NATIVE VILLAGE OF PERRYVILLE

TRIBAL HAZARD MITIGATION PLAN [2019 – 2024]

FINAL Revision 1
November 2019

Prepared for:

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ACRONYMS AND ABBREVIATIONS

%	percent
°F	degrees Fahrenheit
BBAHC	Bristol Bay Area Health Corporation
BBNA	Bristol Bay Native Association
Bristol	Bristol Engineering Services Company, LLC
CFR	Code of Federal Regulations
Community	Perryville
Council	Native Village of Perryville
DCCED	State of Alaska Department of Commerce, Community, and Economic Development
DHS&EM	State of Alaska Division of Homeland Security and Emergency Management
DOTID	Department of Transportation and Infrastructure Development
FEMA	Federal Emergency Management Agency
FMA	Flood Mitigation Assistance
HMGP	Hazard Mitigation Grant Program
ID	Identification
IGAP	Indian General Assistance Program
km	kilometer
MM	Modified Mercalli Scale
mph	miles per hour
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
NWS	National Weather Service
PDM	Department of Homeland Security Pre-Disaster Mitigation
SCERP	Small Community Emergency Response Plan
THMP	Tribal Hazard Mitigation Plan
Tribe	Native Village of Perryville
USACE	US Army Corps of Engineers
USGS	US Geological Survey

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EXECUTIVE SUMMARY

The Tribal Hazard Mitigation Plan (THMP) for Perryville, Alaska (Community) was developed in accordance with the requirements of the Stafford Act and Title 44 of the Code of Federal Regulations (CFR). Bristol Bay Native Association (BBNA) represents the Native Village of Perryville (Tribe) and provides support for the Federal Emergency Management Agency (FEMA) pre-disaster mitigation planning project. BBNA contracted Bristol Engineering Services Company, LLC (Bristol) for the development of the THMP. Planning Team members from the Community were identified by the Tribe to assist in the development of this plan.

Hazard mitigation reduces potential losses from future disasters. It is the goal of the Native Village of Perryville (Council) to develop a disaster – resistant community for the general public and Tribe members by identifying hazard mitigation actions. These actions will reduce the impact of natural hazards on the Community and encourage the restoration and protection of natural and cultural resources.

This plan contains current community information, documents the planning process for the THMP, identifies the natural hazards that have an impact on the Community, identifies community assets, analyzes how the assets are impacted by natural hazards, and identifies the Community's vulnerability to these hazards. Additionally, the THMP lists the Community's mitigation goals and prioritized mitigation actions.

The Planning Team identified natural hazards that could affect the Community. The following is a list of natural hazards that have had an impact on the Community.

- Earthquake – Earthquakes occur and can result in damage buildings and underground utilities. It can also increase the risk of tsunamis.
- Extreme Temperatures – Extreme cold events can cause pipes to freeze, which can lead to flooding of structures. These temperatures can also lead to issues with heating systems and subsistence gathering. Extreme heat can also have an impact on subsistence resources and cause lakes and streams to dry up, and cause a low production of berries and other food sources. Hot weather also increases dust emissions which is hazardous to residents, and increases the risk of wildfires.
- Flood – Flooding can occur due to tidal flooding and heavy rains, and riverine flooding. This can wash out the fine-grained road surface. This can make homes and some roads inaccessible.
- Severe Wind – High wind events can result in damage to structures, a reduction of visibility in winter due to blowing snow, decreased quality of air due to dust, and limits the accessibility of the Community via air transportation.

- Severe Winter Weather – Severe winter weather events and cold temperatures can limit air transportation in and out of the Community. It can also present a hazard to residents traveling around the Community and out hunting.
- Subsidence – The gradual settling of the ground can cause damage to homes. The Community's power lines are underground and could sustain damage and cause power outages should extreme subsidence occur.
- Tsunami – The Community has the potential to experience tsunamis due to the location of the Community being located along the coast of the Pacific Ocean.
- Volcano – The Community is located near an actively monitored volcano, Mount Veniaminof. Ash from the volcano has an impact on equipment and community m members. It also has an impact on air transportation in and out of the Community.
- Wildfire – Wildfires destroy subsistence resources, structures, and is a sever risk to human life.

Mitigation goals were selected by the Planning Team for the identified natural hazards. These goals are broad statements that represent the Community's vision for reducing or avoiding losses from the identified hazards. The following is a list of mitigation goals:

- Build the capacity of the Tribe to prepare, respond to, and recover from disasters.
- Reduce the possibility of damages due to earthquakes.
- Reduce the possibility of damages due to extreme temperatures.
- Reduce the possibility of damages due to flooding.
- Reduce the possibility of damages due to severe wind.
- Reduce the possibility of damages due to severe winter weather.
- Reduce the possibility of damages due to subsidence.
- Reduce the possibility of damages due to tsunamis.
- Reduce the possibility of damages due to volcanos.
- Reduce the possibility of damages due to wildfires.

In addition to the identified hazards and the mitigation goals, the Planning Team identified mitigation actions to support the THMP mitigation goals. The following is a list of medium and high priority mitigation actions.

- Acquire a backup generator for the clinic.
- Work with state public health nurses to develop a Small Community Emergency Response Plan (SCERP).

- Work with Alaska Native Tribal Health Consortium (ANTHC) to update water and service lines to reduce freezing issues.
- Complete the design to raise roads and improve drainage.
- Provide education to residents about winter travel safety and the importance of communicating travel plans and important travel equipment to take, such as a communication device.
- Provide education to residents about subsidence to help them be aware of how it could impact them and their property.
- Identify a potable water source for the shelter.
- Develop an instruction sheet to activate the tsunami siren and post by the siren box. Also ensure that there is a plan to activate the siren with backup personnel.
- Acquire a bigger fire truck with more capacity for the Community.

The THMP is a living document that will be reviewed on an annual basis, and updated every five years. The annual reviews will monitor the relevance and implementation of the mitigation action plan, and evaluate the effectiveness and progress of the THMP. The annual evaluation of the THMP will include a review of any changes to assets, impacts from hazards, or any additional changes to the plan.

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1.0 INTRODUCTION

Bristol Bay Native Association (BBNA) is an Alaska Native Regional Non-Profit Corporation and tribal consortium. Incorporated under state law, corporation bylaws are structured as a pure tribal consortium. The 31 federally recognized tribes in the Bristol Bay region make up the members of the non-profit corporation. The 31 tribes are represented on the BBNA Board of Directors by their elected tribal presidents, or the president's designee (who must be a tribal member). Therefore, BBNA is directly controlled by the tribal governments it represents.

BBNA is a federally recognized tribal consortium for contracting purposes and is a "Tribal Organization" as defined in the Indian Self-Determination and Education Assistance Act. BBNA operates dozens of grants and contracts under various types of eligibility. Understandably, eligibility of each grant is controlled by the regulations and authorizing legislation of each particular funding source. BBNA operates both Indian and non-Indian programs.

BBNA represents all tribes within the Bristol Bay Region, and as such provides support for the Federal Emergency Management Agency (FEMA) pre-disaster mitigation planning project. On behalf of the Native Village of Perryville (Council), BBNA contracted Bristol Engineering Services Company, LLC (Bristol) for the development of this Tribal Hazard Mitigation Plan (THMP) for Perryville, Alaska (Community). The THMP was prepared to meet the requirements of the Stafford Act and Title 44 of the Code of Federal Regulations (CFR). By meeting these requirements, it makes the Community eligible for funding through state and federal mitigation grant programs.

The purpose of hazard mitigation is to reduce potential losses from future disasters. The intent of mitigation planning is to maintain a process that leads to hazard mitigation actions. This THMP identifies the natural hazards that affect the Community, identifies actions to reduce losses from those hazards, develops long-term strategies to reduce the impacts of future events on people, property, and the environment, and establishes a coordinated process to implement the plan. The THMP establishes goals and objectives and associated actions to reduce and mitigate the threat of natural hazards to life, property, infrastructure, economic stability and emergency response capabilities in the Community while encouraging the protection and restoration of cultural and natural resources.

It is the goal of the Council to create a disaster-resistant community for the Tribe members and the general public in the Community. The THMP includes information to assist government leaders and residents with current and future planning efforts to efficiently and effectively mitigate natural hazards in the Community.

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2.0 COMMUNITY DESCRIPTION

This section describes the location and geography, climate, history, demographics, and economy of the Community.

2.1 LOCATION AND GEOGRAPHY

The Community is located on the south coast of the Alaska Peninsula, 275 miles southwest of Kodiak and 500 miles southwest of Anchorage. The Community lies at approximately 55.9116° North Latitude and 159.1434° West Longitude (See Figures 1 and 2). The Community is located in Section 26, Township 049S, and Range 064W along the Seward Meridian. The Community is located in the Aleutian Islands Recording District (State of Alaska Department of Commerce, Community, and Economic Development [DCCED], 2018).

2.2 CLIMATE

Climate can have a significant impact on the hazards that affect the Community. The Community's climate can also have an impact on the goals and mitigation strategies that are decided upon. The following is a climate summary of the Community:

The Community falls within the southwest maritime climate zone, characterized by persistently overcast skies, high winds, and frequent cyclonic storms. Low clouds, rain squalls, fog, and snow showers frequently limit visibility (DCCED, 2018). Annual precipitation is 127 inches, with 58 inches of snow. The average winter temperatures range from 21 to 50 degrees Fahrenheit (°F), and the average summer temperatures range from 39 to 60°F (NOAA, November 2013).

2.3 HISTORY

The Community was founded in 1912 as a refuge for Alutiiq people driven away from their villages by the eruption of Mt. Katmai. Many villagers from Douglas and Katmai survived the eruption because they were out fishing at the time. Captain Perry of the ship "Manning" transported people from the Katmai area to Ivanof Bay and later to the new village site. The village was originally called "Perry," but the "ville" was added to conform to the post office name, established in 1930 (DCCED, 2018).

2.4 ECONOMY

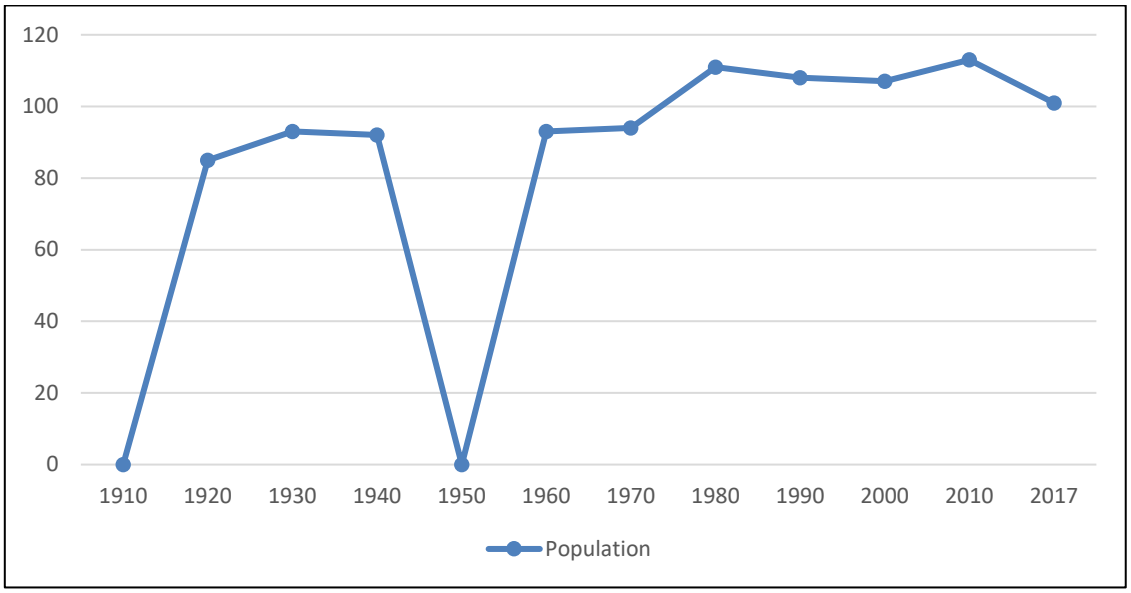
The trade, transportation and utilities, educational and health services, local government, and leisure and hospitality provides the main employment opportunities in the Community. Other Community employment opportunities include professional and business services, state government, construction, natural resources and mining, financial activities,

manufacturing, and information (ALARI, 2018). According to the 2010 Census, the median household income in the Community was $32,188. The Community's primary source for food is derived from a subsistence lifestyle. This lifestyle includes activities such as hunting, fishing, berry picking, and other similar activities (DCCED, 2018).

2.5 DEMOGRAPHICS

The 2017 State of Alaska Department of Commerce, Community, and Economic Development (DCCED) certified population is 101 (DCCED, 2018). Exhibit 2-1 depicts a historic representation of the population of the Community.

Exhibit 2-1: Population History



Source Note: Census Population History retrieved from DCCED
https://www.commerce.alaska.gov/dcra/dcraexternal/community/

The 2010 census recorded 113 residents with a median age of 28. The Community is principally an Alaska Native community with 95.58 percent (%) Alaska Native, 2.65% White, and 1.77% two or more races. In 2010, the male and female population was 60 and 53 respectively. The 2010 census also revealed that there were 38 households with an average household size of 3 people (DCCED, 2018).

3.0 PLANNING PROCESS

This section provides information about the planning process that took place during the development of the THMP. It provides an overview of the planning process, the planning team, the public involvement efforts and documentation, the review and incorporation of existing plans, reports and studies, and the plans to integrate the THMP into other planning processes. Documentation of the planning process and public involvement is located in Appendix A and Appendix B, respectively.

3.1 PLANNING PROCESS

The planning process was developed following the requirements of 44 CFR 201.7(c)(1). The Department of Homeland Security Pre-Disaster Mitigation (PDM) grant provided funding and project oversight to the BBNA Department of Transportation and Infrastructure Development (DOTID). Bristol, BBNA's contractor, guided the development of a project team to assist BBNA DOTID with the THMP development.

The planning process took place from September 6, 2018 to April 23, 2019. The following steps describe the planning process to develop the THMP and incorporates applicable work completed prior to 2018. All planning documents created or used are included in Appendix A.

1. **Establish the Planning Team:** An initial meeting was held with the Council to establish a point of contact and identify other team members. The titles and organizations of the Planning Team members are identified in Table 3-1. During the initial meeting there was a brief discussion about hazards that affect the community as described in the Risk Assessment (Section 5.0).
2. **Education of the Planning Team:** The THMP planning process was described to the Planning Team on September 6, 2018 and participants were asked to help identify hazards that affect the Community, and critical infrastructure.
3. **Organize Resources:** Members of the Planning Team identified resources, including staff, agencies, and local community members who could provide technical expertise and historical information needed in the development of the THMP (see Sections 3.2 and 3.3.1).
4. **Assess Risks**: The Planning Team identified the hazards and assets within the Community. With the assistance of Bristol, the Planning Team developed a risk analysis for the community assets in relation to the identified hazards. The Planning Team identified the areas of greatest concern to the Community and developed vulnerability statements. Section 5.0 provides a detailed description of the Risk Assessment.

5. Assess Capabilities: The Planning Team reviewed current administrative and technical, legal and regulatory, and fiscal capabilities to determine whether existing provisions and requirements adequately address relevant hazards (see Section 3.4 and Section 6.1).
6. Develop a Mitigation Strategy: After reviewing the risk analysis and vulnerability statements, the Planning Team developed the mitigation goals. Once goals were established, the Planning Team identified a comprehensive range of potential mitigation actions. Subsequently, the Planning Team refined the prioritized mitigation actions, and evaluated and prioritized the actions for implementation. Section 6.0 provides a detailed description of the Mitigation Strategy.
7. Monitor, Evaluate, and Plan Updates: The Planning Team developed a process to monitor, evaluate, and update the THMP to ensure it will be used as intended (see Section 4.0). Plan maintenance forms can be found in Appendix C. The Planning Team also established a plan to track the progress of the identified mitigation actions (see Section 6.7). Mitigation tracking forms are located in Appendix E.

In addition to the steps above the Planning Team encouraged community input throughout the planning process. Section 3.3 details how the public was involved in the planning process.

3.2 PLANNING TEAM

The Planning Team is shown in Table 3-1, 44 CFR 201.7(c)(1).

Table 3-1 Hazard Mitigation Planning Team

Name	Title	Organization
Aleck Phillips Jr.	Member	Native Village of Perryville
Gerald Kosbruk	President	Native Village of Perryville
Donovan Shangin	Roads Administrator	Native Village of Perryville
DanaLee Phillips	Administrator/Clerk	Native Village of Perryville
Austin Shangin	Secretary/Treasurer	Native Village of Perryville
Johnathan Kosbruk	Community Member	Community Member
Dan Breeden	Director	BBNA DOTID
Annie Fritze	Program Manager	BBNA DOTID
Isaac Pearson	Senior Engineer	Bristol (THMP Consultant)
Danielle Dance	Civil Engineer	Bristol (THMP Consultant)

3.3 PUBLIC INVOLVEMENT

Public involvement is important to the planning process of the THMP, 44 CFR 201.7(c)(1)(i). The Council defines "public" as living in the tribal service area or on tribal land, as well as any tribal member or citizen not living on the tribal lands that desires to provide comment on the THMP. It is important for the public to understand and be educated on the Community's priorities. The public also provides valuable insight into issues of concern, identifying community assets and areas that need improvement. The public can provide important information about the history of hazards that have affected the area. Additionally, they can provide ideas for continuing public involvement after the plan has been adopted.

A public meeting was held by BBNA DOTID and Bristol on April 23, 2019 in the Community to educate and receive feedback on the THMP. During the meeting, participants were given the opportunity to discuss how they have personally been impacted by the identified hazards in their community. They were also given the opportunity to discuss mitigation strategies that they felt would help prevent future losses due to the hazards. Additionally, the community was asked how they would like to be included in the remaining planning process and throughout the implementation of the mitigation strategies.

Newsletters were used to inform the public about the project. The first newsletter provided an overall description of the project, its purpose, the general process for plan development, and ways for the public to participate in the development of the plan. The second newsletter was sent to inform the public that a draft of the THMP was ready for review and provided the dates for a public review and comment period.

In addition to the public meeting and newsletters, residents or interested parties were encouraged to participate in, and had access to a public survey. This survey was available and located in the tribal office throughout the planning process and during the public meeting.

Eleven surveys were completed and returned. The residents of the Community identified through the survey that they are most concerned about volcanic eruptions (see Exhibit 3-1). Additionally, Exhibit 3-2 illustrates the opinions of the residents regarding the importance of community assets. A copy of the survey distributed to community members and a complete summary of responses can be found in Appendix B.

Exhibit 3-1: Natural Disaster Concern (Survey Question #2)

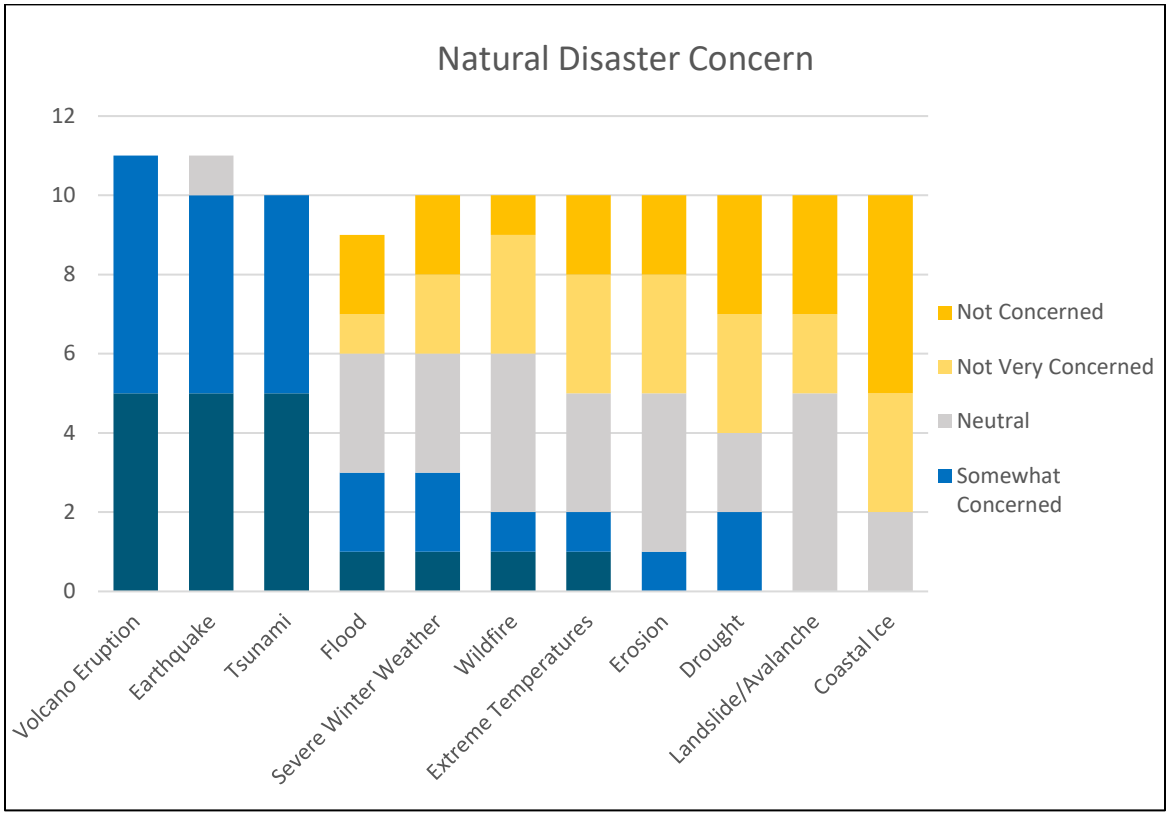
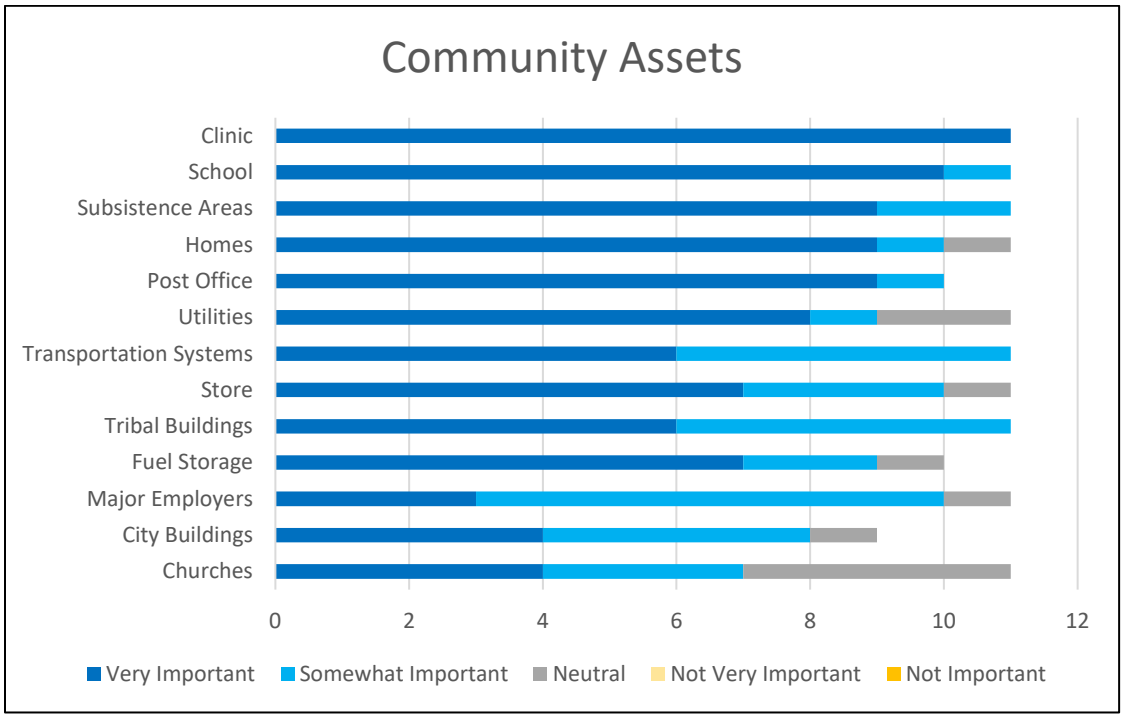


Exhibit 3-2: Community Assets (Survey Question #7)



All documentation and materials used to involve the public are located in Appendix B. This includes: public meeting advertisements, sign-in sheets, presentations, handouts, newsletters, surveys and a summary of responses, and any comments received via email, phone, or facsimile.

3.3.1 Other Communities, Tribal Agencies, and Regional Agencies Involved

The Planning Team worked to include all stakeholders in the planning process and development of the THMP, 44 CFR 201.7(c)(1)(ii). Table 3-2 provides the other stakeholders, communities, tribal agencies, and regional agencies that were involved in the planning process and development of the plan.

Table 3-2: Stakeholder Contacts

Stakeholder Type	Stakeholder	Contact Person (Title)	Contact Email
Village for Profit	Oceanside Corporation	Patrick Kosbruk (President)	patkosbruk@gmail.com
Non-Profit Agency	BBNA	Gayla Hoseth (Natural Resources Director)	ghoseth@bbna.com
Non-Profit Agency	BBNA	Carla Akelkok (VPSO Program Manager)	cakelkok@bbna.com
Economic Development	BBNA	Kristina Andrew (Program Manager)	krandrew@bbna.com
Regional for Profit	Bristol Bay Native Corporation	Jason Metrokin (President)	Jmetrokin@bbnc.net
Regional Housing	Bristol Bay Housing Authority	Brenda Akelkok (Executive Director)	bakelkok@bbha.org
Borough	Lake and Peninsula Borough	Kate Conley (Borough Clerk)	kateconley@lakeandpen.com
Borough	Lake and Peninsula Borough	Nate Hill (Borough Manager)	manager@lakeandpen.com
Regional Hospital	Bristol Bay Area Health Corporation (BBAHC)	Robert Clark (CEO)	rclark@bbahc.org

Table 3-2 (Continued): Stakeholder Contacts

Stakeholder Type	Stakeholder	Contact Person (Title)	Contact Email
Clinic	BBAHC	Sephora Trefon (Health Aide)	strefon@bbahc.org
Clinic	BBAHC	Justine Kosbruk (Health Aide)	jkosbruk@bbahc.org
School District	Lake and Peninsula School District	Ty Mase (Superintendent)	tmase@lpsd.com
School	Perryville School	Joe Ward (Principal/Lead Teacher)	jward@lpsd.com
Electric Utility	Village of Perryville	Aaron Phillips	nvproads@hotmail.com
Telephone	GCI	Lana Woods (Permitting & Compliance Manager)	lwoods@gci.com
State Representative	State of Alaska	Bryce Edgmon (Representative)	representative.bryce.edgmon@akleg.gov
State Senator	State of Alaska	Lyman Hoffman (Senator)	senator.lyman.hoffman@akleg.gov

Applicable stakeholders were contacted by e-mail to invite their participation in the planning process. Applicable comments provided by these stakeholders are included in Appendix B.

3.4 INCORPORATION OF EXISTING PLANS/STUDIES/REPORTS

During the development of the THMP the Planning Team reviewed any applicable existing plans, studies, and reports, 44 CFR 201.7(c)(1)(iii). Table 3-3 lists those documents reviewed by the Planning Team and contains a summary of the incorporated content.

Table 3-3: Existing Plans, Studies, and Reports Reviewed

Plans/Studies/Reports Reviewed for this THMP	Summary of Incorporated Content
US Army Corps of Engineers (USACE) Alaska Baseline Erosion Assessment	This report identifies the Community as having erosion issues (USACE, 2009).
USACE Erosion Assessment	Flooding is caused by severe Pacific Ocean storms. When these flood waters are high they can wash out the fine-grained road surface material causing damage (USACE, 2008).
State of Alaska Hazard Mitigation Plan	Identifies profiled hazards, provides resources, and provides goals and mitigation strategies identified by the State of Alaska Division of Homeland Security and Emergency Management (DHS&EM) (DHS&EM, 2013).
Alaska Emergency Response Guide for Small Communities	This guide provides general procedures to assist local officials in preparing for, responding to, and recovering from emergency and disaster situations developed by the State of Alaska DHS&EM (DHS&EM, 2017).
Lake and Peninsula Borough Multi-Jurisdictional Hazard Mitigation Plan Update	This report provides the Borough mitigation actions and goals (Lake and Peninsula Borough, 2015).
Perryville Community Plan	This plan identifies community goals and actions (Native Village Of Perryville, 2005).
DRAFT Regional Tsunami Hazard Assessment for False Pass and Perryville, Alaska	This draft report discusses potential tsunami hazards for Perryville to aide local emergency management agencies in planning for the Community (University of Alaska Fairbanks Alaska Earthquake Center, 2019).

NOTE: Complete reference information for the Plans/Studies/Reports in the table above is included in Section 8.0 of this plan.

3.5 INTEGRATION INTO OTHER TRIBAL PLANNING PROCESSES

The Planning Team worked to share and integrate the information collected during the planning process with other tribal planning processes, 44 CFR 201.7(c)(1)(iv). They accomplished this by attending tribal planning meetings when invited and providing regular updates to the Council. Through this process the Planning Team was also able to identify projects or actions for the mitigation plan.

