population Served**—less than 2,000/2018
- **Land Area Served**—4,537 acres
- **2018 Assessed Value**— \$ 235,593,700/2018
- **Land Area Owned**—less than 10 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

Big Ditch; Syphon	\$250,000
SF Skagit River; Pump Station	\$500,000
Kayton Slough; Pump Station	\$500,000
Kayton Slough (Conway), Screw Floodgate 36	\$80,000
Big Ditch (2) 10' x 8' Box Tidegate	\$1,000,000
- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$2,330,000.
- **List of Critical Facilities Owned by the Jurisdiction:** None
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is none.
- **Key Resources** – The District also manages approximately 49.9 miles of ditches, which would be highly impacted in the event of a large natural hazard.

- **Current and Anticipated Service Trends**—It is likely that climate change will alter coastal flooding patterns resulting in increases in the frequency and magnitude of coastal flood events. The District is planning to continue to maintain existing levees and implement capital improvement plans for levee improvements.

15.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 15-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 15-1 Natural Hazard Events 1975 to Present			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Skagit River Flood, 129,000 cfs	492	December 4, 1975	Unknown
Skagit River Flood, 142,000 cfs	883	November 11, 1990	Included with Nov. 25 event
Skagit River Flood, 152,000 cfs	883	November 25, 1990	Unknown
Skagit River Flood, 151,000 cfs	1079	November 30, 1995	Unknown
Skagit River Flood, 135,000 cfs	1499	October 22, 2003	Unknown
Skagit River Flood, 138,000 cfs	1671	November 7, 2006	Unknown
Local Area Disaster – Not Declared			
Extreme Lowland Weather Event		Feb. 5, 2017	

15.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

15.5.1 Regulatory Capability

The District has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

General Capabilities:

- District's Annual Capital Improvement Plan (CIP) supports projects that are identified in this plan update. The CIP is updated annually by the District and adopted by the Board of Commissioners in the fall of each year.
- RCW 85
- Skagit County Comprehensive Flood Hazard Management Plan – 1989
- Corps of Engineers Skagit County Flood Damage Reduction Study
- The Disaster Mitigation Act of 2000 requires state, tribal and local governments to develop a hazard mitigation plan as a condition of receiving certain types of non-emergency disaster assistance. The District's current approved Hazard Mitigation Plan Update supports the effort of this regulation and plan update.

15.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 15-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 15-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	District Commissioners
Planners or engineers with an understanding of natural hazards.	Yes	Skagit Drainage and Irrigation Consortium/Director
Staff with training in benefit/cost analysis.	No	
Personnel skilled or trained in GIS or Hazus use.	No	
Emergency Manager.	Yes	District Commissioners
Grant writers.	Yes	Skagit Drainage and Irrigation Consortium/Director
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.).	No	
Hazard data and information available to public.	No	

Table 15-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Specific equipment response plans.	No	
Specific operational plans.	No	
Water Shortage Contingency Plan.	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural disaster or safety related school programs?	No	
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	District Commissioners
Noxious Weed Eradication Program or other vegetation management	No	Part of maintenance plan
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Stream restoration program	No	
Erosion or sediment control program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Address signage for property addresses	No	
Staff resources to make declarations and request assistance on all PL84-99 Skagit Levees and file Corps Reports		Dike District 3/ Dike District Partnership

15.5.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 15-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 15-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
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	

15.6 COMMUNITY CLASSIFICATION

The district's classifications under various hazard mitigation programs are presented in Table 15-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 15-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	No	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

15.7 HAZARD RISK AND VULNERABILITY RANKING

The district's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect District 16. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of

facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses.

Table 15-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 15-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Earthquake	3.65	Very High	All of the critical facilities are located on liquefiable soil and could be impacted by an earthquake. While the probability of an earthquake is low, the impact could be large and failures to levees and other critical facilities could also result in flooding making response times and repairs difficult and delayed.
2	Flood	3.05	High	All of the critical facilities are located within the floodplain and could be damaged during flood events

Table 15-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
3	Severe Weather	3.05	High	The lower portions of the district are located near Skagit Bay and could be impact by coastal flooding, storm surge, waves and debris.
4	Tsunami	2.95	High	Critical facilities located within tsunami zones and would likely be damaged by a tsunami
5	Volcano/Lahar	2.35	Medium	Critical facilities are located within lahar zone and would likely be damaged in the event of a lahar
6	Drought	1.7	Low	Critical facilities would not be impacted by drought
7	Landslide	1.7	Low	Critical facilities are not located within landslide hazard areas
8	Wildfire	1.30	Low	Critical facilities are not located within wildfire hazard areas

15.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

15.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 15-6 lists the action items/strategies that make up the district's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

**TABLE 15-6
HAZARD MITIGATION ACTION PLAN MATRIX**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Inventory Tidegate(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #2 Inventory Flood Return Structure(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #3 Conduct studies to identify and design additional flood return/tidegate structures. Improve flood return capacity to reduce the duration of flooding.									
new	F	1, 7, 8	County PW	Medium	County/ Grants	Long term	no	preventative	county
INITIATIVE #4 Inventory pump(s). replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	Districts/ Grants	Long term	no	preventative	local
INITIATIVE #5 Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local

15.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of different initiative types for each identified action item was conducted. Table 15-7 identifies the prioritization for each initiative.

Table 15-7. 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 ^a
1	2	High	Medium	Yes	Yes	No	Medium
2	2	High	Medium	Yes	Yes	No	Medium
3	3	Medium	Medium	Yes	Yes	No	Medium
4	2	High	Medium	Yes	No	No	Medium
5	3	High	Low	Yes	Yes	No	High
a. See Chapter 1 for explanation of priorities.							

15.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

District 17 needs to work with other district and Skagit County to better understand and develop measure to protect against natural hazards.

CHAPTER 16.

SKAGIT COUNTY DRAINAGE, AND IRRIGATION DISTRICT 18

16.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Skagit County Drainage and Irrigation District 18 (District 18), a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by District 18. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district's previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

16.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

District 18 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the district also formulated their own internal planning team to support the broader planning process. This planning team was led by Daryl Hamburg chair of the Skagit County Dike District Partnership and Jenna Friebe of the Skagit Drainage and Irrigation Districts consortium. The planning team leads worked with district commissioners, staff, and attorneys from 15 different Skagit County Dike, Drainage and Irrigation Special Purpose Districts to evaluate and rank hazards, identified a suite of initiatives and prioritize those initiatives. Because there are many similarities among Skagit County Dike, Drainage and Irrigation Special Purpose Districts this process was conducted via all-district e-mails, all district meetings, as well as individual meetings. Although this work was done collectively, the local planning team for each district ultimately identified the hazard rankings and initiatives specific to their district. The individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Lyle Wesen 7280 Worline Road Bow WA 98232 e-mail: skagitdid18.com	District 18 Commissioner Secretary	Plan, review and adopt Annex Base Plan
Jeff Durkin	District 18 Commissioner	Plan, review and adopt Annex Base Plan
Jenna Friebe Skagit Drainage and Irrigation District Consortium 2017 Continental Place Suite 4 Mount Vernon, WA 98273	Exec. Director Drainage and Irrigation Districts Consortium	Lead for development of Annex Base Plan Point of contact for training and information

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Telephone: 360-395-2189 jfriebe@skagitdidc.org		

16.3 DISTRICT PROFILE

Skagit County Drainage and Irrigation District 18 is a special-purpose district created around 1900 to provide drainage and irrigation water supply to portions of unincorporated Skagit County located in the Samish River Delta north of the Town of Edison. District 18 is bordered by Edison Slough and Bow Hill Road to the south, Samish Bay to the west and northwest, and approximately the Burlington Northern Railroad grade to the east and northeast. The predominant land uses include commercial agriculture with some hobby farms and residential housing within the district's boundaries. A three-member elected Board of Commissioners governs the District. The Board assumes responsibility for the adoption of this plan; and will work with the Executive Director of the Skagit Drainage and Irrigation Districts Consortium to oversee its implementation. Funding comes primarily through assessments.

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

- **Governing Authority**— The district is governed by three elected commissioners serving six year terms
- **Population Served**—less than 2,000/2018
- **Land Area Served**—1,819 acres
- **2018 Assessed Value**— \$ 27,486,500/2018
- **Land Area Owned**—less than 10 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

McElroy Slough 48-inch Tidegate	\$90,000
Edison Slough 48-inch Tidegate	\$90,000
Edison Slough 42-inch Tidegate	\$90,000
Samish Bay 48-inch Tidegate	\$90,000
Alice Bay Pump Station	\$500,000
- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$860,000.
- **List of Critical Facilities Owned by the Jurisdiction:** None
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is none.
- **Key Resources** – The District also manages approximately 16.2 miles of ditches, which would be highly impacted in the event of a large natural hazard.
- **Current and Anticipated Service Trends**—It is likely that climate change will alter coastal flooding patterns resulting in increases in the frequency and magnitude of coastal flood events. The District is planning to continue to maintain existing levees and implement capital improvement plans for levee improvements.

16.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 16-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 16-1 Natural Hazard Events 1975 to Present			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Local Area Disaster – Not Declared			
Extreme Weather/Coastal Flood		Mar. 10, 2016	
Extreme Lowland Weather Event		Feb. 5, 2017	

16.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

16.5.1 Regulatory Capability

The District has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

General Capabilities (Examples):

- District's Annual Capital Improvement Plan (CIP) supports projects that are identified in this plan update. The CIP is updated annually by the District and adopted by the Board of Commissioners in the fall of each year.
- RCW 85
- Skagit County Comprehensive Flood Hazard Management Plan – 1989
- Corps of Engineers Skagit County Flood Damage Reduction Study
- The Disaster Mitigation Act of 2000 requires state, tribal and local governments to develop a hazard mitigation plan as a condition of receiving certain types of non-emergency disaster

assistance. The District's current approved Hazard Mitigation Plan Update supports the effort of this regulation and plan update.

16.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 16-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 16-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	District Commissioners
Planners or engineers with an understanding of natural hazards.	Yes	Skagit Drainage and Irrigation Consortium/Director
Staff with training in benefit/cost analysis.	No	
Personnel skilled or trained in GIS or Hazus use.	No	
Emergency Manager.	Yes	District Commissioners
Grant writers.	Yes	Skagit Drainage and Irrigation Consortium/Director
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?).	No	
Hazard data and information available to public.	No	
Specific equipment response plans.	No	
Specific operational plans.	No	
Water Shortage Contingency Plan.	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Organization focused on individuals with access and functional needs populations	No	

Table 16-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural disaster or safety related school programs?	No	
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	District Commissioners
Noxious Weed Eradication Program or other vegetation management	No	Part of maintenance plan
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Stream restoration program	No	
Erosion or sediment control program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Address signage for property addresses	No	
Staff resources to make declarations and request assistance on all PL84-99 Skagit Levees and file Corps Reports		Dike District 3/ Dike District Partnership

16.5.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 16-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 16-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No

Table 16-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
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	

16.6 COMMUNITY CLASSIFICATION

The district's classifications under various hazard mitigation programs are presented in Table 16-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 16-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	No	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

16.7 HAZARD RISK AND VULNERABILITY RANKING

The district's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect District 16. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses.

Table 16-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past

occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 16-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Earthquake	3.65	Very High	All of the critical facilities are located on liquefiable soil and could be impacted by an earthquake. While the probability of an earthquake is low, the impact could be large and failures to levees and other critical facilities could also result in flooding making response times and repairs difficult and delayed.
2	Flood	3.05	High	All of the critical facilities are located within the floodplain and could be damaged during flood events
3	Severe Weather	3.05	High	The lower areas of the district located near Alice Bay could be impact by coastal flooding, storm surge, waves and debris.
4	Tsunami	2.95	High	All of the critical facilities are located within tsunami zones and would likely be damaged by a tsunami

Table 16-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
5	Volcano/Lahar	2.35	Medium	All of the critical facilities are located within lahar zone and would likely be damaged in the event of a lahar
6	Drought	1.7	Low	Critical facilities would not be impacted by drought
7	Landslide	1.7	Low	Critical facilities are not located within landslide hazard areas
8	Wildfire	1.30	Low	Critical facilities are not located within wildfire hazard areas

16.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

16.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 16-6 lists the action items/strategies that make up the district's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

TABLE 16-6 HAZARD MITIGATION ACTION PLAN MATRIX									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Inventory Tidegate(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/Grants	Long term	no	structural	local
INITIATIVE # 2 Inventory Flood Return Structure(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/Grants	Long term	no	structural	local

**TABLE 16-6
HAZARD MITIGATION ACTION PLAN MATRIX**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE # 3 Conduct studies to identify and design additional flood return/tidegate structures. Improve flood return capacity to reduce the duration of flooding.									
new	F	1, 7, 8	County PW	Medium	County/ Grants	Long term	no	preventative	county
INITIATIVE # 4 Inventory pump(s). replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	Districts/ Grants	Long term	no	preventative	local
INITIATIVE # 5 Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local

16.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of different initiative types for each identified action item was conducted. Table 16-7 identifies the prioritization for each initiative.

**Table 16-7.
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 ^a
1	2	High	Medium	Yes	Yes	No	Medium
2	2	High	Medium	Yes	Yes	No	Medium
3	3	Medium	Medium	Yes	Yes	No	Medium
4	2	High	Medium	Yes	No	No	Medium
5	3	High	Low	Yes	Yes	No	High

a. See Chapter 1 for explanation of priorities.

16.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

District 18 needs coordinate with other special purpose districts to better understand and plan for natural hazards such as coastal flooding, flooding, and tsunamis.

CHAPTER 17.

SKAGIT COUNTY DRAINAGE AND IRRIGATION DISTRICT 19

17.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Skagit County Drainage and Irrigation District 19 (District 19), a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by District 19. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district's previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

17.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

District 19 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the district also formulated their own internal planning team to support the broader planning process. This planning team was led by Daryl Hamburg chair of the Skagit County Dike District Partnership and Jenna Friebe of the Skagit Drainage and Irrigation Districts consortium. The planning team leads worked with district commissioners, staff, and attorneys from 15 different Skagit County Dike, Drainage and Irrigation Special Purpose Districts to evaluate and rank hazards, identified a suite of initiatives and prioritize those initiatives. Because there are many similarities among Skagit County Dike, Drainage and Irrigation Special Purpose Districts this process was conducted via all-district e-mails, all district meetings, as well as individual meetings. Although this work was done collectively, the local planning team for each district ultimately identified the hazard rankings and initiatives specific to their district. The individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
William M. Roozen 14707 Best Road Mount Vernon, WA 98273 e-mail: william@wabulb.com	District 19 Commissioner Secretary	Plan, review and adopt Annex Base Plan
Earl Peth	District 19 Commissioner	Plan, review and adopt Annex Base Plan
Steve Larsen	District 19 Commissioner	Plan, review and adopt Annex Base Plan
Jenna Friebe Skagit Drainage and Irrigation District Consortium 2017 Continental Place Suite 4 Mount Vernon, WA 98273	Exec. Director Drainage and Irrigation Districts Consortium	Lead for development of Annex Base Plan Point of contact for training and information

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Telephone: 360-395-2189 jfriebe@skagitdidc.org		

17.3 DISTRICT PROFILE

Skagit County Drainage and Irrigation District 19 is a special-purpose district created around 1900 to provide drainage and irrigation water supply to portions of unincorporated Skagit County located in the Skagit River Delta west of the City of Burlington, east of the City of Anacortes, south of the Town of Bayview and north of the Town of LaConner. District 19 is approximately bordered by Padilla Bay and the Swinomish Channel to the west, WDOT Highway 20, Ovenell Road and Peterson Road to the north, Downey Road, Mclean Road and Donnelly Road to the south, and Avon Allen Road, Pulver Road to the east. The predominant land uses include commercial agriculture with some hobby farms and residential housing within the district's boundaries. A three-member elected Board of Commissioners governs the District. The Board assumes responsibility for the adoption of this plan; and will work with the Executive Director of the Skagit Drainage and Irrigation Districts Consortium to oversee its implementation. Funding comes primarily through assessments.

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

- **Governing Authority**— The district is governed by three elected commissioners serving six year terms
- **Population Served**—less than 2,000/2018
- **Land Area Served**—8,762 acres
- **Value of Area Served**— \$ 627,289,850/2018
- **Land Area Owned**—less than 10 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

SR20 Pump Station (4.5 to 11.3 Pump)	\$500,000
Bayview Pump Station (1) 30hp pump; (1) 50hp pump, trashrack	\$500,000
Boat Basin 36-inch Tidegate	\$80,000
Higgins Slough/Mickey Jensen 24-inch Floodgate	\$80,000
Higgins Slough 48-inch Tidegate	\$90,000
Swinomish Channel 24-inch Tidegate	\$80,000
Indian Slough/Scalehouse (2) 30-inch Floodgate	\$160,000
Indian Slough/SR20 (2) 36-inch Floodgate	\$160,000
Indian Slough/Dahlstedt Farm 24-in Floodgate/Screw	\$80,000
Indian Slough (7) 48-inch Tidegates	\$500,000
Higgins Slough (5) 60-inch Tidegates	\$500,000
Indian Slough/Jones 30-in Floodgate	\$80,000
Indian Slough (2) 30-in Tidegate	\$160,000
Little Indian Slough (2) 48-inch Tidegates	\$180,000
Indian Slough Floodgate	\$90,000

- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$3,240,000.
- **List of Critical Facilities Owned by the Jurisdiction:** None
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is none.
- **Key Resources** – The District also manages approximately 46.1 miles of drainage and irrigation watercourses.
- **Current and Anticipated Service Trends**—It is likely that climate change will alter coastal flooding patterns resulting in increases in the frequency and magnitude of coastal flood events. The District is planning to continue to maintain existing levees and implement capital improvement plans for levee improvements.

17.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 17-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 17-1 Natural Hazard Events 1975 to Present			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Skagit River Flood, 129,000 cfs	492	December 4, 1975	Unknown
Skagit River Flood, 142,000 cfs	883	November 11, 1990	Unknown
Skagit River Flood, 152,000 cfs	883	November 25, 1990	Unknown
Skagit River Flood, 151,000 cfs	1079	November 30, 1995	Unknown
Skagit River Flood, 135,000 cfs	1499	October 22, 2003	Unknown
Skagit River Flood, 138,000 cfs	1671	November 7, 2006	Unknown
Local Area Disaster – Not Declared			
Extreme Weather/Coastal Flood		Mar. 10, 2016	Unknown
Skagit River Flood 96,000 cfs		November 23, 2017	Unknown

17.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

17.5.1 Regulatory Capability

The District has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

General Capabilities:

- District's Annual Capital Improvement Plan (CIP) supports projects that are identified in this plan update. The CIP is updated annually by the District and adopted by the Board of Commissioners in the fall of each year.
- RCW 85
- Skagit County Comprehensive Flood Hazard Management Plan – 1989
- Corps of Engineers Skagit County Flood Damage Reduction Study
- The Disaster Mitigation Act of 2000 requires state, tribal and local governments to develop a hazard mitigation plan as a condition of receiving certain types of non-emergency disaster assistance. The District's current approved Hazard Mitigation Plan Update supports the effort of this regulation and plan update.