There were no FEMA programs or initiatives occurring at the time of the planning process. Therefore, the planning process was not integrated into other FEMA programs or initiatives.

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4.0 PLAN MAINTENANCE

This section provides a formal maintenance plan to monitor, evaluate, and update the THMP to ensure that it remains an applicable and active document, and that improvements and updates to the THMP happen in a coordinated and organized manner, 44 CFR 201.7(c)(4)(i). This section also describes how the Council plans to continue public involvement in the maintenance of the plan. Appendix C contains questionnaires and forms to track the maintenance process.

4.1 MONITORING

The Planning Team will continue to monitor the progress of the mitigation actions to track the relevance and implementation of the mitigation action plan (Section 6.6) and all of its elements. Once a year from the time that the plan is adopted, the Tribal Administrator, or designee, will track the status of implementation of the identified mitigation actions and provide a status report to the Council. A more thorough review, by the responsible agency, of the progress of each identified mitigation action will be addressed in Section 6.7. The THMP Maintenance Monitoring Form (THMP Form 4-1) is located in Appendix C.

4.2 EVALUATING

The Planning Team will evaluate the THMP, in its entirety, to assess its effectiveness at achieving its stated goals and purposes. The Planning Team will evaluate the progress towards the THMP goals on an annual basis from the time the plan was adopted. The THMP Plan Update Evaluation Form (THMP Form 4-2) is located in Appendix C. This evaluation will include a review of the following:

- Identification of agencies, stakeholders, residents that have participated in THMP implementation efforts;
- Identification of notable changes to the risk assessment;
- Identification of new hazards and their impacts;
- Identification of new reports or planning materials available to the Community; and
- Identification of new hazard mitigation projects.

The Tribal Administrator, or designee, will contact the Council and other applicable stakeholders identified in Sections 3.2 and 3.3.1 to determine if the THMP needs to be updated to address newly identified hazards, new reports, or new hazard mitigation projects. The Tribal Administrator, or designee, will e-mail all stakeholders summarizing this process and request a planning meeting, if an update is warranted.

4.3 UPDATING

The THMP will be updated at least once every five (5) years. The plan can be revised prior to this when significant changes need to be made, if any necessary changes are identified during the evaluation process (Section 4.2). The Tribal Administrator, or designee will contact the Council and Planning Team no later than the beginning of the fourth year following the THMP adoption to begin the process for updating the plan. The Planning Team will review and incorporate all applicable information collected or received to update the THMP. Comments received from the public and information collected from the THMP evaluation form (Form 4-2 located in Appendix C) and mitigation action plan review forms (Form 6-2 located in Appendix E) will aid the Planning Team in refocusing on any possible new hazards, or available resources.

In addition to reviewing the plan maintenance forms and mitigation action plan review forms the Planning Team will begin the following activities:

- Request grant assistance to update the THMP.
- Identify sections of the plan that need to be improved and begin brainstorming proposed changes.
- Update and analyze the risk assessment.
  - Review and update the hazard analysis.
  - Review and update the Community assets.
  - Complete a new risk analysis.
  - Re-evaluate the Community Vulnerability statements.
- Update the Community mitigation strategy.
  - Re-evaluate and update the Community mitigation goals.
  - Update and review mitigation actions.
- Update the THMP document.
- Submit updated THMP to FEMA for review and approval.

Table 4-1 identifies the plan maintenance timeline and the tasks that should be completed each year.

Table 4-1: Plan Maintenance Timeline

Year	Action(s)	Applicable Forms
2019	Plan Adoption	N/A
2020	• Monitor status of actions • Evaluate THMP	• THMP Form 4-1 • THMP Form 4-2
2021	• Monitor status of actions • Evaluate THMP	• THMP Form 4-1 • THMP Form 4-2
2022	• Monitor status of actions • Evaluate THMP	• THMP Form 4-1 • THMP Form 4-2
2023	Begin plan update activities (outlined in Section 4.3)	N/A
2024	Finalize THMP update	N/A
2025	THMP Update adopted	N/A

4.4 PUBLIC INVOLVEMENT IN THE PLAN MAINTENANCE PROCESS

The Council is committed to involving the public in the continual maintenance and updating of the THMP, 44 CFR 201.7(c)(4)(iv). A continued effort will be made to identify opportunities to raise community awareness about the hazards that affect the Community. This effort could include attendance and provision of materials at Tribe-sponsored events, outreach programs, and public mailings. Additionally, efforts will be made to include hazard mitigation into Community public meetings when possible.

A paper copy of the THMP and any proposed changes will be available at the Tribal office and at the BBNA DOTID office. An electronic copy of the THMP Plan will also be available from the Tribal office or the BBNA DOTID office. Comments or concerns can be directed to the Tribal Administrator, or designee. Any comments or concerns collected will be included in the annual monitoring effort and considered for inclusion in future THMP updates.

The Planning Team will ensure that the public will be involved in the THMP update. This involvement could be in the form of public meetings, newsletters, or other community correspondence techniques. The public will be given the time to review the draft plan prior to its adoption.

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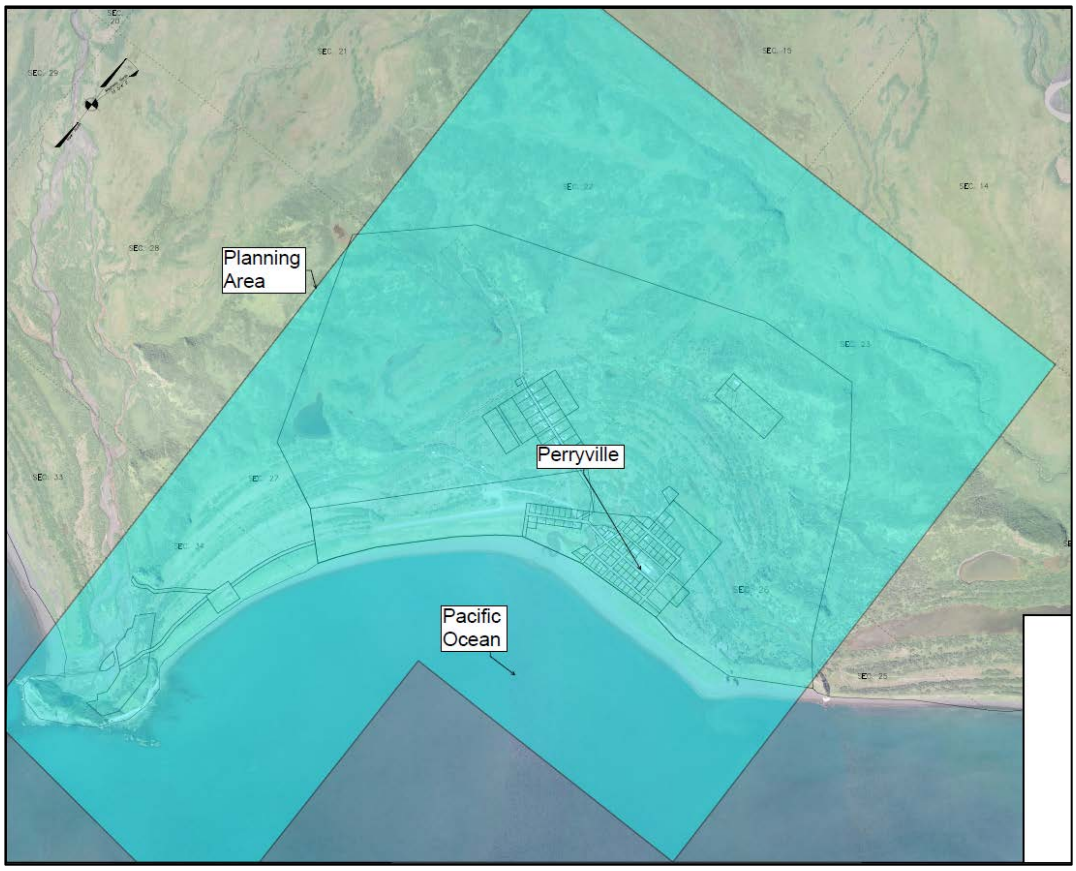
5.0 RISK ASSESSMENT

This section provides an analysis of the hazards that affect the Community planning area, 44 CFR 201.7(c)(2)(i). This section also identifies the Community's assets, analyzes the risks of assets associated with each hazard type, and assesses the vulnerabilities of local people, property, and natural environment.

The Community planning area is shown in Exhibit 5-1. The planning area encompasses Sections 22, 23, 26, 27 and 34 of Township 49 South Range 64 West, of the Seward Meridian. Community trails and subsistence areas may extend beyond the sections shown.

Exhibit 5-1: Planning Area



5.1 HAZARD ANALYSIS

The first step in the risk assessment is to identify the natural hazards that could affect the planning area. Natural hazards result from uncontrollable or unexpected natural events. The Planning Team reviewed 13 possible hazards that could affect the planning area. Each hazard was evaluated based on a range of factors. Table 5-1 through Table 5-4 provide the classifications and definitions of each factor (FEMA, March 2013). These factors included

the location of affected area (Table 5-1), the maximum extent or magnitude of the event (Table 5-2), and the probability of future events (Table 5-3). Based on the rankings from Table 5-1 through Table 5-3 the possible hazards were then ranked again based on their overall impact on the Community (Table 5-4). The hazard identification worksheet (Worksheet 1) is located in Appendix A.

Table 5-1 provides a classification and its definition related to the geographic area that the hazard may affect.

Table 5-1: Location

Color Code	Area Affected	Definition
BLUE	Negligible	• Isolated single-point occurrences • Less than 10% of planning area
GREEN	Limited	• Limited single-point occurrences • 10% to 25% of planning area
YELLOW	Significant	• Frequent single-point occurrences • 25% to 75% of planning area
RED	Extensive	• Consistenct single-point occurrences • 75% to 100% of planning area

Table 5-2 provides classifications and definitions used to determine the significance of each hazard based on maximum extent or magnitude seen in historic events or future probability.

Table 5-2: Maximum Extent or Magnitude

Color Code	Maximum Extent	Definition
BLUE	Weak	• Little to no damage done • Slow speed of onset or short duration of event • Limited classification on scientific scale (if applicable)
GREEN	Moderate	• Some damage and loss of services for days • Moderate speed of onset or moderate duration of event • Moderate classification on scientific scale (if applicable)
YELLOW	Severe	• Devastating damage and loss of services for weeks or months • Fast speed of onset or long duration of event • Severe classification on scientific scale (if applicable)
RED	Extreme	• Catastrophic damage and uninhabitable conditions • Immediate onset or extended duration of event • Extreme classification on scientific scale (if applicable)

Table 5-3 provides classifications with definitions related to the probability of future events happening in the planning area.

Table 5-3: Probability of Future Events

Color Code	Probability of Future Event	Definition
BLUE	Unlikely	• Less than 1% probability of occurrence in the next year • Recurrence interval of greater than every 100 years
GREEN	Occasional	• 1% to 10% probability of occurrence in the next year • Recurrence interval of 11 to 100 years
YELLOW	Likely	• 10% to 90% probability of occurrence in the next year • Recurrence interval of 1 to 10 years
RED	Highly Likely	• 90% to 100% probability of occurrence in the next year • Recurrence interval of less than 1 year

After the possible hazards were evaluated according to location, extent or magnitude, and probable future occurrence each hazard was then ranked according to its overall impact. A hazard's overall impact is the effect or consequence of the hazard on the Community and its assets. The Community's assets are identified and further discussed in Section 5.2. Table 5-4 provides the classifications with definitions to determine the overall impact of each hazard on the planning area.

Table 5-4: Overall Impact

Color Code	Impact	Definition
GREEN	Low	• Event has minimal impact on planning area • Two or more criteria fall in lower classifications
YELLOW	Medium	• Event's impacts on the planning area are noticeable but not devastating • Criteria fall mostly in the middle ranges of classifications
RED	High	• Event is likely/highly likely to occur with severe strength over a significant or extensive portion of the planning area • Criteria consistently fall in the high classifications

Table 5-5 shows a summary of the hazard analysis (also provided in Appendix A, Worksheet 1). This summary identifies each of the hazards evaluated, if the hazard presents a significant impact to the Community, and an explanation of why it was or was not determined to be significant to the Community and further analyzed by the Planning Team.

Table 5-5: Significant Hazards in the Planning Area

Hazard	Significant (Yes/No)	Explanation
Avalanche	No	Avalanches occur in the surrounding mountains but do not have a direct impact on the Community.
Drought	No	Times with little to no rainfall, which can last about 3-4 weeks. This can contribute to the increase of dust emissions and cause dry vegetation, increasing the risk of wildfires. It can also decrease berry production. However, at this time this hazard is not a major concern for the Community.
Earthquake	Yes	Earthquakes occur in the Community, and can result in damage to buildings, utilities, and increases the risk for tsunamis in the Community.
Erosion	No	The Community is situated along the Pacific Ocean. The Community does not experience much erosion. Some erosion occurs in surrounding areas and along rivers that can affect subsistence fishing.
Extreme Temperatures (Severe Cold & Heat)	Yes	Residents are experiencing more severe heat days and less severe cold days than in the past. Severe cold days can freeze pipes, and limits hunting and gathering activities. Extreme heat can impact subsistence resources, increase dust emissions, and cause stress to small children and elders.
Flood	Yes	Flooding can occur due to winter storms a riverine flooding. The Community's current drainage system does not have a large enough capacity. Flooding can restrict access to homes and wash out roads in the Community.
Landslide	No	Landslides generally do not occur and are unlikely to negatively affect the Community. There is a hill behind the village that has a potential for a landslide, however none have occurred.
Severe Wind	Yes	Strong wind storms occur in the spring and fall in the Community. These storms can damage buildings by blowing off roofs and siding, and keep planes from landing and delivering food, medecine, etc.
Severe Winter Weather	Yes	Severe winter weather can affect plane access to the Community for travel, food and supplies, and medical emergency evacuations. Severe winter weather can create hazardous driving conditions due to snow and ice.
Subsidence	Yes	The Community is built on sandy soil. Houses are sinking and the tilting of foundations can damage flooring.
Tsunami	Yes	The Community is located along the coast of the Pacific Ocean and has the potential for tsunmai impacts.

Table 5-5 (Continued): Significant Hazards in the Planning Area

Hazard	Significant (Yes/No)	Explanation
Volcano	Yes	The Community is located 22 miles from Mount Veniaminof. It is actively monitored and erupts ash every few years. It has deposited ash in the Community many times in the recent history. The corrosive properties of volcanic ash are harmful to equipment and detrimental to human health.
Wildfire	Yes	There have been 3 fires within roughly 15 miles of the Community since 1992, totaling 293 acres. Wildfires can destroy structures and subsistence resources, and is a severe risk to human life.

The following sections examine each hazard identified by the Tribe that could impact the planning area. This examination includes a general description of each hazard, its anticipated location, anticipated extent, history of occurrences in the planning area, and the probability of future occurrences.

Some hazards, such as tornadoes, could occur in the planning area, but with such infrequency that they were not considered for this evaluation.

5.1.1 Earthquake

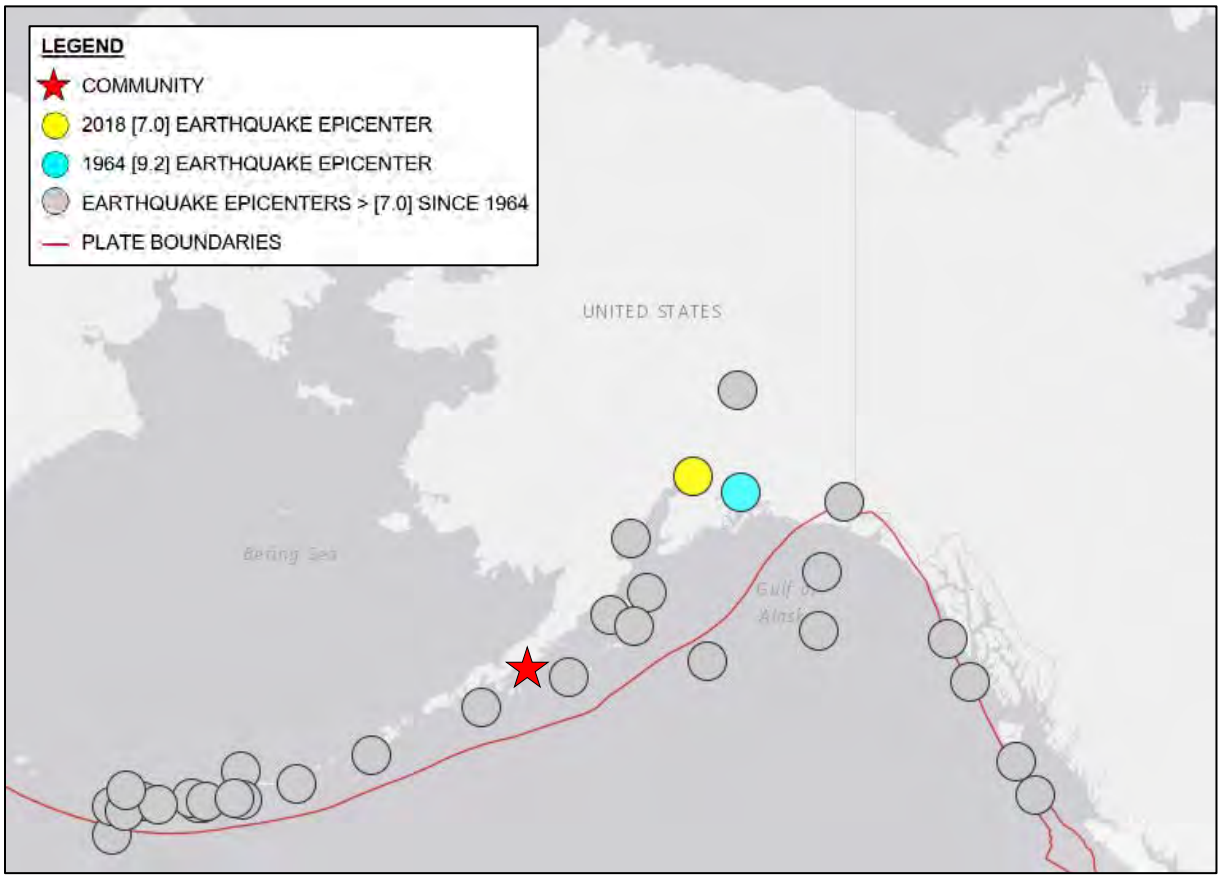
An earthquake is a sudden trembling or movement in the earth's crust due to a sudden release of energy along the edge of the earth's tectonic plates. Earthquakes typically occur without warning. The effects of an earthquake can be felt far beyond the site of its epicenter. The epicenter is the point on the earth's surface that is vertically above the point in the crust where the seismic movement begins. A seismometer detects the vibrations caused by an earthquake and plots them on a seismograph. The magnitude of an earthquake is measured using the Richter scale. Most earthquake-related deaths and property damage are caused by the collapse and failure of structures due to ground shaking. The amount of damage depends upon the duration and extent of the shaking.

Landslides, liquefaction, and tsunamis are some other damaging effects of an earthquake. Earthquake-induced landslides are the down-slope movement of rock, soil and other debris due to ground movement on a steep mountain or hillside slope. Liquefaction occurs when saturated, unconsolidated sand or soil is disturbed due to the shaking from an earthquake. This shaking causes ordinarily solid material or soils to behave like a liquid. A tsunami is a series of enormous ocean waves that can damage or destroy buildings and infrastructure and cause flooding.

5.1.1.1 Location

An earthquake above a 7.0 on the Richter scale is considered a major earthquake. The epicenters of all major earthquakes occurring in Alaska since 1964 are shown on Exhibit 5-2. This map was developed using the US Geological Survey (USGS) Earthquake Catalog Search feature (USGS, 2018). The Community is located approximately 544 miles southwest of the 1964 earthquake epicenter, the largest recorded earthquake in Alaska. The Community is not located on any mapped fault lines. The largest earthquake that has occurred within a 75 miles radius of the Community was a magnitude 6.9 on the Richter scale, located 72.2 miles away on the Alaska Peninsula in May 1993. The closest earthquake to occur near the Community above a magnitude 2.5 was a magnitude 2.6 earthquake that occurred 4.8 miles away in March 2013 (USGS, 2018). More historic earthquakes information surrounding the community is provided in Section 5.1.2.3.

Exhibit 5-2: Major Earthquakes in Alaska



5.1.1.2 Extent

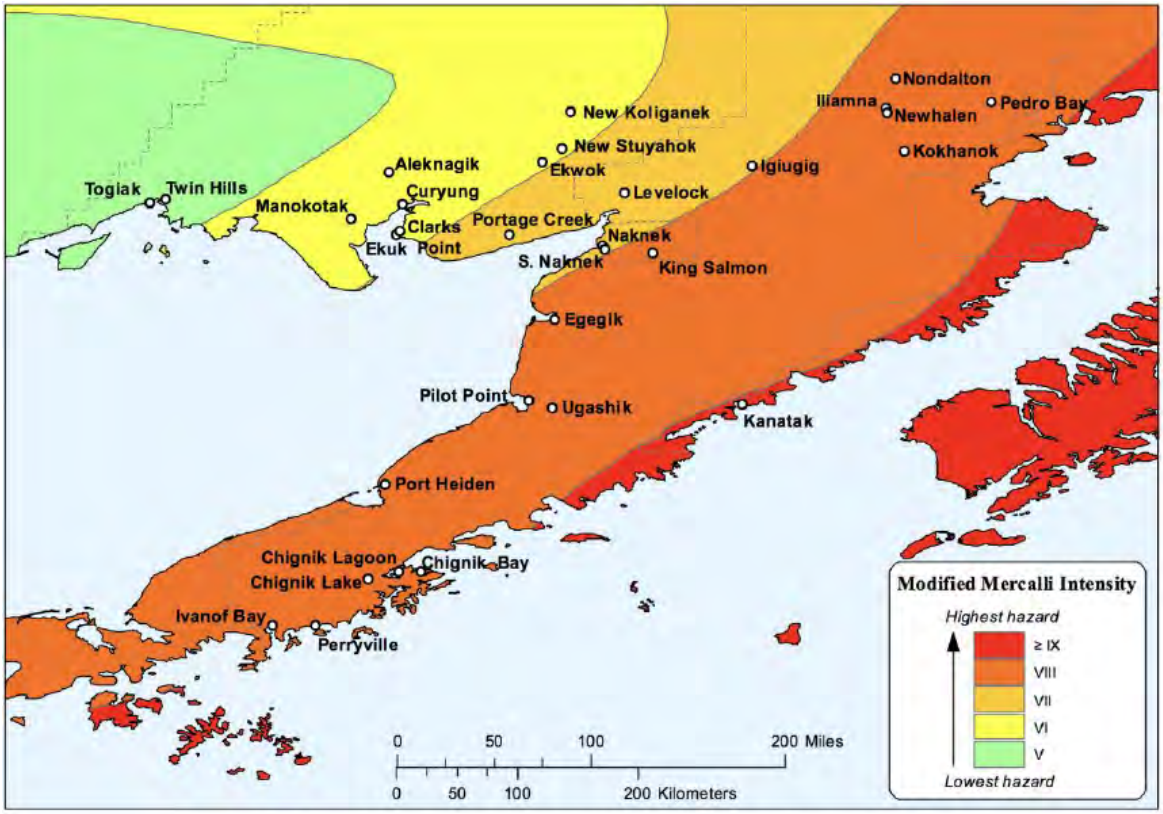
Earthquakes are felt in the Community. Community members have reportedly felt slight tremors from major earthquakes in Alaska, but these earthquakes have not caused any

known damage in the Community. The most severe earthquake felt in the Community was the Great Alaska Earthquake of 1964. This earthquake had a recorded magnitude of 9.2 on the Richter scale, making it the second largest recorded earthquake in the world. Its effects were felt as far away as South Africa (Alaska Earthquake Center, 2018).

The Geological Hazards Team of the USGS National Earthquake Information Center in Golden, Colorado created a time-independent probabilistic seismic hazard map for the Bristol Bay Region of Alaska. The map (Exhibit 5-3) depicts the intensity of potential earthquake ground shaking that has a 2% chance of occurring in 50 years, presented in terms of the Modified Mercalli Scale (MM) and based on peak ground acceleration. The Community is located in a Zone VIII MM Intensity, indicating the earthquake risk is High (Natalia Ruppert, Presentation, November 22, 2016).

Exhibit 5-4 provides a description of damages that can occur at each magnitude of the MM. This exhibit also provides an approximate Richter Scale equivalent for each MM intensity (USGS, 2019 and SMS Tsunami Warning, 2018).

Exhibit 5-3: Bristol Bay Earthquake Hazard Map



USGS map showing the intensity of potential earthquake ground shaking that has a 2% chance of occurring in 50 years, site class B
(based on peak ground acceleration)

Exhibit 5-4: Modified Mercalli Intensity Scale with Approximate Richter Scale Equivalent

MM Intensity	Richter Scale (approximate)	People's Reaction	Furnishings	Built Environment	Natural Environment
I	1-2	Not felt			Changes in level and clarity of well water are occastionally associated with great earthquakes at distances beyond which the earhtquakes felt by people
II	3	Felt by a few	Delicately suspended objects may swing.		
III	3.5	Felt by several; vibration like passing truck.	Hanging objects may swing appreciably.		
IV	4	Felt by many; sensation like heavy body striking building.	Dishes rattle	Walls creak; windows rattle	
V	4.6	Felt by nearly all; frightens a few.	Picutres swing out of place; small objects move; a few objects fall from shelves within the community.	A few instances of craked plaster and cracked windows with the community.	Trees and bushes shaken noticeably.
VI	5	Frightens many; people move unsteadily.	Many objects fall from shelves.	A few instances of fallen plaster, broken windows, and damaged chimneys within the community.	Some fall of tree limbs and tops, isolated rockfalls and landslides, and isolated liquefaction.
VII	5.5	Frightens most; some lose balance.	Heavy furniture overturned.	Damage negligible in buildings of good design and construction, but considerable in some poorly built or badly designed structures; weak chimneys broken at roof line, fall of unbraced parapets.	Tree damage, rockfalls, landslides, and liquefaction are more severe and widespread with increasing intensity.
VIII	6	Many find it difficult to stand	Very heavy furniture moves conspicuously.	Damage slight in buidlings designed to be earthquake resistant, but severe in some poorly built structures. Widespread fall of chimneys and monuments.	
IX	6.5	Some forcibly thrown to the ground.		Damage considerable in some buildings designed to be earthquake resistant; buildings shift off foundations if not bolted to them.	
X	7			Most ordinary masonry structures collapse; damage moderate to severe in many buildings designed to be earthquake resistant.	

NOTE: Information in this exhibit is a compilation of information from the USGS Modified Mercalli Scale, and the SMS Tsunami Warning Scale (reference information located in Section 8.0).

Seismic activity can cause damage to older community structures and underground utilities. Some community structures and homes have cracks in the walls due to seismic activity. The Community relies on surface water for their water. This water is piped to homes for drinking and other household uses. Earthquakes have the potential to cause pipes to shift and break. If this were to happen in cold weather it could cause flooding and other related damages to homes. This activity also has the potential to cause chemical spills if tank connections become loose or break. Additionally, seismic activity has the potential to cause the onset of tsunamis and require evacuation to the tsunami shelter. This is a challenge for some residents, especially elders in the Community. More information regarding tsunamis can be found in Section 5.1.7.

5.1.1.3 History of Occurrences

The USGS Search Earthquake Catalog was consulted for a history of recorded earthquakes with epicenters within 75 miles of the Community and magnitude of 2.5 or greater since

1964. Table 5-6 shows the top ten data results by distance from the Community, Table 5-7 by magnitude, and Table 5-8 by date (USGS, 2018).

Table 5-6: Top 10 Historic Earthquake Epicenters Closest to Community

Date	Magnitude	Distance from Perryville (miles)	Location
Mar-2013	2.6	4.8	52 kilometer (km) SSW* of Chignik Lake
Mar-2014	2.7	4.9	43 km SW* of Chignik Lake
Dec-2013	2.8	5.2	47 km SW* of Chignik Lake
Nov-2009	2.9	5.8	Alaska Peninsula
Jan-2016	2.6	6.4	36 km SSW* of Chignik Lake
Jan-1982	4.4	6.9	Alaska Peninsula
Feb-2014	2.7	7.3	52 km SW* of Chignik Lake
Apr-2018	2.6	7.8	46 km SW* of Chignik Lake
Jan-2001	3.6	8.7	Alaska Peninsula
Apr-1998	2.7	9.0	Alaska Peninsula

* South Southwest (SSW), Southwest (SW)

Table 5-7: Top 10 Greatest Magnitude Historic Earthquakes near Community

Date	Magnitude	Distance from Perryville (miles)	Location
May-1993	6.9	72.2	Alaska Peninsula
Feb-1983	6.5	67.8	South of Alaska
Mar-1972	6.4	74.3	Alaska Peninsula
Jan-1985	6.0	61.1	Alaska Peninsula
Apr-1974	6.0	74.7	Alaska Peninsula
Aug-1952	6.0	69.9	Alaska Peninsula
Feb-1983	5.9	65.3	South of Alaska
Feb-1972	5.8	31.4	Alaska Peninsula
May-2016	5.7	43.2	95 km NE* of Chernabura Island
May-1993	5.7	73.3	Alaska Peninsula

* Northeast (NE)

Table 5-8: Top 10 Most Recent Historic Earthquakes near Community

Date	Magnitude	Distance from Perryville (miles)	Location
Nov-2018	2.8	31.7	66 km ENE* of Sand Point
Nov-2018	3.3	48.2	50 km NNE* of Chernabura Island
Nov-2018	3.4	69.3	14 km NW* of Sand Point
Nov-2018	3.6	64.1	93 km ESE* of Chignik Lake
Nov-2018	2.5	58.8	84 km ESE* of Chignik Lake
Nov-2018	2.9	57.3	91 km SE* of Chignik Lake
Nov-2018	2.7	71.5	84 km ENE* of Chernabura Island
Nov-2018	2.7	18.9	18 km S* of Chignik Lake
Nov-2018	2.9	23.6	67 km S* of Chignik Lake
Nov-2018	2.5	24.2	28 km W* of Chignik Lake

* East Northeast (ENE), North Northeast (NNE), Northwest (NW), East Southeast (ESE), Southeast (SE), South (S), West (W)

In addition to the earthquakes listed above in the Tables 5-6 through 5-8, residents specifically recalled an earthquake that occurred in February 2018. This event is not listed in the previous tables because it fell just outside of the distance, magnitude, and time frame parameters. This earthquake was a magnitude 5.0. The Community received a tsunami warning and alerted residents to evacuate to the tsunami shelter. There were no injuries, and minimal damage related to this earthquake.

5.1.1.4 Probability of Future Events

It is highly likely for earthquakes to occur in or near the Community in the future.

5.1.2 Extreme Temperatures

Extreme temperatures constitute different conditions in different parts of the country. In colder climate regions such as Alaska, extreme cold events involve temperatures -10°F and below. Extreme cold temperatures can occur after a winter storm or during long durations of storm inactivity. Fatalities and injuries can occur from extreme cold by causing hyperthermia or frostbite (NOAA, NWS, December 2018). Extreme heat events involve temperatures above 80°F. These temperatures are much rarer in Alaska but are being experienced more frequently due to climate change.

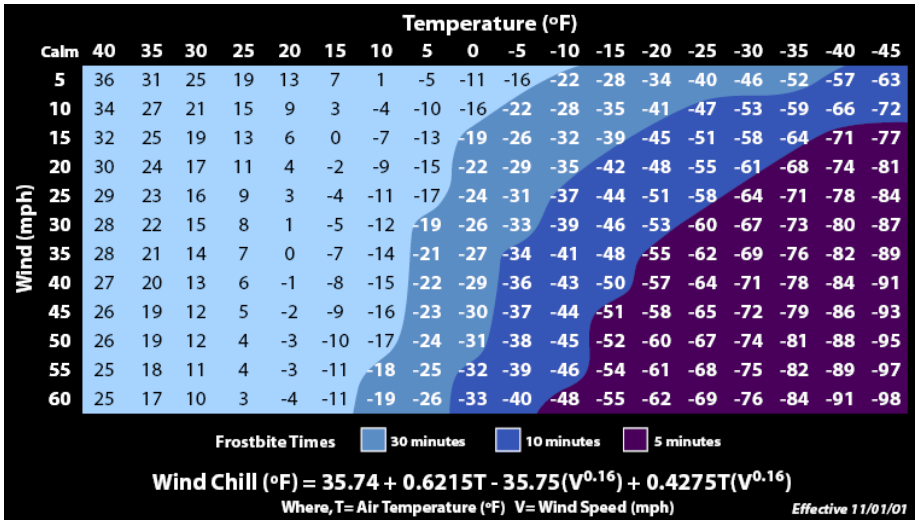
5.1.2.1 Location

Extreme temperatures affect the entire tribal planning area (see Exhibit 5-1).

5.1.2.2 Extent

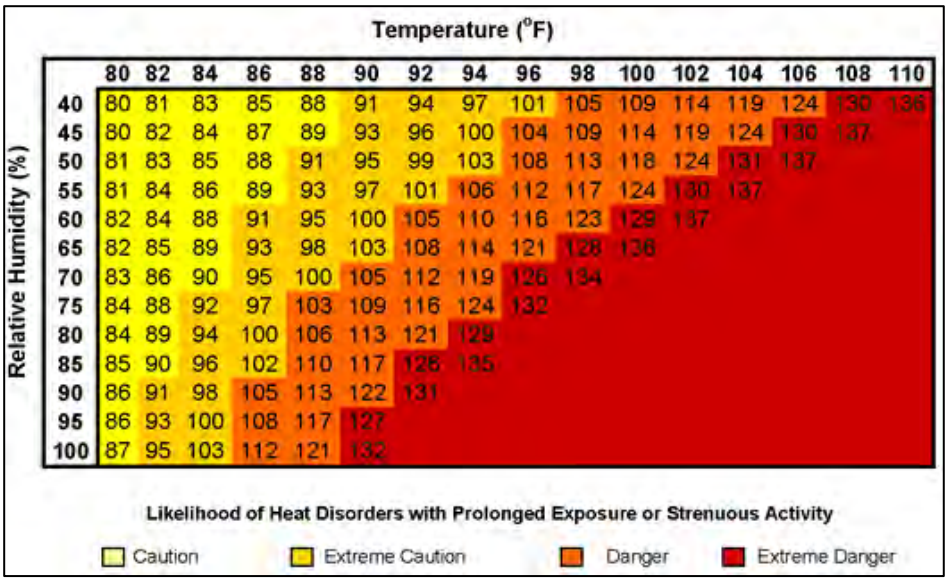
Extreme cold varies from region to region. For the purpose of this report, extreme cold is being classified as the temperature at which frostbite occurs in 30 minutes, or less. This determination was based on the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) wind chill chart in Exhibit 5-5 (NOAA NWS, 2018).

Exhibit 5-5: Wind Chill Chart



Extreme heat has been classified as the temperature at which heat disorders are deemed cautionary, based on the NOAA NWS heat index in Exhibit 5-6 (NOAA NWS, 2018).

Exhibit 5-6: Heat Index Chart



The Community has experienced temperatures as low as -27°F in 2008 and as high as 78°F in 2015 (Weather Underground, 2018). Extreme cold temperatures tend to occur in the months of January and February. The wind chill can increase the risk of cold temperatures. There are no known fatalities, or illnesses caused by extreme temperatures in the Community. The Community noted that some residents have suffered from sunburn related injuries due to extreme heat events. Additionally, residents are impacted by these events in other various ways.

Most residents are aware of the dangers of extreme cold and know how to prepare for winter weather. The Community is most at risk of extreme cold during a power outage or during winter hunting expeditions. These temperatures cause issues with heating systems and limits gathering and hunting activities, which also includes gathering wood to heat homes. Additionally, pipes freeze in government and private structures during extreme cold events. When pipes freeze, they can break and cause flooding and other related damages to structures and homes. These events also make it difficult to operate vehicles and creates challenges for pumping oil.

Extreme heat, on the other hand, can cause the nearby lakes and streams to dry up. This impacts the community's subsistence food sources, such as wildlife, berries, and other vegetation. These warmer temperatures can cause vegetation to become dry and increase the risk of wildfires. The Community consists of mostly sand and the hot, dry weather can increase dust emissions caused by wind and travel on the fine-grained road surface and runways. Dust is a nuisance as well as a health hazard. Dust gets into everything and can settle on subsistence harvests. Inhaling airborne dust is also a risk, particularly for children, elders, and people with respiratory issues. Dust contains particulate matter that can irritate a person's eyes and throat, aggravate existing heart and lung disease, and damage lung tissue. There is no air conditioning and it is difficult to cool homes which causes stress to small children and the elderly residents in the Community. This can cause heat rashes and sunburns.

5.1.2.3 History of Occurrences

History of extreme temperature events is based on accounts from community members. According to residents, extreme cold is occurring less often while extreme heat is occurring more often. January and February sometimes have cold periods that cause water lines to freeze which can flood homes. According to residents, they have experienced temperatures in the 90s.

Data is not readily available for the Community. However, temperatures have been recorded in the nearby community of Port Moller, which is roughly 55 miles away. These communities are assumed to experience similar temperatures. Therefore, Table 5-9

identifies historical extreme cold events and Table 5-10 identifies historical extreme heat events recorded in Port Moller (Weather Underground, 2018).

Table 5-9: Historical Extreme Cold Events

Year	Minimum Temperature (°F)	#of Days Below -10°F
2018	3	0
2017	0	0
2016	19	0
2015	8	0
2014	0	0
2013	0	0
2012	1	0
2011	0	0
2010	0	0
2009	0	0
2008	-27	19

Table 5-10: Historical Extreme Heat Events

Year	Maximum Temperature (°F)	#of Days Above 80°F
2018	73	0
2017	72	0
2016	70	0
2015	78	0
2014	71	0
2013	64	0
2012	71	0
2011	69	0
2010	66	0
2009	66	0
2008	71	0

5.1.2.4 Probability of Future Events

It is highly likely that the Community will continue to experience the effects of extreme temperatures. The Community is noticing warmer temperatures than in past years.

5.1.3 Flood

Flooding is the accumulation of water where normally none exists. There are various types of flooding, such as, coastal flooding, riverine flooding, and shallow flooding. Additionally, flooding can occur due to rapid snowmelt, ice jams, heavy rainfall, severe thunderstorms, tropical storms, and other high precipitation events. Flooding can damage buildings, personal property, and infrastructure. It can cause road or bridge closures. It can cause a disruption of services, such as, transportation, or utility services. It can also cause injuries or death.

Flooding events are the most significant threats to ecosystems along river and coastal areas of Alaska. As the water runs over and through the watershed, it picks up and carries contaminants and soil. Everything from leaked motor oil on parking areas, plastic grocery bags, pesticides, fertilizers, detergents, and sediments; known as non-point source pollutants. Point source discharges are; discharge points, bulk fuel storage and sewage treatment plants, and other regulated known sources or points of pollutant discharges. If untreated, these pollutants wash directly into waterways carried by runoff from rain and snowmelt. These contaminants can infiltrate groundwater and concentrate in streams and rivers and can be carried down the watershed and into the ocean. Non-point source pollution is linked to the creation of large dead-zones (areas with minimal oxygen) in the ocean and threatens the health of the ecosystem.

5.1.3.1 Location

Areas in the Community at risk of flooding are depicted on Figures 1 and 2. FEMA flood maps are not available for the Community. The low-lying areas adjacent to the stream running next to the Community have the highest risk. Additionally, some roads and properties in the Community have poor drainage. During winter, these areas can flood and maintain standing water for days or weeks.

5.1.3.2 Extent

The Community has experienced flooding in the past from a combination of tidal flooding and heavy rain. According to the USACE, Alaska Baseline Erosion Assessment, local flooding is caused by severe Pacific Ocean storms. This assessment notes that when the water is high enough to cover roads it will wash out the fine-grained road surface material (USACE, 2008). The local creek backs up usually once a year during the late fall and early winter season. There is no record of how high the creek has risen in the past. However, it rises high enough to cover roadways. Due to this, roads and some homes can become inaccessible during storm season due to flooding. The current drainage system in the Community is unable to handle the water capacity during these events. The Community

noted that flood waters could take days to weeks to subside. In addition to homes and roads the Community utilities, and septic systems may also be at risk.

5.1.3.3 History of Occurrences

No data was available for floods; however residents recalled an event where a couple of houses in the Community had water raise up to the bottom of the doors. This restricted or blocked access to these homes. During this flood event, roads were also inaccessible. Residents were unable to provide a timeframe or water level for this event.

5.1.3.4 Probability of Future Events

It is highly likely flooding will continue to happen in the Community due to the continuing effects of rain and winter storms.

5.1.4 Severe Wind

Severe wind can accompany other natural hazards or occur alone. Wind events pose a threat to vital utilities, lives, and property. Severe winds are classified using the Beaufort Wind Scale. Strong gale winds of 47 miles per hour (mph) and greater are considered severe and likely to produce damage.

5.1.4.1 Location

Severe wind affects the entire tribal planning area (see Exhibit 5-1).

5.1.4.2 Extent

The Beaufort Wind Scale gives a force scale of 1 – 12 based on sustained wind speed. Exhibit 5-7 identifies the scale and the consequences that are possible at the different levels as well as, the impacts to ocean water movement (NOAA NWS, March 2013). Any wind event, Force 9 and higher is considered severe and can cause damage within the Community.

Exhibit 5-7: Beaufort Wind Scale

The Beaufort Wind Scale

Force	Name	Wind Speed knots	Wind Speed mph	Consequence
0	Calm	0	0	Smoke rises vertically
Wave height: 0 m - **Sea:** Like a mirror				
1	Light air	1-3	1-3	Smoke drifts with air
Wave height: 0.1 m (.25 ft) - **Sea:** Ripples - No foam crests				
2	Light breeze	4-6	4-7	Weather vanes become active
Wave height: 0.2-0.3 m (0.5-1 ft) - **Sea:** Small wavelets - Not breaking				
3	Gentle breeze	7-10	8-12	Leaves and small twigs move
Wave height: 0.6-1 m (2-3 ft) - **Sea:** Small wavelets - Crests begin to break				
4	Moderate breeze	11-16	13-18	Small branches sway
Wave height: 1-1.5 m - **Sea:** Small waves becoming longer, numerous whitecaps.				
5	Fresh breeze	17-21	19-24	Small trees sway - Waves break
Wave height: 2-2.5 m (6-8 ft) - **Sea:** Moderate waves - Many whitecaps				
6	Strong breeze	22-27	25-31	Large branches sway
Wave height: 3-4 m (9.5-13 ft) - **Sea:** Larger waves forming - Whitecaps everywhere				
7	Near gale	28-33	32-38	Whole trees sway - difficult to walk
Wave height: 4-5.5 m (13.5-19 ft) - **Sea:** Sea heaps up - White foam blown around				
8	Gale	34-40	39-46	Twigs break off trees
Wave height: 5.5-7.5 m (18-25 ft) - **Sea:** Edges of crests break into spindrifts				
9	Strong gale	41-47	47-54	Shingles blow off roofs
Wave height: 7-10 m (23-32 ft) - **Sea:** High waves - Sea rolls - Reduced visibility				
10	Storm	48-55	55-63	Trees uprooted - Damage to buildings
Wave height: 9-12.5 m (29-41 ft) - **Sea:** Very high waves with overhanging crests				
11	Violent Storm	56-63	64-73	Widespread damage
Wave height: 11.5-16 m (37-52 ft) - **Sea:** Exceptionally high waves				
12	Hurricane	Over 63	Over 73	Violent destruction
Wave height: 16+ m (52+ ft) - **Sea:** Sea completely white - Excessive foam				

Severe wind can be present all year, but these events are most common during the spring and fall months. These conditions can cause loose debris to blow around the Community and detach roofing or siding from homes and other structures.

In the winter, severe winds can cause snowdrifts that impacts visibility and travel throughout the Community. In the summer and fall months, severe wind conditions produce an unhealthy amount of dust. The airport runway and all of the roads in the

Community are gravel or consists of fine-grained material. This produces large amounts of airborne dust, impacting subsistence harvests and producing a breathing risk to everyone, but especially young children and those with respiratory issues.

Severe wind impacts air transportation in and out of the Community. This increases risks to residents if there is a lack of needed supplies, medications, and mail. This also decreases the ability to evacuate for medical emergencies.

5.1.4.3 History of Occurrences

Community residents noted a severe wind event during the winter of 2017 that blew the roofs off homes as well as damaged unoccupied buildings and homes throughout the Community. Additionally, the wind also kept planes from being able to land and deliver supplies and food for 2-3 weeks. Residents stated that this happens at least a couple of times each year.

Wind data is not readily available for the Community. However, wind speeds have been recorded in the nearby community of Port Moller, which is roughly 55 miles away. These communities are assumed to experience similar wind speeds although local topography can affect wind speeds felt in the Community. Therefore, Table 5-11 identifies historical severe wind events recorded in Port Moller (Weather Underground, 2018).

Table 5-11: Historical Severe Wind Events

Year	Max Wind Speed (mph)	# of Days Above 47 mph
2018	37	0
2017	40	0
2016	38	0
2015	39	0
2014	36	0
2013	47	1
2012	54	1
2011	44	0
2010	45	0
2009	45	0
2008	38	0

5.1.4.4 Probability of Future Events

Severe wind events are highly likely to continue to occur in the Community.

5.1.5 Severe Winter Weather

Severe winter storms can include snow, freezing rain, sleet, or a mix of the previous forms of precipitation. Heavy snowfall occurs when large quantities of snow is produced in a short period of time. Drifting snow creates an uneven distribution of snow caused by strong winds. This weather can cause harm to individuals, cause power outages, cause property damage, and damage utilities.

5.1.5.1 Location

Severe winter weather affects the entire tribal planning area (see Exhibit 5-1).

5.1.5.2 Extent

Air transportation is essential to the Community. Severe winter storm conditions create a hazard for planes to land in the Community. These storms hinder the ability to evacuate for medical emergencies, and receive needed supplies, medications, and mail due to ice or snow on the runway. There have been times in the past when planes have not been able to land in the Community for several weeks.

Traveling in severe winter conditions is dangerous for residents because of the blowing snow and reduced visibility. This is exacerbated by colder temperatures because of their effect on the snow ratio. Due to the average temperatures in Alaska being lower than the rest of the United States during winter months, a snow ratio of 1:20 was assumed. This means that for every 1 inch of precipitation, 20 inches of snow falls. With extreme cold, the snow ratio can increase up to 1:50. This 'fluffy' snow is hard to manage because it becomes airborne easily. Blowing snow is a hazard to residents. During a blizzard, it is challenging to see trails when out hunting in the winter. This can be dangerous during severe winter conditions. As a result, residents can become lost and are at risk of frost bite and hypothermia. These conditions also make it hard to see while driving around the community.

Icy conditions throughout the Community can present a hazard for all residents. Vehicles are at risk of sliding off the roads if the roads are not cleared of snow and ice. Walking residents are at risk of falling and injuring themselves. Walking residents share the road with vehicles and large equipment. This causes a risk to pedestrians walking in the Community.

5.1.5.3 History of Occurrences

Precipitation data is not readily available for the Community. However, precipitation has been recorded in the nearby community of Port Moller, which is roughly 55 miles away. These communities are assumed to experience similar amounts of precipitation. Table 5-12

identifies historical severe winter weather events recorded in Port Moller between the months of November and March. Precipitation data was not available between 2008 and 2012 (Weather Underground, 2018).

Table 5-12: Historical Severe Winter Weather Events

Year	Maximum One Day Precipitation (inches)	# of Days Above 1.0 inch
2018	2.11	5
2017	3.28	7
2016	1.84	3
2015	3.84	12
2014	6.42	27
2013	4.49	9
2012	0.55	0

Additionally, residents in the Community provided the following accounts of severe winter weather:

- The runway has been covered in ice and snow for a while and planes couldn't come in.
- When there is blowing snow, planes don't come in for days at a time.
- Vehicle doors have frozen shut after sleet and rain in cold conditions.

5.1.5.4 Probability of Future Events

Severe winter weather will likely continue to occur and impact the Community. However, the Community is noticing that they are not getting the amount of snow that they used to get in the past. This is due to the warmer winter temperatures that they are experiencing.

5.1.6 Subsidence

Subsidence is the settling of surface soils either gradually over time or a sudden sinking. This is often experienced in swampy areas with soft or wet soils. Many things including thawing permafrost, declining groundwater levels, compactions, mining, and drainage can cause subsidence. The collapse of surface areas can damage infrastructure and buildings.

5.1.6.1 Location

Subsidence impacts most of the planning area. Specific areas were not identified.

5.1.6.2 Extent

Subsidence in the Community is impacting buildings in the Community. Buildings are built on sandy soil, so the gradual settling of the earth around the Community is causing homes and other structures to settle and tilt. This can cause further damage to the buildings.

Additionally, the community power lines run underground and are at risk of failure if extreme subsidence occurs. This can cause potential power outages which would put residents at risk further if these outages happened during the winter months.

5.1.6.3 History of Occurrences

Data is not readily available for subsidence. However, a resident noted that homes are built on sandy soil so many are slowly sinking. Some houses are not level anymore which has caused damage to flooring. The flooring has been replaced, but the floors are still not level.

5.1.6.4 Probability of Future Events

Subsidence will likely continue to impact the community.

5.1.7 Tsunami

A tsunami is a series of large waves created disturbances that take place undersea, such as a volcanic eruption or earthquake. These waves are powerful and can travel many miles over open sea and can potentially cause devastating damage to shorelines. These powerful waves can result in flooding, can cause severe property damage, and cause injuries and deaths.

5.1.7.1 Location

Tsunamis could affect the entire tribal planning area (see Exhibit 5-1).

5.1.7.2 Extent

Tsunamis have not had an impact on the Community to this point. However, should a tsunami occur in the Community it could have an extreme impact. The Community has a safe shelter. When the Community receives a tsunami warning, typically a result of a nearby earthquake, they evacuate to the safe shelter. They remain in safe shelter until they receive notification that the threat has passed. This could be hours.

The Community is working with professionals at the University of Alaska Fairbanks Alaska Earthquake Center to determine evacuation times to aide in evacuation planning. This is in development. It is not easy for all residents to evacuate due to various reasons. The Community has a bus that collects residents that need help evacuating.

5.1.7.3 History of Occurrences

No tsunamis have occurred in the Community. However, residents stated that they occasionally receive tsunami warnings for the Community. The community residents have had to evacuate to the safe shelter 3-4 times every year whenever they receive a warning. The last time the Community evacuated to the shelter was in the winter of 2018.

5.1.7.4 Probability of Future Events

Tsunamis can affect the Community. Though the Community has not had been impacted by a tsunami they have received tsunami warnings, and residents are concerned due to the impacts a tsunami could have, should one occur.

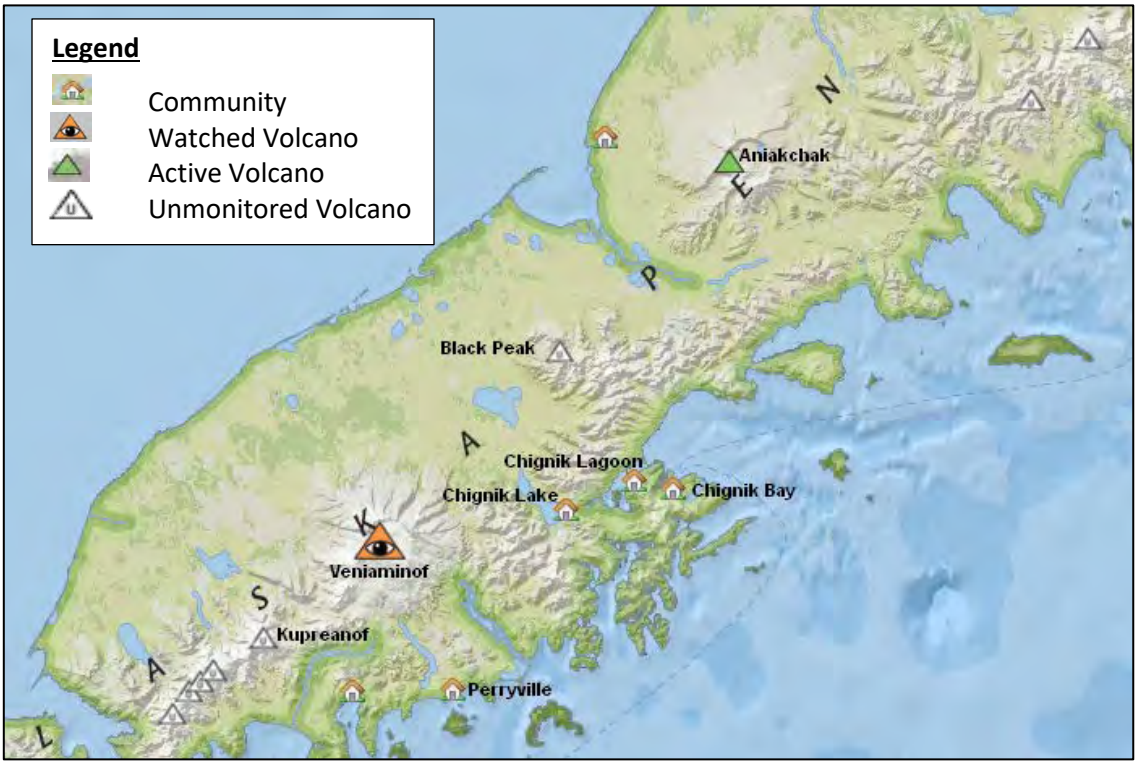
5.1.8 Volcano

A volcano is a typically conical shaped mountain or hill that has a crater or vent. Lava, rock fragments, gases, and hot vapors erupt from the earth's core through the crater or vent. Volcanos are generally found where tectonic plates are diverging or converging. Erupting volcanos can pose hazards to those in the immediate area of the eruption or outside of the area for many miles. A volcano produces volcanic ash when it erupts. This can impact aircraft and vehicle transportation. It can also cause injury to people as it impacts air quality. Breathing volcanic ash can damage the lungs and cause breathing issues.

5.1.8.1 Location

Three notable historically active, volcanos are within 100 miles of the Community are Veniaminof at 22 miles, Kupreanof at 26 miles, and Aniakchak at 77 miles from the Community. Exhibit 5-8 identifies some of the volcanos that can impact the Community with ash fall. The entire planning area is at risk when ash fall enters the area (see Exhibit 5-1).

Exhibit 5-8: Volcanos Near Community



5.1.8.2 Extent

Volcanic ash is the primary concern for the Community for various reasons. Ash fall produces poor air quality and is a health risk to people with respiratory issues. Ash fall also creates a hazard to equipment, generators, vehicles, or anything with a motor. Volcanic ash is corrosive and can damage machinery. In rural Alaska, it can be challenging to replace equipment due to limited local resources, and delivery access to the Community. The Community relies upon air transportation for supplies, mail, and medical emergencies. Volcanic ash may or may not fall on the Community depending on the wind direction from the source. However, it can still have an impact if it is in the flight path of the aircraft.

5.1.8.3 History of Occurrences

Mount Veniaminof is approximately has been historically active and is being monitored by the Alaska Volcano Observatory. Veniaminof is one of the largest and most active volcanic centers in the Aleutian Arc and has erupted at least 13 times in the past 200 years. Recent significant eruptions of the volcano occurred in 1993-95, 2005, and 2013. During the 1993-95 activity, a small lava flow was extruded, and in 2013, five small lava flows effused from the intracaldera cone over about five months. Minor ash-producing explosions occurred nearly annually between 2002 and 2010. Previous historical eruptions (1939 and 1956) have produced ash plumes that reached 20,000 feet above sea level and in 1939 ash fallout that blanketed areas within about 25 miles of the volcano (Alaska Volcano Observatory, 2016).

Mount Veniaminof was under watch during the fall of 2018 and winter of 2019. Residents stated that ash was being shot about 3,000 feet above the volcano. Most of the ash was blown to the east and west but some fell in the Community. During this time residents had to wear face masks and were advised to no be outside much. Planes were not able to land in the Community, which limits their food and medical supplies.

5.1.8.4 Probability of Future Events

Volcanic eruptions are challenging to predict, and ash fall impacts are dependent on wind patterns. However, volcanos are likely to continue to have an impact on the Community as there are several volcanoes nearby.

5.1.9 Wildfire

A wildfire spreads through the consumption of vegetation. It typically occurs in areas with abundant vegetation. It often begins unnoticed and spreads quickly. It produces dense smoke that can be seen for many miles. Wildfires can result in damage to property, subsistence areas, and loss of life. The smoke produced from wildfires can prohibit air transportation in and out of a community and reduces air quality.

Fuel, weather, and topography contribute to the behavior of the wildfire (Idaho Firewise, 2018):

- Wildfire fuel includes structures and vegetation. Dense, large areas burn for a longer duration and creates large amounts of heat. Less dense and dry areas burn quickly with less heat.
- Weather that can affect a wildfire includes wind, moisture, temperature, cloudiness, and air pressure. Wind moves the wildfire across the landscape and provides oxygen which can make the fire grow quickly. It can also cause embers to blow to new areas potentially causing new fire locations. Low humidity and high temperatures can cause the vegetation to become dry. High humidity and rain can extinguish or slow the fire down.
- Topography, or physical features, including aspect and slope of an area, can contribute to the behavior of a wildfire. Wildfires burn more rapidly moving up a slope because it preheats the fuels which makes them more combustible. Also, south and west facing slopes have drier fuels due to more exposure to the sun.

5.1.9.1 Location

A map of wildfires located in and around the Community since 1939 is provided in Exhibit 5-9. However, wildfires have an impact on the entire tribal planning area (see Exhibit 5-1) due to the impacts of smoke and subsistence resources.