17.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 17-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 17-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	District Commissioners
Planners or engineers with an understanding of natural hazards.	Yes	Skagit Drainage and Irrigation Consortium/Director
Staff with training in benefit/cost analysis.	No	
Personnel skilled or trained in GIS or Hazus use.	No	
Emergency Manager.	Yes	District Commissioners

Table 17-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Grant writers.	Yes	Skagit Drainage and Irrigation Consortium/Director
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?).	No	
Hazard data and information available to public.	No	
Specific equipment response plans.	No	
Specific operational plans.	No	
Water Shortage Contingency Plan.	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural disaster or safety related school programs?	No	
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	District Commissioners
Noxious Weed Eradication Program or other vegetation management	No	Part of maintenance plan
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Stream restoration program	No	

Table 17-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Erosion or sediment control program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Address signage for property addresses	No	
Staff resources to make declarations and request assistance on all PL84-99 Skagit Levees and file Corps Reports		Dike District 3/ Dike District Partnership

17.5.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 17-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 17-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
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	

17.6 COMMUNITY CLASSIFICATION

The district's classifications under various hazard mitigation programs are presented in Table 17-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 17-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	No	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

17.7 HAZARD RISK AND VULNERABILITY RANKING

The district's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect District 19. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses.

Table 17-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 17-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Earthquake	3.65	Very High	All of the critical facilities are located on liquefiable soil and could be impacted by an earthquake. While the probability of an earthquake is low, the impact could be large and failures to critical facilities could also result in flooding making response times and repairs difficult and delayed.
2	Flood	3.05	High	All critical facilities are located within the floodplain and could be damaged during flood events
3	Severe Weather	3.05	High	The critical facility located near Padilla Bay could be impact by coastal flooding, storm surge, waves and debris.
4	Tsunami	2.95	High	Critical facilities located within tsunami zones and would likely be damaged by a tsunami
5	Volcano/Lahar	2.35	Medium	Critical facilities are located within lahar zone and would likely be damaged in the event of a lahar
6	Drought	2.35	Medium	Critical facilities would not be impacted by drought
7	Landslide	1.7	Low	Critical facilities are not located within landslide hazard areas
8	Wildfire	1.30	Medium	Critical facilities are not located within wildfire hazard areas

17.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

17.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 17-6 lists the action items/strategies that make up the district's hazard mitigation plan. Background information and information

on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

Table 17-6 Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Inventory Tidegate(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #2 Inventory Flood Return Structure(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #3 Conduct studies to identify and design additional flood return/tidegate structures. Improve flood return capacity to reduce the duration of flooding.									
new	F	1, 7, 8	County PW	Medium	County/ Grants	Long term	no	preventative	county
INITIATIVE #4 Inventory pump(s). replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	Districts/ Grants	Long term	no	preventative	local
INITIATIVE #5. Increase flood storage and change in timing at the SCL Ross Reservoir. Reduce flood risk and changes in the seasonality of flood events.									
existing	F	7, 8	US ACOE	Medium	Federal FERC	Long term	no	Prevention	County
INITIATIVE #6 Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local

17.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of different initiative types for each identified action item was conducted. Table 17-7 identifies the prioritization for each initiative.

**Table 17-7.
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 ^a
1	2	High	Medium	Yes	Yes	No	Medium
2	2	High	Medium	Yes	Yes	No	Medium
3	3	Medium	Medium	Yes	Yes	No	Medium
4	2	High	Medium	Yes	No	No	Medium
5	2	Medium	Medium	Yes	No	No	Medium
6	3	High	Low	Yes	Yes	No	High
a. See Chapter 1 for explanation of priorities.							

17.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

District 19 is planning to work with Skagit County to evaluate locations for flood return structures to reduce the duration of flooding in the event of a large event.

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CHAPTER 18.

SKAGIT COUNTY DRAINAGE AND IRRIGATION DISTRICT 22

18.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Skagit County Drainage and Irrigation District 22 (District 22), a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by District 22. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district's previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

18.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

District 22 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the district also formulated their own internal planning team to support the broader planning process. This planning team was led by Daryl Hamburg chair of the Skagit County Dike District Partnership and Jenna Friebe of the Skagit Drainage and Irrigation Districts consortium. The planning team leads worked with district commissioners, staff, and attorneys from 15 different Skagit County Dike, Drainage and Irrigation Special Purpose Districts to evaluate and rank hazards, identified a suite of initiatives and prioritize those initiatives. Because there are many similarities among Skagit County Dike, Drainage and Irrigation Special Purpose Districts this process was conducted via all-district e-mails, all district meetings, as well as individual meetings. Although this work was done collectively, the local planning team for each district ultimately identified the hazard rankings and initiatives specific to their district. The individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
John G. Thulen 12845 Dodge Valley Road Mount Vernon, WA 98273 e-mail: john@pioneerpotato.com	District 22 Commissioner Secretary	Plan, review and adopt Annex Base Plan
Lewis Hill	District 22 Commissioner	Plan, review and adopt Annex Base Plan
Alan Mesman e-mail: alanmesman@hotmail.com	District 22 Commissioner	Plan, review and adopt Annex Base Plan
Jenna Friebe	Exec. Director Drainage and Irrigation Districts Consortium	Lead for development of Annex Base Plan

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Skagit Drainage and Irrigation District Consortium 2017 Continental Place Suite 4 Mount Vernon, WA 98273 Telephone: 360-395-2189 jfriebel@skagitdidc.org		Point of contact for training and information

18.3 DISTRICT PROFILE

Skagit County Drainage and Irrigation District 22 is a special-purpose district created in 1929 to provide drainage and irrigation water supply to portions of unincorporated Skagit County located in the Skagit River Delta east of the Town of LaConner. District 22 is approximately bordered by Chilberg Road to the north, Sullivan Slough to the west, the North Fork Skagit River to the south and Pleasant Ridge west of Best Road to the east. The predominant land uses include commercial agriculture with some hobby farms and residential housing within the district's boundaries. A three-member elected Board of Commissioners governs the District. The Board assumes responsibility for the adoption of this plan; and will work with the Executive Director of the Skagit Drainage and Irrigation Districts Consortium to oversee its implementation. Funding comes primarily through assessments.

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

- **Governing Authority**— The district is governed by three elected commissioners serving six year terms
- **Population Served**—less than 2,000/2018
- **Land Area Served**—2,365 acres
- **2018 Assessed Value**— \$ 34,732,000 /2018
- **Land Area Owned**—less than 10 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**
 NF Skagit River Pump Station (2) 20-inch pumps (2) 24 inch pumps \$500,000
- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$500,000.
- **List of Critical Facilities Owned by the Jurisdiction:** None
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is none.
- **Key Resources** – The District also manages approximately 18.7 miles of ditches, which would be highly impacted in the event of a large natural hazard.
- **Current and Anticipated Service Trends**—It is likely that climate change will alter coastal flooding patterns resulting in increases in the frequency and magnitude of coastal flood events. The District is planning to continue to maintain existing levees and implement capital improvement plans for levee improvements.

18.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 18-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 18-1 Natural Hazard Events 1975 to Present			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Local Area Disaster – Not Declared			
Extreme Weather/Coastal Flood		Mar. 10, 2016	
Extreme Lowland Weather Event		Feb. 5, 2017	

18.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

18.5.1 Regulatory Capability

The District has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

General Capabilities:

- District's Annual Capital Improvement Plan (CIP) supports projects that are identified in this plan update. The CIP is updated annually by the District and adopted by the Board of Commissioners in the fall of each year.
- RCW 85
- Skagit County Comprehensive Flood Hazard Management Plan – 1989
- Corps of Engineers Skagit County Flood Damage Reduction Study
- The Disaster Mitigation Act of 2000 requires state, tribal and local governments to develop a hazard mitigation plan as a condition of receiving certain types of non-emergency disaster assistance. The District's current approved Hazard Mitigation Plan Update supports the effort of this regulation and plan update.

18.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 18-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 18-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	District Commissioners
Planners or engineers with an understanding of natural hazards.	Yes	Skagit Drainage and Irrigation Consortium/Director
Staff with training in benefit/cost analysis.	No	
Personnel skilled or trained in GIS or Hazus use.	No	
Emergency Manager.	Yes	District Commissioners
Grant writers.	Yes	Skagit Drainage and Irrigation Consortium/Director
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?).	No	
Hazard data and information available to public.	No	
Specific equipment response plans.	No	
Specific operational plans.	No	
Water Shortage Contingency Plan.	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural disaster or safety related school programs?	No	

Table 18-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	District Commissioners
Noxious Weed Eradication Program or other vegetation management	No	Part of maintenance plan
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Stream restoration program	No	
Erosion or sediment control program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Address signage for property addresses	No	
Staff resources to make declarations and request assistance on all PL84-99 Skagit Levees and file Corps Reports		Dike District Partnership

18.5.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 18-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 18-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	Yes

Table 18-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
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	

18.6 COMMUNITY CLASSIFICATION

The district's classifications under various hazard mitigation programs are presented in Table 18-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 18-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	No	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

18.7 HAZARD RISK AND VULNERABILITY RANKING

The district's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect District 22. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses.

Table 18-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 18-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Earthquake	3.65	Very High	All of the critical facilities are located on liquefiable soil and could be impacted by an earthquake. While the probability of an earthquake is low, the impact could be large and failures to levees and other critical facilities could also result in flooding making response times and repairs difficult and delayed.
2	Flood	3.05	High	All of the critical facilities are located within the floodplain and could be damaged during flood events.
3	Severe Weather	3.05	High	The lower portions of the district is located near Skagit Bay and could be impact by coastal flooding, storm surge, waves and debris.
4	Tsunami	2.95	High	All of the critical facilities are located within tsunami zones and would likely be damaged by a tsunami

Table 18-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
5	Volcano/Lahar	2.35	Medium	Critical facilities are located within lahar zone and would likely be damaged in the event of a lahar
6	Drought	1.7	Low	Critical facilities would not be impacted by drought
7	Landslide	1.7	Low	Critical facilities are not located within landslide hazard areas
8	Wildfire	1.30	Low	Critical facilities are not located within wildfire hazard areas

18.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

18.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 18-6 lists the action items/strategies that make up the district's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

Table 18-6 Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Inventory Tidegate(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/Grants	Long term	no	structural	local
INITIATIVE # 2 Inventory Flood Return Structure(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									

**Table 18-6
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #3. Conduct studies to identify and design additional flood return/tidegate structures. Improve flood return capacity to reduce the duration of flooding.									
new	F	1, 7, 8	County PW	Medium	County/ Grants	Long term	no	preventative	county
INITIATIVE #4 Inventory pump(s). replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	Districts/ Grants	Long term	no	preventative	local
INITIATIVE #5. Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local

18.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of different initiative types for each identified action item was conducted. Table 18-7 identifies the prioritization for each initiative.

**Table 18-7.
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 ^a
1	2	High	Medium	Yes	Yes	No	Medium
2	2	High	Medium	Yes	Yes	No	Medium
3	3	Medium	Medium	Yes	Yes	No	Medium
4	2	High	Medium	Yes	No	No	Medium
5	3	High	Low	Yes	Yes	No	High
a. See Chapter 1 for explanation of priorities.							

18.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

District 22 needs coordinate with other special purpose districts to better understand and plan for natural hazards such as coastal flooding, flooding, and tsunamis. District 22 also needs to flood proof the main pump station.

CHAPTER 19.

SKAGIT COUNTY DIKE DISTRICT 17

19.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Skagit County Dike District 17 (Dike 17), a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by Dike 17. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district's previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

19.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

Dike 17 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the district also formulated their own internal planning team to support the broader planning process. This planning team was led by Daryl Hamburg chair of the Skagit County Dike District Partnership and Jenna Friebe of the Skagit Drainage and Irrigation Districts consortium. The planning team leads worked with district commissioners, staff, and attorneys from 15 different Skagit County Dike, Drainage and Irrigation Special Purpose Districts to evaluate and rank hazards, identified a suite of initiatives and prioritize those initiatives. Because there are many similarities among Skagit County Dike, Drainage and Irrigation Special Purpose Districts this process was conducted via all-district e-mails, all district meetings, as well as individual meetings. Although this work was done collectively, the local planning team for each district ultimately identified the hazard rankings and initiatives specific to their district. The individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Lenard Eliason PO Box 2926 Mount Vernon, WA 98273	Dike District 17 Commissioner Chair	Plan, Review and adopt Annex Base Plan
Jeff Kaptein	Dike District 17 Commissioner Secretary	Plan, Review and adopt Annex Base Plan
Dale Ragan	Dike District 17 Commissioner	Plan, Review and adopt Annex Base Plan
Daryl Hamburg Telephone: 360-708-7670 dhamburgdd17@outlook.com	Director of Operations	Lead for development of Annex Base Plan Point of contact for training and information

19.3 DISTRICT PROFILE

Skagit County Dike District 17 is a special-purpose district created in 1907. The original goals of Dike 17 were to keep fall and spring high waters off of the farmland within the district. There was no development in the area at the time and farmers simply wanted to preserve the land in order to maximize crop production.

As time went on, the levees were developed to provide increased flood control. As the citizens of Skagit County found security in the level of flood risk management of Dike 17, residential and commercial encroachment began into the District's boundaries. The building of Interstate 5 created additional demand on flood risk management and the Dike District. Continued development and commercial sprawl creates a demand for larger levees to further lower flood risk.

Today, the demands on Dike 17 for flood risk management are higher than ever. The proposed revisions of the FEMA flood mapping in Skagit Valley will place the 100-year flood level well above the risk management level of the existing levees. Development demands are growing at an exponential rate as population growth continues. Environmental constraints on levee construction further increase costs to provide flood protection. In order for Dike District 17 to evolve to meet the new demands and environmental impacts, we will need to take a team approach to flood risk management with the Dike District as the lead.

A three-member elected Board of Commissioners governs the District. The Board assumes responsibility for the adoption of this plan; and will work with the Executive Director of the Skagit Drainage and Irrigation Districts Consortium to oversee its implementation. Funding comes primarily through assessments.

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

- **Governing Authority**— The district is governed by three elected commissioners serving six year terms
- **Population Served**—less than 2,000/2018
- **Land Area Served**—7,000 acres
- **Value of Area Served**— estimated \$ 544,440/2019
- **Non-Infrastructure Land Area Owned**—15 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

Dike 17 Headquarters	\$500,000
Dike 17 Warehouse 1	\$80,000
Dike 17 Warehouse 2	\$80,000
Misc. Equipment	\$100,000
- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$100,000.
- **List of Critical Facilities Owned by the Jurisdiction:** three
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is \$660,000.
- **Key Resources** – The District also manages approximately 5.5 miles of PL84-99 River Levees, which would be highly impacted in the event of a large natural hazard.
- **Current and Anticipated Service Trends**—The District is planning to continue to maintain existing levees and implement capital improvement plans for levee improvements.

19.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 19-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 19-1 Natural Hazard Events 1975 to Present			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Skagit River Flood, 129,000 cfs	492	December 4, 1975	Unknown
Skagit River Flood, 142,000 cfs	883	November 11, 1990	Included with Nov. 25 event
Skagit River Flood, 152,000 cfs	883	November 25, 1990	\$300,000
Skagit River Flood, 151,000 cfs	1079	November 30, 1995	\$1,500,000
Skagit River Flood, 135,000 cfs	1499	October 22, 2003	\$850,000
Skagit River Flood, 138,000 cfs	1671	November 7, 2006	\$1,000,000
Local Area Disaster – Not Declared			
Skagit River Flood 96,000 cfs		November 23, 2017	

19.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

19.5.1 Regulatory Capability

The District has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

General Capabilities:

- District's Annual Capital Improvement Plan (CIP) supports projects that are identified in this plan update. The CIP is updated annually by the District and adopted by the Board of Commissioners in the fall of each year.
- RCW 85
- Skagit County Comprehensive Flood Hazard Management Plan – 1989
- Corps of Engineers Skagit County Flood Damage Reduction Study
- The Disaster Mitigation Act of 2000 requires state, tribal and local governments to develop a hazard mitigation plan as a condition of receiving certain types of non-emergency disaster assistance. The District's current approved Hazard Mitigation Plan Update supports the effort of this regulation and plan update.
- Specific incident response plans
- Employee Handbooks and Safety Manuals
- Mutual Aid Agreements (Dike District Partnership)

19.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 19-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 19-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	District Commissioners
Planners or engineers with an understanding of natural hazards.	Yes	Skagit Drainage and Irrigation Consortium/Director
Staff with training in benefit/cost analysis.	No	
Personnel skilled or trained in GIS or Hazus use.	No	
Emergency Manager.	Yes	District Commissioners
Grant writers.	Yes	Skagit Drainage and Irrigation Consortium/Director
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?).	No	
Hazard data and information available to public.	No	
Specific equipment response plans.	No	
Specific operational plans.	No	

Table 19-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Water Shortage Contingency Plan.	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural disaster or safety related school programs?	No	
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	District Commissioners
Noxious Weed Eradication Program or other vegetation management	Yes	Part of maintenance plan
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Stream restoration program	No	
Erosion or sediment control program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Address signage for property addresses	No	
Staff resources to make declarations and request assistance on all PL84-99 Skagit Levees and file Corps Reports	Yes	Dike District 17/ Dike District Partnership/Director of Operations

19.5.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 19-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 19-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
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	

19.6 COMMUNITY CLASSIFICATION

The district's classifications under various hazard mitigation programs are presented in Table 19-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 19-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	No	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

19.7 HAZARD RISK AND VULNERABILITY RANKING

The district's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect Dike District 12. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without

service and the cost of providing temporary service was also a consideration in identifying the economic losses.