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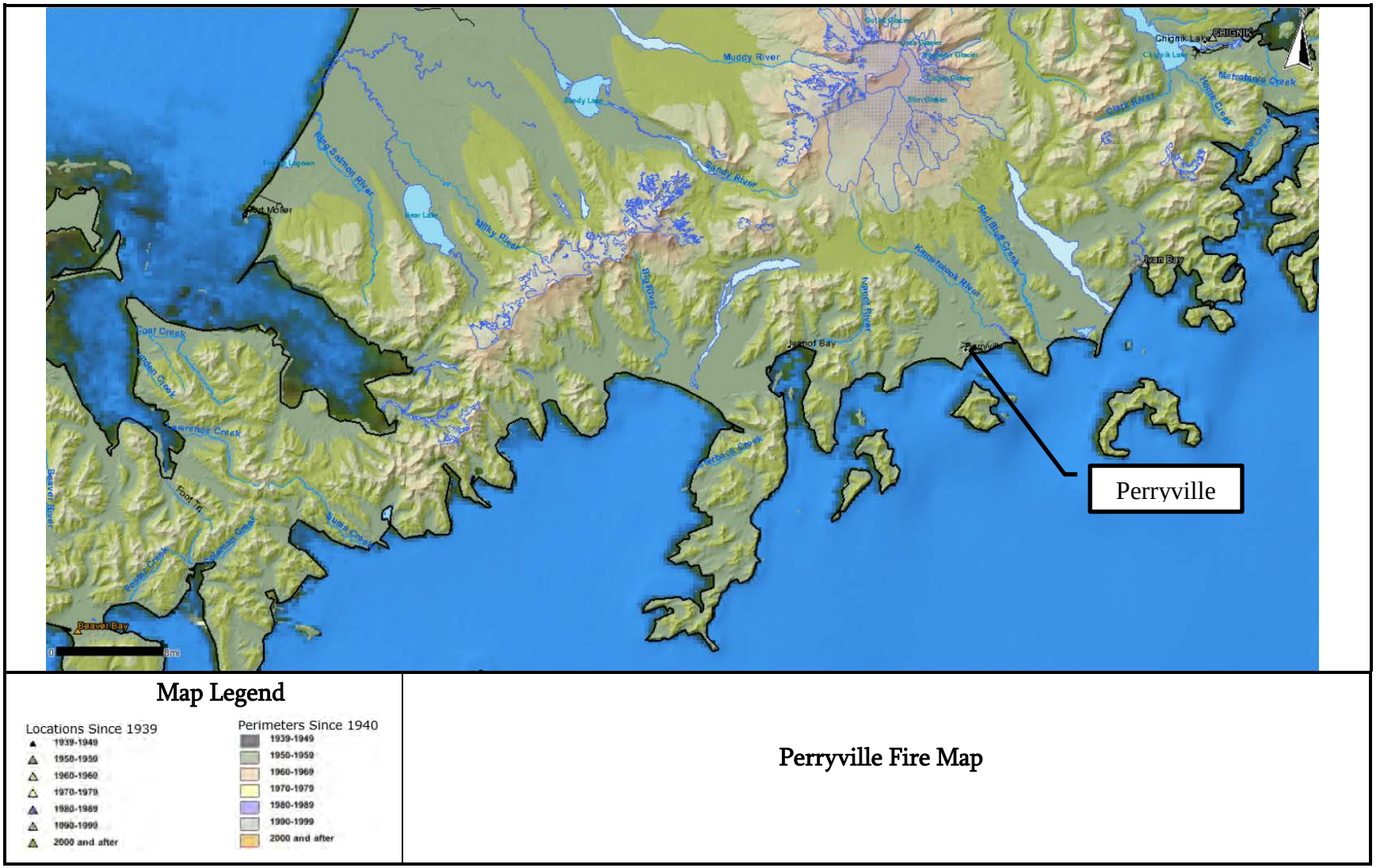
Exhibit 5-9: Perryville Fire Map



Source: (Alaska Interagency Coordination Center, 2018)

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5.1.9.2 Extent

The Community is surrounded by beach grass. There are a lot of alder brushes in the higher elevations above the Community. During hot and dry periods these are hazards that increase the risk of wildfires in the Community.

Subsistence areas around the Community provide needed food sources for residents. Wildfires can damage these areas and the resources they provide, such as berries, greens, and wildlife. Additionally, smoke from wildfires produce poor air quality. It is hazardous to residents and pets, especially the elders, young children, and those with respiratory issues.

Nearby wildfires are a great concern and stress for the Community because they lack the ability to fight a large fire if one were to occur. In an effort to protect the Community they are clearing alder brush and making fire breaks as a precaution due to the higher temps and drier seasons. Additionally, they have installed fire hydrants around the Community and have supplied fire extinguishers to all households.

5.1.9.3 History of Occurrences

Table 5-13 below provides a list of wildfires and their impacts (in acreage) in or around the Community (Alaska Interagency Coordination Center, 2018). Fire Jumpers were sent in during the last major wildfire in the area.

Table 5-13: History of Wildfires

Fire Name	Year	Estimated Impact (Acres)	Distance from the Community (Miles)
Beaver Bay	2010	3	70.6
Ivan Bay	1992	210	14.0
CHIGNIK	1996	80	29.2

5.1.9.4 Probability of Future Events

Wildfires are likely to continue to affect the Community. The Community is noticing drier and hotter seasons with more lightning. These conditions cause the vegetation to become drier, and more susceptible to fires. These same conditions are becoming more common throughout Alaska which also increases the risk of smoke from distant wildfires being blown into the Community.

5.2 COMMUNITY ASSETS

The Planning Team determined the potential impacts of natural hazards to the Community assets. Assets are broadly defined as anything that is important to the Community such as the people, the economy, and the natural and built environments of the Community. Some assets are more vulnerable to these hazards because of their socioeconomic uses and physical characteristics.

5.2.1 People

The most important asset to the Community is the people. The 2017 DCCED certified population was 101. Residents are not always in their homes. The following list provides the main places that people are in large numbers during the day when not in their place of residence.

- Perryville School
- Perryville Office (Tribal & Corporation)
- Perryville Clinic
- Housing / Apartments

5.2.2 Economy

The local economy is important to understand when planning to reduce the impacts of hazards. Economic resiliency influences recovery after a natural disaster. The following is a list of economic resources that could be affected and pose a severe impact on the Community should a hazard impact the Community.

- General Store
- Housing / Apartments
- Fuel Tank Farm

5.2.3 Built Environment

Existing infrastructure and structures are another important asset to the Community. The following is a list of important infrastructure, existing structures, and critical facilities in the community.

- Critical Facilities/Existing Structures
  - Perryville School
  - Perryville Office (Tribal & Corporation
  - Perryville Clinic
  - Housing / Apartments
  - Post Office
  - Church

- General Store
- Tsunami Shelter
- Teacher Housing
- Cemetery

- Infrastructure
  - Water Treatment Plant
  - Fuel Tank Farm
  - Boat Ramp
  - Windmills
  - Tribally Owned Equipment
  - School Tank Farm / Generator
  - Airport / Hangar
  - Power House Generators
  - Bridge
  - Road System
  - AT&T Tower
  - GCI Tower

5.2.4 Natural Environment

Natural resources and environmental assets are also important to the Community. These resources are important to the Community's quality of life and identity.

- Subsistence areas (hunting and berry picking areas)
- Pacific Ocean
- Stream

5.3 RISK ANALYSIS

The risk analysis assesses the potential effects of the identified hazards on the vulnerable assets that have been identified. Table 5-14 provides a list of the identified assets with the Community. It provides a monetary value, if applicable, to the asset as well as the number of occupants that could be affected should a natural hazard impact the asset. Each asset was evaluated for each identified hazard. If the hazard posed a significant risk to the asset an "X" was placed in the corresponding "Hazard Impact" column in Table 5-14. This information helped the Planning Team determine where the Community is most vulnerable and further helped in the identification of mitigation goals and actions.

The Planning Team used a combination of historical, exposure, and scenario analysis to determine the impact each hazard could have on the Community assets. They used historical analysis by reviewing the frequency and impact on the Community of the hazard in the past. Exposure analysis was used by evaluating the existing assets in the area where the hazard is likely to occur or has occurred in the past. Additionally, they used Community plans to identify future assets that may be affected by the hazard. The Planning Team used scenario analysis by asking "what if" questions about the hazard and made predictions of how the hazard would impact the Community assets should a hazard occur.

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Table 5-14: Risks to Vulnerable Assets

Facility Type	Facility Number (See Fig. 1 & 2)	Facility Name	Number of Occupants	Location (Latitude, Longitude)	Estimated Value	Hazard Impacts								
						Earthquake	Extreme Temperatures	Flood	Severe Wind	Severe Winter Weather	Subsidence	Tsunami	Volcano	Wildfire
Government	2	Perryville Office (Tribal & Corporation)	5+	55°54'38.68"N, 159° 8'37.56"W	Unknown	X	X		X	X	X	X	X	X
	5	Post Office	1+	55°54'49.83"N, 159° 9'14.55"W	Unknown	X	X		X	X	X	X	X	X
Transportation	7	Airport / Hangar	N/A	55°54'32.84"N, 159° 9'39.35"W	Unknown	X			X	X	X	X	X	X
	10	Boat Ramp	N/A	55°53'25.98"N, 159°10'38.17"W	Unknown	X		X		X	X	X		
	11	Bridge	N/A	55°54'41.67"N, 159° 8'57.08"W	Unknown	X		X				X		X
	15	Official NTTFI Road System	N/A	11 Miles	$22M	X		X		X	X	X		

Table 5-14 (Continued): Risks to Vulnerable Assets

Facility Type	Facility Number (See Fig. 1 & 2)	Facility Name	Number of Occupants	Location (Latitude, Longitude)	Estimated Value	Hazard Impacts								
						Earthquake	Extreme Temperatures	Flood	Severe Wind	Severe Winter Weather	Subsidence	Tsunami	Volcano	Wildfire
Transportation (Continued)	16	Tribally Owned Equipment	N/A	Community Wide	Unknown	X				X		X	X	X
Educational	1	Perryville School	30+	55°54'41.70"N, 159° 8'36.79"W	Unknown	X	X		X	X	X	X	X	X
	19	Teacher housing	N/A	55°54'42.41"N, 159° 8'35.49"W	Unknown									
Medical	3	Perryville Clinic	2+	55°54'38.29"N, 159° 8'43.81"W	Unknown	X	X		X	X	X	X	X	X

Table 5-14 (Continued): Risks to Vulnerable Assets

Facility Type	Facility Number (See Fig. 1 & 2)	Facility Name	Number of Occupants	Location (Latitude, Longitude)	Estimated Value	Hazard Impacts								
						Earthquake	Extreme Temperatures	Flood	Severe Wind	Severe Winter Weather	Subsidence	Tsunami	Volcano	Wildfire
Community	4	Housing / Apartments	130 +	55°54'37.56"N, 159° 8'43.98"W	Unknown	X	X	X	X	X	X	X	X	X
	12	Church	N/A	55°54'41.58"N, 159° 8'42.40"W	Unknown	X	X		X	X	X	X	X	X
	13	General Store	N/A	55°54'37.76"N, 159° 8'45.92"W	Unknown	X	X		X	X	X	X	X	X
	20	Tsunami Shelter	N/A	55°55'15.08"N, 159° 8'49.72"W	Unknown	X	X		X	X		X	X	X
	21	Cemetery	N/A	55°54'37.24"N, 159° 8'39.76"W	--	X						X		
Utilities	6	Water Treatment Plant	N/A	55°54'53.43"N, 159° 9'39.62"W	Unknown	X	X		X		X	X	X	X
	8	Fuel Tank Farm	N/A	55°53'55.98"N, 159°10'8.92"W	Unknown	X						X		X

Table 5-14 (Continued): Risks to Vulnerable Assets

Facility Type	Facility Number (See Fig. 1 & 2)	Facility Name	Number of Occupants	Location (Latitude, Longitude)	Estimated Value	Hazard Impacts								
						Earthquake	Extreme Temperatures	Flood	Severe Wind	Severe Winter Weather	Subsidence	Tsunami	Volcano	Wildfire
Utilities (Continued)	9	Power House Generators	1+	55°54'38.54"N, 159° 8'37.04"W	Unknown	X			X		X	X	X	X
	14	Windmills	N/A	55°54'37.61"N, 159° 8'22.46"W	Unknown	X	X					X	X	X
	17	AT&T Tower	N/A	55°54'37.60"N, 159° 8'41.69"W	Unknown	X	X		X	X	X	X		X
	18	School Tank Farm / Generator	N/A	55°54'41.37"N, 159° 8'39.56"W	Unknown	X	X				X	X	X	X
	22	GCI tower	N/A	55°54'42.95"N, 159° 8'24.84"W	Unknown	X	X		X	X		X	X	X

5.4 VULNERABILITY

The following lists the Community's overall vulnerability to the hazards that affect the planning area, 44 CFR 201.7(c)(2)(ii).

- Earthquakes – Damage to older community structures and underground utilities could be caused due to seismic activity. The Community's risk of tsunamis increase due to earthquakes.
- Extreme Temperatures –Pipes freeze in government and private structures during extreme cold events causing flooding and other related damages. Cold temperatures limits hunting and gathering activities. Extreme heat causes local streams and lakes to dry up impacting the Community's subsistence resources. This also increase dust emissions which is a health risk to elders, children, and those with breathing related illnesses. These temperatures also increase the risk to wildfires.
- Flood – Homes become inaccessible due to flooding. Fine-grained material on the roads washes out due to flooding.
- Severe Wind – Damage to structures have occurred due to severe wind speeds. Severe wind speeds have an impact on the delivery of supplies and travel via air transportation.
- Severe Winter Weather – The delivery of supplies is hindered via air transportation due to snow and ice on the runway. Driving and walking around the Community is hazardous due to severe winter weather conditions.
- Subsidence – The community is settling due to sandy soil causing homes to tilt and damaging floors. Underground utilities are also being impacted by subsidence and could potentially lead to power outages.
- Tsunami – The Community resides on the edge of the Pacific Ocean and is at risk of tsunamis. A tsunami could potentially impact the entire village with the exception of the safety shelter.
- Volcano – Air quality decreases in the presence of ash and is detrimental to the health of residents and pets. The corrosive properties of the ash are harmful to equipment. Air transportation has stopped due to ash emissions from a volcanic eruption.
- Wildfire – Nearby subsistence areas and resources have been lost due to wildfires. The smoke from nearby wildfires and blown in smoke from distant wildfires decreases the air quality and poses a health risk to residents and pets.

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6.0 MITIGATION STRATEGY

The following section describes the Community's mitigation strategy. This mitigation strategy will serve as a long-term plan for reducing the potential losses identified in the risk assessment. The THMP discusses the Community's current pre- and post- disaster hazard management plan, and existing and potential funding sources. It also provides the Community's mitigation goals, and actions. Along with these goals and actions this section provides an action plan, a tracking process for the mitigation actions, and a plan to implement these goals and actions into existing planning mechanisms.

6.1 PRE-/POST-DISASTER HAZARD MANAGEMENT

Pre- and post-disaster hazard management programs, policies, and mitigation capabilities of the Community were reviewed, 44 CFR 201.7(c)(3) and 201.7(c)(3)(iv). The Planning Team used this review to identify existing opportunities and challenges of existing capabilities of the Community. This information aided in the determination of mitigation actions for the identified hazards.

The Community is small with limited financial, planning and land management tools, and administrative and technical capabilities. The resources available in the Community are listed below in Table 6-1 and Table 6-2. Expanding upon existing capabilities in the Community to further address mitigation issues is challenging due to the small size of the Community. Increasing these capabilities would require additional funding and personnel. This THMP provides an opportunity to identify challenges and needs for additional programs and/or policies. It also provides an opportunity to work with other local agencies in the development of these programs and policies. The Council, and other local partners, will use this plan as a roadmap to a systematic and structured approach to increase the overall mitigation capabilities of the Community. Opportunities for expansion of capabilities will be coordinated and evaluated with each plan review and update.

The Community's planning and regulatory tools are listed in Table 6-1 below. These tools aid in the prevention and reduction of impacts from hazards in the Community.

Table 6-1: Planning and Regulatory Tools

Regulatory Tools (ordinances, codes, plans)	(Yes / No)	Comments
Comprehensive Plan	Yes	2005, developed by the Council, and Oceanside Corporation
Land Use Plan	No	--
Wildland Fire Protection Plan	No	--
Emergency Response Plan	No	--

Table 6-1 (Continued): Planning and Regulatory Tools

Regulatory Tools (ordinances, codes, plans)	(Yes / No)	Comments
Long Range Transportation Plan	Yes	Developed by the Council, date unknown
Tribal Transportation Safety Plan	No	--
Other Special Plans (e.g., climate change adaptation, coastal zone management)	No	--
Building Code[1]	No	--
Zoning Ordinances	No	--
Subdivision Ordinances or Regulations	No	--
Other	No	--

[1] New public facilities are designed by licensed professionals using applicable state and federal codes and regulations present at the time of design.

The Community's administrative and technical capabilities are listed in Table 6-2 below. These staff and their skills and tools can be used for mitigation planning and to implement specific mitigation actions.

Table 6-2: Administrative and Technical Capability

Staff / Personnel Resources	(Yes / No)	Department / Agency and Position
Administrator	Yes	Tribe
Environmental Program	Yes	Tribe
Fire Department	No	--
Librarian	No	--
Village Public Safety Officer	No	--
Health Aide	Yes	BBAHC
Planner or engineer with knowledge of land development and land management practices	No	The Tribe hires consultants with this knowledge
Engineer or professional trained in construction practices related to buildings and / or infrastructure	No	The Tribe hires consultants with this knowledge
Planner or engineer with an understanding of natural and / or human-caused hazards	No	The Tribe hires consultants with this knowledge
Surveyors	No	The Tribe hires consultants with this knowledge

Table 6-2 (Continued): Administrative and Technical Capability

Staff / Personnel Resources	(Yes / No)	Department / Agency and Position
Floodplain Manager	No	--
Staff with education or expertise to assess the jurisdiction's vulnerability to hazards	No	The Tribe hires consultants with this knowledge
Personnel skilled in Geospatial Information System and / or HAZUS	No	The Tribe hires consultants with this knowledge
Finance (Grant Writers)	Yes	Tribe, BBNA[1] (Situation Dependent)

[1] BBNA provides post-disaster grant management staff who can assist the Tribe with grant applications for disaster recovery and long-term recovery plans.

6.2 FUNDING

The following identifies existing and potential funding sources to implement proposed mitigation activities and actions, 44 CFR 201.7(c)(3)(iv) and 201.7(c)(3)(v).

6.2.1 Existing Funding Sources

At the time of the development of the THMP the Tribe has not received or allocated any non-FEMA funds for hazard mitigation actions or projects. However, the Tribe received PDM grant funding for the development of the THMP.

6.2.2 Potential Funding Sources

There are federal, tribal, and private funding sources available to the Tribe for proposed mitigation activities and projects. Sections 6.2.2.1 thru 6.2.2.3 provides a brief list and description of a selection of potential funding sources. In addition to the funding sources listed below other funding sources can be found from the following resources:

- Grants.gov – www.grants.gov is a public website where all federal agency discretionary funding opportunities are posted for grantees to find and apply. Some grant postings close quickly, so it is important to frequently check for potential opportunities.
- Catalog of Federal Resilience Programs for Alaskan Communities – The Denali Commission published a catalog detailing programs that are available to Alaskan communities. A copy of the catalog is located in Appendix D. See Section 8.0 for a web link to the catalog to check for updates (Arctic Executive Steering Committee, 2015).

6.2.2.1 Federal Funds

FEMA provides funding for eligible mitigation planning and projects that protect life and property from future disaster damages and reduces disaster losses. This funding is administered through three programs, the PDM, the Hazard Mitigation Grant Program (HMGP), and the Flood Mitigation Assistance (FMA) Program. Below is a brief description of each of these funding sources.

Pre-Disaster Mitigation (PDM) Program

The PDM Program is authorized by Section 203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. The goal of this programs is to reduce the overall risk to structures and population from future hazard events. Funds from the program provides opportunities to raise public awareness and reduce future losses before disasters occur. PDM provides funds on an annual basis for hazard mitigation planning and projects. This funding is dependent on the amount congress appropriates each year (FEMA, 2018).

Hazard Mitigation Grant Program (HMGP)

HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Following a Presidential Major Disaster Declaration HMGP supports post-disaster cost-effective projects. The purpose of the HMGP is to provide funding for long-term hazard mitigation planning and projects that will reduce the risk of loss of property and life from future disaster. HMGP provides funding up to 75% of mitigation projects. The remaining 25% of the mitigation project funding needs will come from other available funding sources (FEMA, 2018).

Flood Mitigation Assistance (FMA) Program

The FMA Program is authorized by Section 1366 of the National Flood Insurance Act of 1968. The goal of this program is to reduce or eliminate claims made under the National Flood Insurance Program (NFIP). FMA provides funding on an annual basis for planning and projects that reduce or eliminate the risk of flood damage to buildings that are insured under the NFIP. Funding for this program is dependent on the amount congress appropriates each year for this program (FEMA, 2018).

6.2.2.2 Tribal Funds

Tribal funds are available to the Community. One of the Tribal funds available is the Indian General Assistance Program (IGAP). The IGAP provides funding sources to help manage and maintain an environmental office. This office conducts environmental assessments for the Community and helps to prioritize environmental concerns, and educate the public.

6.2.2.3 Private Funds

In general, private funds are not readily available to the Tribe. However, the Tribe could potentially have access to funds through local non-profit organizations and regional corporations.

6.3 MITIGATION GOALS

The findings from the risk assessment were used to develop mitigation goals and actions. The mitigation goals in this THMP are general guidelines that describe Community goals, 44 CFR 201.7(c)(3)(i). These goals are broad, long-term statements that represent the Community's vision for avoiding and reducing losses from the identified hazards. The Planning Team has identified the mitigation goals in Table 6-3.

Table 6-3: Mitigation Goals

Goal Number	Goal Description
1	Build the capacity of the Tribe to prepare, respond to, and recover from disasters.
2	Reduce the possibility of damages due to **earthquakes**.
3	Reduce the possibility of damages due to **extreme temperatures**.
4	Reduce the possibility of damages due to **flooding**.
5	Reduce the possibility of damages due to **severe wind**.
6	Reduce the possibility of damages due to **severe winter weather**.
7	Reduce the possibility of damages due to **subsidence**.
8	Reduce the possibility of damages due to **tsunamis**.
9	Reduce the possibility of damages due to **volcanos**.
10	Reduce the possibility of damages due to **wildfires**.

6.4 POTENTIAL MITIGATION ACTIONS

Mitigation actions are specific activities, projects, actions, and processes that aid in achieving the mitigation goals. These actions are used to eliminate or reduce long-term risk to property and people from hazards and their impacts, 44 CFR 201.7(c)(3)(ii). There are four (4) types of mitigation actions that will help reduce long-term vulnerabilities. Mitigation actions fall under the following categories, local plans and regulations, infrastructure and structure projects, natural systems protections, and education and awareness programs. The Planning Team brainstormed and developed a comprehensive list of potential mitigation actions. The full list (Potential Mitigation Actions) is located in Appendix A.

Not all of the identified actions can be implemented in the final action plan. This could be due to a lack of political acceptance, technical feasibility, lack of funding, and other constraints. The Planning Team refined the list of potential mitigation actions (see Appendix A) using the criterion listed below (FEMA, March 2013). These criterion were used to facilitate discussions and to aid in the determination of mitigation actions to be implemented into the prioritized mitigation action plan (Section 6.5). The underlined and bold action identification (IDs) in the potential mitigation actions list (see Appendix A) were selected by the Planning Team to be implemented in to the action plan. Each of these actions were more thoroughly analyzed using the Mitigation Action Evaluation Worksheet located in Appendix A (FEMA, March 2013).

- Life Safety – Analyzes how effective the action is at preventing injuries and protecting lives.
- Property Protection – Analyzes the significance of the action at eliminating or reducing damage to infrastructure and structures.
- Technical – Analyzes if the action is technically feasible and if it is a long-term solution.
- Political – Analyzes public and political support of the action.
- Legal – Analyzes if the Community has authority to implement the action.
- Environmental – Analyzes the actions impacts on the environment and if it complies with environmental regulations.
- Social – Analyzes the action based on its effect on one or more segments of the population.
- Administrative – Analyzes the Community's personnel and administrative capabilities to implement and maintain action.
- Local Champion – Analyzes the action to determine if there is a strong advocate that will support the action's implementation.
- Other Community Objectives – Analyzes if the action advances other community objectives or plans.

These identified and selected activities represent a comprehensive range that will lessen the need for preparedness or response resources when a natural hazard impacts the Community in the future.

6.5 MITIGATION ACTION PLAN

The actions to be implemented into the mitigation action plan, identified by the Planning Team, were prioritized based on the importance of each item relative to the plan's goals, risks, and capabilities of the Community, 44 CFR 201.7(c)(3)(iii). Table 6-4 provides a prioritized list of mitigation actions, the position, office, department or agency responsible for the implementation of the action, potential funding options, and the timeframe for the action to be implemented. The Mitigation Action Implementation Worksheet (THMP Form 6-1) is included in Appendix E.

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Table 6-4: Prioritized Mitigation Actions

[1]Action ID	Description	Priority (High, Medium, Low)	Coordinating Department	Implementation Department/Role	Potential Funding Source	Timeframe
1.B	Acquire a backup generator for the clinic.	Medium	Village Council	Village Council	FEMA/Village	3-4 Years
1.D	Work with state public health nurses to develop a Small Community Emergency Response Plan (SCERP).	Medium	Village Council	Village Council	Village /State	3-4 Years
2.D	Develop an agreement with residents with satelite phones to use in emergency events.	Low	Village Council	Village Council	Village	5 Years
3.A	Work with Alaska Native Tribal Health Consortium (ANTHC) to update water and service lines to reduce freezing issues.	Medium	Village Council	Village Council	ANTHC/FEMA	3-4 Years
3.C	Educate residents about a basic safety plan for winter travel.	Low	Village Council	Village Council	Village	5 Years
3.D	Provide basic safety education to residents on how to protect themselves from extreme heat events.	Low	Village Council	Village Council	Village	5 Years
4.A	Complete the design to raise roads and improve drainage.	High	Village Council	IRR Roads Planner	FEMA/TTP	1-2 Years
5.B	Provide education to residents on securing and storing objects outside.	Low	Village Council	Village Council	FEMA/Village	5 Years

Table 6-4 (Continued): Prioritized Mitigation Actions

[1]Action ID	Description	Priority (High, Medium, Low)	Coordinating Department	Implementation Department/Role	Potential Funding Source	Timeframe
6.D	Provide education to residents about winter travel safety and the importance of communicating travel plans and important travel equipment to take, such as a communication device.	Medium	Village Council	Village Council	FEMA/Village	3-4 Years
7.B	Provide education to residents about subsidence to help them be aware of how it could impact them and their property.	Medium	Village Council	Village Council	FEMA/Village	3-4 Years
8.D	Identify a potable water source for the shelter.	High	Village Council	Village Council	FEMA/Village	1-2 Years
8.F	Develop a Tsunami Plan. Within the plan establish who is in charge, and provide a list of phone numbers for easy access. Also develop a list of people for the bus driver to check on.	Low	Village Council	Village Council	Village/TBD	5 Years
8.G	Educate residents about the tsunami plan.	Low	Village Council	Village Council	Village/TBD	5 Years
8.I	Develop an instruction sheet to activate the tsunami siren and post by the siren box. Also ensure that there is a plan to activate the siren with backup personnel.	High	Village Council	Village Council	Village/TBD	1-2 Years

Table 6-4 (Continued): Prioritized Mitigation Actions

[1]Action ID	Description	Priority (High, Medium, Low)	Coordinating Department	Implementation Department/Role	Potential Funding Source	Timeframe
8.K	Meet requirements to become a Tsunami Ready community.	Low	Village Council	Village Council	FEMA	5 Years
9.A	Acquire additional masks for the clinic.	Low	Village Council	Village Council	Village/TBD	5 Years
9.C	Install a community well for a backup water supply.	Low	Village Council	Village Council	Village/TBD/ANTHC	5 Years
10.C	Acquire a bigger fire truck with more capacity for the Community.	High	Village Council	Village Council	Village/Fire Fighter Grant	1-2 Years
10.D	Develop a maintenance plan to maintain fire equipment to keep it accessible and ready for use.	Low	Village Council	Village Council	Village/Fire Fighter Grant	5 Years

[1] Action IDs are not in sequential order. For a full listing of potential mitigation action items see Appendix A.

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6.6 IMPLEMENTING ACTION PLAN INTO OTHER PLANNING MECHANISMS

After the adoption of the THMP by the Council, the Planning Team will work to incorporate the goals and actions of the THMP into other existing Community planning mechanisms, 44 CFR 201.7(c)(4)(iii). The Planning Team will accomplish this by performing the following activities:

- Review community-specific regulatory tools to establish where to incorporate the mitigation philosophy into other plans.
- Work with the community to increase awareness for implementing THMP philosophies and initiatives into other planning mechanisms. Provide assistance with incorporating the mitigation strategy (and Mitigation Action Plan) into relevant planning mechanisms (i.e., Utility Master Plans, Transportation Plans, Comprehensive Plan, Capital Improvement Project List, etc.)
- Update or amend other applicable planning mechanisms as necessary to include the THMP Action Plan.

6.7 REVIEWING PROGRESS GOALS

Tracking the progress of the mitigation actions and goals is important to the THMP, 44 CFR 201.7(c)(4)(ii) and 201.7(c)(4)(v). The Prioritized Mitigation Actions (Table 6-4) provides information pertaining to the tracking process for each mitigation action. It provides the following tracking process information:

- The estimated time to implement each action,
- The department, office, or agency responsible for coordinating and monitoring the implementation of each action; and
- The department, office, or agency and their respective roles in implementing each action.