Table 19-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 19-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Earthquake	3.65	Very High	All of the levees and critical facilities are located on liquefiable soil and could be impacted by an earthquake. While the probability of an earthquake is low, the impact could be large and failures to levees and other critical facilities could also result in flooding making response times and repairs difficult and delayed.
2	Flood	3.05	High	All of the levees and critical facilities are located within the floodplain and could be damaged during flood events

Table 19-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
3	Volcano/Lahar	2.35	Medium	Levees and critical facilities are located within lahar zone and would likely be damaged in the event of a lahar
4	Tsunami	2.15	Low	None of the levees and critical facilities are located within tsunami zones; however the lower portions of adjacent districts are located within tsunami zones and the entire system could be impacted
5	Severe Weather	1.85	Low	None of the levees and critical facilities are located near Skagit Bay and would not be impact by coastal flooding, storm surge, waves and debris.
6	Drought	1.95	Low	Levees and critical facilities would not be impacted by drought
7	Landslide	1.70	Low	Levees and critical facilities are not located within landslide hazard areas
8	Wildfire	1.30	Low	Levees and critical facilities are not located within wildfire hazard areas

19.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

19.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 19-6 lists the action items/strategies that make up the district's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

**Table 19-6
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Enhance existing PL-84-99 levees. Improve existing levee structural integrity to reduce flooding risk per recommendations of the Corps Skagit General Investigation Study.									
existing	F	1, 8	District	Low	District	Long term	no	structural	county
INITIATIVE #2 Inventory Tidegate(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #3 Inventory Flood Return Structure(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #6. Conduct studies to identify and design additional flood return/tidegate structures. Improve flood return capacity to reduce the duration of flooding.									
new	F	1, 7, 8	County PW	Medium	County/ Grants	Long term	no	preventative	county
INITIATIVE #4 Inventory pump(s). replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	Districts/ Grants	Long term	no	preventative	local
INITIATIVE #5 Develop a flood fight protocols manual. Make sure emergency contacts and protocols are in place for natural hazard events to improve response times									
new	F/SW/ TS	6, 7, 8, 9	District	Low	Grant	Short term	no	Emergency Services	local
INITIATIVE #6 Increase flood storage and change in timing at the SCL Ross Reservoir. Reduce flood risk and changes in the seasonality of flood events.									
existing	F	7, 8	US ACOE	Medium	Federal FERC	Long term	no	Prevention	County
INITIATIVE #7. Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local
INITIATIVE #8 Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local
INITIATIVE #9 Construct seepage berms. Improve existing levee structural integrity to reduce the risk of flooding.									
existing	F	1, 8	District	Medium	District/ Grant	Short term	no	Structural	Local

Table 19-6
Hazard Mitigation Action Plan Matrix

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #10 Work with BNSF to evaluate options to replace the BNSF bridge to reduce flooding risk									
existing	F	1, 7	BNSF	Low	BNSF	short term	no	Structural	County

19.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of different initiative types for each identified action item was conducted. Table 19-7 identifies the prioritization for each initiative.

Table 19-7.
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 ^a
1	2	High	Low	Yes	No	Yes	High
2	2	High	Medium	Yes	Yes	No	Medium
3	2	High	Medium	Yes	Yes	No	Medium
4	3	Medium	Medium	Yes	Yes	No	Medium
5	2	High	Medium	Yes	No	No	Medium
6	4	High	Low	Yes	Yes	No	High
7	2	Medium	Medium	Yes	No	No	Medium
8	3	High	Low	Yes	No	No	High
9	3	High	Low	Yes	Yes	No	High
10	2	High	Medium	Yes	No	Yes	High
11	2	Medium	Low	Yes	No	No	Low
a. See Chapter 1 for explanation of priorities.							

19.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

District 17 needs to continue evaluating, maintain, and improve their levee system. They will also work on comprehensive flood mitigation planning with Skagit County and other districts to identify additional flood return structure capacity or other improvements that are needed. Make investments necessary to facilitate the replacement of BNSF Bridge to ensure the levees continue to provide the same level of flood protection.

CHAPTER 20.

SKAGIT COUNTY CONSOLIDATED DIKE, DRAINAGE, AND IRRIGATION DISTRICT 25

20.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Skagit County Dike, Drainage and Irrigation District 25 (District 25), a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by District 25. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district's previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

20.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

District 25 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the district also formulated their own internal planning team to support the broader planning process. This planning team was led by Daryl Hamburg chair of the Skagit County Dike District Partnership and Jenna Friebe of the Skagit Drainage and Irrigation Districts consortium. The planning team leads worked with district commissioners, staff, and attorneys from 15 different Skagit County Dike, Drainage and Irrigation Special Purpose Districts to evaluate and rank hazards, identified a suite of initiatives and prioritize those initiatives. Because there are many similarities among Skagit County Dike, Drainage and Irrigation Special Purpose Districts this process was conducted via all-district e-mails, all district meetings, as well as individual meetings. Although this work was done collectively, the local planning team for each district ultimately identified the hazard rankings and initiatives specific to their district. The individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Jerry Nelson PO Box 444 Burlington, WA 98233 e-mail: jerryenelson@me.com	District 25 Commissioner Chair	Plan, review and adopt Annex Base Plan
Rick Loop e-mail: rickloop@msn.com	District 25 Commissioner	Plan, review and adopt Annex Base Plan
Bud Voss	District 25 Commissioner	Plan, review and adopt Annex Base Plan

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Jenna Friebe Skagit Drainage and Irrigation District Consortium 2017 Continental Place Suite 4 Mount Vernon, WA 98273 Telephone: 360-395-2189 jfriebe@skagitdide.org	Exec. Director Drainage and Irrigation Districts Consortium	Lead for development of Annex Base Plan Point of contact for training and information

20.3 DISTRICT PROFILE

Skagit County Dike, Drainage and Irrigation District 25 is a special-purpose district created in the early 1900s to provide flood protection, drainage, and irrigation water supply to portions of unincorporated Skagit County located in the Samish River Delta south of the Town of Edison, west of Interstate Highway 5, and north of Joe Leary Slough. The predominant land uses include commercial agriculture with some hobby farms and residential housing within the district's boundaries. A three-member elected Board of Commissioners governs the District. The Board assumes responsibility for the adoption of this plan; and will work with the Executive Director of the Skagit Drainage and Irrigation Districts Consortium to oversee its implementation. Funding comes primarily through assessments.

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

- **Governing Authority**— The district is governed by three elected commissioners serving six year terms
- **Population Served**—less than 2,000/2018
- **Land Area Served**—3,457 acres
- **Value of Area Served**— \$ 71,966,325 /2018
- **Land Area Owned**—less than 10 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

Samish River, 12-inch Floodgates	\$50,000
Samish River, 48-inch Flood Return Structure	\$90,000
Egbert/SC Ditch/E Thomas Rd, 24-inch Floodgate	\$80,000
Samish River/Farm to Market Rd, 48-in Flood return	\$90,000
Samish River/S side/Omdal Ln '4' FLOODGATE W/ 700' OF 4' PIPE	\$90,000
Samish River/S Side/Lautenbach 36-in flood return structure	\$80,000
Samish River/Hampel, 48- in flood return structure	\$90,000

- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is 570,000
- **List of Critical Facilities Owned by the Jurisdiction:** None
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is none.

- **Key Resources** – The District also manages approximately 4.0 miles of river levees, which would be highly impacted in the event of a large natural hazard. The District also manages approximately 4.6 miles of drainage and irrigation watercourses within the district boundaries.
- **Current and Anticipated Service Trends**—It is likely that climate change will alter coastal flooding patterns resulting in increases in the frequency and magnitude of coastal flood events. The District is planning to continue to maintain existing levees and implement capital improvement plans for levee improvements.

20.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 20-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

**Table 20-1
Natural Hazard Events 1975 to Present**

Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Local Area Disaster – Not Declared			
Extreme Weather/Coastal Flood		2005	
Extreme Lowland Weather Event		Feb. 5, 2017	

20.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

20.5.1 Regulatory Capability

The District has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

General Capabilities:

- District's Annual Capital Improvement Plan (CIP) supports projects that are identified in this plan update. The CIP is updated annually by the District and adopted by the Board of Commissioners in the fall of each year.
- RCW 85
- Skagit County Comprehensive Flood Hazard Management Plan – 1989
- Corps of Engineers Skagit County Flood Damage Reduction Study
- The Disaster Mitigation Act of 2000 requires state, tribal and local governments to develop a hazard mitigation plan as a condition of receiving certain types of non-emergency disaster assistance. The District's current approved Hazard Mitigation Plan Update supports the effort of this regulation and plan update.

20.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 20-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 20-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	District Commissioners
Planners or engineers with an understanding of natural hazards.	Yes	Skagit Drainage and Irrigation Consortium/Director
Staff with training in benefit/cost analysis.	No	
Personnel skilled or trained in GIS or Hazus use.	No	
Emergency Manager.	Yes	District Commissioners
Grant writers.	Yes	Skagit Drainage and Irrigation Consortium/Director
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?).	No	
Hazard data and information available to public.	No	
Specific equipment response plans.	No	
Specific operational plans.	No	
Water Shortage Contingency Plan.	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural disaster or safety related school programs?	No	
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		

Table 20-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Hazardous Vegetation Abatement Program	Yes	District Commissioners
Noxious Weed Eradication Program or other vegetation management	No	Part of maintenance plan
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Stream restoration program	No	
Erosion or sediment control program	Yes	District Commissioners and Skagit Drainage and Irrigation Consortium/Director
Address signage for property addresses	No	
Staff resources to make declarations and request assistance on all PL84-99 Skagit Levees and file Corps Reports		Dike District 3/ Dike District Partnership

20.5.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 20-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 20-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
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	

20.6 COMMUNITY CLASSIFICATION

The District's classifications under various hazard mitigation programs are presented in Table 20-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 20-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	No	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

20.7 HAZARD RISK AND VULNERABILITY RANKING

The District's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect District 5. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses.

Table 20-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.

- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 20-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Earthquake	3.65	Very High	All of the levees and critical facilities are located on liquefiable soil and could be impacted by an earthquake. While the probability of an earthquake is low, the impact could be large and failures to levees and other critical facilities could also result in flooding making response times and repairs difficult and delayed.
2	Flood	3.05	High	All of the levees and critical facilities are located within the floodplain and could be damaged during flood events
3	Severe Weather	3.05	High	The lower portions of the levees are located near Alice Bay and could be impact by coastal flooding, storm surge, waves and debris.
4	Tsunami	2.95	High	The lower portions of the levees are located within tsunami zones and would likely be damaged by a tsunami
5	Volcano/Lahar	2.35	Medium	Levees and critical facilities are located within lahar zone and would likely be damaged in the event of a lahar
6	Drought	2.35	Medium	Levees and critical facilities would not be impacted by drought
7	Landslide	1.70	Low	Levees and critical facilities are not located within landslide hazard areas
8	Wildfire	1.30	Low	Levees and critical facilities are not located within wildfire hazard areas

20.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

20.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 20-6 lists the action items/strategies that make up the district's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

Table 20-6 Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Inventory Non -L84-99 levees. Identify deficiencies and develop capital improvement plan; become eligible for grant funding, repair and improve levees to reduce the risk of flooding.									
existing	F	1, 8	District	Medium	Grant: General	Short term	no	prevention	local
INITIATIVE #2 Inventory Tidegate(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE # 3 Inventory Flood Return Structure(s). Replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	District/ Grants	Long term	no	structural	local
INITIATIVE #4 Conduct studies to identify and design additional flood return/tidegate structures. Improve flood return capacity to reduce the duration of flooding.									
new	F	1, 7, 8	County PW	Medium	County/ Grants	Long term	no	preventative	county
INITIATIVE #5 Inventory pump(s). replace/improve aging infrastructure to reduce the duration of upland flooding.									
existing	F	1, 8	District	Medium	Districts/ Grants	Long term	no	preventative	local
INITIATIVE #6 Develop a flood fight protocols manual. Make sure emergency contacts and protocols are in place for natural hazard events to improve response times									
new	F/SW/ TS	6, 7, 8, 9	District	Low	Grant	Short term	no	Emergency Services	local
INITIATIVE #7 Increase flood storage and change in timing at the SCL Ross Reservoir. Reduce flood risk and changes in the seasonality of flood events.									
existing	F	7, 8	US ACOE	Medium	Federal FERC	Long term	no	Prevention	County
INITIATIVE #8 Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local

**Table 20-6
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #9 Develop an evacuation plan for residents within the district. Reduce risk to residents from natural hazard events.									
new	F/SW/ TS	5, 6, 7	Skagit County DEM	Low	Grant	Short term	no	Education	Local
INITIATIVE #10 Construct seepage berms. Improve existing levee structural integrity to reduce the risk of flooding.									
existing	F	1, 8	District	Medium	District/ Grant	Short term	no	Structural	Local

20.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of different initiative types for each identified action item was conducted. Table 20-7 identifies the prioritization for each initiative.

**Table 20-7.
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 ^a
1	2	Medium	Medium	Yes	Yes	No	High
2	2	High	Medium	Yes	Yes	No	Medium
3	2	High	Medium	Yes	Yes	No	Medium
4	3	Medium	Medium	Yes	Yes	No	Medium
5	2	High	Medium	Yes	No	No	Medium
6	4	High	Low	Yes	Yes	No	High
7	2	Medium	Medium	Yes	No	No	Medium
8	3	High	Low	Yes	No	No	High
9	3	High	Low	Yes	Yes	No	High
10	2	High	Medium	Yes	No	Yes	High
a. See Chapter 1 for explanation of priorities.							

20.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

District 25 needs an evaluation their levees to better understand the risk and vulnerability of that system. District 25 will continue to work on comprehensive flood mitigation planning with Skagit County to identify additional flood return structure capacity or other improvements that are needed.

CHAPTER 21.

CONCRETE SCHOOL DISTRICT #11 ANNEX

21.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Concrete School District, a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the Concrete School District. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only.

21.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The Concrete School District followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, the Concrete School District also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Wayne Barrett, Superintendent 45389 Airport Way Concrete, WA 98237 Telephone: (360) 853-4000 e-mail Address: wbarrett@concrete.k12.wa.us	Primary Point of Contact	Provided information to planning team during plan development; presented plan to school board for review and adoption on completion of plan.
Paul Carter, Maintenance and Transportation Director 45389 Airport Way Concrete, WA 98237 Telephone: (360) 853-4071 e-mail Address: pcarter@concrete.k12.wa.us	Alternate Point of Contact	Meeting attendance, primary author of plan, capturing of information and validating data.
Danna Rogers, Business Manager 45389 Airport Way Concrete, WA 98237 (360) 853-4003 drogers@concrete.k12.wa.us	Planning Team	Provided information as needed in plan development; research and data capture. Attend internal planning team meetings.
Marla Reed, Nutrition and Transportation Director (360) 853-4035 mreed@concrete.k12.wa.us	Planning Team	Provided various information during process to planning team members for inclusion in plan; attended planning team meetings.

21.3 DISTRICT PROFILE

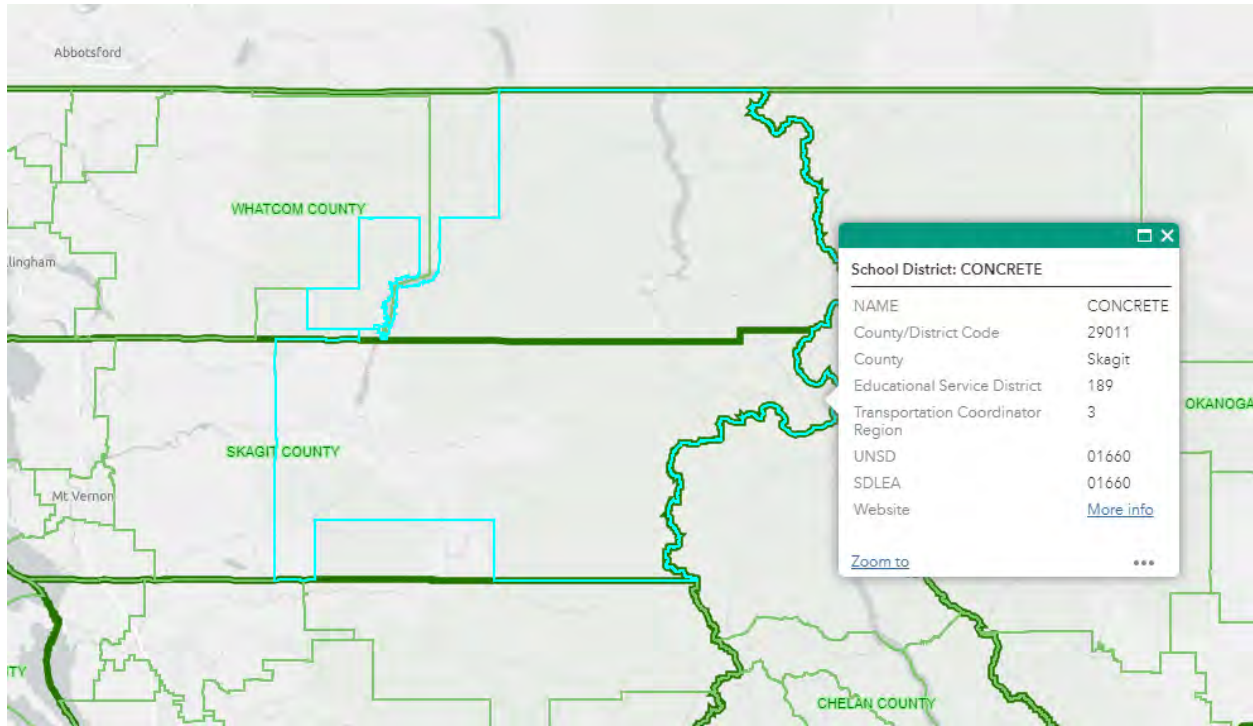
The Concrete School District was created in 1910 and is located in northwest Washington State. It is primarily in Skagit County with the district covering 1,916 square miles of eastern Skagit and Whatcom counties. The district's only incorporated town is Concrete with a population of roughly 714 people. It also includes the smaller communities of Birdview, Rockport, Marblemount, Newhalem, and Diablo. Since much of this is public federal and state lands the district boundaries only include approximately 5,143 people. The district has 36 certificated teachers. Concrete High School, which includes grades 7 through 12, has approximately 220 students. The grade school has approximately 300 students. In addition to the two schools, the district houses Head Start Preschool for approximately 20 students. It also offers a home school partnership program - Skagit River Schoolhouse - and an alternative high school - Twin Cedars High School. Other district staff includes 51 support staff. A five-member elected Board of Directors governs the District. The Board assumes responsibility for the adoption of this plan.

The following is a summary of key information about the district:

- **Governing Authority**— The district is governed by The Concrete School Board.
- **Population Served**—5,143 as of July 1, 2019
- **Land Area Served**—1916 sq. miles
- **Value of Area Served**—The estimated value of the area served by the district is \$716,200.
- **Land Area Owned**—45.82 acres
- **List of Critical Infrastructure/Equipment Owned by the District:**
 - 15 School Buses \$1,930,000
 - 3 Boiler Units \$600,000
 - 5 commercial ovens \$30,000
 - 1 walk-in freezer \$40,000
 - 1 walk-in refrigerator \$35,000
 - 2 reach in refrigerator \$7,000
 - 1 reach in freezer \$5,000
 - 2 commercial dish washers \$20,000
 - 1 tractor \$50,000
- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the district is \$2,717,000.
- **List of Critical Facilities Owned by the District:**
 - Concrete Elementary School \$10,347,000
 - Concrete High School/Gymnasium \$17,351,900
 - Concrete High School Tech. Bldg. \$2,079,300
 - Concrete Middle School \$4,052,200
 - Concrete Bus Garage \$510,200
 - Concrete Maintenance Shop \$114,000

- Concrete Weight Room \$304,400
- Concrete Grandstands/Concessions \$325,800
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the district is \$35,084,800.

The district’s boundaries are shown on the map provided below. It is within the blue outline.



21.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to Concrete School District.

21.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment is divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

21.5.1 Regulatory Capability

The District has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

School District Capabilities:

- Concrete School District Emergency Response Plan
- Concrete School District Capital facilities Plan is in progress.
- Concrete School District Five Year Maintenance Plan
- Concrete School District's Safety Committee
- All Federal, State, and local regulations and ordinances that apply to Concrete School District
- Operations plans or policies
- Employee Handbooks and Safety Manuals

General Capabilities:

- District's Annual Capital Improvement Plan (CIP) supports projects that are identified in this plan update. The CIP is updated annually by the District and adopted by the Board of Commissioners in the fall of each year.
- The Disaster Mitigation Act of 2000 requires state, tribal and location governments to develop a hazard mitigation plan as a condition of receiving certain types of non-emergency disaster assistance. The District's current approved Hazard Mitigation Plan Update supports the effort of this regulation and plan update.
- Specific incident response plans
- Operations plans or policies
- Employee Handbooks and Safety Manuals
- Mutual Aid Agreements
- Continuity of Operations Plan
- Continuity of Business Plan

21.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 21-1. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 21-1 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	No	

Table 21-1 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with an understanding of natural hazards.	No	
Staff with training in benefit/cost analysis.	Yes	Business Manager
Personnel skilled or trained in GIS or Hazus use.	No	
Emergency Manager.	Yes	Superintendent
Grant writers.	No	
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?).	No	
Hazard data and information available to public.	Yes	Technology Dept.
Specific equipment response plans.	No	
Specific operational plans.	No	
Water Shortage Contingency Plan.	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness? (E.g., CERT, SAR, Medical Reserve Corps, etc.).	No	
Organization focused on individuals with access and functional needs populations.	Yes	Special Education Dept.
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education).	No	
Natural disaster or safety related school programs.	Yes	
Public-private partnership initiatives addressing disaster-related issues.	Yes	Strategic Emergency Education Madlung & Jones LLC
Multi-seasonal public awareness program.	No	
Other	No	
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	No	
Noxious Weed Eradication Program or other vegetation management	Yes	Maintenance Dept.
Fire Safe Councils	No	

Table 21-1 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	No	
Stream restoration program	No	
Erosion or sediment control program	No	
Address signage for property addresses	Yes	Maintenance Dept.
Other		

21.5.3 Fiscal Capability

The assessment of the district's fiscal capabilities is presented in Table 21-2. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 21-2 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
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	

21.6 COMMUNITY CLASSIFICATION

The district's classifications under various hazard mitigation programs are presented in Table 21-3. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 21-3 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	No	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	NA	

21.7 HAZARD RISK AND VULNERABILITY RANKING

The district's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect the Concrete School District. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses.

Table 21-4 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

**Table 21-4
Hazard Risk and Vulnerability Ranking**

Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact (e.g., dollar loss, how it impacted structures, capability to provide services, etc.)
1	Earthquake	3.85	High	The entire planning area is susceptible to earthquakes. While all of the structures owned by the district fall within the “very low” liquefaction zone, all of the structures are dated, making them more susceptible to the EQ hazard.
2	Wildfire	3.15	Medium	While structures owned by the district have not been impacted by wildfire, the district’s response to wildfire events has increased over the last several years, potentially because of climate change and the drought which the entire state experienced in 2015, as well as the dries summer on record in 2017. While most of the buildings were constructed using concrete and brick the roofing and trusses are wood making them susceptible to fire.
3	Landslides/ Erosion	2.65	Medium	Located on a hill, the high school and elementary school are susceptible to land erosion/landslides.
4	Volcano	2.35	High	The impact from a volcano eruption could be catastrophic if the lahar flow were to reach the Concrete School District. It also poses a health hazard for the air quality.
5	Severe Weather	2.1	High	Severe storms can impact all of the District’s structures. Most structures included in this assessment were built in the 1950-1982 timeframe. Strong winds in the area could damage the facilities. Severe storms also impact response capabilities. Falling trees and flooded roadways impact ingress and egress. Snow, while customarily not of a long duration or significant amounts, also has the potential to impact response times, as well as increasing calls for service.
6	Flood/Dam	1.85	Medium	None of the district’s structures fall within either the 100- or 500-year floodplain.
7	Drought	1.75	Low	Droughts will increase the risk to wildfire and has the ability to limit water supplies needed to fight fires. The increase to wildfire danger could also impact the risk to the district’s structures.

21.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

21.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 21-5 lists the action items/strategies that make up the district's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

**Table 21-5
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Integrate the findings and action items in the mitigation plan into ongoing programs and practices for the district.									
New and Existing	All	1,2,3,4,5, 6,7,8,9	Principal, Entire School District	Medium	General Fund, Levy	Short-Term and Long-Term	Yes	Preventative Activities, Property Protection	Facility, Local
INITIATIVE #2 Review emergency and evacuation planning to incorporate hazard and risk information from the mitigation plan.									
Existing	All	1,5,6,8,9	Principal, Entire School District	Low	General Fund, Levy	Short-Term and Long-Term	Yes	Preventative Activities, Property Protection	Facility, Local
INITIATIVE #3 Consider natural hazards whenever citing new facilities and locate new facilities outside of high hazard areas.									
New	All	1,8	Facilities, Maintenance	Medium	Levy	Long-Term	Yes	Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Facility, Local, County, Region
INITIATIVE #4 Professionally evaluate hazard risks for the Elementary School, High School and portables. Implement measures on results as funding becomes available.									

**Table 21-5
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
Existing	All	4,8	Facilities, Maintenance	High	General Fund, Levy	Long-Term	Yes	Preventive Activities, Property Protection,	Facility, Local
INITIATIVE # 5 Maintain, update and enhance facility data and natural hazards data in the ICOS database.									
Existing	All	1,7,9	Facilities, Maintenance	Low	General Fund, Levy	Short-Term and Long-Term	Yes	Property Protection	Facility
INITIATIVE # 6 Develop and distribute educational materials regarding natural hazards, vulnerability and risk for K-12 facilities.									
Existing	All	1,2,3,4,5,6,7,8	Facilities, School Sites, District Office	Low	General Fund	Short-Term	Yes	Public Information	Facility, Local, County, Region
INITIATIVE # 7 Enhance emergency evacuation planning for all campuses for which hazards are possible.									
Existing	All	1,8,9	District Office, Facilities, School Sites	Low	General Fund	Short-Term and Long-Term	Yes	Preventive Activities, Emergency Services	Facility, Local, County,
INITIATIVE # 8 Post the district's mitigation plan on the website and encourage comments from stakeholders for the ongoing review and periodic update of the mitigation plan.									
Existing	All	1,4,5,7,8	Technology, Facilities, District Office	Low	General Fund	Short-Term and Long-Term	Yes	Public Information, Preventive Activities	Facility, Local

21.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 21-6 identifies the prioritization for each initiative.

Table 21-6 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 ^a
1	9	High	Medium	Exceed	No	Yes	High
2	5	High	Low	Exceed	No	Yes	High
3	2	Low	Low	Equal	Yes	Yes	Low
4	2	High	High	Equal	Maybe	Yes	Medium
5	3	Low	Low	Equal	No	Yes	Medium
6	8	High	Low	Exceed	No	Yes	High
7	3	High	Low	Exceed	No	Yes	High
8	5	Medium	Low	Exceed	No	Yes	Medium
a. See Chapter 1 for explanation of priorities.							

21.11 STATUS OF PREVIOUS PLAN INITIATIVES

Table 21-7 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

Table 21-7 Status of previous Hazard Mitigation Action Plan					
Mitigation Strategy	2019 Project Status	Current Status			
		Completed	Continual/Ongoing Nature	Removed/No Longer Relevant/No Action	Carried Over
Integrate the findings and action items in the mitigation plan into ongoing programs and practices for the district.	We have had an engineering company assess the school district for earthquake conformability. We are always trying to integrate the findings into old and new programs.		X		X
Review emergency and evacuation planning to incorporate hazard and risk information from the mitigation plan.	We are reviewing the emergency and evacuation plans to begin to update them with the information from the hazard mitigation plan.		X		X

Table 21-7 Status of previous Hazard Mitigation Action Plan					
		Current Status			
		Completed	Continual /Ongoing Nature	Removed /No Longer Relevant /No Action	Carried Over
Mitigation Strategy	2019 Project Status				
Consider natural hazards whenever siting new facilities and locate new facilities outside of high hazard areas.	New facilities have not been added since the inception of the latest mitigation plan.		X		X
Ensure that new facilities are adequately designed to minimize risk from natural hazards.	New facilities have not been added since the inception of the latest mitigation plan.		X		X
Maintain, update and enhance facility data and natural hazards data in the ICOS database.	This action was taken in 2018 and will continue to as needed.	X	X		X
Develop and distribute educational materials regarding natural hazards, vulnerability and risk for K-12 facilities.	The hazard mitigation plan was posted to the Concrete School District website.	X	X		X
Seek FEMA funding for repairs if district facilities suffer damage in a FEMA declared disaster.	Concrete School District has not suffered damage in a FEMA declared disaster		X	X	
Pursue pre- and post-disaster mitigation grants from FEMA and other sources.	Concrete School District has not suffered damage in a FEMA declared disaster, and has not utilized a pre disaster grant		X	X	
Post the district's mitigation plan on the website and encourage comments from stakeholders for the ongoing review and periodic update of the mitigation plan.	The districts mitigation plan was posted upon its inception. It was not reviewed until recently but remains up to date with its information.	X	X		X

CHAPTER 22. PUBLIC UTILITY DISTRICT #1 OF SKAGIT COUNTY ANNEX

22.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to Public Utility District No. 1 of Skagit County (Skagit PUD), a participating special purpose district to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by Skagit PUD. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only.



22.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

Skagit PUD followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County's Planning Team, Skagit PUD also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Jay Sedivy Safety & Risk Coordinator (360) 848-4475 sedivy@skagitpud.org	Primary Point of Contact	<ul style="list-style-type: none"> • EOC representative • LEPC participation • Emergency plan writing • Training coordination
George Sidhu General Manager (360) 848-4436 sidhu@skagitpud.org	Alternate Point of Contact	<ul style="list-style-type: none"> • EOC representative • Designated PUD I/C
Mike Fox Operations Manager (360) 848-4475 fox@skagitpud.org	Alternate Point of Contact	<ul style="list-style-type: none"> • EOC representative • LEPC participation
Jamie LeBlanc Water Treatment Plant Superintendent (360) 848-2132 leblanc@skagitpud.org	Alternate Point of Contact	<ul style="list-style-type: none"> • EOC representative • LEPC participation • WTP hazards (dam/chlorine release) plan writing
Kurt VanBurkleo Operations Project Coordinator (360) 848-4467 vanburkleo@skagitpud.org	Alternate Point of Contact	<ul style="list-style-type: none"> • EOC representative • LEPC participation • CERT member • WTP and Operations hazards plan writing

22.3 DISTRICT PROFILE

Skagit PUD is a special purpose district created in 1936 to provide utility services – primarily water – to portions of Skagit County where an existing municipality did not already provide such services. Skagit PUD provides water to the towns of Mount Vernon, Burlington, and Sedro-Woolley; the communities of Marblemount, Rockport, Conway; and several other areas in unincorporated Skagit County. As of 2019, Skagit PUD provides almost 9 million gallons of piped water to 65,000 people every day, maintains over 600 miles of pipelines and has over 31 million gallons of water storage. Skagit PUD has approximately 80 employees and funding comes primarily from rates and revenue bonds.

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

- **Governing Authority**— Skagit PUD is governed by a three-member elected Board of Commissioners.
- **Population Served**— Approximately 26,800 service connections providing water to almost 65,000 people.
- **Land Area Served**—Prescribed service area that includes all of Skagit County.
- **Value of Area Served**—The estimated value of the area served by the jurisdiction is difficult to know since the transmission and distribution system is laid out over vast quantities of property of varying values – including public rights-of-way with no taxable value known.
- **Land Area Owned**—1047.2 acres

Critical Equipment Owned	
Equipment	Value
1997 Caterpillar Excavator, #184	\$141,787.00
2012 John Deere Excavator, #247	\$122,065.00
2007 Caterpillar Backhoe, #224	\$90,893.00
2010 Caterpillar Backhoe, #238	\$87,612.00
Asphalt Hot Box, #251	\$79,258.00
2017 John Deere Compact Excavator	\$78,230.00
2000 Case Backhoe, #196	\$72,404.00
2017 Excavator	\$72,102.00
200 kW Generator, #223	\$64,921.00
1994 Case Backhoe, #165	\$64,785.00
1992 Case Backhoe, #144	\$54,108.00
1993 Sellick Forklift, #157	\$47,357.00
2008 Toyota Forklift, #228	\$35,404.00
1997 Portable Water System, #303	\$27,268.00
1993 John Deere Tractor/Loader, #99	\$22,467.00
1995 Leeboy Asphalt Paver, #175	\$21,438.00

Critical Equipment Owned	
Equipment	Value
Portable Lighting System (5)	\$11,280.00
1997 Truck Crane, #186	\$6,179.00
1990 Grove Manlift, #187	\$6,179.00
2018 18' Aluminum Boat w/Electric Motor	\$4,780.00
TOTAL VALUE	\$1,172,368.00.

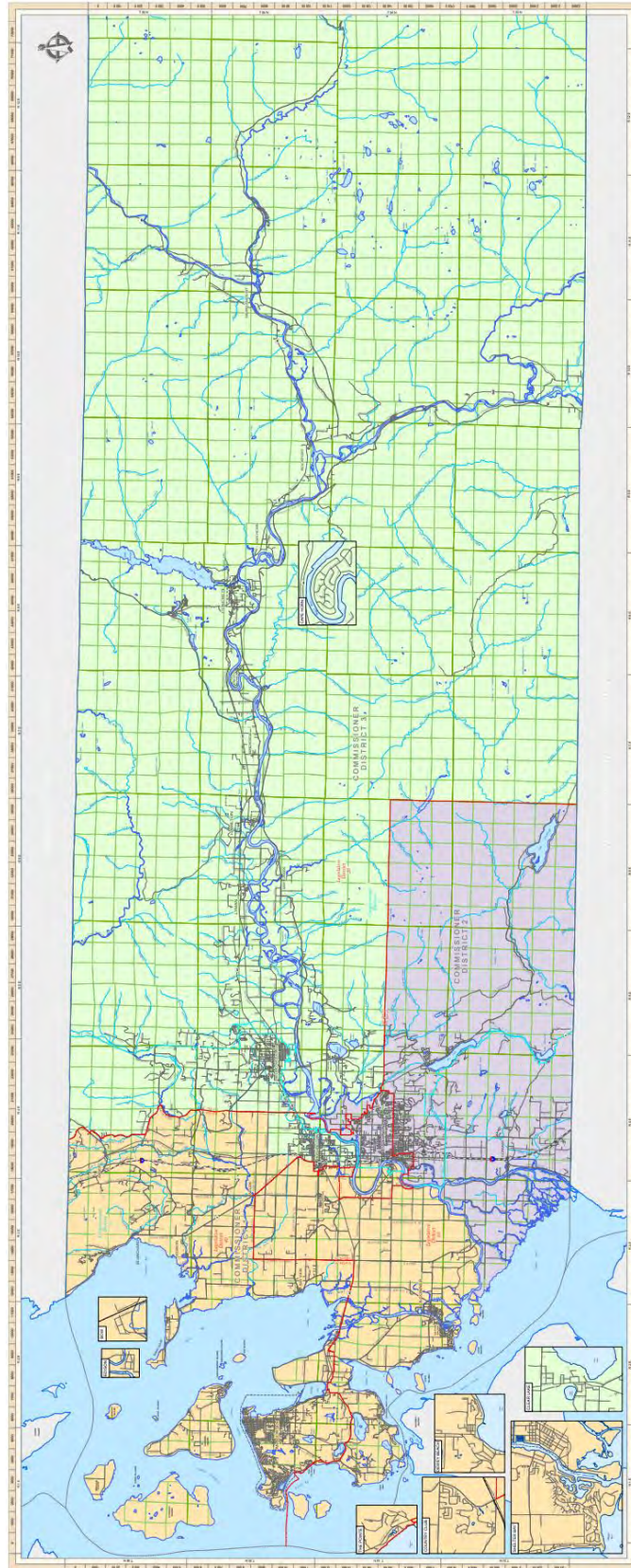
Critical Infrastructure/Facilities Owned	
FACILITY	VALUE
Water Treatment Plant, Lagoons and Waste Containment System	\$44,670,236.00
Judy Reservoir A and B Dams	\$44,613,983.00
Skagit River Diversion	\$28,539,480.00
Main Campus	\$8,695,838.00
Division St. Reservoir and Pump Station	\$8,576,728.00
Judy Reservoir (impoundment property and shoreline), Clear Well Reservoirs and Pump Station	\$8,308,119.00
9 th & Highland Reservoir	\$2,538,797.00
Eaglemont Reservoir and Standpipe	\$2,316,414.00
Bayview Ridge Reservoir	\$1,966,900.00
Dukes Hill Reservoir	\$1,892,309.00
Sinnes Reservoirs (2) & Pumphouse	\$1,341,202.00
Skagit River Crossing Structure	\$1,339,658.00
Tinas Coma Reservoir	\$888,667.00
Gilligan Creek Watershed and Intake	\$762,716.00
Marblemount Reservoir	\$761,277.00
Fidalgo Heights Reservoir	\$686,481.00
Potlatch Reverse Osmosis Facility	\$594,099.00
Buchanan Hill Reservoir	\$542,699.00
Cascade Ridge Reservoirs and Lift Stations (3)	\$536,938.00
Bow Hill Reservoir	\$527,981.00
Bayview Standpipe	\$510,880.00
Saratoga Passage Reservoir	\$463,290.00

Critical Infrastructure/Facilities Owned	
FACILITY	VALUE
East Big Lake Reservoirs (2)	\$462,961.00
Skagit View Village Reservoir	\$449,085.00
Cedargrove Reservoir	\$423,071.00
Little Mountain Reservoir	\$308,131.00
Deception Ave. Reservoirs (2)	\$292,215.00
Salmon Creek Watershed and Intake	\$282,349.00
West Big Lake Reservoir	\$264,787.00
Hoogdal Reservoir	\$226,897.00
Bulson Reservoir and Booster Station	\$221,975.00
Rhodes Rd. Pressure Regulating Station	\$220,753.00
Bow Hill Booster Station	\$218,184.00
Summit Park Reservoir	\$217,333.00
Ranney Well and Pumphouse	\$214,289.00
North Hill Pressure Regulating Station	\$196,941.00
Alger Well and Reservoir	\$196,839.00
Western Lane Transmission Line Property	\$194,000.00
Rockport Reservoir	\$192,967.00
Nookachamps Reservoir	\$177,141.00
Sinnes West Pumphouse	\$174,914.00
Kulshan Trail Pressure Regulating Station	\$150,342.00
Lake Sixteen Standpipe	\$145,662.00
Hermway Heights Reservoir	\$130,960.00
Gardner Road Pressure Regulating Station	\$122,138.00
District Line Road Regulating Station	\$120,766.00
Lake McMurray Booster and Pressure Regulating Station	\$117,366.00
Mundt & Turner Creek Watersheds and Intakes	\$88,633.00
Similik Beach Reservoir	\$87,597.00
Fredonia Pressure Regulating Stations	\$87,180.00
Little Mountain Booster Station	\$85,713.00
Old Day Creek Road Meter Vault	\$77,760.00
Old Day Creek Road Pressure Regulating Station	\$76,200.00
Nelson St. Pressure Regulating Station	\$67,264.00

Critical Infrastructure/Facilities Owned	
FACILITY	VALUE
Skagit View Village Pumphouse	\$64,910.00
Gibraltar Booster Station	\$64,519.00
Judy Reservoir Boat House	\$55,990.00
Rockport Pumphouse	\$41,131.00

- **Total Value of Critical Infrastructure and Facilities**—The total value of critical facilities (\$40,000 or more) owned by the jurisdiction is approximately \$167,486,113.00. This value includes market value for property and basic structures; and the insurable value of contents as of July 2019. Some values are derived from appraisals completed in 1998 and adjusted to current values.
- **Current and Anticipated Service Trends**—The Washington Office of Financial Management (OFM) expects a 16% growth of the population of Skagit County between 2018 and 2025. Skagit PUD continually assesses its water treatment plant and water distribution system to meet future growth trends.
- **Water Main Piping** – The District owns and maintains approximately 640 miles of piping valued at an average of \$1.32 million per mile for a total value of approximately \$847.7 million. These pipes vary in size and duty and are generally part of the build or connection between pieces of critical infrastructure listed in the previous table. Losses to any section of the water main system would be critical in terms of loss of function. The District is working on projects that build redundancy and allow isolation and bypass of damaged pipe sections or provide alternate means to provide water flow.