The Mitigation Action Plan in Section 6.5 provides a description of the planned implementation timeframe for each Mitigation Action. A Mitigation Action Progress Report will be completed annually to monitor the progress of the Mitigation Actions, and any Mitigation Actions that require project closeout. The Mitigation Action Progress Report will address the current status of the mitigation project, any changes made to the project, implementation problems, and appropriate strategies to overcome them. The Mitigation Action Progress Report (THMP Form 6-2) is located in Appendix E.

When FEMA supported projects are completed, the project closeout documents will be prepared by the Tribe. Project closeout may include final invoicing, site inspections, and summary memorandums of the Mitigation Actions.

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7.0 PLAN ASSURANCES AND ADOPTION

This section complies with the requirements of 44 CFR 201.7(c)(5) and 44 CFR 201.7(c)(6). The Tribe assures that it will comply with all applicable regulation and federal statutes in effect with respect to the periods for which it receives grant funding in compliance with 44 CFR Parts 200 and 3002. The Tribe will amend its plan whenever necessary to reflect changes in Federal or tribal laws and statutes.

The Council will formally adopt the THMP after receiving a letter from FEMA stating that the plan is approved pending adoption. The THMP adoption resolution will be signed by the Council and will be placed in Appendix F. This document will show the Tribe's commitment to implementing the mitigation strategies identified in the THMP and authorizes the responsible agencies to execute their actions.

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FIGURES

Community Map

PERRYVILLE

55° 54' 40" N 159° 09' 00" W (NAD 83)

Approximate Elevation: 30'

Township 49 South, Range 64 West, S.M., AK

U.S.G.S. Quadrangle "STEPOVAK BAY D-4", Alaska

ALEUTIAN ISLANDS RECORDING DISTRICT

LEGEND

FLOODING

0 200 400 600

SCALE IN FEET

Date of Photography: July 31, 2002

Magnetic Declination computed by U.S.G.S. Geomag Program using AK-2000.COF model as of August 1, 2002.

FIGURE 1 of 2

MAP NOTES

This map was prepared by the Lake and Peninsula Borough (LPB) in cooperation with the Alaska Department of Community and Economic Development (DCED) using funding from the Coastal Impact Assistance Program, Coastal Management Program, Bureau of Indian Affairs Transportation Planning and funding from the Initiative for Accelerated Infrastructure Development (IAID). The IAID is supported by grants from the Denali Commission, USDA Rural Development, Alaska Department of Transportation and Public Facilities and DCED. The Alaska Native Tribal Health Consortium provided sanitation facility records. The LPB contracted with Global Positioning Services Incorporated in June of 2002 to prepare the map.
This map should not be construed as a survey. On-site surveys should be conducted prior to engineering or construction.

This map was compiled to meet horizontal and vertical accuracy in accordance with national map accuracy standards.

Property and utility information has been generated from readily available sources with limited accuracy checks. Property information is not intended to represent a title search of the Recorders Office record. Utility location is approximate and shows only the main lines as the service lines have been omitted for clarity. Generally, the information is current as of December 2002.

This map is based on photography acquired on July 11, 2002, at a nominal scale, of 1 in = 800 ft.

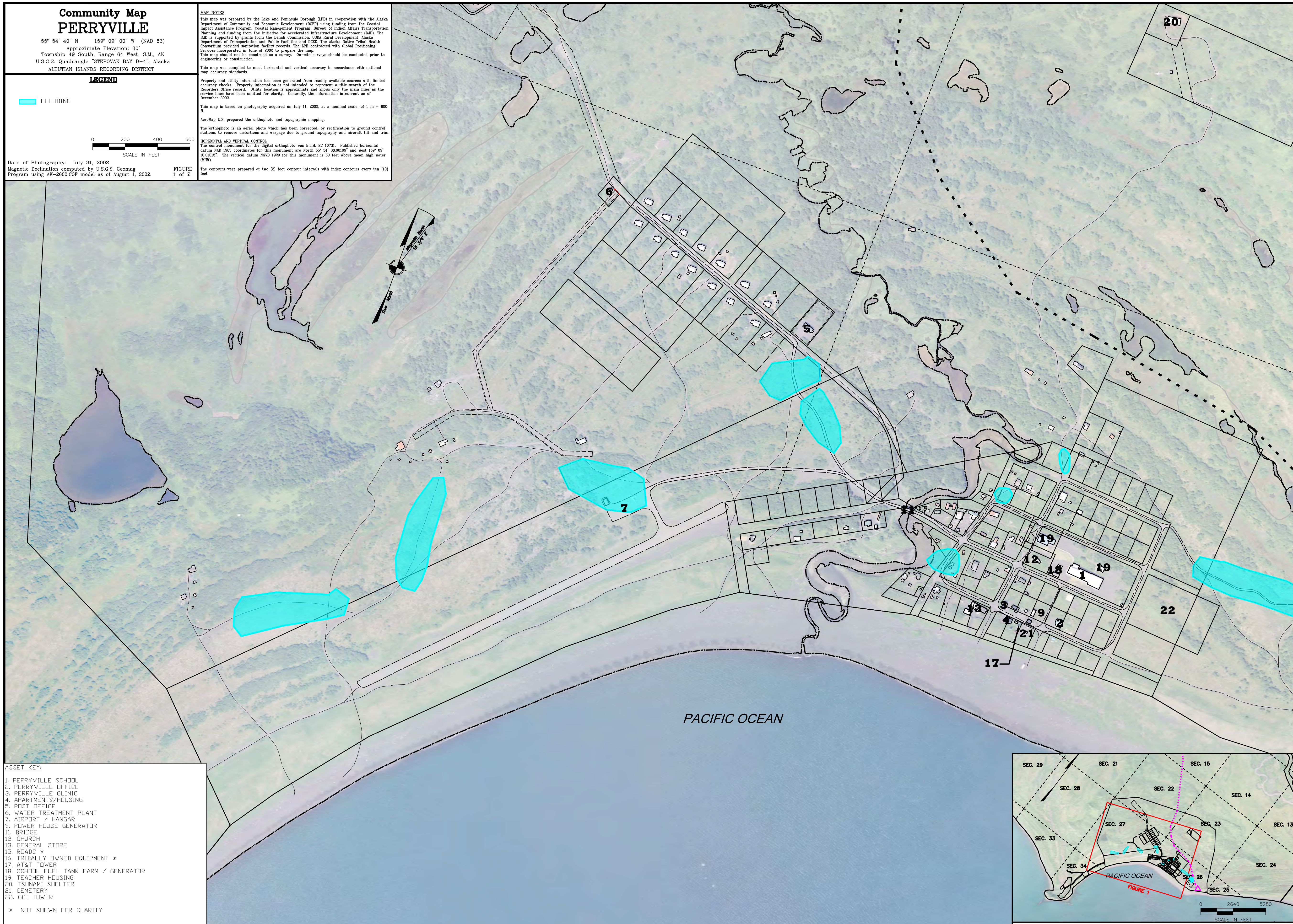
AeroMap U.S. prepared the orthophoto and topographic mapping.

The orthophoto is an aerial photo which has been corrected, by rectification to ground control stations, to remove distortions and warpage due to ground topography and aircraft tilt and trim.

HORIZONTAL AND VERTICAL CONTROL

The control monument for the digital orthophoto was B.L.M. EC 10731. Published horizontal datum NAD 1983 coordinates for this monument are North 55° 54' 38.90199" and West 159° 09' 10.01015". The vertical datum NGVD 1929 for this monument is 30 feet above mean high water (MHW).

The contours were prepared at two (2) foot contour intervals with index contours every ten (10) feet.



ASSET KEY:

1. PERRYVILLE SCHOOL
2. PERRYVILLE OFFICE
3. PERRYVILLE CLINIC
4. APARTMENTS/HOUSING
5. POST OFFICE
6. WATER TREATMENT PLANT
7. AIRPORT / HANGAR
9. POWER HOUSE GENERATOR
11. BRIDGE
12. CHURCH
13. GENERAL STORE
15. ROADS *
16. TRIBALLY OWNED EQUIPMENT *
17. AT&T TOWER
18. SCHOOL FUEL TANK FARM / GENERATOR
19. TEACHER HOUSING
20. TSUNAMI SHELTER
21. CEMETERY
22. GCI TOWER

* NOT SHOWN FOR CLARITY

PERRYVILLE COMMUNITY MAP SHEET 1 1"=200' (2002 PHOTOGRAPHY)

Magnetic North
15 3/4° E
True North

8

10

14

ASSET KEY:

8. FUEL TANK FARM
10. BOAT RAMP
14. WINDMILLS
15. ROADS *
16. TRIBALLY OWNED EQUIPMENT *

* NOT SHOWN FOR CLARITY

Legend & Notes

FLOODING

MAP NOTES

This map was prepared by the Lake and Peninsula Borough in cooperation with Alaska Department of Community and Economic Development (DCED) using funds provided by the U.S. Bureau of Indian Affairs. The Lake and Peninsula Borough contracted with Global Positioning Services, Inc., in July of 2002 to prepare the map.

This map is based on photography acquired on July 31, 2002, at a nominal scale, of 1 in = 1750 ft. This aerial photo has not been corrected, by rectification to ground control stations. Distortions between boundary lines and photograph exist.

AREA USE MAP

PERRYVILLE

55° 54' 40" N 159° 09' 00" W (NAD 83)
Approximate Elevation: 30'
Township 49 South, Range 64 West, S.M., AK
U.S.G.S. Quadrangle "STEPOVAK BAY D-4", Alaska
ALEUTIAN ISLANDS RECORDING DISTRICT

SEE SHEET 1 FOR DETAILED COMMUNITY MAP

0 500 1000 1500
SCALE IN FEET

Date of Photography: July 31, 2002
Magnetic Declination computed by U.S.G.S. Geomag Program using AK-2000.COF model as of August 1, 2002.

FIGURE 2 of 2

PERRYVILLE AREA USE MAP SHEET 2 1"=500' (2002 PHOTOGRAPHY)

APPENDIX A

Planning Process

- Meeting Minutes (September 6, 2018)
- Hazard Identification Worksheet
- Workshop notes from the Community
- Meeting Minutes (April 22-23, 2019)
- Meeting Sign-In Sheet
- Map Mark-Ups
- Mitigation Action Types & Examples
- Potential Mitigation Actions
- Mitigation Action Evaluation Worksheet

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MEETING MINUTES

Project: **BBNA THMP & TTSP Project**
Bristol Project No: 32190013
Reference: Perryville THMP Workgroup Packet 1
Date of Meeting, September 6, 2018 2:00 PM to 4:00 PM
Location of Meeting: Teleconference
Participants:
Bristol: Danielle Dance, Leslie Pheasant
BBNA: Annie Fritze, Dan Breeden
Perryville Planning Team: Aleck Phillips, Gerald Kosbruk, Donovan Shangin, and DanaLee Phillips

Summary

A teleconference meeting was held to work through the first Tribal Hazard Mitigation Plan (THMP) Workshop Packet. Hazards to profile in the THMP were identified, and further instructions were provided to complete the remaining worksheets in the packet.

Action Items

- Planning Team to fill out packet information (complete all 5 worksheets) and return to Bristol within 2 weeks of teleconference meeting
- Planning Team to return completed surveys to Bristol by September 14
    - Surveys can be passed out 1-2 per household, try to collect as many as possible
    - There are two surveys, one for the Safety Plan, one for the Hazard Mitigation Plan
- Planning Team to send email with list of Planning Team members, their names, contact phone, email, and role on the team
- Bristol to send resources such as wind graph, links, etc. to help with hazard analysis (Worksheet #2)
- Bristol to send electronic worksheets to them to complete.

General Notes

- Might like to meet in person when and if they are in Anchorage

Profiled Hazards

- Earthquake
    - Earthquake in January 2018 and everyone in community went to safe shelter; no damage noted after this earthquake. Significant size
    - Some buildings have cracks in the walls.
    - Cell service is affected for short period of time (10 minutes).

- Extreme Cold
    - Occasionally get extreme cold, but not often; limited to January/February.
    - Vehicles don't operate correctly, water lines freeze, trouble with heating systems not working. When pipes freeze, can cause flooding in homes. Limits gathering and hunting activities. Difficult to obtain wood for heating homes.
- Extreme Heat
    - It has happened in recent years. Temperatures can reach 90 to 100 degrees Fahrenheit. Berries not produce, streams dry up, cannot cool houses. Some people experience heat rash, sunburns. Happens once every two years or so.
    - Impacts food sources.
- Flood
    - Flooding of a stream in the village. It is related to tidal action and rain. The entire community is affected.
    - During winter storms flooding happens and makes the roads inaccessible. One or two houses had water up to the door. Unable to access people's houses. Unable to access main road.
    - It may take a couple of weeks for the water to subside after a storm.
    - Flooding events can happen every year.
- Severe Wind
    - The village is affected by severe winds.
    - Last winter roofs were blown off some homes, unoccupied homes and buildings had roofs and siding blown off.
    - Community without services for 2-3 weeks; planes cannot land there. Cannot obtain food, medication, etc. during severe wind storms.
    - Severe wind happen a couple of time per year.
- Severe Winter Weather
    - The village does experience severe winter weather.
    - Trying to keep roads clear to schools. Doors frozen shut.
    - Community can be without services to be flown in for 2-3 weeks. Cannot obtain food, medicine, etc.
    - Needing to clear vents.
    - Winter storms occur approximately every other year.
- Subsidence
    - Subsidence does happen in the community; homes are built on sandy soil, so houses are sinking. Some houses are off kilter and are not level.
    - Damage to flooring; flooring replaced, but house not leveled.
    - Will likely continue to happen in the future.
- Tsunami
    - Every time there is an earthquake there is high water, or tsunami.
    - No damage from tsunami at this time.
    - Three to four times per year need to go to safe shelter because of tsunami.
- Volcano
    - The volcano has been active in the last few days. It is shooting ash about 3,000 ft above the volcano. The ash has been going to the east and west, but some is coming toward the village.
    - The entire community gets ash fall when the volcano erupts.

  - People have to wear face masks to breathe; can't work outside much. Planes don't fly; supplies cannot be delivered for up to a month because planes cannot fly into the village during ash fall/eruption.
  - Limit use of vehicles.
  - Eruption happens every 3-5 years.
- Wildfire
  - Something that they are getting more concerned about.
  - There have been small fires in the community and the surrounding areas.
  - Could be difficult to contain when fire happens during dry spells.
  - There was a wild fire and fire jumpers had to be sent in.
  - The village is surrounded by beach grass and when it gets dry there is a possibility of fire.
  - A home fire caused some vegetation and trees to burn.
  - There is a lot of alder brush around and in the village; they are clearing some of it and making fire breaks.

Non-Profiled Hazards

- Avalanche
  - Not in the near community, but in the mountains. Does not affect the community.
- Drought
  - Sometimes in summer there are dry spells for about 3-4 weeks. Can be a fire danger. It affects berry production. Averages once every couple of years.
  - Dusty during these periods – Dust are things to mitigate
- Erosion
  - Not much erosion in the community.
  - Surrounding areas, some erosion around the rivers that can affect subsistence fishing.
- Landslides
  - There is a hill behind the village that has potential for landslide, but none have happened. There was a small slide to one side of the hill, but there was no damage to the village.

WORKSHEET #1: HAZARD IDENTIFICATION

Use this worksheet to identify which hazards are most significant to your community planning area. Follow the instructions provided on pages 9 and 10.

Write "Blue" "Green" "Yellow" or "Red" in Columns A-D based on definitions in Tables 1-4 on Pages 9-10.

Write "Yes" or "No" in Column E depending on the outcome of Column D.

	Column A	Column B	Column C	Column D	Column E
Hazard	**Location (Geographic Area Affected)** *(Table 1)*	**Maximum Probable Extent (Magnitude / Strength)** *(Table 2)*	**Probability of Future Events** *(Table 3)*	**Overall Significance** *(Table 4)*	**Profile (Yes/No)**
*Avalanche	Blue	Blue	Blue	Green	No
Drought	Green	Green	Yellow	Yellow	No
Earthquake	Red	Green	Red	Red	YES
Erosion	Blue	Green	Green	Yellow	No
*Extreme Cold	Red	Green	Yellow	Yellow	YES
*Extreme Heat	Red	Green	Yellow	Yellow	YES
Flood	Red	Yellow	Red	Red	YES
*Landslide	Blue	Blue	Green	Green	No
Severe Wind	Red	Yellow	Red	Red	YES
*Severe Winter Weather	Red	Yellow	Yellow	Yellow	YES
*Subsidence	Red	Green	Yellow	Yellow	YES
Tsunami	Red	Blue	Red	Red	YES
Volcano	Red	Yellow	Yellow	Yellow	YES
Wildfire	RED	Yellow	Yellow	Red	YES
Other					

***** Definitions for selected hazards are located on the back for clarification.

SELECT HAZARD DEFINITIONS

Extreme Temperatures *(i.e. Extreme Cold, Extreme Heat)*: Extreme temperatures constitute different conditions in different parts of the country. In regions that are accustomed to winter weather, extreme cold temperatures involve temperatures between 20° F to -50° F. These temperatures can occur after a winter storm or during long durations of storm inactivity. Similarly, extreme heat is usually recognized as the condition where temperatures consistently stay ten or more degrees above the average high temperature for extended periods of time. Fatalities can occur from extreme temperatures by causing hyperthermia or frostbite in cold regions and hypothermia in warmer regions.

Landslide / Avalanche: A landslide is the movement of a mass of debris, rock, or earth by force of gravity down a slope. An avalanche is the movement of snow and debris down a slope by force of gravity. Landslides and avalanches occur when the stability of the slope changes from stable to unstable. This can be caused by storms, earthquakes, volcanic eruptions, fire, erosion, rapid temperature changes in the case of avalanches, and other human-induced activities. Steep slopes and long slopes have a higher probability to slide. High soil water content and/or slopes with low vegetative coverage are also likely to slide. Landslides and avalanches cause infrastructure and property damage, environmental disturbance, and possible injuries and fatalities.

Severe Winter Weather: Severe winter storms can include snow, freezing rain, sleet, or a mix of the previous forms of precipitation. Heavy snowfall occurs when large quantities of snow is produced in a short period of time. Drifting snow creates an uneven distribution of snow caused by strong winds. This weather can cause power outages, downed trees, and property damage. It can also cause deaths and injuries.

Subsidence: Subsidence is the settling over time or sudden sinking of surface soils due to subsurface movements. Some causes of subsidence are thawing permafrost, declining ground water levels, compactions, mining, and drainage of organic soils. Subsidence can destroy or damage infrastructure or buildings near areas affected by a sudden or gradual collapse of surface area.

NOTE: If you have any questions about the hazard definitions, or about Worksheet #1 in general, contact Danielle with Bristol at (907) 743-9394.

INSTRUCTIONS FOR WORKSHEET #1

Worksheet #1 is a tool to determine which hazards to include in the Tribal Hazard Mitigation Plan (THMP). Use these classifications / definitions to help identify the most significant hazards that affect your community. Give each hazard on Worksheet #1 a color code based on the definitions provided in Tables 1 – 4.

1. **Location (Geographic Area Affected)** – *[Column A]*

   This classification describes where the hazard occurs, how often it occurs, and how much of the community was impacted.

Table 1: Location (Geographic Area Affected)

Color Code	Area Affected	Definition
BLUE	Negligible	• Only one small area or none • Less than 10% of planning area • Isolated single-point occurrences
GREEN	Limited	• Only some of the community • 10% to 25% of planning area • Limited single-point occurrences
YELLOW	Significant	• Most of the community • 25% to 75% of planning area • Frequent single-point occurrences
RED	Extensive	• Almost all or All of the community • 75% to 100% of planning area • Consistent single-point occurrences

2. **Maximum Probable Extent (Magnitude / Strength)** – *[Column B]*

   This classification describes how much damage was done, how fast and for how long the hazard impacted the community, and the strength or magnitude of the hazard on a scientific scale, if applicable.

Table 2: Maximum Probable Extent (Magnitude/Strength)

Color Code	Maximum Extent	Definition
BLUE	Weak	• Little to no damage done • Slow speed of onset or short duration of event • Limited classification on scientific scale (if applicable)
GREEN	Moderate	• Some damage and loss of services for days • Moderate speed of onset or moderate duration of event • Moderate classification on scientific scale (if applicable)
YELLOW	Severe	• Devastating damage and loss of services for weeks or months • Fast speed of onset or long duration of event • Severe classification on scientific scale (if applicable)
RED	Extreme	• Catastrophic damage and uninhabitable conditions • Immediate onset or extended duration of event • Extreme classification on scientific scale (if applicable)

3. Probability of Future Events – *[Column C]*

This classification describes the possibility of the hazard occurring in the next year, and how often the hazard will occur.

Table 3: Probability of Future Events

COLOR CODE	Probability of Future Event	Definition
BLUE	Unlikely	• Less than 1% probability of occurrence in the next year • Recurrence interval of greater than every 100 years
GREEN	Occasional	• 1% to 10% probability of occurrence in the next year • Recurrence interval of 11 to 100 years
YELLOW	Likely	• 10% to 90% probability of occurrence in the next year • Recurrence interval of 1 to 10 years
RED	Highly Likely	• 90% to 100% probability of occurrence in the next year • Recurrence interval of less than 1 year

4. Overall Significance – *[Column D]*

This classification provides a way to determine how much impact the hazard has on the community. This classification is based on the classifications from Tables 1 – 3 (Columns A – C).

Table 4: Overall Significance

COLOR CODE	Impact	Definition
GREEN	Low	• Event has minimal impact on planning area • Two or more criteria fall in lower classifications (2 or more BLUE) • Profile – Likely doesn't need to be profiled but can
YELLOW	Medium	• Event's impacts on the planning area are noticeable but not devastating • Criteria fall mostly in the middle ranges of classifications (2 or more GREEN or YELLOW) • Profile – Choice of the Planning Team
RED	High	• Event is likely/highly likely to occur with severe strength over a significant or extensive portion of the planning area • Criteria consistently fall in the high classifications (2 or more RED) • Profile – Definitely profile

5. Profile (Yes OR No) – *[Column E]*

For the purposes of the THMP, "profile" means to include the hazard in the plan and analyze in more detail. Not all hazards need to be profiled for your community. Only hazards with a moderate to high overall significance should be included in the plan, but the Planning Team can choose to profile any hazard as they see fit. Use Table 4 (Column D) to determine if the hazard should be profiled.

WORKSHEET #2: HAZARD ANALYSIS

Use the following questions to provide required information about **each** hazard being profiled in the Tribal Hazard Mitigation Plan (THMP).

HAZARD: EARTHQUAKE

Location:

- Does the hazard impact the entire planning area? **YES** **NO**
- If it does not ("NO" from above question) impact the entire planning area, please provide a description of the location. You may also circle and label the specific areas on the attached community maps.

Extent (Magnitude / Strength):

- If the hazard uses a scientific scale (e.g. Earthquake Richter Scale), how severe can it be according to the scientific scale? If no scale is available, describe the magnitude / strength of the hazard by its thickness, area, depth, temperatures, volumes, or duration / length.
- All varies. 3.0 magnitude, to 7+ magnitude. As close as a few miles to many miles away. Same for depth and severity.

How long can the hazard last?

Ranges anywhere from seconds/minutes, all depending on size and location of epicenter.

- How fast does the hazard impact the community? Is it a sudden onset (with little to no warning or time for preparation) or a slow onset (time for warning community members and make appropriate preparations)?
- Varies, usually very sudden. Some people hear some earthquakes coming seconds before. Some gradually increase intensity while others are violent and sudden.

History:

- When did the hazard occur? List the past occurrences. Include month and year, if known.
- Last earthquake Summer of 2018

- When these occurred, what was impacted? Where there any deaths or injuries? Was there damage done to any assets? No deaths or injuries. Minimal damage if any at all.

- Are there any community members that could provide an account of the past occurrences?

  Every community member can probably provide an account of this recent earthquake or past earthquakes.

- Has the hazard had any long lasting effects?

  No

- Has it caused additional hazards?

  Tsunami Warnings

Probability of Future Events:

- What is the probability of the hazard to happen again in the community (Unlikely, Occasional, Likely, Highly Likely)?

  Highly likely

- Why?
- Ring of Fire? Volcano?, Alaska?

HAZARD: EXTREME COLD

Location:

- Does the hazard impact the entire planning area? **YES** **NO**

- If it does not ("NO" from above question) impact the entire planning area, please provide a description of the location. You may also circle and label the specific areas on the attached community maps.

Extent (Magnitude / Strength):

- If the hazard uses a scientific scale (e.g. Earthquake Richter Scale), how severe can it be according to the scientific scale? If no scale is available, describe the magnitude / strength of the hazard by its thickness, area, depth, temperatures, volumes, or duration / length.

Below 0 °, can last days/weeks, wind chill factor plays big part when below freezing temps set in as well.

- How long can the hazard last?

  Days, Weeks. Or longer.
- How fast does the hazard impact the community? Is it a sudden onset (with little to no warning or time for preparation) or a slow onset (time for warning community members and make appropriate preparations)?
- Not too sudden of an onset. There should be ample time to prepare for this type of hazard.

History:

- When did the hazard occur? List the past occurrences. Include month and year, if known.

  Jan/Feb., last spring or late winter recent. 2018/2017
- When these occurred, what was impacted? Where there any deaths or injuries? Was there damage done to any assets? Frozen water lines, broken water lines, No deaths/injuries

- Are there any community members that could provide an account of the past occurrences?

  Yes
- Has the hazard had any long lasting effects?

  No
- Has it caused additional hazards?

Probability of Future Events:

- What is the probability of the hazard to happen again in the community (Unlikely, Occasional, Likely, Highly Likely)?

  Occasional
- Why? Becoming more and more usual occurrence.

Probability of Future Events:

- What is the probability of the hazard to happen again in the community (Unlikely, Occasional, Likely, Highly Likely)?

- Why?

HAZARD: EXTREME HEAT

Location:

- Does the hazard impact the entire planning area? **YES** **NO**
- If it does not ("NO" from above question) impact the entire planning area, please provide a description of the location. You may also circle and label the specific areas on the attached community maps.

Extent (Magnitude / Strength):

- If the hazard uses a scientific scale (e.g. Earthquake Richter Scale), how severe can it be according to the scientific scale? If no scale is available, describe the magnitude / strength of the hazard by its thickness, area, depth, temperatures, volumes, or duration / length.

  80 ° - 100 °
- How long can the hazard last?

  Days/Weeks
- How fast does the hazard impact the community? Is it a sudden onset (with little to no warning or time for preparation) or a slow onset (time for warning community members and make appropriate preparations)?

  Gradual, Slow Onset

History:

- When did the hazard occur? List the past occurrences. Include month and year, if known.

  Summer 2018
- When these occurred, what was impacted? Where there any deaths or injuries? Was there damage done to any assets?

  People, Lakes and streams started drying up. Dust, No deaths No damage, Sunburn related injuries.
- Are there any community members that could provide an account of the past occurrences?

  Yes
- Has the hazard had any long lasting effects?

  No
- Has it caused additional hazards?

  No

Probability of Future Events:

- What is the probability of the hazard to happen again in the community (Unlikely, Occasional, Likely, Highly Likely)?

  Occasional, Becoming a more usual occurrence
- Why?

HAZARD: FLOOD

Location:

- Does the hazard impact the entire planning area? YES NO on MAP

- If it does not ("NO" from above question) impact the entire planning area, please provide a description of the location. You may also circle and label the specific areas on the attached community maps.

Extent (Magnitude / Strength):

- If the hazard uses a scientific scale (e.g. Earthquake Richter Scale), how severe can it be according to the scientific scale? If no scale is available, describe the magnitude / strength of the hazard by its thickness, area, depth, temperatures, volumes, or duration / length.

  Local creek backs up, Covers roadways main roads in areas are under water, Culverts in areas cant keep up, Boats in river need to be moved.

- How long can the hazard last?

  Days/weeks

- How fast does the hazard impact the community? Is it a sudden onset (with little to no warning or time for preparation) or a slow onset (time for warning community members and make appropriate preparations)?

  Gradual onset, unless heavy rains can be more sudden of an impact.

History:

- When did the hazard occur? List the past occurrences. Include month and year, if known.

  Usually late Fall/winter season, once a year

- When these occurred, what was impacted? Where there any deaths or injuries? Was there damage done to any assets?

  Roads covered, Local Fishing boats needed to be attended to and moved, minimal damage to roads.

- Are there any community members that could provide an account of the past occurrences?

  yes

- Has the hazard had any long lasting effects?

  no

- Has it caused additional hazards?

  no

Probability of Future Events:

- What is the probability of the hazard to happen again in the community (Unlikely, Occasional, Likely, Highly Likely)?

  Likely, Heavy rains, Stormy seas cause mouth of creeks and rivers to plug,

HAZARD: SEVERE WIND

Location:

- Does the hazard impact the entire planning area? **YES** **NO**

- If it does not ("NO" from above question) impact the entire planning area, please provide a description of the location. You may also circle and label the specific areas on the attached community maps.

Extent (Magnitude / Strength):

- If the hazard uses a scientific scale (e.g. Earthquake Richter Scale), how severe can it be according to the scientific scale? If no scale is available, describe the magnitude / strength of the hazard by its thickness, area, depth, temperatures, volumes, or duration / length.