Skagit PUD's boundaries are shown on in the map on the next page. The jurisdiction coincides with the borders of Skagit County and is further divided into three Commissioner Districts, which are the same as the County Commissioner Districts.



22.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of regional planning, it was determined that there are hazards which are unique to Skagit PUD. Severe weather, as a rarely declared natural event, has a particularly detrimental effect on the ability to treat and deliver water when power is interrupted. Table 22-1 lists past occurrences which have impacted Skagit PUD where data is available. If available, dollar loss data is also included. Two hazards that are considered low likelihood but that are unique to Skagit PUD's operations are dam breaches at Judy Reservoir, and the release of chlorine gas at the water treatment plant. Details regarding those events are captured in Section 1.11.

Table 22-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Flood	DR-1817	2009	\$137,428.00
Flood	DR-1671	2006	\$1,350,000.00
Floods	DR-852	1990	Unknown
	DR-883		
	DR-896		
Flood	DR-492	1975	Unknown
Local Area Disaster – Not Declared			
Severe Weather		12/20/18	Unknown
Severe Weather		11/26 - 11/27/18	Unknown
Severe Weather		10/31/18	Unknown
Severe Weather		11/13/17	Unknown
Severe Weather		10/18 – 10/20/17	Unknown
Severe Weather		10/14 – 10/18/16	Unknown
Severe Weather		3/10 – 3/13/16	Unknown
Flood		2003	Unknown
Flood		1995	Unknown

22.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to

preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

22.5.1 Regulatory Capability

Skagit PUD has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing regulations are applicable to this hazard mitigation plan:

- Safe Drinking Water Act of 1974, as amended, enforced by US Environmental Protection Agency and Washington Department of Ecology
- Clean Water Act of 1972, as amended, enforced by US Environmental Protection Agency and Washington Department of Ecology
- Washington State Environmental Policy Act (SEPA) of 1971, as amended, enforced by Washington Department of Ecology
- Bioterrorism Preparedness and Response Act of 2002, as amended, enforced by the US Department of Homeland Security
- State of Washington Title 57 RCW, Water-Sewer Districts
- Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986, as amended, enforced by the US Environmental Protection Agency and Washington Department of Ecology
- Washington State Building Codes
- WAC 296-67, Safety Standard for Process Safety Management of Highly Hazardous Chemicals, applies to the covered processes of water chlorination using quantities of chlorine gas in excess of 1,500 pounds, focuses on reducing occupational exposures
- Skagit PUD Hazard Identification and Vulnerability Assessment, 2003
- Skagit PUD Emergency Response Plan, 2019
- Skagit PUD Water System Plan, 2013, houses the Capital Improvement Plan (CIP)
- Skagit PUD Capital Improvement Plan (CIP), supports projects to build resiliency into the system infrastructure and replace aging system components and facilities on a strategic and scheduled basis.
- Skagit PUD, Water Treatment Plant Chlorine Release Standard Operating Procedure, 2019, outlines the initial actions plant operators must take to limit the damage done by a release of chlorine gas at the treatment plant
- Skagit PUD, Judy Reservoir Emergency Action Plan, 2019, outlines the recognition and actions expected when failures in the two earthen dams that impound Judy Reservoir are detected
- Skagit PUD has an existing written safety and health plan
- Skagit PUD participates in the Water/Wastewater Agency Response Network (WAWARN) is a collaborative effort between government and private sector critical infrastructure partners with a goal of near real-time information sharing to help protect regional/national infrastructures, communities, and the public.
- Skagit PUD participates in the Washington State Fusion Center, which supports public safety and homeland security missions of state, local, tribal agencies, and private sector entities.
- Skagit PUD maintains emergency interties with the City of Anacortes water system.

22.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 22-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 22-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	Engineering
Planners or engineers with an understanding of natural hazards.	Yes	Engineering & Operations
Staff with training in benefit/cost analysis.	Yes	All Departments
Personnel skilled or trained in GIS or HAZUS use.	Yes	Engineering
Emergency Manager.	Yes	Administration & Operations
Grant writers.	No	
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?).	Yes	Operations
Hazard data and information available to public.	Yes	Operations
Specific equipment response plans.	Yes	Operations
Specific operational plans.	Yes	Operations
Water Shortage Contingency Plan.	Yes	Operations
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	Community Relations
Natural disaster or safety related school programs?	No	

Table 22-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other	N/A	
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	Engineering & Operations
Noxious Weed Eradication Program or other vegetation management	No	
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	No	
Stream restoration program	No	
Erosion or sediment control program	No	
Address signage for property addresses	Yes	Operations
Other	N/A	

22.5.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 22-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 22-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
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	Unknown
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	No

Table 22-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other	N/A

22.6 HAZARD RISK AND VULNERABILITY RANKING

Skagit PUD has reviewed the hazard list identified within the Base Plan and have identified the hazards that have the potential to have the most affect. Additional factors were considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, among others. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses.

Table 22-4 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The ranking is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 22-4 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Earthquake	3.85	Extremely High	Widespread disruption of water distribution infrastructure is highly likely. Long repair and recovery times. Possible damage to intake, distribution and all treatment facilities.
2	Severe Weather	3.25	Medium	Limited damage to infrastructure due to underground facilities. Limited impact during long power disruptions lasting less than 48 hours. Weather events lasting longer than 48 hours can potentially have a serious impact on ability to treat water due to power loss.
3	Landslide or Erosion	3.10	Medium	Localized catastrophic damage to distribution infrastructure.
4	Flood or Dam Breach	3.05	High	Direct damage to major intake, distribution and satellite treatment facilities. Widespread major damage to underground distribution facilities is possible. Skagit PUD infrastructure tends to be low-lying and more susceptible to damage than the County CPRI score indicates. Dam breaches at the Judy Reservoir would be very unlikely and would likely be a result of a precipitating event such as an earthquake. Shape files indicate severe flooding to Sedro-Woolley and several smaller communities.

Table 22-4 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
5	Wildfire	3.05	Medium	Damage and disruption to system due to wildfire is expected to be minimal, except in the Cultus Mountains watersheds that supply the majority of the water for the District. Increased fire flow demands can strain the distribution system if suburban or mixed density residential zones are affected by wildfires. If wildfires were to also disrupt power supply, the water treatment plant would struggle and perhaps fail to treat enough water to meet demands.
6	Tsunami	2.55	Medium	Low-lying infrastructure in tsunami zones is minimal, expected damage correspondingly minimal.
7	Drought	2.55	Medium	Increased demands on distribution system cause widespread economic impacts and stress aging distribution systems as they attempt to keep up with demand. Skagit PUD infrastructure is aging and was built with little scalability to keep up with demands, increasing stress on system during droughts.
8	Volcano	2.35	High	Localized damages to satellite system infrastructure possible. Major infrastructure along Skagit River in direct path of Mount Baker lahar.
9	Chlorine Gas Release	1.90	Medium	Likelihood and impact of chlorine release at treatment plant is very small. Would likely be precipitated by another event such as an earthquake.

22.7 MITIGATION GOALS AND OBJECTIVES

Skagit PUD adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

22.8 HAZARD MITIGATION ACTION PLAN

The Planning Team for Skagit PUD identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 24-5 lists the action items/strategies that make up Skagit PUD's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside Skagit PUD), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

**TABLE 22-5
HAZARD MITIGATION ACTION PLAN MATRIX**

Applies to new or existing assets	Hazards Mitigated	Object ives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1: improve emergency survivability for water treatment plant staff in event of chlorine release									
Existing	Chlorine release	1,7,8	Safety & Operations	\$6000	Operating funds	Short term	N/A	Recovery, Preventative Activities	Facility, Local, County
INITIATIVE #2: improve community notification process using a reverse 911 service such as CodeRed for -specific emergencies, possibly in concert with Skagit County 911 Center									
Existing	All	1,5,7, 8,9	Safety & Operations	Low	Operating funds	Short term	N/A	Public Information, Preventative Activities, Property Protection, Emergency Services, Recovery	Facility, Local, County, Region
INITIATIVE #3: conduct risk and resiliency assessment; update and strengthen and consolidate all Skagit PUD emergency response plans in response to new EPA rules in concert with City of Anacortes									
Existing	All	1,5,7, 8,9	Safety & Operations	Medium	Operating funds	Short term	N/A	Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Facility, Local, County, Region
INITIATIVE #4: assess ability to incorporate earthquake resiliency engineering (specialized shut off valves, flexible fittings, etc.) into water distribution infrastructure built near or across known fault lines									

**TABLE 22-5
HAZARD MITIGATION ACTION PLAN MATRIX**

Applies to new or existing assets	Hazards Mitigated	Object ives Met	Lead Agency	Estimated Cost (High/ Medium/ Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
New	Earthquake Landslide	1,7,8, 9	Safety & Engineering	High	Unknown	Long term	N/A	Preventive Activities, Structural Projects, Property Protection	Facility, Local, County, Region
INITIATIVE #5: Outfit Division Street facility as a temporary EOC									
Existing	All	1,7,8, 9	Admin., Operations & Safety	Medium	Operating funds & Grants	Short term	N/A	Preventative Activities, Structural Projects, Property Protection, Recovery, Natural Resource Protection	Facility, Local, County, Region
INITIATIVE #6: outfit water treatment plant with emergency generator that is capable of more securely powering plant when power is lost during localized and widespread emergency situations, with some consideration for system capacity growth and process innovation									
Existing	All	1,7,8, 9	Admin., Operations & Safety	High	Grants	Long term	N/A	Preventative Activities, Structural Projects, Property Protection, Recovery, Natural Resource Protection	Facility, Local, County, Region
INITIATIVE #7: investigate and assess the treatment process and the water treatment plant facility to determine if current facility and process need to be strengthened or replaced - with elimination of the use of chlorine gas and structural improvements as possible goals									
Existing	Chlorine release, earthquake	1,7,8, 9	Admin., Engineering, Operations & Safety	Medium	Operating funds	Long term	N/A	Preventative Activities, Structural Projects, Property Protection, Recovery, Natural Resource Protection	Facility, Local, County

**TABLE 22-5
HAZARD MITIGATION ACTION PLAN MATRIX**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #8: Investigate possible elimination of the wet chlorine gas scrubber and replacement with existing dry caustic scrubber from the City of Anacortes to replace it									
Existing	Chlorine release	1,7,8,9	Admin., Engineering, Operations & Safety	High	Operating funds	Long term	N/A	Preventative Activities, Structural Projects, Property Protection, Recovery, Natural Resource Protection	Facility, Local, County

22.9 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 22-6 identifies the prioritization for each initiative.

Table 22-6. 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 ^a
1	3	High	Low	Yes	Unknown	Yes	High
2	5	High	Low	Yes	Unknown	Yes	High
3	5	Medium	Medium	Yes	Unknown	Yes	High
4	4	Medium	Low	Yes	Unknown	Unknown	Medium
5	5	Medium	Low	Yes	Yes	Yes	High
6	4	High	Medium	Yes	Yes	Yes	Medium
7	4	Medium	Medium	Yes	Unknown	Yes	Medium
8	4	Medium	Medium	Yes	No	Yes	Low
a. See Chapter 1 for explanation of priorities.							

CHAPTER 23.

SWINOMISH INDIAN TRIBAL COMMUNITY ANNEX

23.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Swinomish Indian Tribal Community (SITC), a participating tribe to the Skagit County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by SITC. For planning purposes, this Annex provides additional information specific to the tribe, with a focus on providing greater details on the risk assessment and mitigation strategy for this community only.

Assurances

Full implementation of the recommendations of this plan will require time and resources. This plan reflects an adaptive management approach in that specific recommendations and plan review protocols are provided to evaluate changes in vulnerability and action plan prioritization after the plan is adopted. The true measure of the plan's success will be its ability to adapt to the ever-changing climate of hazard mitigation. Funding resources are always evolving, as are programmatic changes based on new mandates. The Swinomish Tribe has a long-standing tradition of proactive response to issues that may impact its members. The Tribe is forward thinking and strives whenever possible to improve the lives of its members, and the residents living on tribal lands. This tradition is further reflected in the development of this plan, as it is not an easy task to accomplish.

The Tribal Emergency Management Council (TEMC) will assume responsibility for adopting the recommendations of this plan and committing tribal resources toward its implementation. The framework established by this plan will help identify a strategy that maximizes the potential for implementation based on available and potential resources. It commits the Tribe to pursue initiatives when the benefits of a project exceed its costs. Most importantly, the Tribe developed this plan with community input. These techniques will set the stage for successful implementation of the recommendations in this plan.

As established within 44 CFR 13.11(c), the Swinomish Indian Tribal Community will continue to comply with all applicable federal statutes and regulations in effect, including those periods during which the Tribe receives grant funding. In compliance with 44 CFR 13.11(d), the Tribe, whenever necessary, will reflect new or revised federal statutes or regulations, or any material changes in tribal policy or operation. It is understood that the Tribe will submit those amendments for review and approval in coordination with FEMA Region VI.

Plan Implementation and Maintenance

The effectiveness of the hazard mitigation plan depends on its implementation and incorporation of its action items into existing local plans, policies, and programs. Together, the action items in the Plan provide a framework for activities that the Swinomish Indian Tribal Community can implement over the next 5 years. The Planning Team has established goals and objectives and has prioritized mitigation actions that will be implemented through existing plans, policies, and programs. Implementation of the long-term and short-term objectives/goals will be dependent on securing funding for each of the strategies identified in the plan. The Tribe will actively pursue a variety of funding opportunities identified in the various plans and prioritized by the various departments and programs under the direction of Tribal Senate.

The Emergency Manager will have lead responsibility for overseeing the Plan implementation and maintenance strategy for the Tribe as identified in the Volume 1 of the Base Plan. Plan implementation and evaluation will be a shared responsibility among all departments and agencies identified as lead agencies in the mitigation action plan as they relate to the Tribe.

The implementation of all short-term mitigation actions will primarily be monitored by the Emergency Manager on an ongoing basis until implementation is complete, unless identified otherwise. Long-term actions being actively implemented will be monitored on an ongoing basis, or at least annually as needed. Long-term actions planned for the future will be reviewed during plan updates every five years.

The system for reviewing progress on achieving goals, objectives, and specific actions included in the mitigation strategy will be based on a progress report of all objectives and actions referenced in the Plan Maintenance Section of the Skagit County HMP Base Plan, Volume 1. As it relates to the Tribe, this progress report will be reviewed annually by the Emergency Manager. Progress on mitigation actions will be described in an annual report to the Tribal Council and in the five-year update of the Hazard Mitigation Plan.

Project Tracking

In addition to the work products described in approved work plans for projects funded by the Pre-Disaster Mitigation Program, the Hazard Mitigation Grant Program, the Flood Mitigation Assistance Program, or other grant programs, quarterly or semi-annual (depending on reporting requirements of funding agencies) performance reports that identify accomplishments toward completing the work plan commitments, a discussion of the work performed for all work plan components, a discussion of any existing or potential problem areas that could affect project completion, budget status, and planned activities for the subsequent quarter (and/or annual and/biannual basis depending on the funding agency requirements and Tribal regulations) will be submitted to the funding agency by the assigned Project Manager and Grant Coordinator. The agency-specific final grant closeout documents will also be prepared by the Project Manager and Grant Coordinator at the conclusion of the performance period and submitted to the funding agency.

Hazard Mitigation Plan Requirements for Indian Tribal Governments

Hazard mitigation planning requirements for Indian tribal governments were consolidated and clarified when the U.S. Federal Emergency Management Agency (FEMA) amended Title 44 of the Code of Federal Regulations (44 CFR; Section 201). Amendments were made in recognition of the status of tribal sovereignty and the government-to-government relationship between FEMA and Indian Tribal Governments. They established a protocol for tribal hazard mitigation plans, allowing such plans to be separate from state and local mitigation plans, or providing the opportunity for the tribe to elect to be part of a multi-jurisdictional local plan. Tribal hazard mitigation plan requirements differ from local hazard mitigation plan requirements and are more like the requirements for a state-level type plan.

This hazard mitigation plan for the Swinomish Tribe was developed under those guidelines. The federal statutes define *Indian Tribal Government* as “any Federally recognized governing body of an Indian or Alaska Native tribe, band, nation, pueblo, village, or community that the Secretary of Interior acknowledges to exist as an Indian Tribe under the Federally Recognized Indian Tribe List Act of 1994, 25 U.S.C. 479(a)” (44 CFR 201.2). This does not include Alaska Native corporations when the ownership is vested in private individuals.

This plan is also written with the intent to allow the Tribe to seek Presidential Declarations separate from the County, should it elect to do so. As such, requirements to achieve this goal are also included within this planning effort.

Public Defined

For these planning purposes only, as the SITC was part of the Skagit County multi-jurisdictional plan, the SITC elected to define “public” as being inclusive of all planning partners, the surrounding local communities, local tribes, Washington State and Federal agencies, and relevant non-governmental organizations; however, discussions concerning culturally significant locations and structures remained confidential, occurring only within the identified internal planning team members made up of Tribal membership, Tribal government, and Tribal employees. The Tribal Senate maintains final authority on any and all decision-making related to this plan, its contents, and application as it relates to the SITC.

23.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The Swinomish Indian Tribal Community followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, SITC also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Keri Cleary 11430 Moorage Way La Conner, WA 98257 360-466-7316 360-739-8653 kcleary@swinomish.nsn.us	Primary Point of Contact-Senior Planner/Project Manager	POC for updates and creation of planning documents. FEMA claims, technical assistance as needed/requested by the emergency manager in day to day operations and during events.
Jim Sande 17557 Front Street La Conner, WA 98257 360-466-3311 jsande@swinomish.nsn.us	Alternate Point of Contact-Emergency Manager	Assist primary POC in duties related to Hazard Mitigation planning efforts.
Kevin Anderson 11430 Moorage Way La Conner, WA 98257		Assist public safety and spill response coordination.
Jake Tully, 11430 Moorage Way La Conner WA 98257 360-466-7383 jtully@swinomish.nsn.us	GIS Coordinator	Data Analysis, GIS, Mapping
Scott Andrews 11430 Moorage Way La Conner WA 98257 sandrews@swinomish.nsn.us	Environmental Compliance Manager	Climate Resiliency

Tracy Donahue		Health
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23.3 TRIBAL PROFILE

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

- **Date of Federal Recognition**—Point Elliott Treaty of 1855-January 22nd, 1855
- **Current Enrollment** —997 as of 2018
- **Population Living on Reservation - 3148**
- **Population Growth**—WA Tract 53057940800; The estimated population for 2024 is 3255. This is an annual rate change of 0.67% per ESRI data.
- **Location and Description**—The Swinomish Reservation is located in northwestern WA State in Skagit County. The reservation 's western boundary follows a north-south line between Fidalgo and Similk Bay and the eastern boundary follows the Swinomish Channel

Brief History—The Swinomish Reservation is home to a community of Coast Salish peoples that descended from tribes and bands that originally lived in the Skagit and Samish River Valley, the coastal areas surrounding Skagit, Padilla, and Fidalgo bays, Saratoga Passage, and numerous islands including Fidalgo, Camano, Whidbey, and the San Juan Islands. For thousands of years, these Coast Salish tribes maintained a culture centered around abundant saltwater resources that included salmon, shellfish, and marine mammals, as well as upland resources such as cedar, camas, berries, and wild game. They lived in large villages during the winter and in summer encampments that followed the seasonal cycle of resources gathering; from the mouths of rivers and streams where salmon were abundant and coastal shorelines where shellfish and herring and other forage fish could be found, to the fin fish and sea mammals inhabited marine waters and inland forests where wild game and berries were harvested. Four major groups and their allied bands-the Aboriginal Swinomish, Lower Skagit, Kikiallus, and Aboriginal Samish Tribes—signed the Treaty of Point Elliott with the United States in 1855 and reserved the southeast peninsula of Fidalgo Island for their Reservation and future use.

- **Climate**—In October of 2007 the Swinomish Indian Senate issued a Proclamation directing action to respond to climate change challenges. The Proclamation acknowledged the potential for issues and impacts in the vicinity of the Swinomish Indian Reservation and directs tribal departments and staff to undertake efforts and studies for promoting long-term proactive action. The Tribe continues to work with regional and federal partners expanding their work in combating the impacts of increased severe weather related impacts to the region.
- **Governing Body Format**— The Tribe is federally recognized and operates under Constitution and By-laws adopted in 1936 pursuant to the Indian Reorganization Act of 1934, and as most recently amended and ratified by the Tribe on May 23, 2017, and approved by the Secretary of Interior on July 7, 2017. The Swinomish Tribe, led by the Tribal Chairman, is governed by an eleven-member senate that is elected by the Swinomish people. They serve five-year, staggered terms. The mission of the Senate is to protect and enhance the quality of life for the Swinomish members by providing a combination of economic opportunity and safety net of social services; To protect the culture and traditional practices of the Swinomish people; To respect and protect the spirit of tribal ancestors and generations to come; To exercise the powers of self-government secured by the Treaty of Point Elliott; To protect and preserve the Swinomish Reservation homeland; to protect treaty rights both on and off the Swinomish Reservation; And

to provide a safe and healthy environment for everyone living on the Swinomish Reservation and participating in the Swinomish Activities.

- **Development Trends**—SITC has a long history of co-land management with Skagit County. The Tribe continues to work on various development and implementation plans for economic and governmental services growth including but not limited to site development and infrastructure improvements. Additionally, the Tribe continues to work towards purchasing back lands that were lost from trust on the reservation under federal allotment policies prior to 1934 and increase housing stock on the reservation for tribal members.
- **Cultural Resources or History** – SITC has a Tribal Historic Preservation Department that is tasked with providing consultation and monitoring of all development activities on and off the reservation that can impact the Tribe’s usual and accustom (U&A) areas SITC staff works with various state, federal and regional agencies to ensure the protection of historic and culturally significant resources.
- **Economy** – The Swinomish Indian Tribal Community’s economic base consists of traditional fishing and shellfish harvesting, as well as the Swinomish Casino & Lodge, three fueling stations(C-Stores), Salish coast cannabis, Swinomish Shellfish Company, Swinomish RV park, Thousand Trails RV Park, Latitude Marine, Dunlap Towing, Swinomish Golf links, and the didg’wálic Wellness Center. The Tribe is one of the five largest employers in Skagit County with over 292 employees in tribal government and over 450 employees in the casino and other economic enterprises. The tribal boundaries are identified in the map below.

The tribal boundaries are identified in the maps below.

23.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined there are hazards which are unique to the tribe as follows. Table 23-1 lists all past occurrences of hazard events within the tribe’s boundary. If available, dollar loss data is also included.

Table 23-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Winter Storm & Flood	1817-DR-WA		\$6,103.59
Severe Storm	1825-DR-WA		
Local Area Disaster – Not Declared			
Landslide	Pioneer Parkway, Swinomish Reservation	12/19/2017	
Landslide	Pioneer Parkway, Swinomish Reservation	September 2019	
Tidal surge	Ray Paul Tracts/Snee-Oosh Beach Area	2/5/2018	

**Table 23-1
Natural Hazard Events**

Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Multiple Windstorms		2005-2016	
McGlinn Island Fire		2016	
Shelter Bay Marina Fire		2014	

23.5 CAPABILITY ASSESSMENT

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the tribe's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: National Flood Insurance Information; regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

23.6 NATIONAL FLOOD INSURANCE PROGRAM (NFIP)

The National Flood Insurance Program is described in detail in the base plan, with specific information contained within Flood Hazard Chapter Profile. Beyond the standard NFIP data required at the local level, in order to obtain direct presidential disaster declaration, the Tribe must also establish a severe repetitive strategy to address repetitively flooded structures.

Repetitive Flood Claim Programs

Repetitive flood claim programs provide funding to reduce or eliminate the long-term risk of flood damage to structures insured under the NFIP that have had one or more claim payments for flood damages.

Severe Repetitive Loss Program

The severe repetitive loss program is authorized by Section 1361A of the National Flood Insurance Act (42 U.S.C. 4102a), with the goal of reducing flood damages to residential properties that have experienced *severe* repetitive losses under flood insurance coverage and that will result in the greatest savings to the NFIP in the shortest period of time. A severe repetitive loss property is a residential property that is covered under an NFIP flood insurance policy and:

- a) That has at least four NFIP claim payments (including building and contents) over \$5,000 each and the cumulative amount of such claims payments exceeds \$20,000; or
- b) For which at least two separate claims' payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.

For both (a) and (b) above, at least two of the referenced claims must have occurred within any 10-year period and must be greater than 10 days apart.

A Tribe may request the reduced cost share authorized under [§79.4\(c\)\(2\)](#) for the Flood Mitigation Act (FMA) and SRL programs, if it has an approved tribal mitigation plan meeting the requirements of this section that also identifies specific actions the Tribe (and State) have taken to reduce the number of repetitive loss properties (which must include severe repetitive loss properties), and specifies how the Tribe (and State) intend to reduce the number of such repetitive loss properties. In addition, the plan must describe the strategy the Tribe (and State) have in ensuring that local jurisdictions with severe repetitive loss properties will take actions to reduce the number of these properties, including the development of this hazard mitigation plan.

Severe Repetitive Loss Strategy

Within the State of Washington, the State's Repetitive Loss Strategy identifies specific actions the State has taken to reduce the number of repetitive loss properties, which include severe repetitive loss properties. The strategy also specifies how the State intends to reduce the number of such repetitive loss properties. In addition, the State's Enhanced Hazard Mitigation Plan describes the State's strategy to ensure that local jurisdictions with severe repetitive loss properties take actions to reduce the number of these properties, including the development of local hazard mitigation plans.

In an effort to identify and develop a Severe Repetitive Loss Strategy which will ultimately help reduce the impact of flood events on the Tribe, the Tribe will work with the State of Washington in a manner to ensure consistent application of the flood strategy to not only support state efforts with respect to addressing repetitive flood loss properties, but also in helping to reduce the flood risk to properties owned by the Tribe. This will include prioritization of mitigation projects which relate to flood hazards and incidents occurring within the Tribal Planning Area for which the Tribe either maintains responsibility or works with the local jurisdictions in efforts to remedy flood situations.

Once the Tribe has developed its own Administrative Plan as required under the policy, the Tribe may also elect to sponsor local jurisdictions falling within the Tribal Planning Area to pursue grant funds, following a prioritization process for those projects which is similar to the State's process. Realizing that an element of eligibility for the FMA funds is to provide some level of funding contribution.

Additional information on the Tribe's National Flood Insurance Program (NFIP) compliance is presented in Table 23-2. This identifies the current status of the tribe's involvement with the NFIP. As indicated, the Tribe currently is not enrolled in the NFIP.

Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 0
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

Table 23-2 National Flood Insurance Program Compliance	
What department is responsible for floodplain management in your community?	N/A
Who is your community's floodplain administrator? (department/position)	N/A

Table 23-2
National Flood Insurance Program Compliance

Do you have any certified floodplain managers on staff in your community?	N/A
What is the date of adoption of your flood damage prevention ordinance?	N/A
When was the most recent Community Assistance Visit or Community Assistance Contact?	N/A
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	N/A
Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	N/A
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	N/A
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification?	N/A

23.6.2 Regulatory Capability

The assessment of the tribe's legal and regulatory capabilities is presented in Table 23-3. This includes planning and land management tools, typically used by tribes to implement hazard mitigation activities and indicates those that are currently in place.

Table 23-3
Legal and Regulatory Capability

	Tribal Authority	Federally Mandated	Comments
Codes, Ordinances & Requirements			
Building Code	Yes	No	SITC Title 12
Version			Last Revised,
Year			2018
Zoning Ordinance	Yes	No	SITC Title 20-03; revised 2019
Subdivision Ordinance	Yes	No	SITC Title 20-04; revised 2018
Floodplain Ordinance	Yes	No	SITC Title 19 revised 2018
Stormwater Management	Yes	No	SITC Title 12-05; revised 2018
Post Disaster Recovery	Yes	No	SITC Article VI, of the Constitution; 1/27/1936 and as amended

Table 23-3 Legal and Regulatory Capability			
	Tribal Authority	Federally Mandated	Comments
Real Estate Disclosure	N/A	No	N/A
Growth Management	No	YES	GMA Requirements are N/A
Site Plan Review	Yes	No	SITC Title 12; revised 2018
Public Health and Safety	Yes	No	SITC Title 10; revised 2018
Coastal Zone Management	Yes	No	SITC Title 19-04-SSA; revised 2018
Climate Change Adaptation	Yes	No	SITC Climate Change Proclamation; 2010
Natural Hazard Specific Ordinance (storm water, steep slope, wildfire, etc.)	Yes	No	SITC Title 19;revised 2018
Environmental Protection	Yes	No	SITC Title 19; revised 2018
Planning Documents			
General or Comprehensive Plan	Yes	No	1996
Floodplain or Basin Plan	No	No	
Stormwater Plan	Yes	No	SITC Title 12-05; revised 2018
Capital Improvement Plan	Yes	No	North End, Admin, and Master Plan; 2008; revised –in process
Habitat Conservation Plan	Yes	No	SITC Tribal Habitat Conservation Plan, November 2003
Economic Development Plan	Yes	No	SITC CEDS; revised 2014
Shoreline Management Plan	Yes	No	SITC SSA; revised 2018
Community Wildfire Protection Plan	No	No	
Transportation Plan	Yes	Yes	LRTP; Safety Plan; Revised 2017
Response/Recovery Planning			
Comprehensive Emergency Management Plan	Yes	No	December 2018
Threat and Hazard Identification and Risk Assessment	Yes	No	2016
Terrorism Plan	No	No	N/A
Post-Disaster Recovery Plan	No	No	Some components identified in CEMP
Continuity of Operations Plan	No	No	N/A
Public Health Plans	Pandemic Flu		
Boards and Commission			
Planning Commission	Yes		Meets Monthly
Tribal Emergency Planning Committee	Yes		Meets Monthly

Table 23-3
Legal and Regulatory Capability

	Tribal Authority	Federally Mandated	Comments
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	Yes		PW, Planning, DEP, and Utilities
Mutual Aid Agreements / Memorandums of Understanding	Yes		.
Emergency Management Council (EMC) Tribal Emergency Planning Committee (TEPC)	Yes		TEPC is a subcommittee to the EMC. Both EMC and TEPC are charged with advising and providing emergency management direction.

23.6.3 Administrative and Technical Capability

The assessment of the tribe's administrative and technical capabilities, educational outreach efforts, and on-going programmatic efforts are presented in Table 23-4. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 23-4.
Administrative and Technical Capability

Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	SITC Planning and Community Development, Lands Management, DEP, and Skagit River Systems Cooperative
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	Yes	SITC Planning and Community Development, Public Works, TERO; Subcontracted
Engineers specializing in construction practices?	No	On Contract
Planners or engineers with an understanding of natural hazards	Yes	DEP and Planning and Community Development Dept.
Staff with training in benefit/cost analysis	Yes	Planning and Accounting Dept.
Surveyors	No	Contracted
Personnel skilled or trained in GIS applications	Yes	Lands Management
Personnel skilled or trained in Hazus use	No	Lands Management Staff has some
Scientist familiar with natural hazards in local area	Yes	DEP
Emergency Manager	Yes	PD
Grant writers	Yes	Grants Department, DEP, Planning,

Table 23-4. Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Yes	Emergency Management and Department of Environmental Protection
Hazard data and information available to public	Yes	Emergency Management, Department of Environmental Protection, Lands Management
Maintain Elevation Certificates		
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	Yes	CERT Program
Local citizen groups or non-profit organizations focused on environmental protection?	Yes	Department of Environmental Protection
Organization focused on individuals with access and functional needs populations	Yes	Elder Protection, Social Services
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	Emergency Management, Skagit County Fire District 13
Natural disaster or safety related school programs?	Yes	Childcare, NWIC, La Conner School District
Public-private partnership initiatives addressing disaster-related issues?	Yes	Skagit County Meetings: LEPC, CAER
Multi-seasonal public awareness program?	Yes	WSDOT Annual Meeting, Skagit County
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	Department of Environmental Protection
Noxious Weed Eradication Program or other vegetation management	Yes	Department of Environmental Protection
Fire Safe Councils	No	Goal to Develop for the Reservation, Currently SBHOA is a Firewise Community
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	DEP, Skagit River Systems Coop
Stream restoration program	Yes	DEP Skagit River Systems Coop
Erosion or sediment control program	Yes	DEP, Planning and PW

Table 23-4. Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Address signage for property addresses	Yes	Swinomish GIS under Lands Management
Other		

23.6.4 Fiscal Capability

The assessment of the tribe's fiscal capabilities is presented in Table 23-5. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 23-5. 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-However, not feasible
Incur Debt through Special Tax Bonds	Yes-However, not feasible
Incur Debt through Private Activity Bonds	Yes-However, not feasible
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other- WA State	No

23.6.5 Community Classifications

Classifications under various community mitigation programs are presented in Table 23-6. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community.

Table 23-6. Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	Yes	current

Storm Ready	No	
Firewise	Yes (Shelter Bay only)	2013
Tsunami Ready (if applicable)	No	

23.7 HAZARD RISK AND VULNERABILITY RANKING

The SITC Planning Team reviewed the hazard list identified within the Base Plan and have identified the hazards that affect the Swinomish Indian Tribal Community. It should be noted that at the onset of this project, the Tribe updated its critical facilities list as a part of the planning process as discussed in Volume 1. For the Tribe, this included areas which it has identified as culturally significant sites and structures, but which remain confidential in nature, and are not identified within the hazard maps or data below.

Table 23-7 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

In addition, a brief description or overview of the hazard impact on the Tribe is also provided.

**Table 23-7.
Hazard Risk and Vulnerability Ranking**

Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Hazard Impact (e.g., dollar loss, how it impacted structures, capability to provide services, etc.)
1	Earthquake	Extremely High	1	Based on PGA probability maps produced by the USGS, areas with Tribal critical facilities are likely to experience a greater than 5.0 M (strong shaking) (15-20 percent of the acceleration of gravity). This rating represents the peak acceleration of the ground caused by the earthquake. All Tribal critical facilities and infrastructure and the entire population are vulnerable to earthquake impacts.
2	High Winds	High	2	The natural hazards resulting from severe storms, such as high wind and tidal surge, are often widespread. A single event is capable of impacting all Tribal critical facilities and infrastructure, including the entire tribal population.
3	Severe Storm	High	2	The natural hazards resulting from severe storms, such as high wind and tidal surge, are often widespread. A single event is capable of impacting all Tribal critical facilities and infrastructure, including the entire tribal population.
4	Wildfire	High	4	Based on proximity to upland forested areas of the Reservation
5	Volcano	High	6	Due to the nature of the hazard, it is impossible to predict the location or extent of future events with any probability, although it can be assumed that all Tribal critical facilities and infrastructure including the entire population are at risk from volcano impacts.
6	Tsunami/ Seiche	High	5	Based on proximity to low-lying shoreline areas surrounding the reservation
7	Storm surge / King Tides	Medium	3	Based on proximity to low-lying shoreline areas and history of flooding during these events.