  60-100+ mph

- How long can the hazard last?

  Days/weeks

- How fast does the hazard impact the community? Is it a sudden onset (with little to no warning or time for preparation) or a slow onset (time for warning community members and make appropriate preparations)?

  Can be a sudden onset

History:

- When did the hazard occur? List the past occurrences. Include month and year, if known.

  Winter 2017, many times before that

- When these occurred, what was impacted? Where there any deaths or injuries? Was there damage done to any assets?

  No Deaths, No injuries, Houses and structures around community damaged, roofs and siding damage, old buildings have been demolished, No planes or mail etc.

- Are there any community members that could provide an account of the past occurrences?

  Yes

- Has the hazard had any long lasting effects?

  No

- Has it caused additional hazards?

  No

Probability of Future Events:

- What is the probability of the hazard to happen again in the community (Unlikely, Occasional, Likely, Highly Likely)?

  Highly Likely

- Why?

HAZARD: SEVERE WINTER WEATHER

Location:

- Does the hazard impact the entire planning area? **YES** **NO**
- If it does not ("NO" from above question) impact the entire planning area, please provide a description of the location. You may also circle and label the specific areas on the attached community maps.

Extent (Magnitude / Strength):

- If the hazard uses a scientific scale (e.g. Earthquake Richter Scale), how severe can it be according to the scientific scale? If no scale is available, describe the magnitude / strength of the hazard by its thickness, area, depth, temperatures, volumes, or duration / length.

  Can last weeks, Warm weather, wet snow to below freezing cause icy roads conditions, freezing rain,
- How long can the hazard last?

  Days/weeks
- How fast does the hazard impact the community? Is it a sudden onset (with little to no warning or time for preparation) or a slow onset (time for warning community members and make appropriate preparations)?

History:

- When did the hazard occur? List the past occurrences. Include month and year, if known.

  Late fall-Winter-Early Spring Seasons.
- When these occurred, what was impacted? Where there any deaths or injuries? Was there damage done to any assets?

  NO deaths, No injuries, No planes, NO mail, Frozen water pipes, Roads impacted
- Are there any community members that could provide an account of the past occurrences?

  yes
- Has the hazard had any long lasting effects?

  no
- Has it caused additional hazards?

  Bad driving conditions

Probability of Future Events:

- What is the probability of the hazard to happen again in the community (Unlikely, Occasional, Likely, Highly Likely)?

  Occasional
- Why?

HAZARD: SUBSIDENCE

Location:

- Does the hazard impact the entire planning area? **YES** **NO**

- If it does not ("NO" from above question) impact the entire planning area, please provide a description of the location. You may also circle and label the specific areas on the attached community maps.

Extent (Magnitude / Strength):

- If the hazard uses a scientific scale (e.g. Earthquake Richter Scale), how severe can it be according to the scientific scale? If no scale is available, describe the magnitude / strength of the hazard by its thickness, area, depth, temperatures, volumes, or duration / length.

  Not severe, houses settling

- How long can the hazard last?

  Not sure

- How fast does the hazard impact the community? Is it a sudden onset (with little to no warning or time for preparation) or a slow onset (time for warning community members and make appropriate preparations)?

  Slow onset

History:

- When did the hazard occur? List the past occurrences. Include month and year, if known.

  In the past, not sure

- When these occurred, what was impacted? Where there any deaths or injuries? Was there damage done to any assets?

  No deaths, no injuries

- Are there any community members that could provide an account of the past occurrences?

  yes

- Has the hazard had any long lasting effects?

  House that have settled, yes

- Has it caused additional hazards?

  no

Probability of Future Events:

- What is the probability of the hazard to happen again in the community (Unlikely, Occasional, Likely, Highly Likely)?

  occasional

- Why?

HAZARD: TSUNAMI

Location:

- Does the hazard impact the entire planning area? **YES** **NO**

- If it does not ("NO" from above question) impact the entire planning area, please provide a description of the location. You may also circle and label the specific areas on the attached community maps.

Extent (Magnitude / Strength):

- If the hazard uses a scientific scale (e.g. Earthquake Richter Scale), how severe can it be according to the scientific scale? If no scale is available, describe the magnitude / strength of the hazard by its thickness, area, depth, temperatures, volumes, or duration / length.

  No tsunami yet, potential is there for one, which can have sever effects

- How long can the hazard last?

  Tsunami warnings last until we are told that we are in the clear, hours

- How fast does the hazard impact the community? Is it a sudden onset (with little to no warning or time for preparation) or a slow onset (time for warning community members and make appropriate preparations)? Can be sudden onset

History:

- When did the hazard occur? List the past occurrences. Include month and year, if known.

  Tsunami warning last winter 2018, result of Kodiak earthquake

- When these occurred, what was impacted? Where there any deaths or injuries? Was there damage done to any assets?

  No deaths no injuries no damage

- Are there any community members that could provide an account of the past occurrences?

  yes

- Has the hazard had any long lasting effects?

  no

- Has it caused additional hazards?

  no

Probability of Future Events:

- What is the probability of the hazard to happen again in the community (Unlikely, Occasional, Likely, Highly Likely)?

  Occasional

- Why? Earthquake

HAZARD: VOLCANO

Location:

- Does the hazard impact the entire planning area? **YES** **NO**
- If it does not ("NO" from above question) impact the entire planning area, please provide a description of the location. You may also circle and label the specific areas on the attached community maps.

Extent (Magnitude / Strength):

- If the hazard uses a scientific scale (e.g. Earthquake Richter Scale), how severe can it be according to the scientific scale? If no scale is available, describe the magnitude / strength of the hazard by its thickness, area, depth, temperatures, volumes, or duration / length.

  Erupting, Ash emissions 20,000+ ft., lava flow ½ mile,
- How long can the hazard last?

  Days/weeks/months
- How fast does the hazard impact the community? Is it a sudden onset (with little to no warning or time for preparation) or a slow onset (time for warning community members and make appropriate preparations)?

  Varies, sudden onset, no warning at times

History:

- When did the hazard occur? List the past occurrences. Include month and year, if known.

  Sept 2018
- When these occurred, what was impacted? Where there any deaths or injuries? Was there damage done to any assets?

  No deaths no injuries no damage
- Are there any community members that could provide an account of the past occurrences?

  yes
- Has the hazard had any long lasting effects?

  no
- Has it caused additional hazards?

  no

Probability of Future Events:

- What is the probability of the hazard to happen again in the community (Unlikely, Occasional, Likely, Highly Likely)?

  likely
- Why?

HAZARD: WILDFIRE

Location:

- Does the hazard impact the entire planning area? **YES** **NO**

- If it does not ("NO" from above question) impact the entire planning area, please provide a description of the location. You may also circle and label the specific areas on the attached community maps.

Extent (Magnitude / Strength):

- If the hazard uses a scientific scale (e.g. Earthquake Richter Scale), how severe can it be according to the scientific scale? If no scale is available, describe the magnitude / strength of the hazard by its thickness, area, depth, temperatures, volumes, or duration / length.

  Potentially, can be severe

- How long can the hazard last?

  Until contained or extinguished

- How fast does the hazard impact the community? Is it a sudden onset (with little to no warning or time for preparation) or a slow onset (time for warning community members and make appropriate preparations)?

  Can be a sudden onset

History:

- When did the hazard occur? List the past occurrences. Include month and year, if known.

  Years back,

- When these occurred, what was impacted? Where there any deaths or injuries? Was there damage done to any assets?

  No death no, injuries, landscape affected, no structures damaged

- Are there any community members that could provide an account of the past occurrences?

  yes

- Has the hazard had any long lasting effects?

  no

- Has it caused additional hazards?

  no

Probability of Future Events:

- What is the probability of the hazard to happen again in the community (Unlikely, Occasional, Likely, Highly Likely)?

  Likely, especially in Dry conditions

- Why? Dry, hot conditions, and landscape

AK PENINSULA NWR

KAMETOLOOK (Amodromous) RIVER

HUNTING AND FISHING THROUGHOUT COMMUNITY

Flood

OCEANSIDE ESTATES SUBDIVISION

Flood

Perryville Airport

STAR RIVER (Amodromous)

THREE

BOAT MOORAGE ROAD

RIVER ACCESS ROAD

FUEL TANK FARM

SMALL SKIFF LANDING

SANDY LAKE

LONG LAKE

WASTE DISPOSAL SITE

OLD LANDFILL

FIRST POINT

SECOND POINT

FISHING BOAT STORAGE AREA

THREE STAR POINT

Legend & Notes

MAP NOTES

This map was prepared by the Lake and Peninsula Borough in cooperation with Alaska Department of Community and Economic Development (DCED) voting funds provided by the U.S. Bureau of Indian Affairs. The Lake and Peninsula Borough contracted with Global Positioning Services, Inc., in July of 2002 to prepare the map.

This map is based on photography acquired on July 21, 2002, at a nominal scale of 1 in = 1750 ft. This aerial photo has not been corrected, by rectification to ground control stations. Distortions between boundary lines and photograph exist.

AREA USE MAP
PERRYVILLE

55° 54' 40" N 159° 08' 00" W (NAD 83)
Approximate Elevation: 30'
Township 49 South, Range 84 West, S.M., AK
U.S.G.S. Quadrangle "STEPOVAK BAY D-4", Alaska
ALEUTIAN ISLANDS RECORDING DISTRICT

SEE SHEET 1 FOR DETAILED COMMUNITY MAP

0 500 1000 1500
SCALE IN FEET

Date of Photography: July 21, 2002
Magnetic Declination computed by U.S.G.S. Geomag Program using AK-2000.COF model as of August 1, 2002.

SHEET 2 of 2

PERRYVILLE AREA USE MAP SHEET 2 1"=500' (2002 PHOTOGRAPHY)

Community Map
PERRYVILLE

55° 54' 40" N 159° 09' 00" W (NAD 83)
Approximate Elevation: 30'
Township 49 South, Range 84 West, S.M., AK
U.S.G.S. Quadrangle "SITKOVAK BAY D-4", Alaska
ALEUTIAN ISLANDS RECORDING DISTRICT

LEGEND

0 200 400 600
SCALE IN FEET

Date of Photography: July 31, 2002
Magnetic Declination computed by U.S.G.S. Geomag Program using AK-2000.COF model as of August 1, 2002.

SHEET 1 of 2

MAP NOTES

This map was prepared by the Lake and Peninsula Borough (LPB) in cooperation with the Alaska Department of Community and Economic Development (DCED) using funding from the Coastal Impact Assistance Program, Coastal Management Program, Bureau of Indian Affairs Transportation Planning and funding from the Initiative for Accelerated Infrastructure Development (IAID). The IAID is supported by grants from the Denali Commission, USDA Rural Development, Alaska Department of Transportation and Public Facilities and DCED. The Alaska Native Tribal Health Consortium provided sanitation facility records. The LPB contracted with Global Positioning Services Incorporated in June of 2002 to prepare the map.
This map should not be construed as a survey. On-site surveys should be conducted prior to engineering or construction.

This map was compiled to meet horizontal and vertical accuracy in accordance with national map accuracy standards.

Property and utility information has been generated from readily available sources with limited accuracy checks. Property information is not intended to represent a title search of the Recorders Office record. Utility location is approximate and shows only the main lines and the service lines have been omitted for clarity. Generally, the information is current as of December 2002.

This map is based on photography acquired on July 11, 2002, at a nominal scale, of 1 in = 800 ft.

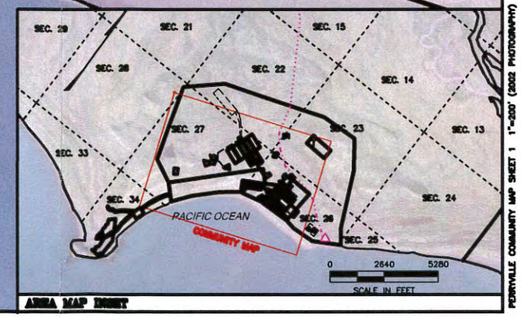
Aerialsp U.S. prepared the orthophoto and topographic mapping.

The orthophoto is an aerial photo which has been corrected, by rectification to ground control stations, to remove distortions and warpage due to ground topography and aircraft tilt and trim.

HORIZONTAL AND VERTICAL CONTROL
The control monument for the digital orthophoto was B.L.M. EC 10726. Published horizontal datum NAD 1983 coordinates for this monument are North 55° 54' 38.80196" and West 159° 09' 10.01215". The vertical datum NGVD 1929 for this monument is 30 feet above mean high water (MHW).

The contours were prepared at two (2) foot contour intervals with index contours every ten (10) feet.

BROOKS ACCESS ROAD & PUMP STATION
PERRYVILLE TSUNAMI SUBD.
OCEANSIDE ESTATES SUBD.
US POST OFFICE
SHELTER ROAD
BROOKS ACCESS ROAD & PUMP STATION
BROOKS ACCESS ROAD
FIFTH AVENUE
FOURTH AVENUE
THIRD AVENUE
SECOND AVENUE
FIRST AVENUE
AIRPORT ROAD
SECOND AVENUE
KRIS JANE STREET
1st STREET
2nd STREET
C STREET
PERRYVILLE VILLAGE SUBDIVISION
PERRYVILLE TOWNSITE
PACIFIC OCEAN
BOAT MOORAGE ACCESS ROAD



AREA MAP INSET

PERRYVILLE COMMUNITY MAP SHEET 1 1"=200' (2002 PHOTOGRAPHY)

Risk Analysis Worksheet *(Profiled Hazards Only)*

Column A Facility Name	Column B Number of Occupants	Column C Location	Column D Estimated Value	Column E: Hazard Impacts (Fill in Hazards in Blank Columns Below)											
				Earthquake	Extreme Cold	Extreme Heat	Flood	Severe Wind	Severe Weather Winter	Subsidence	Tsunami	Volcano	Wildfire		
Perryville School	30+			x	x	x		x	x	x	x	x	x		
Perryville OFFICE TRIBAL Corporation	5+	101 1ST Avenue		x	x	x		x	x	x	x	x	x		
Perryville Clinic	2+			x	x	x		x	x	x	x	x	x		
Housing / Apartments	130+			x	x	x	x	x	x	x	x	x	x		
Post OFFICE	1+			x	x	x		x	x	x	x	x	x		
Water Treatment Plant	0			x	x	x		x		x	x	x	x		
Airport / Hangar	0			x				x	x	x	x	x	x		
Fuel TANK FARM	0			x							x		x		
Power House Generators	1+			x				x		x	x	x	x		
Boat Ramp	0+			x			x		x	x	x				
Bridge	0			x			x				x		x		
Church	0			x	x	x		x	x	x	x	x	x		
General Store	0			x	x	x		x	x	x	x	x	x		
Wind Mills	0			x							x				
Road System	0			x			x		x	x	x				
Equipment Heavy Equipment TRIBAL owned equipment	0			x					x		x	x	x		

Hazard (DCRA #)	Should This Hazard Be Profiled? (Yes or No)	Explanation (i.e., "This hazard does not exist for Perryville", "The potential for ____ exists for Perryville")4/4/2016 Examples of impact.	Previous Occurrences	Future Probability: Highly Likely, Likely, Possible, Unlikely	Extent (Magnitude/Severity): Catastophic, Critical, Limited, Negligible, or unknown
Active shooter	Yes	Has occurred in the past.	90s	possible	unknowns
Chemical Spills	Yes	Could exist	Exon Valdez	Possible	Critical
Coastal Erosion	Yes				
Severe Fall Storms	Same as flooding	November months are bad/ high seas			
Coastal Storm	Yes				
Flood	Yes	Flooding during extreme high tides. Also from storm surges. Can cut off evacations route to shelter.	25-Dec-15	Highly Likely	Critical, Catastrophic if in conjunction with a tsnunami threat.
Drought	Yes	Effects fresh water supply.	Summer 2015	Highly likely	Limeted
Earthquake (and Tsunani)	Yes	Tsunami, potential for structural damage.	1-Apr-16	Virtually every ye	Catastrophic
Extreme Heat	Yes	Impact subsistence foods, subsistence sealife moves out to deeper (colder) water; Serious problems with roadway duist.	Summer 2015	Highly likely	Critical
Hurricane Force Winds	Yes	Damage to tin siding, metal roofs, oil drums,			
Overfishing	Yes	Negative impact to both subsistence fishing.			
Plane crash on airstrip	Yes	Could close airport, impact nearby homes. Potential for fatalities and injuries.		possible	Critical
Red Tide	Yes	Poisons water related food supply	2013 ish	likely	Catastropic
Shortage of fuel	Yes	Winter storm else impacted barge deliver.	2009	Possible	Negligible, but high concerns and management or resource
Solar Flare (Communication loss)	Yes	Very dependent on Satalites for almost all communictions.	2012	Possible	Critical
Volcano	Yes	Ash fall, impacts air travel and floods the rivers.	Easter Sunday 2016	Likely	Critical
Wildfire	Yes	Associated with drought and hot summers, impact of fires that could threaten buildings.	2012	Likely	Critical
Windstorm	Yes	Knock over skiffs, take off roofing tin, siding	25-Dec-15	Likely	Limited
Avalanche	No				
Dam Failure	No	in danger of running low			
Expansive Soils	No				
Extreme cold in summer	no				
Hailstorm	No				
Land Subsidence	No				
Landslide	No	impact roads or people...Could be bad if it impacted Tsunaim Trail and Shelter			
Plane crash elsewhere in town.	No				
River Erosion	No				
Severe Winter Storm	No				
Tornado	No				

Non-Residential Structures

Hazard	1 DOT Grader Building	2 Pump Station/Water Treatment	3 Post Office	4 Subsistance Building	5 Fire Station	6 Store	7 Village Clinic - Vacant	8 Boys &Girls Club	9 BBNA Housing - Vacant	10 Power Plant	11 AT&t Alascom Satelite Dish	12 Corp. Building - Vacant	13 School Tank Farm/Generator	14 School	15 Teacher Housing	16 Teacher housing	17 Village Graveyard	18 Tsunami Shelter	19 Orthadox Church	20 GCI Satelite Dish	21 Katmai Community Center/Tribal Office/Clinic new 2008/9	
Active shooter																						
Chemical Spills																						
Coastal Erosion																						
Severe Fall Storms																						
Coastal Storm																						
Flood																						
Drought		1	1	1	1									1	1	1					1	
Earthquake (and Tsunani)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	
Extreme Heat																						
Hurricane Force Winds														1	1	1						
Overfishing																						
Plane crash on airstrip																						
Red Tide																						
Shortage of fuel																						
Solar Flare (Communication loss)																						
Volcano		1								1				1	1	1		1			1	
Wildfire																						
Windstorm											1									1	1	
Avalanche																						
Dam Failure																						
Expansive Soils																						
Extreme cold in summer																						
Hailstorm																						
Land Subsidence																						
Landslide																						
Plane crash elsewhere in town.																						
River Erosion																						
Severe Winter Storm																						
Tornado																						

Infrastructure

Hazard	1 Small Boat Harbor -	2 Community warehouse&Cold storage	3 Fish Processing Plant-is subsistence Bldg	4 Ice House	5 remove	6 Barge landing dock	7 near water	8 Small Boat Lanch	9 Trail to small Boat Harbor	10 New gravel site	11 4,000 ft Lighted runway	12 Solar and Wind Generator	13 Hydro Power Plant	14 Possible Gravel site	15 Gravel site for runway	and 2nd Ave	and 4th	New Road to the Tsunami Shelter	Evacuation trail from HUD	New Hud Housing Road
Active shooter																				
Chemical Spills																				
Coastal Erosion								1												
Severe Fall Storms																				
Coastal Storm																				
Flood	1							1	1							1	1			
Drought																				
Earthquake (and Tsunani)	1	1						1			1	1				1	1			
Extreme Heat																				
Hurricane Force Winds						1														
Overfishing																				
Plane crash on airstrip																				
Red Tide																				
Shortage of fuel																				
Solar Flare (Communication loss)																				
Volcano											1	?								
Wildfire																				
Windstorm	1																			
Avalanche																				
Dam Failure																				
Expansive Soils																				
Extreme cold in summer																				
Hailstorm																				
Land Subsidence																				
Landslide																				
Plane crash elsewhere in town.																				
River Erosion																				
Severe Winter Storm																				
Tornado																				

Hazards Assets

DCRA #								Trails	Trail													Fish Camps			Subsistence Foods																						Places People Gather (Events)	Other
											Residences at Risk																																					
Hazard	**New Trail loop New Hud to Old Hud housing**	**New Tank Farm**	**Road to Gravel Pit**	**New Road to Landfill**	**Brooks Road (AKA Old Hud Housting Road)**	**New Airport Road and Barge Landing Road**	**New Tank Farm**		Evacuation Route		Elizabeth Kosbruk														Halibut/Rock Fish/Cod Fish	Clams	Octupus	sea urchines	Scalops/shrimp		Gumboot	Crabs	Salmon (Red, King, and S	Seals/Sea Lions		Brown Bear	Moose/carabou/	Seagull Eggs	Wild Celery	Ducks	Berries(Blueberrys, backberries, Highbush salmon, cranberries		
Active shooter																																													
Chemical Spills																									1	1	1	1	1		1	1	1	1				1		1					
Coastal Erosion																																													
Severe Fall Storms																																													
Coastal Storm																																													
Flood									1																																				
Drought																																					1	1		1		1				
Earthquake (and Tsunani)								1	1		All											1																								
Extreme Heat																									1		1	1				1	1		1	1		1	1	1	1					
Hurricane Force Winds											1																																		
Overfishing																									1				1				1												
Plane crash on airstrip																																													
Red Tide																										1		1	1								1		1					
Shortage of fuel																																													
Solar Flare (Communication loss)																																													
Volcano												Could impact air intake for HRV																																			
Wildfire																																													
Windstorm											Some residences have been damaged by strong winds.																																			
Avalanche																																													
Dam Failure																																													
Expansive Soils																																													
Extreme cold in summer																																													
Hailstorm																																													
Land Subsidence																																													
Landslide																																													
Plane crash elsewhere in town.																																													
River Erosion																																													
Severe Winter Storm																																													
Tornado																																													

Bristol
ENGINEERING SERVICES COMPANY, LLC

111 W. 16th Avenue, Third Floor
Anchorage, AK 99501-5169
phone (907) 563-0013
fax (907) 563-6713
www.bristol-companies.com

TRIP REPORT & MEETING MINUTES

Project: **BBNA THMP Project**
Bristol Project No: 32190013
Reference: Perryville Planning Team Meetings & Public Meetings
Date of Meeting: April 23, 2019
Location of Meeting: Perryville Tribal Building & Katmai Center
Participants:
Bristol: Danielle Dance, Taylor Turney
Planning Team: See attached sign in sheet
Public Meeting: See attached sign in sheet

Summary

Taylor and Danielle arrived in Perryville around 4:30 PM on Monday, April 22, 2019 (6 hours behind schedule) due to flight delays. They intended to meet with the Community on Monday evening, but had to reschedule for Tuesday morning. They stayed overnight in school housing and then met with the council/planning team from 9:00 AM to 11:30 AM in the Katmai Center to discuss the project. They discussed the items for the Hazard Mitigation Plan including community assets, vulnerability statements, mitigation goals, and potential mitigation strategies. From 11:30 AM to 12:00 PM, Taylor and Danielle hosted a public meeting at the Katmai Center to discuss the THMP project and collect public comment before travelling to Chignik Lake via Lake Clark Air.

THMP Planning Team Meeting Notes

Worksheet #6 – Mitigation Actions

- Earthquakes
  - Education on securing tall or heavy objects that could injure residents
  - Provide school earthquake drills for students
  - List of residents who need a bus ride in event of an evacuation
  - Agreement with individuals to use satellite phones, garmin inreach
- Erosion
  - Erosion monitoring, IGAP place stakes
- Extreme Cold
  - Updating water lines to reduce freezing problems
  - Educate residents on float plan, and basic winter safety plan
- Extreme Heat
  - Education on basic personal safety: hydration, stay in the shade, wear sunscreen
- Flooding
  - Raise roads with better culverts for drainage (*design in the works)
  - Work with the DOT to improve airport runway
  -

- Severe Winds
    - Upgrading roofs on older homes for better resistance to wind damage
    - Education on securing and storing objects during windy seasons
    - Note* - the community power is underground
- Severe Winter Weather
    - Continue to snow plow, rely on the operators to maintain, training, sanding for icy roads
    - Continue to provide ice cleats for residents
    - Educate residents to communicate travel pans with family and bring communication device
- Subsidence
    - Provide inspections for older buildings and homes
    - Education for subsidence awareness
- Tsunami
    - Provide checklist for 72 hour kits
    - Add partitions in tsunami shelter
    - Stock larger food supply
    - Source/storage of potable water
    - *Meet requirements for tsunami ready plan
    - Checklist for bus driver for people to check on
    - Develop a plan for tsunami procedures and leader in case of emergency, educate residents of plan
    - Alerts for distant earthquake events and possible threats
    - Develop instruction sheet for activating tsunami siren
    - Identify possible relocation of tsunami siren
- Volcano
    - Education/awareness about the impacts
    - Get additional masks for clinic
    - * surface water treatment facility, have to store water in case of severe ashfall
    - Install community water well as backup
- Wildfire
    - Masks, small supply for smoke and ash (*dispersed by sub-regional clinic)
    - Continue firebreaks around community
    - Continue providing fire extinguishers to residents
    - Upgrade firetruck, need larger capacity – current only lasts 15min before needing refill
    - *community has fire hydrants around the community
    - Develop maintenance plan to keep firefighting equipment accessible and ready for use (couldn't access water pump for hooking hoses up)
    - Continue fire drills at the school

- Overall
    - Provide checklist for emergency preparedness kit
    - Have a backup generator for clinic
    - Revisiting HMP yearly
    - SCERP

THMP Public Meeting Notes

Community meeting notes

- Safety minute – have a family safety plan with contact numbers and plan for how to reach each other
- This plan is a requirement for the Tsunami Ready plan
- How high of ground is safe from tsunami's?
- Want to develop brochures and way to distribute information(Ex: SCERP)
- What is the best way to get information? Community meetings, monthly EPA newsletters

Attachments:

1. Planning Team Meeting Sign-in Sheet
2. Worksheet #3: Risk Assessment
3. Worksheet #6: Mitigation Strategies
4. Public Meeting Sign-in Sheet
5. Public Meeting Flyer
6. Public Meeting Handouts
7. Public Meeting Presentation Slides
8. Maps

Meeting Minute attachments included in Appendix A. The remaining attachments can be found in Appendix B.