23.8 MITIGATION GOALS AND OBJECTIVES

The Swinomish Indian Tribal community adopts the hazard mitigation goals and objectives developed by the Planning Team. The Mitigation Goals were identified after reviewing the results of the risk assessment and are intended to reduce the impacts to the people and property within the Swinomish Indian Reservation. The goals identified in the 2014 plan were re-evaluated and re-affirmed for the 2019 update process. The goals are summarized below:

- Protect Life and Property #1
- Increase Public Awareness #2
- Encourage Partnerships #3
- Provide for Emergency Services #4

Since the Swinomish Indian Tribal Community has been an active participant in the hazard mitigation planning process over the last 15 years, the integration of the process with ongoing tribal planning efforts and FEMA programs and initiatives has been considered, primarily during the course of updating and adopting new land use codes and ordinances, such as the Swinomish Zoning Ordinance, Subdivision &

Binding Site Plan Ordinance, Swinomish Building Code, Shorelines & Sensitive Areas Ordinance, and Land Clearing Ordinance to address future development in hazard areas. The mitigation planning process was integrated with other ongoing Tribal and FEMA planning efforts to include:

- expanding the Tribe's geographic information system (GIS) database to include hazard information #5
- incorporating hazard profiles and mitigation actions into Tribal planning processes, including the Tribal comprehensive plan, transportation plan, and forest management plan #6

23.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the tribe identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the tribe's assets and hazards of concern. Table 23-8 lists the action items/strategies that make up the tribe's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

Table 23-8. Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Tribal, Local, County, Region
INITIATIVE #1 Shelter in Place Establishment-Gathering Facility									
New	Earthquake, Fire, Wind	1,2,4	DEP/EM Planning	High	TBD	Long-Term	No	Preparedness/Mitigation	Tribe, Local
INITIATIVE #2 King Tides/storm surge-Snee-Oosh Beach									
Existing	Storm surge	1,2,3,5,6	DEP/Planning	High	TBD	Long-term	Yes	Plan, public info Structure removal or raising, natural resource protection	Tribe, Environment, Local
INITIATIVE #3 Climate Resiliency-Sea Level Rise-Zoning and Future Development									
Existing	SLR/landside	1,2,5,6	DEP/Planning	Med - High	TBD	Long-term	Yes	Plan, public info Structure removal or raising	Tribal, Environment, Local
INITIATIVE #4 Code Update-Climate Resiliency-2018 IBC IRC, Fire Ready									
Existing and new	Wild Fire	1,2,3,4,5,6	DEP /EM Planning	Med- high	TBD	Long term	Yes	Public info Code update for forestry, zoning, buildings	Local, Tribal
INITIATIVE #5 Pioneer Parkway-Rainbow Bridge									

**Table 23-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Tribal, Local, County, Region
New	Landslide	1,4,6	DEP/ Planning	Med	TBD	Long Term	No	Mitigation	Local, Tribal
INITIATIVE #6 COOP Development									
Existing	Multiple	1,4	Planning/ EM	Low	General	Medium	Yes	Continuance Government	Tribal
INITIATIVE #7 Long-term Climate Resiliency Planning and Policy									
Existing and new	Wildfire SLR Heat	1,3,5,6	Planning/ DEP	Med	TBD	Long-term	No	Code / policy updates; project design and planning	Tribe, Local, County, Facility
INITIATIVE #8 Infrastructure Improvement/Replacement									
Existing and new	Earthquake, Severe storm, Tsunami Flood	1,3,4,5,6	Utilities	High	TBD	Long-term and short term	No	Replace old structures that are starting to fail, past their useful life expectancy, and subject to breaks during events that can impact public health (sewer, water, storm water)	Tribal, regional, county, local
INITIATIVE #9 Community Wildfire Protection Plan									
New	Fire	1,5,6	DEP	Low	TBD	Short-term	No	Finish community wildfire protection plan	Tribal and local

23.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 23-9 identifies the priorities of each action item. These priorities are equally important so no value has been placed on them individually. Each initiative is rated as short term (S), long term (L), or on-going (O).

Table 23-9.
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 ^a
1	3	High	High	Equal	Yes	No	High
2	5	High	High	Exceed	Yes	No	High
3	4	High	Medium	Exceed	Yes	No	Medium
4	6	High	Low	Exceed	Yes	Yes	Medium
5	3	High	High	Equal	Unknown	No	Medium
6	2	High	Low	Exceed	Yes	Yes	Medium
7	4	High	Low	Exceed	Yes	Yes	High
8	5	High	High	Equal	Unknown	No	Medium
9	3	High	Low	Exceed	Yes	Yes	High

a. See Chapter 1 for explanation of priorities.

23.11 STATUS OF PREVIOUS PLAN INITIATIVES

Table 23-10 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

23.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

Geo-hazard study of Pull and Be Damned bluff area for landslide vulnerability and potential increased risk of erosion to bluff and homes. Currently awaiting news on FEMA Pre-disaster mitigation grant for this proposal.

Funding Planning efforts related to other low-lying areas with homes on the Reservation including Snee-Oosh Beach and Shelter Bay Marina Basin homes, needed for future steps in Coastal Planning efforts, including identification of areas where homes may need to be set back or raised above storm surge levels.

Funding to support long-term policy and planning for design of future facilities and planning efforts through new policies, code updates and project design inclusion for climate resiliency.

23.13 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps are included below. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes.

Table 23-10. Status of Previous Hazard Mitigation Action Plan					
		Current Status			
		Completed	Continual /Ongoing Nature	Removed /No Longer Relevant /No Action	Carried Over
Mitigation Strategy	2019 Project Status				
Assessment and Provision of Emergency Power Supplies	Standby generators installed for two CIKR buildings	X			
Seismic Retrofitting of Critical Facilities	Existing Action – Not addressed due to lack resources to implement		X		
Development of Warning and Evacuation Plan	Ongoing – Implementation of community mass notification system		X		
Public Emergency Preparedness Education Program	Ongoing		X		
Adaption/ Mitigation Planning for Low-Lying At-Risk Areas	Ongoing, including seeking FEMA PDM funding for geo-haz, other planning for storm surge and homes flooding.		X		

**Swinomish Indian Tribal Community
Regulatory Boundary for the Purpose
of the Skagit County Hazard
Mitigation Plan Update 2019**



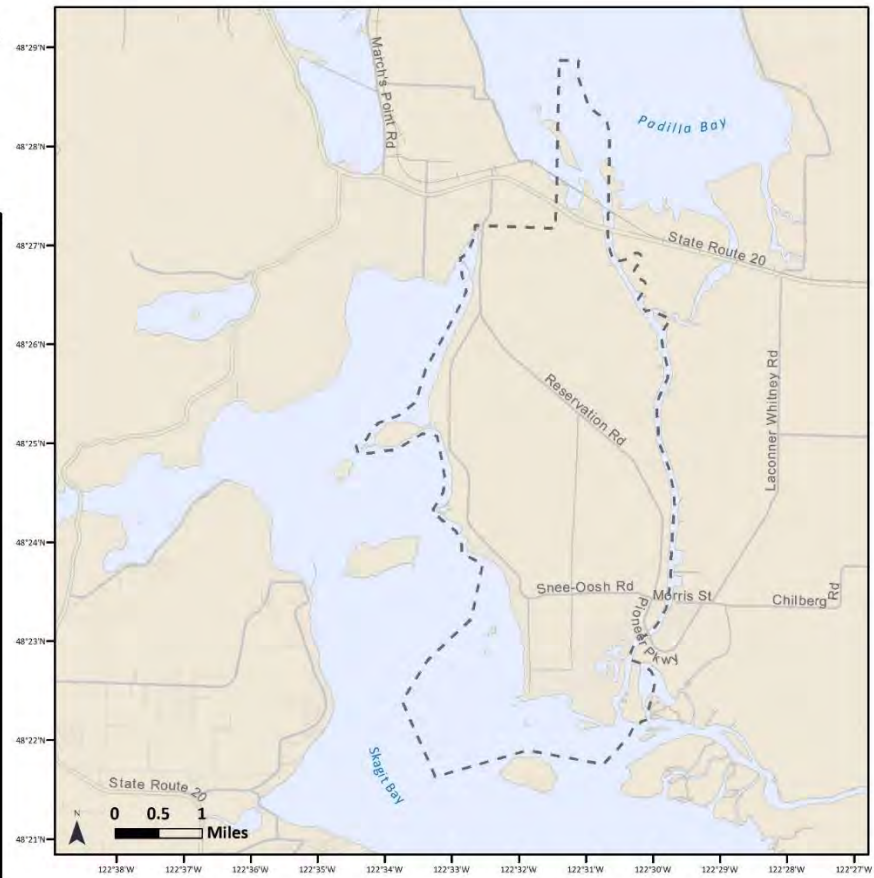
**SWINOMISH INDIAN
TRIBAL COMMUNITY**



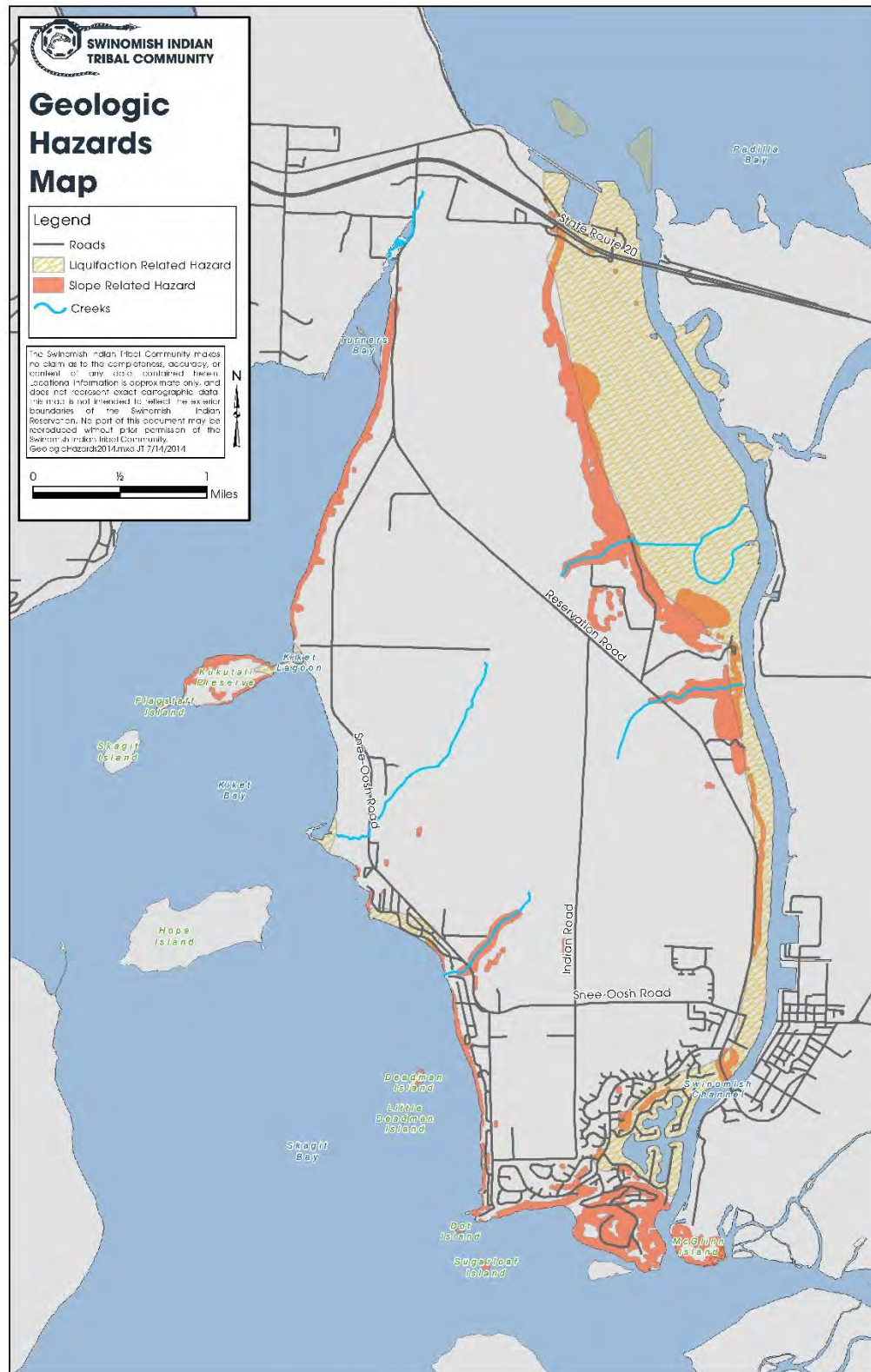
Legend

**Swinomish Regulatory
Boundary for the
Purpose of the
Skagit County
Hazard Mitigation
Plan Update 2019**

The Swinomish Indian Tribal Community makes no claim as to the completeness, accuracy, or content of any data contained herein. Locational information is approximate only, and does not represent exact cartographic data. This map is not intended to reflect the exterior boundaries of the Swinomish Indian Reservation. No part of this document may be reproduced without prior permission of the Swinomish Indian Tribal Community. Inset Map Layer Credits: Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community. July 2019/12/10 HazardMitigationPlanUpdateLocatorMap.mxd







**Skagit County 2020 Multi-Jurisdiction Hazard Mitigation Plan Update
Volume 2: Planning Partner Annexes**

**APPENDIX A.
PLANNING PARTNER EXPECTATIONS**

Appendix A.

PLANNING PARTNER EXPECTATIONS ACHIEVING DMA COMPLIANCE

One of the goals of the multi-jurisdictional approach to hazard mitigation planning is to achieve compliance with the Disaster Mitigation Act (DMA) for all participating members in the planning effort. There are several different groups who can be involved in this process at different levels, and as determined by the planning partnership. In order to provide clarity, the following is a general breakdown of those groups:

- ✓ The Hazard Mitigation Planning Team (referred to herein as “planning team”, whose makeup includes the project management team (county and consultant), Bridgeview Consulting members, and those planning partners responsible for the plan’s written development;
- ✓ The planning partners, who are those jurisdictions or special purpose districts that are actually developing an annex to the regional plan; and
- ✓ The planning stakeholders, which are the individuals, groups, businesses, academia, etc., from which the planning team gains information to support the various elements of the plan.

DMA compliance requires that *participation* be defined in order to maintain eligibility with respect to meeting the requirements which allow a jurisdiction or special purpose district to develop an annex to the base plan. To achieve compliance for *all* partners, the plan must clearly document how each planning partner that is seeking linkage to the plan participated in the plan’s development. The best way to do this is to clearly define “participation”. For this planning process, “participation” is defined by the following criteria examples (this list is not all-inclusive):

- ✓ **Estimated level of effort.** It is estimated that the total time commitment to meet these “participation” requirements for a planning partner would be *approximately 40 - 50 hours during the planning process*. This time is reduced somewhat for special purpose districts.
- ✓ **Participate in the process.** As indicated, it must be documented in the plan that each planning partner “participated” in the process to the best of your capabilities. There is flexibility in defining “participation,” which can vary based on the type of planning partner (i.e.: City or County, vs. a Special Purpose District) involved. However, the level of participation must be defined at the onset of the planning process, and we must demonstrate the extent to which this level of participation has been met for each partner.
- ✓ The planning team will be responsible for supporting the partnership during the public involvement phases of the planning process. Support could be in the form of providing venues for public meetings, attending these meetings as participants, providing technical support, etc.
- ✓ **Duration of planning process.** This process is anticipated to take seven to nine months to complete (not including state and FEMA review). It will be easy to become disconnected with the process objectives if you do not participate in some of these meetings to some degree. General tasks associated with this effort include review of existing plans, updating of general profile and Census data, identification and/or verification of critical infrastructure, and public outreach efforts (to be identified and defined during planning meetings, but at a minimum will require two efforts).

- ✓ **Capability Assessment.** All planning partners will be asked to identify their capabilities during this process. This capability assessment will require a review of existing documents (plans, studies, and ordinances) pertinent to each jurisdiction to identify policies or recommendations that are consistent with those in the “base” plan or have policies and recommendations that complement the hazard mitigation initiatives selected (i.e.: comp plans, basin plans or hazard specific plans).
- ✓ **Hazard Identification and Risk Ranking.** All planning partners will participate in the identification of hazards to be addressed during this effort and the overall risk ranking exercise for the base plan. Once the base plan risk ranking has occurred, each planning partner will complete their own risk ranking exercise for their own jurisdiction/entity. This is a facilitated process, and requires mandatory attendance at the risk ranking planning meeting to gain compliance. This meeting will be mandatory attendance.
- ✓ **Action/Strategy Review.** All previous planning partners will be required to perform a review of the strategies from their respective prior action plan to: determine those that have been accomplished and how they were accomplished; and why those that have not been accomplished were not completed. Note – even if your plan has expired, it is still considered an update, and not a new plan. The planning team will be available to assist with this task; however, for existing planning partners, this is mandatory.
- ✓ **Annex Template Development.** Each planning partner will be required to develop their own annex template, which will be the data specific to their entity or jurisdiction. Information contained in this document will include, but is not limited to: community profile, population or service area data, disaster history information, identification of critical facilities. The template itself will be provided; however, the actual completion of the document is a requirement of each planning partner. This element is mandatory for active participation.
- ✓ **Consistency Review.** All planning partners will be required to review the entire base plan when completed, and their respective annex document after final editing by the planning team. Customarily, there is a minimum of two weeks provided for this review process, but normally we attempt to give an entire month for this element of the project.
- ✓ **Plan adoption.** Each jurisdiction and special purpose district involved in the effort must adopt the plan once FEMA and State approval have been gained. If not adopted by each jurisdiction, that jurisdiction’s plan is not considered to be “in place,” meaning that in essence, they have no hazard mitigation plan in place even though they have gone through the process.

One of the benefits to multi-jurisdictional planning is the ability to pool resources. This means more than monetary resources. Resources such as staff time, meeting locations, media resources, technical expertise will all need to be utilized to generate a successful plan.

It is anticipated that two or three workshop sessions will be required to complete this plan. Those sessions will last three or four hours each, and take the place of monthly meetings. While the workshop sessions will provide the bulk of actual meeting attendance, based on the progress of the planning partnership as a whole, there may be additional meetings which may be required; *however, each planning partner will be required to attend, at a minimum, the two-three workshops.* Much of the data exchange can occur through email or telephone calls, which will supplement the workshops.

With the above participation requirements in mind, each planning partner will be asked to aid this process by being prepared to develop its own section of the plan. To be an eligible planning partner in this effort, each Planning Partner will be asked to provide the following:

- A. A “Letter of Intent to participate” or Resolution to participate to the Planning Team (see exhibit A).
- B. Designate a lead point of contact for this effort. This designee will be listed as the hazard mitigation point of contact for your jurisdiction in the plan.
- C. Identify their hourly rate of pay for this point of contact, which will be used to calculate the in-kind match for the grant that is funding this project.
- D. If requested, provide support in the form of mailing list, possible meeting space, and public information materials, such as newsletters, newspapers or direct mailed brochures, required to implement the public involvement strategy developed during this planning process.
- E. Participate in the process. There will be many opportunities as this plan evolves to participate. Opportunities such as:
 - a. Hazard Mitigation Planning Team meetings;
 - b. Public meetings or open houses;
 - c. Workshops/ Planning Partner specific training sessions;
 - d. Public review and comment periods prior to adoption.

At each and every one of these opportunities, attendance will be recorded. Attendance records will be used to document participation for each planning partner. While attendance at every meeting may not be practical, there are meetings which are mandatory. Each planning partner should attempt to attend as many meetings and events as possible, but must attend the minimum established requirement.