End Meeting Minutes

CC: File

Planning Team Meeting

Perryville Tribal Hazard Mitigation Plan (2019 - 2024)

Date / Location: April 22, 2019

Sign In Sheet

Name/Title	Phone	Email
Austin Shangin Council	907-717-5641	Nativevillageofperryville@outlook.com
Johnathan Kosbruk Council	907 853 4114	
Donovan Shangin | Roads Admin	853 4101	
Dana Phillips | Tribal Admin	office # (907) 853-2203 cell # (907) 717-3550	
Alec Phillips Jr Council	907 7174536	

Risk Analysis Worksheet *(Profiled Hazards Only)*

Facility Number	Column A Facility Name	Column B Number of Occupants	Column C Location	Column D Estimated Value	Column E: Hazard Impacts *(Fill in Hazards in Blank Columns Below)*								
					Earthquake	Extreme Temperatures	Flood	Severe Wind	Severe Winter Weather	Subsidence	Tsunami	Volcano	Wildfire
1	Perryville School	30+			X	X		X	X	X	X	X	X
2	Perryville Office (Tribal & Corporation)	5+	101 1st Avenue		X	X		X	X	X	X	X	X
3	Perryville Clinic	2+			X	X		X	X	X	X	X	X
4	Housing / Apartments	130+			X	X	X	X	X	X	X	X	X
5	Post Office	1+			X	X		X	X	X	X	X	X
6	Water Treatment Plant	N/A			X	X		X		X	X	X	X
7	Airport / Hangar	N/A			X			X	X	X	X	X	X
8	Fuel Tank Farm	N/A			X						X		X
9	Power House Generators	1+			X			X		X	X	X	X
10	Boat Ramp	N/A			X		X		X	X	X		
11	Bridge	N/A			X		X				X		X
12	Church	N/A			X	X		X	X	X	X	X	X
13	General Store	N/A			X	X		X	X	X	X	X	X
14	Windmills	N/A			X						X		
15	Road System	N/A			X		X		X	X	X		
16	Tribally Owned Equipment	N/A			X				X		X	X	X

Risk Analysis Worksheet *(Profiled Hazards Only)*

Facility Number	Column A Facility Name	Column B Number of Occupants	Column C Location	Column D Estimated Value	Column E: Hazard Impacts *(Fill in Hazards in Blank Columns Below)*								
					Earthquake	Extreme Temperatures	Flood	Severe Wind	Severe Winter Weather	Subsidence	Tsunami	Volcano	Wildfire
17	AT&T Tower	N/A			X			X	X		X		
18	School Tank Farm / Generator	N/A			X	X			X		X	X	X
19	Teacher housing	N/A			X	X					X	X	X
20	Cemetery	N/A					X	X			X		X
21	Tsunami shelter	N/A			X	X			X			X	X
22	GCI tower	N/A			X			X	X		X		
23	Water storage tank				X	X		X	X			X	
24	Landfill							X			X		X

Mitigation Actions (Planning Meeting)

GOALS		ACTIONS	
No.	**Goal**	**ID**	**Description**
	Earthquake		Educate resident on how to secure tall objects to walls.
			School - earthquake drills
			Develop a list of residents that need a ride to the shelter
		x	agreement with residents with satelite phone to use in event.
	Extreme Temperatures		update water and service lines (ANTHC)
			Educate residents about Float Plan
			Educate residents about safety plan for winter travel
			Basic education on how to protect from heat (sunscreen, hydration).
	Flood	x	Raise up roads
			Upgrade / Improve drainage features
			Work the DOT improve runway
	Severe Wind		Upgrade roofs on older homes
			secure objects outside, education
			educate residents to start working on personal/family food storage
	Severe Winter Weather		Continue snow plowing of roads / sanding roads
			Training for operators
			Continue to provide ice cleats
		x	educate to let family know of travel plans and have communication device.
	Subsidence		Inspect older homes and identify way to level them if needed
			education for residents for awareness of subsidence

Mitigation Actions (Planning Meeting)

GOALS		ACTIONS	
No.	**Goal**	**ID**	**Description**
	Tsunami		Parking by shelter
			partitions for shelter (to close off area for emergency situations)
			Acquire larger food supply
		x	identify a potable water source / supply
		x	Provide checklist to residents for emergency kit (review examples from other communities).
		x	Develop Tsunami plan (who is in charge), develop list of phone numbers for the shelter.
		x	educate residents about tsunami plan.
			getting alerts for distant earthquakes and tsunamis (possible threats)
		x	Develop instruction sheet for alarm and post by alarm.
		x	Identify a possible relocation of alarm
	Volcano	x	Acquire additional masks for clinic (on hand)
			Individual / family water supply
		x	Community back up water supply (well)
	Wildfire		Continue fire breaks around community
			Continue supplying fire extinguishers
		x	Bigger fire truck with more capacity
		x	Develop a maintenance plan to maintain fire equipment
			small supply of masks for elders and children.
			continue fire drills at school
	General	x	Provide a checklist to finish supplying their emergency kit.
		x	back up generator for clinic
			Review THMP every year.
		x	SCERP

Community Map
PERRYVILLE

55° 54' 40" N 159° 09' 00" W (NAD 83)
Approximate Elevation: 30'
Township 49 South, Range 64 West, S.M., AK
U.S.G.S. Quadrangle "STEPOVAK BAY D-4", Alaska
ALEUTIAN ISLANDS RECORDING DISTRICT

LEGEND

- Residential Building
- Commercial Building
- Public Building
- Periodic Flooding
- Glaciation (from local knowledge)
- Homesite Applications
- Edge of Water
- Underground Electric Line
- Water Line
- BLM "EC 10731 1980" Basis of Coordinates

0 200 400 600
SCALE IN FEET

SCALE: 1"=200'
Date of Photography: July 31, 2002
Magnetic Declination computed by U.S.G.S. Geomag
Program using AK-2000.COF model as of August 1, 2002.
SHEET 1 of 2

MAP NOTES

This map was prepared by the Lake and Peninsula Borough (LPB) in cooperation with the Alaska Department of Community and Economic Development (DCED) using funding from the Coastal Impact Assistance Program, Coastal Management Program, Bureau of Indian Affairs Transportation Planning and funding from the Initiative for Accelerated Infrastructure Development (IAID). The IAID is supported by grants from the Denali Commission, USDA Rural Development, Alaska Department of Transportation and Public Facilities and DCED. The Alaska Native Tribal Health Consortium provided sanitation facility records. The LPB contracted with Global Positioning Services Incorporated in June of 2002 to prepare the map.
This map should not be construed as a survey. On-site surveys should be conducted prior to engineering or construction.

This map was compiled to meet horizontal and vertical accuracy in accordance with national map accuracy standards.

Property and utility information has been generated from readily available sources with limited accuracy checks. Property information is not intended to represent a title search of the Recorders Office record. Utility location is approximate and shows only the main lines as the service lines have been omitted for clarity. Generally, the information is current as of December 2002.

This map is based on photography acquired on July 31, 2002, at a nominal scale, of 1 in = 800 ft.

AeroMap U.S. prepared the orthophoto and topographic mapping.

The orthophoto is an aerial photo which has been corrected, by rectification to ground control stations, to remove distortions and warpage due to ground topography and aircraft tilt and trim.

HORIZONTAL AND VERTICAL CONTROL
The control monument for the digital orthophoto was B.L.M. EC 10731. Published horizontal datum NAD 1983 coordinates for this monument are North 55° 54' 38.90199" and West 159° 09' 10.01015". The vertical datum NGVD 1929 for this monument is 30 feet above mean high water (MHW).

The contours were prepared at two (2) foot contour intervals with index contours every ten (10) feet.

Water Storage & Treatment Facility Lease to Perryville Village Council Bk. 48, Pgs. 952-959 12/31/98

Waterline Easement Agreement to Perryville Village Council Bk. 48, Pgs. 962-968 12/31/98

BROOKS ACCESS ROAD & PUMP STATION

State in Trust DCED Bk. 37, Pgs 374-376 7/29/03

Water Storage & Treatment Facility Lease to Perryville Village Council Bk. 48, Pgs. 952-959 11/11/98

State in Trust DCED Bk. 37, Pgs. 374-376 7/29/93

ANSCA 14(c) TRACT A (8)

ANSCA 14(c) (4)

ANSCA 14(c) (3)

ANSCA 14(c) (2)

OCEANSIDE ESTATES SUBD.

Leased to Bristol Bay Housing Authority Bk. 45, Pgs. 497-98 12/6/97 Lots 1-14

Certificate of Ownership Oceanside Corp. Plat 93-9 3/10/93

Certificate of Ownership Oceanside Corp. Plat 93-9 3/10/93

Certificate of Ownership Oceanside Corp. Plat 93-9 3/10/93

US POST OFFICE TRACT A2

Leased to US Postal Service Bk. 52, Pgs. 441-453 10/25/00

Proposed 30' wide Waterline Easement

Magnetic North 15.9° E

True North

Quit Claim Deed to Native Village of Perryville Bk. 41, Pgs. 609-610 6/1/95

PERRYVILLE TSUNAMI SUBD. 21

Certificate of Ownership Oceanside Corp. Plat 95-15 5/16/95

60' Access & Utility Easement

Approximate Location 25' Proposed Trail Easement EIN 9

159°08'40" W
55°55'05" N

SEC. 22
SEC. 23
SEC. 27
SEC. 26

SHELTER ROAD

40' Utility Easement
5' Utility Easement

BROOKS ACCESS ROAD & PUMP STATION

ANSCA 14(c) (6)

(TRACT IV)

(TRACT II)

Certificate of Ownership Oceanside Corp. Plat 93-9 3/10/93 Lots 1-4

Dedicated Public Road Plat 89-7

Trustee Permit for Road Construction and Access Bk. 19, Pg. 441 3/10/80 Bk. 14, Lots 11 & 12

(TRACT III)

50' Public ROW Easement Plat 89-7

AIRPORT ROAD

Trustee Permit for Control of Airspace Bk. 19, Pg. 441 3/10/80 Bk. 14, Lots 11-19

SECOND AVENUE

KRIS JANE STREET

QCD TO DOT&PF Bk. 11, Pgs. 396-401 2/28/79

ANSCA 14(c) TRACT A (1)

USS No. 4993

FIFTH AVENUE

FOURTH AVENUE

THIRD AVENUE

SECOND AVENUE

FIRST AVENUE

A STREET

B STREET

C STREET

USS No. 4993

PERRYVILLE VILLAGE SUBDIVISION

ANSCA 14(c) Certificate of Ownership Oceanside Corp. 3/10/93

USS No. 4993 PERRYVILLE TOWNSITE

PACIFIC OCEAN

159°10'10" W
55°54'10" N

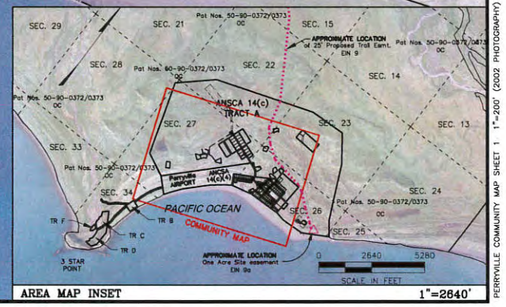
ANSCA 14(c)
State in Trust, DCED Bk. 37, Pgs 374-376 7/29/93

BOAT MOORAGE ACCESS ROAD SEC. A

SEC. 34

BUILDING KEY

1. DOT Grader Building
2. Pump Station/Water Treatment
3. Post Office
4. Subsistence Building
5. Fire Station
6. Store
7. Village Clinic
8. Boys & Girls Club
9. BBNA Housing Office
10. Power Plant
11. AT&T Alascom Satellite Dish
12. VC Office /Oceanside Corp. Building
13. School Tank Farm/Generator
14. School
15. Teacher Housing
16. Teacher Housing
17. Village Graveyard
18. Tsunami Shelter
19. St. John Russian Orthodox Church
20. GCI Satellite Dish



AREA MAP INSET 1"=2640'

PERRYVILLE COMMUNITY MAP SHEET 1 1"=200' (2002 PHOTOGRAPHY)

SEC. 20
Pat Nos. 50-90-0372/0373
O.C.

SEC. 29

SEC. 21

Pat Nos. 50-90-0372/0373
O.C.

SEC. 15

50-90-0372/0373
OC

SEC. 11

Magnetic North
15 3/4° E

True North

AK PENINSULA NWR

SEC. 22

APPROXIMATE LOCATION
of 25' Proposed Trail Esmt.
EIN 9

SEC. 14

KAKE TOLOOK
(Anadromous)
RIVER

SEC. 28

Pat Nos. 50-90-0372/0373
O.C.

23

ANCSA 14(c)(3)
PLAT 93-9
TRACT A
1

State in Trust, DCED
Bk. 37, Pgs 374-376
7/29/93

SEC. 23

HUNTING AND FISHING
THROUGHOUT COMMUNITY

SEC. 13

ANCSA
14(c)
5

OFF-INSIDE
SUBDIVISION
LOTS
4
2
3

SEC. 33

SEC. 27

Pat Nos. 50-90-0372/0373
O.C.

STAR RIVER
THREE (Anadromous)

Perryville Airport
TRACT I

ANCSA 14(c)(4)
1

US SURVEY NO
4983
2

SEC. 34

SEC. 24

SMALL SKIFF
LANDING

SANDY
LAKE

ANCSA 14(c)
BOAT MOORAGE ROAD
Segment A

ANCSA 14(c)
RIVER ACCESS ROAD

ANCSA
14(c)
TR B

FUEL TANK FARM

FUEL BARGE
LANDING AREA

State in Trust, DCED
Bk. 37, Pgs 374-376
7/29/93

SEC. 26

ANCSA
14(c)
7

Pat Nos. 50-90-0372/0373
O.C.

LONG LAKE

ANCSA 14(c)
BOAT MOORAGE ROAD
Segment B

ANCSA
14(c)
TR C

PACIFIC OCEAN

24

WASTE DISPOSAL
SITE
PARCEL A

OLD
LANDFILL

FIRST
POINT

SECOND
POINT

SEC. 25

TR
P

FISHING BOAT
STORAGE AREA

ANCSA
14(c)
TR D

THREE STAR
POINT

APPROXIMATE LOCATION
One Acre Site easement
EIN 9a

Legend & Notes

WINTER GLACIATION

PERIODIC FLOODING
AREAS

HOMESITE APPLICATIONS

MAP NOTES

This map was prepared by the Lake and Peninsula Borough in cooperation with Alaska Department of Community and Economic Development (DCED) using funds provided by the U.S. Bureau of Indian Affairs. The Lake and Peninsula Borough contracted with Global Positioning Services, Inc., in July of 2002 to prepare the map.

This map is based on photography acquired on July 31, 2002, at a nominal scale of 1 in = 1750 ft. This aerial photo has not been corrected, by rectification to ground control stations. Distortions between boundary lines and photograph exist.

AREA USE MAP
PERRYVILLE

55° 54' 40" N 159° 09' 00" W (NAD 83)
Approximate Elevation: 30'
Township 49 South, Range 64 West, S.M., AK
U.S.G.S. Quadrangle "STEPOVAK BAY D-4", Alaska
ALEUTIAN ISLANDS RECORDING DISTRICT

SEE SHEET 1 FOR DETAILED COMMUNITY MAP

0 500 1000 1500
SCALE IN FEET

SCALE: 1"=500'
Date of Photography: July 31, 2002
Magnetic Declination computed by U.S.G.S. Geomag Program using AK-2000.COF model as of August 1, 2002.

SHEET 2 of 2

PERRYVILLE AREA USE MAP SHEET 2 1"=500' (2002 PHOTOGRAPHY)

MITIGATION ACTION TYPES AND EXAMPLES

Mitigation Type	Description	Examples
Local Plans and Regulations	These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built	• Comprehensive plans • Land use ordinances • Subdivision regulations • Development review • Building codes and enforcement • NFIP Community Rating System • Capital improvement programs • Open space preservation • Stormwater management regulations and master plans
Structure and Infrastructure Projects	These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards. Many of these types of action are projects eligible for funding through the FEMA Hazard Mitigation Assistance program.	• Acquisitions and elevations of structures in flood prone areas • Utility undergrounding • Structural retrofits • Floodwalls and retaining walls • Detention and retention structures • Culverts • Safe rooms
Natural Systems Protections	These are actions that minimize damage and losses and also reserve or restore the functions of natural systems.	• Sediment and erosion control • Stream corridor restoration • Forest management • Conservation easements • Wetland restoration and preservation
Education and Awareness Programs	These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady or Firewise Communities. Although this type of mitigation reduces risk less directly than structural projects or regulation, it is an important foundation. A greater understanding and awareness of hazards and risk among local officials, stakeholders, and the public is more likely to lead to direct actions.	• Radio or television spots • Websites with maps and information • Real estate disclosure • Presentations to school groups or neighborhood organizations • Mailings to residents in hazard-prone areas • StormReady • Firewise Communities
Emergency Response Actions	These are actions to identify emergency response or operational preparedness.	• Create mutual aid agreements with neighboring communities to meet emergency response needs • Purchase radio communications equipment • Develop procedures for notifying citizens of available shelter locations during an event

Potential Mitigation Actions

GOALS		ACTIONS	
No.	**Goal**	**ID**	**Description**
1	Build the capacity of the Tribe to prepare, responde to, and recover from disasters.	1.A	Provide a checklist to the residents finish supplying previously distributed emergency kits.
		1.B	Acquire a back up generator for clinic.
		1.C	Review the Tribal Hazard Mitigation Plan (THMP) every year.
		1.D	Work with state public health nurses to develop a Small Community Emergency Response Plan (SCERP).
2	Reduce the possibility of damages due to earthquakes.	2.A	Provide education to residents about securing tall objects or objects that can topple.
		2.B	Conduct earthquake drills at the school.
		2.C	Develop a list of residents that need rides to the shelter.
		2.D	Develop an agreement with residents with satelite phones to use in emergency events.
3	Reduce the possibility of damages due to extreme temperatures.	**3.A**	Work with Alaska Native Tribal Health Consortium (ANTHC) to update water and service lines to reduce freezing issues.
		3.B	Educate residents about the community Float Plan.
		3.C	Educate residents about a basic safety plan for winter travel.
		3.D	Provide basic safety education to residents on how to protect themselves from extreme heat events.

Potential Mitigation Actions

GOALS		ACTIONS	
No.	**Goal**	**ID**	**Description**
4	Reduce the possibility of damages due to flooding.	**4.A**	Complete the design to raise roads and improve drainage.
		4.B	Upgrade/Improve drainage features throughout the Community.
		4.C	Work with the DOT improve the airport runway.
5	Reduce the possibility of damages due to severe wind.	5.A	Upgrade roofs on older homes for better resistance to wind damage.
		5.B	Provide education to residents on securing and storing objects outside.
		5.C	Educate residents to start working on personal/family food storage in event that planes cannot get into the Community with supplies.
6	Reduce the possibility of damages due to severe winter weather.	6.A	Continue snow removal and sanding of roads.
		6.B	Provide equipment training for road maintenance operators.
		6.C	Continue to provide ice cleats for residents.
		6.D	Provide education to residents about winter travel safety and the importance of communicating travel plans and important travel equipment to take, such as a communication device.
7	Reduce the possibility of damages due to subsidence.	7.A	Provide inspections of older homes and identify ways to level homes if needed.
		7.B	Provide education to residents about subsidence to help them be aware of the how it could impact them and their property.

Potential Mitigation Actions

GOALS		ACTIONS	
No.	**Goal**	**ID**	**Description**
8	Reduce the possibility of damages due to tsunamis.	8.A	Develop parking by shelter.
		8.B	Add partitions to the shelter to close off areas for emergency situations.
		8.C	Acquire a larger food supply for the shelter.
		8.D	Identify a potable water source for the shelter.
		8.E	Provide checklist to residents for emergency kit. Rreview examples from other communities to develop this list.
		8.F	Develop a Tsunami Plan. Within the plan establish who is in charge, and provide a list of phone numbers for easy access. Also develop a list of people for the bus driver check on.
		8.G	Educate residents about tsunami plan.
		8.H	Get alerts for distant earthquakes and tsunamis that could pose a possible threat.
		8.I	Develop an instruction sheet to activate the tsunami siren and post by the siren box. Also ensure that there is a plan to activate the siren with back up personnel.
		8.J	Identify a possible relocation of the tsunami siren.
		8.K	Meet requirements to become a Tsunami Ready community.
9	Reduce the possibility of damages due to volcanos.	**9.A**	Acquire additional masks for clinic.
		9.B	Provide education to residents about the importance of having an individual/family water supply, and provide additional information about the impacts of volcanic ash.
		9.C	Install a community well for a back up water supply.

Potential Mitigation Actions

GOALS		ACTIONS	
No.	**Goal**	**ID**	**Description**
10	Reduce the possibility of damages due to wildfires.	10.A	Continue fire breaks around the community.
		10.B	Continue supplying fire extinguishers to the residents for their homes.
		10.C	Acquire a bigger fire truck with more capacity for the Community.
		10.D	Develop a maintenance plan to maintain fire equipment to keep it accessible and ready for use.
		10.E	Maintain a small supply of masks for elders and children.
		10.F	Continue fire drills at the school.

INSTRUCTIONS - MITIGATION ACTION EVALUATION WORKSHEET

Use this worksheet to help evaluate and prioritize each mitigation action that is going to be implemented in the Mitigation Action Plan. For each action, evaluate the potential benefits and / or likelihood of successful implementation for the criteria defined below.

Rank each of the criteria with a -1, 0 or 1 using the following scale:

- 1 = Highly effective or feasible
- 0 = Neutral
- -1 = Ineffective or not feasible

EVALUATION CRITERIA

Life safety – How effective will the action be at protecting lives and preventing injuries?

Property Protection – How significant will the action be at eliminating or reducing damage to structures and infrastructure?

Technical – Is the mitigation action technically feasible? Is it a long-term solution? Eliminate actions that, from a technical standpoint, will not meet the goals.

Political – Is there overall public support for the mitigation action? Is there the political will to support it?

Legal – Does the community have the authority to implement the action?

Environmental – What are the potential environmental impacts of the action? Will it comply with environmental regulations?

Social – Will the proposed action adversely affect one segment of the population? Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower income people?

Administrative – Does the community have the personnel and administrative capabilities to implement the action and maintain it or will outside help be necessary?

Local Champion – Is there a strong advocate for the action or project among local departments and agencies that will support the action's implementation?

Other Community Objectives – Does the action advance other community objectives, such as capital improvements, economic development, environmental quality, or open space preservation? Does it support the policies of the comprehensive plan?

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Mitigation Action Evaluation Worksheet

Mitigation Action ID	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
1.B	1	0	1	1	1	0	1	1	1	0	7
1.D	1	0	1	0	1	0	1	1	0	0	5
2.D	1	0	1	0	1	0	1	1	0	0	5
3.A	1	1	1	1	1	1	1	1	1	0	9
3.C	1	0	1	0	1	0	1	1	0	0	5
3.D	1	0	1	0	1	0	1	1	0	0	5
4.A	0	1	1	1	1	1	1	1	1	1	9
5.B	1	1	1	0	1	0	1	1	0	0	6
6.D	1	0	1	0	1	0	1	1	0	0	5
7.B	0	1	1	0	1	0	1	1	0	0	5
8.D	1	0	1	1	1	0	1	1	1	1	8
8.F	1	0	1	0	1	0	1	1	0	0	5
8.G	1	0	1	0	1	0	1	1	0	0	5
8.I	1	0	1	1	1	0	1	1	0	0	6
8.K	1	1	1	0	1	0	1	1	0	0	6
9.A	1	0	1	0	1	0	1	1	0	0	5
9.C	1	0	1	0	1	0	1	1	0	0	5
10.C	1	1	1	1	1	0	1	1	1	0	8
10.D	0	1	1	0	1	0	1	1	0	0	5

*Source: Local Mitigation Planning Handbook, FEMA, March 2013, Worksheet 6.1

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APPENDIX B

Public Involvement

- Public Meeting Comments
- Public Meeting Sign-In Sheet
- Public Meeting Flyer
- Public Meeting Handout
- Public Meeting Presentation
- Community Survey
- Community Survey Response Summary
- Newsletter #1 and Fax Transmittal
- Stakeholder Email
- Newsletter #2
- Letter to State Representative
- Letter to Senator

Bristol
ENGINEERING SERVICES COMPANY, LLC

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Anchorage, AK 99501-5169
phone (907) 563-0013
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www.bristol-companies.com

TRIP REPORT & MEETING MINUTES

Project: **BBNA THMP Project**
Bristol Project No: 32190013
Reference: Perryville Planning Team Meetings & Public Meetings
Date of Meeting: April 23, 2019
Location of Meeting: Perryville Tribal Building & Katmai Center
Participants:
Bristol: Danielle Dance, Taylor Turney
Planning Team: See attached sign in sheet
Public Meeting: See attached sign in sheet

Summary

Taylor and Danielle arrived in Perryville around 4:30 PM on Monday, April 22, 2019 (6 hours behind schedule) due to flight delays. They intended to meet with the Community on Monday evening, but had to reschedule for Tuesday morning. They stayed overnight in school housing and then met with the council/planning team from 9:00 AM to 11:30 AM in the Katmai Center to discuss the project. They discussed the items for the Hazard Mitigation Plan including community assets, vulnerability statements, mitigation goals, and potential mitigation strategies. From 11:30 AM to 12:00 PM, Taylor and Danielle hosted a public meeting at the Katmai Center to discuss the THMP project and collect public comment before travelling to Chignik Lake via Lake Clark Air.

THMP Planning Team Meeting Notes

Worksheet #6 – Mitigation Actions

- Earthquakes
  - Education on securing tall or heavy objects that could injure residents
  - Provide school earthquake drills for students
  - List of residents who need a bus ride in event of an evacuation
  - Agreement with individuals to use satellite phones, garmin inreach
- Erosion
  - Erosion monitoring, IGAP place stakes
- Extreme Cold
  - Updating water lines to reduce freezing problems
  - Educate residents on float plan, and basic winter safety plan
- Extreme Heat
  - Education on basic personal safety: hydration, stay in the shade, wear sunscreen
- Flooding
  - Raise roads with better culverts for drainage (*design in the works)
  - Work with the DOT to improve airport runway
  -

- Severe Winds
    - Upgrading roofs on older homes for better resistance to wind damage
    - Education on securing and storing objects during windy seasons
    - Note* - the community power is underground
- Severe Winter Weather
    - Continue to snow plow, rely on the operators to maintain, training, sanding for icy roads
    - Continue to provide ice cleats for residents
    - Educate residents to communicate travel pans with family and bring communication device
- Subsidence
    - Provide inspections for older buildings and homes
    - Education for subsidence awareness
- Tsunami
    - Provide checklist for 72 hour kits
    - Add partitions in tsunami shelter
    - Stock larger food supply
    - Source/storage of potable water
    - *Meet requirements for tsunami ready plan
    - Checklist for bus driver for people to check on
    - Develop a plan for tsunami procedures and leader in case of emergency, educate residents of plan
    - Alerts for distant earthquake events and possible threats
    - Develop instruction sheet for activating tsunami siren
    - Identify possible relocation of tsunami siren
- Volcano
    - Education/awareness about the impacts
    - Get additional masks for clinic
    - * surface water treatment facility, have to store water in case of severe ashfall
    - Install community water well as backup
- Wildfire
    - Masks, small supply for smoke and ash (*dispersed by sub-regional clinic)
    - Continue firebreaks around community
    - Continue providing fire extinguishers to residents
    - Upgrade firetruck, need larger capacity – current only lasts 15min before needing refill
    - *community has fire hydrants around the community
    - Develop maintenance plan to keep firefighting equipment accessible and ready for use (couldn't access water pump for hooking hoses up)
    - Continue fire drills at the school

- Overall
    - Provide checklist for emergency preparedness kit
    - Have a backup generator for clinic
    - Revisiting HMP yearly
    - SCERP

THMP Public Meeting Notes

Community meeting notes

- Safety minute – have a family safety plan with contact numbers and plan for how to reach each other
- This plan is a requirement for the Tsunami Ready plan
- How high of ground is safe from tsunami's?
- Want to develop brochures and way to distribute information(Ex: SCERP)
- What is the best way to get information? Community meetings, monthly EPA newsletters

Attachments:

1. Planning Team Meeting Sign-in Sheet
2. Worksheet #3: Risk Assessment
3. Worksheet #6: Mitigation Strategies
4. Public Meeting Sign-in Sheet
5. Public Meeting Flyer
6. Public Meeting Handouts
7. Public Meeting Presentation Slides
8. Maps

Meeting Minute attachments included in Appendix B. The others can be found in Appendix A.

End Meeting Minutes

CC: File

Community Meeting

Perryville Tribal Hazard Mitigation Plan (2019 - 2024)

Date / Location: April 22, 2019 at 3 PM / Katmai Center

Sign In Sheet

Name	Name	Name
John Phillips		
Sephira Jr Kosbruk		
Effie Phillips		
Donovan Shangin		
Austin Shangin		
Dana Phillips		

Photo Credit: *Bristol Bay Regional Vision Project* , www.lpsd.com

PERRYVILLE
FEMA TRIBAL HAZARD MITIGATION PLAN

COMMUNITY MEETING

Come learn about the Native Village of Perryville's FEMA Tribal Hazard Mitigation Plan. The Plan identifies the natural hazards that impact your community, such as wildfires, floods, earthquakes, & more. It also proposes strategies to protect the community against future impacts from these natural hazards.

We want to hear from you!

Attendees will have an opportunity to provide their experiences on how these hazards have impacted the community, and share ideas on ways to reduce future impacts from these hazards. The project planners will be available for any questions or feedback from the public.

Posting date 4/9/2019

Monday
April 22, 2019
3 PM

Katmai Center

Door Prizes!

Snacks & Refreshments

Provide input about natural hazards in Perryville!

For more information:

Danielle Dance
(907) 563-0013
ddance@bristol-companies.com

Bristol
ENGINEERING SERVICES COMPANY, LLC

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SERVICES COMPANY, LLC

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Community Meeting for Perryville Tribal Hazard Mitigation Plan

April 22, 2019

Dear Participant;

Thank you for attending the public meeting for the Perryville FEMA Tribal Hazard Mitigation Plan (THMP). Your comments and participation are very important to the planning process. We appreciate any feedback you may have on this meeting or the project in general.

Bristol Bay Native Association (BBNA) Department of Transportation and Infrastructure Development (DOTID) has contracted Bristol Engineering Services Company, LLC (Bristol) to assist with the preparation of the FEMA THMP. The THMP is a planning document used to identify hazards that your community is exposed to and ways to reduce potential losses of important assets from these hazards. A FEMA approved and community adopted THMP enables the Local government to apply for grants through disaster related assistance programs like the Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM), and others.

The purpose of this public meeting is to inform the community about the THMP, collect community feedback about the identified hazards and mitigation actions / projects. We are looking for personal experiences with the identified hazards, and assistance with identifying problem areas and issues of concern. We would also like input on the identified mitigation strategies and ways that the Planning Team can keep the public informed and involved in the process. This information will be used in the THMP. A draft copy will be available for review when completed.

Public comment is key to a successful project. Please feel free to contact me directly with any comments or concerns. My email is ddance@bristol-companies.com.

Sincerely,

Danielle Dance
Civil Engineer I

Attachments:
- Newsletter
- List of Preparedness Resources
- 12 Ways to Prepare Postcard

Bristol Bay Native Association
Transportation and Infrastructure Development

August 2018 Newsletter 1

This newsletter describes the Bristol Bay Native Association Transportation and Infrastructure Department's Tribal Hazard Mitigation Planning project development processes to all interested agencies, stakeholders, and the public and to solicit comments. It can also be viewed on the BBNA's website at www.bbna.com

Bristol Bay Native Association (BBNA) Transportation and Infrastructure Department (DOTID) was awarded a Pre-Disaster Mitigation Program grant from the Federal Emergency Management Agency (FEMA) to prepare your 2019 Tribal Hazard Mitigation Plan (THMP). Bristol Engineering Services Company, LLC (BESC) was contracted to assist the BBNA DOTID with preparing a 2019 FEMA approvable THMP plan.