- F. There will be **mandatory** workshops that all planning partners will be required to attend. These workshops will cover specific items, one of which will be the proper completion of the jurisdictional annex template which is the basis for each partner’s jurisdictional chapter in the plan. Failure to have a representative at these mandatory workshops will disqualify the planning partner from participation in this effort. The scheduling for these workshops will be far enough in advance to allow the planning partners to attend.
- G. In addition to participation in the mandatory workshops, each partner will be required to complete their annex document, and provide it to the planning team in the time frame established. Technical assistance in the completion of these annexes will be available, but the actual writing of the annex document is the responsibility of each planning partner. Failure to complete your annex in the required time frame may lead to disqualification from the partnership.
- H. Each partner will be asked to perform a “consistency review” and “capabilities assessment” of all technical studies, plans, ordinances specific to hazards to determine the existence of any not consistent with the same such documents reviewed in the preparation of the County (parent) Plan. In the same category, each partner will also be required to review the entire base plan once completed, as well as their edited annex.
- I. Each partner will be asked to review the Risk Assessment and identify hazards and vulnerabilities specific to its jurisdiction. Resources will provide the jurisdiction specific mapping and technical consultation to aid in this task if the jurisdiction/entity does not have their own capacity, but the

determination of risk and vulnerability will be up to each partner (through a facilitated process during one of the mandatory workshops).

- J. Each partner will be asked to review and determine if the mitigation recommendations chosen in the parent plan will meet the needs of its jurisdiction. Projects within each jurisdiction consistent with the parent plan recommendations will need to be identified and prioritized, and reviewed to determine their benefits vs. costs.
- K. Each partner will be required to create its own action plan that identifies each project, who will oversee the task, how it will be financed and when it is estimated to occur.
- L. Each partner will be required to formally adopt the plan.

Planning tools and instructions to aid in the compilation of this information will be provided to all committed planning partners. Each partner will be asked to complete their annexes in a timely manner and according to the timeline established during the initial planning meeting.

**** Note**:** Once this plan is completed, and FEMA approval has been determined for each partner, maintaining that eligibility will be dependent upon each partner implementing the plan's maintenance protocol identified in the plan.

Exhibit A.
Example Letter of Intent to Participate

Date: _____

Skagit County Hazard Mitigation Planning Partnership
C/O Bev O'Dea, Bridgeview Consulting, LLC.
915 No. Laurel Lane
Tacoma, WA 98406

Via email at: bevodea@bridgeviewconsulting.org

Re: Statement of Intent to Participate - Skagit County Multi-Jurisdictional Hazard Mitigation Plan

Dear Planning Partnership,

In accordance with the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements, under 44 CFR §201.6, which specifically identify criteria that allow for multi-jurisdictional mitigation plans, the [Participating Jurisdiction] is submitting this letter of intent to confirm that [Participating Jurisdiction] has agreed to participate in the Skagit County Multi-Jurisdiction Hazard Mitigation Planning effort.

Further, as a condition to participating in the mitigation planning; [Participating Jurisdiction] agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to Skagit County to complete the plan in conformance with FEMA requirements.

[Participating Jurisdiction] understands that it must engage in the following planning process, as more fully described in FEMA's *Local Multi-Hazard Mitigation Planning Guidance*, including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document;
- Conducting a vulnerability analysis and identification of risks, where they differ from the general planning area;
- Formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction;
- Demonstration that there has been proactively offered an opportunity for participation in the planning process by all community stakeholders (examples of participation include relevant involvement in any planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc.);
- Documentation of an effective process to maintain and implement the plan;
- Formal adoption of the Multi-Jurisdiction Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan); and
- Documentation of participation in the National Flood Insurance Program (NFIP), continued compliance with NFIP requirements, and address NFIP insured structures that have been repetitively damaged by floods.

Therefore, with a full understanding of the funding obligations incurred by an agreement between the Lead Jurisdiction and the Participating Jurisdiction, I [Name of authorized jurisdiction official], commit [Name of Participating Jurisdiction] to the [Name of Lead Jurisdiction] Multi-Jurisdiction Hazard Mitigation Planning effort.

Executed this ____ day of _____, 20____.

Sincerely,

[Jurisdiction official's signature]

Exhibit B.
(Current) Planning Team Contact information

Name	Representing	Address	Phone	e-mail

Skagit County 2020 Multi-Jurisdiction Hazard Mitigation Plan Update
Volume 2: Planning Partner Annexes

APPENDIX B.
PLANNING TEAM GROUND RULES

APPENDIX B.

THE SKAGIT COUNTY STEERING COMMITTEE GROUND RULES 2020 MULTI-JURISDICTION HAZARD MITIGATION PLAN UPDATE

PURPOSE

As the title suggests, the role of the Steering Committee (SC) is to guide the development of the Hazard Mitigation Plan through a facilitated process that will result in a plan that can be embraced both politically and by the constituency within the planning area. The SC will provide guidance and leadership, oversee the planning process, and act as the point of contact for all agency representatives, stakeholders and the various interest groups in the planning area. The SC, made up of planning partners involved in this process, provides the best possible cross section of views to enhance the planning effort and to help build support for hazard mitigation.

CHAIRPERSON

The Steering Committee has selected a chairperson, Mr. Jack Moore, CBCO, CFM, from Skagit County Planning and Development Services. The role of the chair is to:

1. Lead meetings so that agendas are followed and meetings adjourn on-time;
2. Allow all members to be heard during discussions;
3. Moderate discussions between members with differing points of view;
4. Be a sounding board for staff in the preparation of agendas and how to best involve the full team in work plan tasks; and
5. Serve as the primary spokesperson for this planning effort.

ATTENDANCE

Participation of all Committee members in meetings is important and members should make every effort to attend each meeting. If Committee members cannot attend, they should inform the planning team before the meeting is conducted. Each Committee member should attempt to identify an alternate who will represent that member at any meeting for which attendance cannot be met. If a member accumulates:

- One unexcused absence, or
- Two consecutive excused absences

that member will be contacted by the Chair to see if there are any issues with regards to that individual's participation on the Team.

The Steering Committee determined that in order to achieve an active level of participation in this planning efforts, 75 percent of all meetings must be attended by the entity developing an Annex to the Skagit County Multi-Jurisdiction Hazard Mitigation Plan. Any final action determining active participation will be at the direction of the Planning Team.

QUORUM

The Steering Committee determined that a minimum attendance at each meeting will not be required in order to conduct business. With the anticipation of an alternate member being appointed by each of the participating entities, the Steering Committee felt that the different viewpoints will be adequately

represented. Alternatively, if neither the primary nor alternate members are present, the decisions reached during meetings will be binding upon absent members based on decisions reached through consensus voting. It should be understood that all entities must maintain an active level of participation in this effort; decisions made during the absence of the member does not meet active participation.

ALTERNATES

There may be circumstances when regular committee members cannot attend the planning meeting. To address these circumstances, alternate members will be pre-identified as appropriate. The Steering Committee determined that the role of alternates will be the same as the primary committee member. Therefore, the Steering Committee alternate can make a binding decision or vote on any issue at a meeting in which they preside as a fully empowered team representative.

DECISION-MAKING

As the Steering Committee provides advice and guidance on the Plan, it will strive for consensus on all decisions that need to be made, with special effort to hear and consider all opinions within the group. Consensus is defined as a recommendation that may not be ideal for each member, but every member can live with it (using the consensus continuum as a gage). Strong minority opinions will be recorded in meeting summaries and the team may choose to note such opinions in their final recommendations.

RECOMMENDATIONS

If differing opinions exist for any significant portion of this planning effort, the Committee determined that such recommendations will be recorded in the meeting summaries and reflected in the plan as appropriate.

SPOKESPERSONS

Ideally, the Steering Committee will present a united front after considering the different viewpoints of its members, recognizing that each member might have made a somewhat different viewpoint. In order to ensure consistent information is provided, and to consistently represent the Committee's united recommendations to participating organizations, the public, and the media, the Chairperson will act as the Committee's spokesperson(s). In addition, each member should have a responsibility to represent the Committee's recommendation when speaking on plan-related issues as a Committee member. Any differing personal or organizational viewpoints should be clearly distinguished from the Committee's work. In an effort to enhance community involvement and participation, the Steering Committee determined that if questions were posed to the Chairperson about a specific jurisdiction, the community member would be re-directed back to the appropriate Steering Committee member so as to allow for relationship building and enhanced communications within the specific planning area.

STAFFING

The Steering Committee for this project includes appropriate personnel from Skagit County, along with contract consultant assistance provided by Bridgeview Consulting, LLC. The Steering Committee will schedule meetings, distribute agendas, prepare information/presentations for meetings, write meeting summaries, and generally seek to facilitate the Committee's activities.

PUBLIC COMMENT

As they conduct project work, members will seek to keep the public and the groups to which they are affiliated informed about the plan. Information of such outreach will be provided to contract consultant for recording in the plan milestones.

All meetings will be open to the public and advertised as such. The Steering Committee will adhere to the “Rules of Conduct” which are consistent with the Open Public Meetings Act (Chapter 42.30 RCW) and have been administered by the Board of Skagit County Commissioners. Members of the public wishing to address the Planning Team may do so based on the following protocol:

- General guidelines
 - The purpose of the meeting is the hazard mitigation plan; therefore, only items identified on the previous meeting’s agenda will be recognized - no new items will be addressed.
 - Speakers will be required to sign in previous to the beginning of the meeting so that they may be recognized by the Chair;
 - Presentations by citizens will be made at the onset of the meeting;
 - Any person submitting letters or documents should provide a minimum of six (6) copies prior to the meeting or at the meeting. All copies should be given to the Chair of the Planning Team. The Chair will be officially responsible for distributing the submittal(s).
 - Demonstrations, the displaying of banners, signs, buttons, or apparel expressing opinions on political matters or matters being considered by the Planning Team will not be permitted at meetings to maintain the decorum befitting the deliberative, legislative or executive process.
 - A speaker asserting a statement of fact may be asked to document and identify the source of the factual datum asserted.
 - When addressing the Planning Team, members of the public shall direct all remarks to the PT Chair and shall confine remarks to the matters that are specifically before the board.
- Speaking Time Limits
 - Unless deemed otherwise by the Chair, each person addressing the Planning Team shall be limited to three (3) minutes speaking time. The speaking time limit does not include time necessary to respond to questions asked by members.
 - Speakers may not allocate their three (3) minutes to another speaker.

MEETINGS

Meetings will be advertised on the County’s webpage a minimum of one week prior to the meeting occurring. Planning meetings will be established on an as-needed basis throughout the planning process, and will be established customarily as a workshop. The Steering Committee also has the option to adjust this schedule due to holidays or other extenuating circumstances. Meetings will be open to the public and advertised as such.

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Volume 2: Planning Partner Annexes

APPENDIX C.
PROCEDURES FOR LINKING TO
THE HAZARD MITIGATION PLAN UPDATE

APPENDIX C. PROCEDURES FOR LINKING TO THE HAZARD MITIGATION PLAN UPDATE

Not all eligible local governments within Skagit County are included in the *Skagit County 2020 Multi-Jurisdiction Hazard Mitigation Plan Update*. It is assumed that some or all of these non-participating local governments may choose to “link” to the Plan at some point to gain eligibility for programs under the federal Disaster Mitigation Act. In addition, some of the current partnership may not continue to meet eligibility requirements due to a lack of participation as prescribed by the plan. The following “linkage” procedures define the requirements established by the Steering Committee for dealing with an increase or decrease in the number of planning partners linked to this plan. It should be noted that a currently non-participating jurisdiction within the defined planning area is not obligated to link to this plan. These jurisdictions can choose to do their own “complete” plan that addresses all required elements of 44 CFR Section 201.6.

INCREASING THE PARTNERSHIP THROUGH LINKAGE

Eligible linking jurisdictions are instructed to complete all of the following procedures during this time frame:

- The eligible jurisdiction requests a “Linkage Package” by contacting the Point of Contact (POC) for the plan:

Name: Hans Kahl, Skagit County Emergency Management
Phone: (360) 416-1855
e-mail: hkahl@co.skagit.wa.us

The POC will provide a linkage packages that includes:

- Copy of Volume 1 and 2 of the plan
 - Planning partner’s expectations package.
 - A sample “letter of intent” to link to the hazard mitigation plan update.
 - A Special Purpose District or City template and instructions.
 - Catalog of Hazard Mitigation Alternatives
 - A “request for technical assistance” form.
 - A copy of Section 201.6 of Chapter 44, the Code of Federal Regulations (44 CFR), which defines the federal requirements for a local hazard mitigation plan.
- The new jurisdiction will be required to review both volumes of the hazard mitigation plan update, which includes the following key components for the planning area:
 - The planning area risk assessment
 - Goals and objectives
 - Plan implementation and maintenance procedures
 - Comprehensive review of alternatives
 - County-wide initiatives.

Once this review is complete, the jurisdiction will complete its specific annex using the template and instructions provided by the POC. Technical assistance can be provided upon request by completing the request for technical assistance (TA) form provided in the linkage package. This TA may be provided by the POC or any other resource within the Planning Partnership such as a member of the committee or a currently participating municipality, tribe or special purposes district partner. The POC will determine who will provide the TA and the possible level of TA based on resources available at the time of the request.

- The new jurisdiction will be required to develop a public involvement strategy that ensures the public's ability to participate in the plan development process. At a minimum, the new jurisdiction must make an attempt to solicit public opinion on hazard mitigation at the onset of this linkage process and a minimum of one public meeting to present their draft jurisdiction specific annex for comment, prior to adoption by the governing body. The Planning Partnership will have resources available to aid in the public involvement strategy such as the Plan website. However, it will be the new jurisdiction's responsibility to implement and document this strategy for incorporation into its annex. It should be noted that the Jurisdictional Annex templates ***do not*** include a section for the description of the public process. This is because the original partnership was covered under a uniform public involvement strategy that covered the planning area described in Volume 1 of the plan. Since new partners were not addressed by that strategy, they will have to initiate a new strategy, and add a description of that strategy to their annex. For consistency, new partners are encouraged to follow the public involvement format utilized by the initial planning effort as described in Volume 1 of the plan.
- Once their public involvement strategy is completed and they have completed their template, the new jurisdiction will submit the completed package to the POC for a pre-adoption review to ensure conformance with the Regional plan format.
- The POC will review for the following:
 - Documentation of Public Involvement strategy
 - Conformance of template entries with guidelines outlined in instructions
 - Chosen initiatives are consistent with goals, objectives and mitigation catalog of the hazard mitigation plan update
 - A designated point of contact
 - A ranking of risk specific to the jurisdiction.

The POC may utilize members of the Steering Committee or other resources to complete this review. All proposed linked annexes will be submitted to the Steering Committee for review and comment prior to submittal to State Emergency Management.

- Plans approved and accepted by the Committee will be forwarded to Washington State Emergency Management for review with a cover letter stating the forwarded plan meets local approved plan standards and whether the plan is submitted with local adoption or for criteria met/plan not adopted review.
- Washington State Emergency Management Division (EMD) will review plans for federal compliance. Non-Compliant plans are returned to the Lead agency for correction. Compliant plans are forwarded to FEMA for review with annotation as to the adoption status.
- FEMA reviews the new jurisdiction's plan in association with the approved plan to ensure DMA compliance. FEMA notifies new jurisdiction of results of review with copies to Washington State EMD and approved planning authority.

- New jurisdiction corrects plan shortfalls (if necessary) and resubmits to Washington State EMD through the approved plan lead agency.
- For plans with no shortfalls from the FEMA review that have not been adopted, the new jurisdiction governing authority adopts the plan (if not already accomplished) and forwards adoption resolution to FEMA with copies to lead agency and Washington State EMD.
- FEMA regional director notifies new jurisdiction governing authority of plan approval.

The new jurisdiction plan is then included with the regional plan with the commitment from the new jurisdiction to participate in the ongoing plan implementation and maintenance.

DECREASING THE PARTNERSHIP

The eligibility afforded under this process to the planning partnership can be rescinded in two ways. First, a participating planning partner can ask to be removed from the partnership. This may be done because the partner has decided to develop its own plan or has identified a different planning process for which it can gain eligibility. A partner that wishes to voluntarily leave the partnership shall inform the POC of this desire in writing. This notification can occur any time during the calendar year. A jurisdiction wishing to pursue this avenue is advised to make sure that it is eligible under the new planning effort, to avoid any period of being out of compliance with the Disaster Mitigation Act.

After receiving this notification, the POC shall immediately notify both Washington State EMD and FEMA in writing that the partner in question is no longer covered by the hazard mitigation plan update, and that the eligibility afforded that partner under this plan should be rescinded based on this notification.

The second way a partner can be removed from the partnership is by failure to meet the participation requirements specified in the “Planning Partner Expectations” package provided to each partner at the beginning of the process, or the plan maintenance and implementation procedures specified within Volume 1 of the plan. Each partner agreed to these terms by adopting the plan.

Eligibility status of the planning partnership will be monitored by the POC. The determination of whether a partner is meeting its participation requirements will be based on the following parameters:

- Are progress reports being submitted annually by the specified time frames?
- Are partners notifying the POC of changes in designated points of contact?
- Are the partners supporting the Planning Team by attending designated meetings or responding to needs identified by the body?
- Are the partners continuing to be supportive as specified in the Planning Partners expectations package provided to them at the beginning of the process?

Participation in the plan does not end with plan approval. This partnership was formed on the premise that a group of planning partners would pool resources and work together to strive to reduce risk within the planning area. Failure to support this premise lessens the effectiveness of this effort. The following procedures will be followed to remove a partner due to the lack of participation:

- The POC will advise the Planning Team of this pending action and provide evidence or justification for the action. Justification may include: multiple failures to submit annual progress reports, failure to attend meetings determined to be mandatory by the Planning Committee, failure to act on the partner’s action plan, or inability to reach designated point of contact after a minimum of five attempts.

- The Steering Committee will review information provided by POC, and determine action by a vote. The Planning Committee will invoke the voting process established in the ground rules established during the formation of this body.
- Once the Steering Committee has approved an action, the POC will notify the planning partner of the pending action in writing via certified mail. This notification will outline the grounds for the action, and ask the partner if it is their desire to remain as a partner. This notification shall also clearly identify the ramifications of removal from the partnership. The partner will be given 30 days to respond to the notification.
- Confirmation by the partner that they no longer wish to participate or failure to respond to the notification shall trigger the procedures for voluntary removal discussed above.
- Should the partner respond that they would like to continue participation in the partnership, they must clearly articulate an action plan to address the deficiencies identified by the POC. This action plan shall be reviewed by the Steering Committee to determine whether the actions are appropriate to rescind the action. Those partners that satisfy the Steering Committee's review will remain in the partnership, and no further action is required.
- Automatic removal from the partnership will be implemented for partners where these actions have to be initiated more than once in a 5 year planning cycle.