The TMP will identify all natural hazards, such as earthquake, flood, erosion, severe weather, and wildland/tundra fire hazards, etc. The plan will also identify the people and facilities potentially at risk and ways to mitigate damage from future hazard impacts. We will document the public participation and planning process as part of this project.

What is Hazard Mitigation?
Hazard mitigation projects eliminate the risk or reduce the hazard impact severity to people and property. Projects may include short- or long-term activities to reduce exposure to or the effects of known hazards. Hazard mitigation activities could include relocating or elevating buildings, replacing insufficiently sized culverts, using alternative construction techniques, developing, implementing, or enforcing building codes,or developing, and implementing education programs.

Why Do We Need A Hazard Mitigation Plan?
Communities must have a State, FEMA approved, and community adopted mitigation plan to receive a project grant from FEMA's pre- and post- disaster grants identified in their Hazard Mitigation Assistance and other agency's mitigation grant programs. BBNA DOTID plans to apply for mitigation funds after our plan is complete.

A FEMA approved and community adopted THMP enables the Local government to apply for the Hazard Mitigation Grant Program (HMGP), a disaster related assistance program; the Pre-Disaster Mitigation (PDM), and the National Flood Insurance Program (NFIP) Flood Mitigation Assistance (FMA) grant programs.

The Planning Process
There are very specific federal requirements that must be met when preparing a FEMA approvable THMP. These requirements are commonly referred to as the planning process requirements of 44 CFR 201.7 (c)

The following steps describe the planning process in order to develop the THMP.

1. **Establish the Planning Team**
2. **Education of the Planning Team**
3. **Assess Risks**
4. **Assess Capabilities**
5. **Develop a Mitigation Strategy**
6. **Monitor, Evaluate, and Plan Updates**

We are currently in the very beginning stages of preparing the plan development. We will be conducting a Planning Team Meeting to introduce the project and planning team, to gather comments from community residents, identify hazards, and collect data to refine the vulnerability assessment.

We Need Your Help

BESC has prepared survey packets to begin collecting information for your THMP. Survey packets will be mailed to your village council and sent by email to your village administrator.

Establishing a Planning Team is a very important step. We will need a point of contact (POC)/team leader from your community. This group will consist of 2-5 people that have good knowledge about land use, the transportation system, public facilities, and safety resources within the community. BBNA DOTID will be in contact with your tribe to determine a POC and your planning team.

Once the Planning Team has been developed, they will begin to work on the following items:

- Identifying the hazards that impact your community;
- Determining information about the hazards such as, location, history, extent, and the probability of future events;
- Completing a risk analysis, and;
- Developing problem statements and goals.

BBNA DOTID will be in contact with your tribe to set up an initial teleconference meeting with the Planning Team, BBNA DOTID, and BESC to continue to work on the THMP development.

The BBNA DOTID team will be led by Annie Fritze, DOTID Program Manager or Dan Breeden, Department Director with assistance from Bristol Engineering Service Company, LLC (contracted by BBNA). BESC will be developing materials and lead the planning process with guidance from BBNA DOTID staff.

BBNA Tribal Hazard Planning Team

Team Member	Title	Involvment
Annie Fritze	Program Manager	THMP Team Leader, data gathering and plan review
Dan Breeden	Department Director	THMP Team Leader, data gathering and plan review
Isaac Pearson, P.E.	Senior Engineer	THMP Consultant
Danielle Dance	Civil Engineer	THMP Consultant

Public Participation

The purpose of this newsletter is to keep you informed, and to allow you every opportunity to voice your opinion regarding these important projects. We want to encourage public involvement as a continuous effort throughout the project.

We encourage you to take an active part in the development effort, and preparation of the Tribal Hazard Mitigation Plan.

The goal is to receive comments, identify key issues or concerns, and improve mitigation ideas, and to guide the community.

Please contact BBNA DOTID program staff or BESC if you have any questions, comments, or requests for more information:

Bristol Bay Native Association DOTID	Bristol Engineering Services Company, LLC
Annie Fritze OR **Dan Breeden** **PO Box 310** **Dillingham, Alaska 99576** **(907) 842-6219**	**Danielle Dance, Consultant** **111 W. 16th Avenue, Third Floor** **Anchorage, Alaska 99501** **(907)563-0013**

Useful web links

Volcano Information

- Visit the AVO website: www.avo.alaska.edu
- Sign up for the VNS: https://volcanoes.usgs.gov/vns2/
- Ash Impacts website: https://volcanoes.usgs.gov/volcanic_ash
- Ashfall advisories come from the NWS: www.weather.gov/afc/
- AVO would *love* your volcano observations and ash samples
    - *Find us at www.avo.alaska.edu/contact.php/*
    - *Is Ash Falling: www.avo.alaska.edu/ashfall/ashreport.php*
    - *Collection instructions: https://avo.alaska.edu/ashfall.php*
    - *Facebook: http://facebook.com/alaska.avo*
    - *Twitter: http://twitter.com/alaska_avo*
- Air Quality Advisories, DEC: http://dec.alaska.gov/air
- Airborne ash hazards to aircraft, NOAA: http://aawu.arh.noaa.gov
- Local Notice to Mariners, USCG: www.navcen.uscg.gov

Weather Information

- Watches and Warnings: https://alerts.weather.gov/cap/ak.php?x=1
- Any forecast: http://www.weather.gov/afc
- Mobile information (low bandwidth): http://www.weather.gov/source/afc/mobile/
- River Information: http://www.weather.gov/aprfc
- Rainfall: http://www.weather.gov/aprfc
- Breakup Info: http://www.weather.gov/aprfc/breakupESRIMap
- River Conditions: http://www.weather.gov/aprfc/riverConditions
- Alaska Weather T.V. Maps: http://www.weather.gov/afc/tv
- Sea Ice forecasts: http://www.weather.gov/afc/ice
- Outlook (temperatures and precipitation): http://www.cpc.noaa.gov
- Send us a storm report: http://www.srh.noaa.gov/StormReport_new/SubmitReport.php?site=AFC

WEBSITES

- Alaska DHS&EM: http://ready.alaska.gov
- Ready, Department of Homeland Security: https://www.ready.gov/
- Department of Commerce, Community and Economic Development (DCCED), State of Alaska Floodplain Management: http://www.commerce.state.ak.us/dca/nfip/nfip.htm
- Flood information for Alaskans: http://www.flood.alaska.gov
- Association of State Floodplain Managers: http://www.floods.org/
- Alaska-Pacific River Forecast Center (APRFC): http://aprfc.arh.noaa.gov
- Natural Resources Conservation Service (NRCS), Alaska Snow, Water and Climate Services: http://ambcs.org
- National Weather Service (NWS), Alaska Region Headquarters: http://www.arh.noaa.gov/
- Federal Aviation Administration (FAA), Alaskan Region's Weather Cameras: http://avcams.faa.gov/
- U.S. Department of the Interior—Bureau of Land Management (BLM), Alaska Fire Service: http://fire.ak.blm.gov/
- Alaska Energy Authority (AEA): http://www.akenergyauthority.org/
- Department of Commerce, Community and Economic Development (DCCED), Community Profiles: http://www.commerce.state.ak.us/dca
- Alaska Department of Public Safety, Rural Fire Training Office: http://www.dps.state.ak.us/fire/TEB/ruralfireprotection.aspx
- Department of Environmental Conservation (DEC): http://www.state.ak.us/dec/
- National Weather Service, Forecast Office Alaska Ice Desk: http://pafc.arh.noaa.gov/ice.php
- Federal Emergency Management Agency (FEMA): http://www.fema.gov/
- American Red Cross of Alaska: http://www.alaska.redcross.org
- Small Business Administration: http://www.sba.gov/localresources/disasteroffices/focwest/index.html


TAKE ACTION
AND
PREPARE
FEMA
FEMA V-1021
Catalog No. 1872-3
April 2018
There are many ways to take action and prepare before a disaster occurs. The actions on this card include some of the most important ways to help yourself, your family, and your community increase your preparedness. Simple actions at home and in your neighborhood can make a big difference!
@Readygov
Twitter.com/readygov
@Readygov
Facebook.com/readygov
Fema.gov/mobile-app
Ready.gov/prepare


TAKE ACTION
AND
PREPARE
FEMA
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@Readygov
Twitter.com/readygov
@Readygov
Facebook.com/readygov
Fema.gov/mobile-app
Ready.gov/prepare

12 WAYS TO PREPARE

- ☐ Sign up for Alerts and Warnings
- ☐ Make a Plan
- ☐ Save for a Rainy Day
- ☐ Practice Emergency Drills
- ☐ Test Family Communication Plan
- ☐ Safeguard Documents
- ☐ Plan with Neighbors
- ☐ Make Your Home Safer
- ☐ Know Evacuation Routes
- ☐ Assemble or Update Supplies
- ☐ Get Involved in Your Community
- ☐ Document and Insure Property

12 WAYS TO PREPARE

- ☐ Sign up for Alerts and Warnings
- ☐ Make a Plan
- ☐ Save for a Rainy Day
- ☐ Practice Emergency Drills
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Native Village of Perryville
Public Meeting
April 22, 2019

Perryville FEMA Tribal Hazard Mitigation Plan

Bristol Engineering Services Company, LLC
Danielle Dance

1

Native Village of Perryville
Public Meeting
April 22, 2019

Safety Minute

2

2

Native Village of Perryville
Public Meeting
April 22, 2019

Presentation Overview

- Project Background
- FEMA Tribal Hazard Mitigation Plan (THMP)
- Funding
- Identified Hazards
- Assets
- Mitigation Goals
- Mitigation Action Plan

3

3

Native Village of Perryville
Public Meeting
April 22, 2019

Project Background

- BBNA DOTID awarded Pre-Disaster Mitigation Program grant from FEMA
  - Develop the Tribal Hazard Mitigation Plan
  - Contracted BESC
- Hazard Mitigation
  - eliminates risk to or reduces hazard impact severity to community assets
  - Projects can be long or short term
- Purpose of Plan
  - Identify ways to make community safer and more prepared
  - Provides opportunity for funding options through FEMA

Bristol Bay Native Association

Bristol ENGINEERING SERVICES COMPANY, LLC

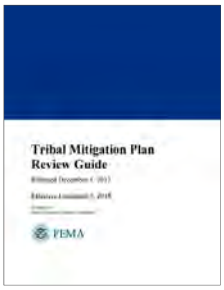
4

4

Native Village of Perryville
Public Meeting
April 22, 2019

FEMA Tribal Hazard Mitigation Plan (THMP)

- Follows Code of Federal Regulations (CFR)
  - 44 CFR Part 201
- Identifies
  - Planning Process / Planning Team
  - Plan to keep the THMP current
  - Natural hazards in your community
  - Community assets
  - Mitigation strategy / action plan
  - Funding Opportunities



5

5

Native Village of Perryville
Public Meeting
April 22, 2019

Funding

- Eligibility Requirement for FEMA Pre- and Post- Disaster Grants
  - FEMA approved and community adopted Hazard Mitigation Plan
    - Plan identifies mitigation projects for the community
- Grants
  - Hazard Mitigation Grant Program (HMGP)
  - Pre-Disaster Mitigation (PDM)
  - National Flood Insurance Program (NFIP)
  - Flood Mitigation Assistance (FMA)
- Other Grant Opportunities
  - State
  - Tribal

6

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Native Village of Perryville
Public Meeting
April 22, 2019

Identified Hazards

- Hazards Identified Based on
  - Location
  - Extent
  - Probability of Future Event
  - Overall Significance
- Hazards Detailed in Plan
  - Location
  - Extent
  - History
  - Probability of Future Events
- Hazards
  - Earthquake
  - Extreme Cold
  - Extreme Heat
  - Flood
  - Severe Wind
  - Severe Winter Weather
  - Subsidence
  - Tsunami
  - Volcano
  - Wildfire
- What experiences have you had?

7

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Native Village of Perryville
Public Meeting
April 22, 2019

Community Assets

- Asset
  - People
  - Economy
  - Built Environment
  - Natural Environment

- Major Community Assets
  - Perryville School
  - Perryville Office (Tribal Corporation)
  - Perryville Clinic
  - Post Office
  - Water Treatment Plan
  - Airport / Hangar
  - Fuel Tank Farm
  - Power House Generators
  - Boat Ramp
  - Bridge
  - Church
  - General Store
  - Windmills
  - Road System
  - Tribally Owned Equipment

8

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Native Village of Perryville
Public Meeting
April 22, 2019

Mitigation Goals

- Goals Based on Vulnerability Statements
  - Flooding makes the main roads inaccessible.
  - Roofs and siding on some community structures and homes have blown off due to high wind speeds.

FEMA Local Mitigation Planning Handbook
March 2013

9

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Native Village of Perryville
Public Meeting
April 22, 2019

Mitigation Goals

- Community Goals
  - Reduce possibility of damages due to:
    - Earthquake
    - Extreme Heat
    - Severe Wind
    - Subsidence
    - Volcano
    - Extreme Cold
    - Flood
    - Severe Winter Weather
    - Tsunami
    - Wildfire

10

10

Bristol

Native Village of Perryville
Public Meeting
April 22, 2019

Mitigation Actions

- Mitigation Actions Reduce Long-Term Vulnerability
- Types
  - Local plans and regulations
  - Structure and infrastructure projects
  - Natural systems protection
  - Education and awareness programs
  - Additional – Preparedness and Response Actions
- Actions Will be Used to Create a Mitigation Action Plan

FEMA Local Mitigation Planning Handbook
March 2013

11

11

Bristol

Native Village of Perryville
Public Meeting
April 22, 2019

Mitigation Actions (Continued)

- Mitigation Actions
  - To be determined at the Planning Meeting.
- What suggestions do you have?

12

12

Bristol

Native Village of Perryville
Public Meeting
April 22, 2019

Continued Public Involvement

- Public Involvement is Important
  - Next Steps
- How can the Planning Team keep you informed and involved in this process?

Contact	
BBNA DOTID	Bristol Engineering (BESC)
Annie Fritze (907) 842-6143 afritze@bbna.com	Danielle Dance (907) 563-0013 ddance@bristol-companies.com

13

13

Bristol

Native Village of Perryville
Public Meeting
April 22, 2019

Questions or Comments

14

14

Bristol

Native Village of Perryville
Public Meeting
April 22, 2019

Thank You!

Photo Credit: *Bristol Bay Regional Vision Project*, www.lpsd.com

15

15

COMMUNITY SURVEY

This is a public opinion survey regarding natural hazards in your community. The results from this survey will help the Tribal Hazard Mitigation Plan Planning Team improve public/private coordination, mitigation, and risk reduction efforts in your community. Additionally we would like information regarding the methods and techniques you prefer for reducing the risks and losses associated with these hazards.

NATURAL HAZARD INFORMATION

We would like to know about your experience involving natural hazards and your exposure to preparedness information.

1. In the last five (5) years, have you or someone in your household directly experienced any of the natural disasters listed below?
(Please check all that apply)

- ☐ Coastal Ice
- ☐ Drought
- ☐ Earthquake
- ☐ Erosion
- ☐ Extreme Temperatures
- ☐ Flood
- ☐ Landslide/Avalanche
- ☐ Severe Winter Weather
- ☐ Tsunami
- ☐ Volcano Eruption
- ☐ Wildfire
- ☐ Other (specify): _____

2. How concerned are you about the following natural disasters affecting your community?
(Check the corresponding box for each hazard)

Natural Disaster	Very Concerned	Somewhat Concerned	Neutral	Not Very Concerned	Not Concerned
Coastal Ice	☐	☐	☐	☐	☐
Drought	☐	☐	☐	☐	☐
Earthquake	☐	☐	☐	☐	☐
Erosion	☐	☐	☐	☐	☐
Extreme Temperatures	☐	☐	☐	☐	☐
Flood	☐	☐	☐	☐	☐
Landslide/Avalanche	☐	☐	☐	☐	☐
Severe Winter Weather	☐	☐	☐	☐	☐
Tsunami	☐	☐	☐	☐	☐
Volcano Eruption	☐	☐	☐	☐	☐
Wildfire	☐	☐	☐	☐	☐
Other _____	☐	☐	☐	☐	☐

3. Have you received information about how to make members of your household and home safer from natural disasters?

- ☐ Yes
- ☐ No **(IF *NO* Skip to Question 5)**

If "YES", how recently?

- ☐ Within the last 6 months
- ☐ Between 6 and 12 months
- ☐ Between 1 and 2 years
- ☐ Between 2 and 5 years
- ☐ 5 years or more

4. Who provided the last received information about how to make members of your household and home safer from natural disasters?
(Please check only ONE)

- ☐ News Media
- ☐ Government Agency
- ☐ Utility Company
- ☐ University or Research Institution
- ☐ Tribe
- ☐ Neighbor / Friend / Family Member
- ☐ Non-Profit Organization
- ☐ Not Sure
- ☐ Other (specify): _____

5. What is the most effective way for you to receive information about how to make your household and home safer from natural disasters?
(Please check UP TO THREE)

- ☐ Newspapers
- ☐ Radio
- ☐ Schools
- ☐ Internet (News Outlets/Email Newsletters)
- ☐ Books
- ☐ Mail
- ☐ Fact Sheet / Brochure / Newsletters
- ☐ Public Workshops / Meetings
- ☐ Other (specify): _____

COMMUNITY VULNERABILITIES AND HAZARD MITIGATION STRATEGIES

We need to understand which community assets may be vulnerable to natural hazards in order to assess community risk. Vulnerable assets are those community features, characteristics, or resources that may be impacted by natural hazards (e.g. populations with functional needs, environmental resources, economic components, and others). The next set of questions will focus on the vulnerable assets in your community and your preferred strategies to mitigate risk to those assets.

6. Community assets are characteristics, features, or resources that either allow the community to function or make a community unique. In your opinion, which of the following categories are most vulnerable to the impacts caused by natural hazards in your community?
(Rank the community assets in order [from 1 to 6] of vulnerability, 1 being most vulnerable and 6 being least vulnerable)

Community Assets	Potential Natural Hazard Impact	Order of Vulnerability
Human	Loss of life and/or injuries	_____
Economic	Business closures and/or job losses	_____
Infrastructure	Damage or loss of bridges, utilities, schools, etc.	_____
Cultural / Historic	Damage or loss of fish dry racks, cemeteries, etc.	_____
Environmental	Damage or loss of forests, rangeland, waterways, subsistence areas, etc.	_____
Governance	Ability to maintain order and/or provide public amenities and services	_____

7. We would like to know what specific types of community assets are most important to you. **(Check the corresponding box for each hazard)**

Community Assets	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
School	☐	☐	☐	☐	☐
Clinic	☐	☐	☐	☐	☐
Churches	☐	☐	☐	☐	☐
City Buildings	☐	☐	☐	☐	☐
Tribal Buildings	☐	☐	☐	☐	☐
Store	☐	☐	☐	☐	☐
Post Office	☐	☐	☐	☐	☐
Transportation Systems	☐	☐	☐	☐	☐
Major Employers	☐	☐	☐	☐	☐
Fuel Storage	☐	☐	☐	☐	☐
Utilities	☐	☐	☐	☐	☐
Homes	☐	☐	☐	☐	☐
Subsistence Areas	☐	☐	☐	☐	☐
Other _____	☐	☐	☐	☐	☐
Other:_____	☐	☐	☐	☐	☐
Other:_____	☐	☐	☐	☐	☐
Other:_____	☐	☐	☐	☐	☐

8. A number of activities can reduce your community's risk from natural hazards. These activities can be both regulatory and non-regulatory.
(Check the corresponding box that best represents your opinion on how to best reduce the risk and loss associated with natural disasters.)

Strategies	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Sure
I support a planning and regulatory approach to reducing risk	☐	☐	☐	☐	☐	☐
I support a non-regulatory approach to reducing risk	☐	☐	☐	☐	☐	☐
I support a mix of both regulatory and non-regulatory approaches to reducing risk	☐	☐	☐	☐	☐	☐
I support structure and infrastructure projects to reduce risk	☐	☐	☐	☐	☐	☐
I support natural systems protection projects to reduce risk	☐	☐	☐	☐	☐	☐
I support education and awareness programs to reduce risk	☐	☐	☐	☐	☐	☐
I support protecting historical and cultural structures	☐	☐	☐	☐	☐	☐
I would be willing to make my home more disaster-resistant	☐	☐	☐	☐	☐	☐
I support steps to safeguard the local economy following a natural disaster	☐	☐	☐	☐	☐	☐
I support improving the disaster preparedness of local schools	☐	☐	☐	☐	☐	☐

9. Natural hazards can have a significant impact on a community. However, planning for these events can help reduce the impacts. The following statements will help determine community priorities regarding planning for natural hazards in your community.
(Check the corresponding box to show us how important each one is to you.)

Statements	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
Protecting private property	☐	☐	☐	☐	☐
Protecting critical facilities (e.g. roads, bridges, clinic, schools, store, etc.)	☐	☐	☐	☐	☐
Enhancing function of natural features (e.g. streams, wetlands)	☐	☐	☐	☐	☐
Protecting historical and cultural resources and landmarks	☐	☐	☐	☐	☐
Protecting and reducing damage to utilities	☐	☐	☐	☐	☐
Strengthening emergency services	☐	☐	☐	☐	☐

MITIGATION AND PREPAREDNESS ACTIVITIES IN YOUR HOUSEHOLD

Households can prepare and mitigate for natural hazards in order to prevent property damage, injuries, and loss of life. Any precautions taken or training received can make a big difference in your ability to recover from an emergency or natural disaster. Emergency care or access to basic services (e.g. electricity, gas, water, communications) may be temporarily cutoff. Or you may be asked to quickly evacuate. The following questions focus on your household's preparedness for natural hazards or emergencies.

10. Please check the activities that you have done in your household, plan to do in the near future, have not done, or are unable to do.
(Check one answer for each preparedness activity.)

Have you or someone in your household:	Have Done	Plan To Do	Not Done	Unable To Do
Attended a meeting or received written information on natural disasters or emergency preparedness?	☐	☐	☐	☐
Talked with members in your household about what to do in case of an emergency or natural disaster?	☐	☐	☐	☐
Developed a "Household/Family Emergency Plan" in order to decide what everyone would do in the event of an emergency or disaster?	☐	☐	☐	☐
Prepared a "Disaster Supply Kit" (stored extra food, water, batteries, or other emergency supplies)?	☐	☐	☐	☐

GENERAL HOUSEHOLD INFORMATION

We appreciate any information you are willing to share with us about you and/or your household.

11. Please indicate your age: _____

12. Gender **(Circle one)**: **Male** **Female**

13. How long have you lived in the community?

- ☐ Less than one (1) year
- ☐ 1 – 5 years
- ☐ 5 – 9 years
- ☐ 10 – 19 years
- ☐ 20 years or more

GENERAL COMMENTS

Please provide any additional comments about natural hazards in your community including historical disasters, existing efforts to prepare for or protect against a disaster, or comments about the Hazard Mitigation Plan Project in general.

Thank you for taking the time to complete this survey.

If you have any questions or comments, please contact **Danielle Dance** at **(907) 743-9394** or **ddance@bristol-companies.com**

SUMMARY - COMMUNITY SURVEY

A survey was distributed to the community members of Perryville, Alaska. This was done in an effort to collect public opinion regarding natural hazards that impact the community and preferred methods of reducing risk and losses associated with these hazards. Below is a summary of the data collected from the survey.

General Respondent Information

Eleven questionnaires were completed and returned. Question 12 asked about the gender of the respondents. Six respondents were male, four female, and one declined to answer (See Figure 1). Question 13 asked about the length of time in the Community. Seven replies came from longtime residents that have lived in the Community for 20 or more years (See Figure 2).

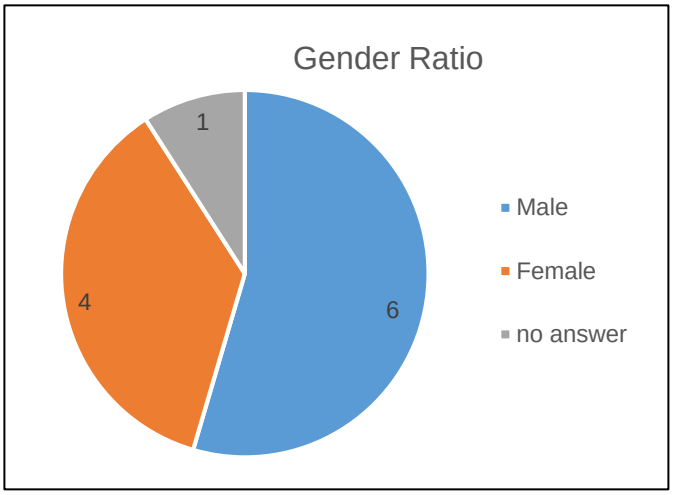

Figure 1: Gender Ratio (Question #12)

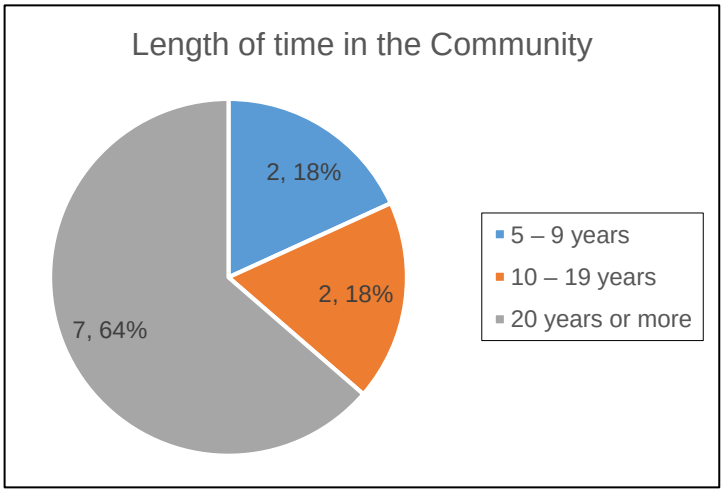

Figure 2: Length of Time in the Community (Question #13)

The residents that responded ranged in age (Question 11) from 21 to 70. (Figure 3).

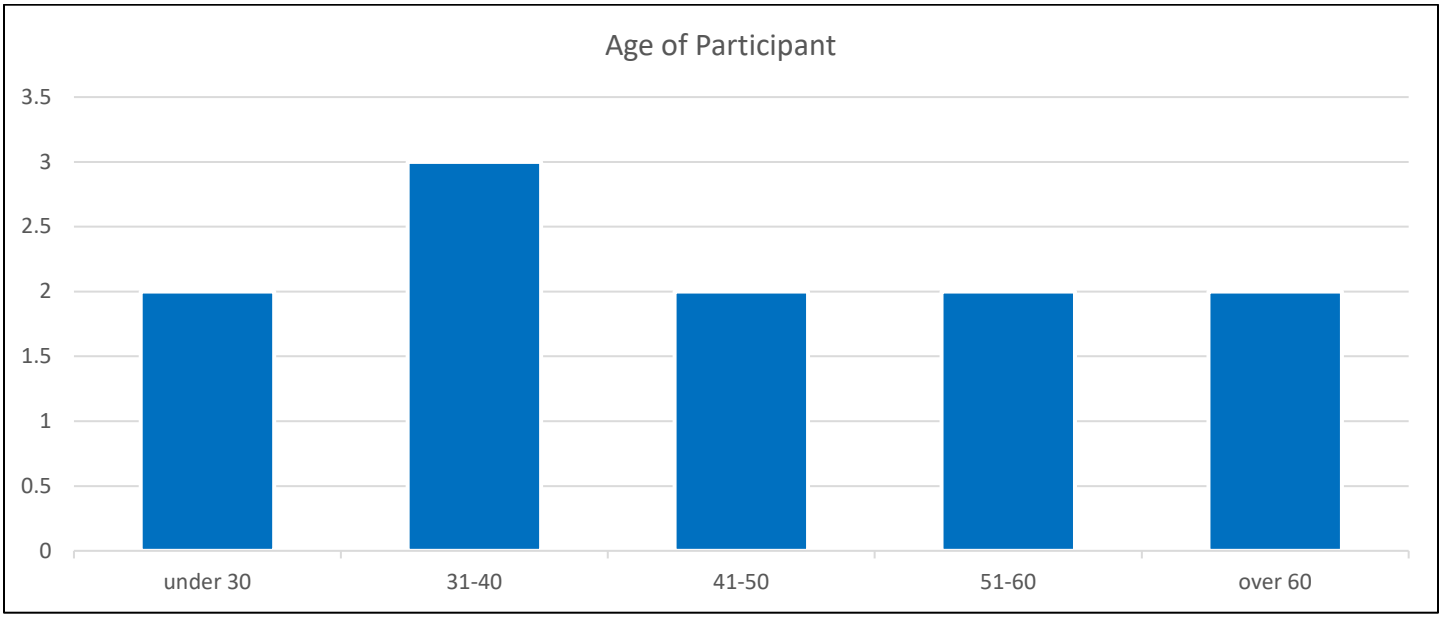

Figure 3: Age of Participant (Question #11)

NATURAL HAZARD INFORMATION

Information regarding experiences and concerns about natural hazards in the community was gathered (Question 1) from the survey. The survey respondents identified hazards that they have personally experienced (See Figure 4).

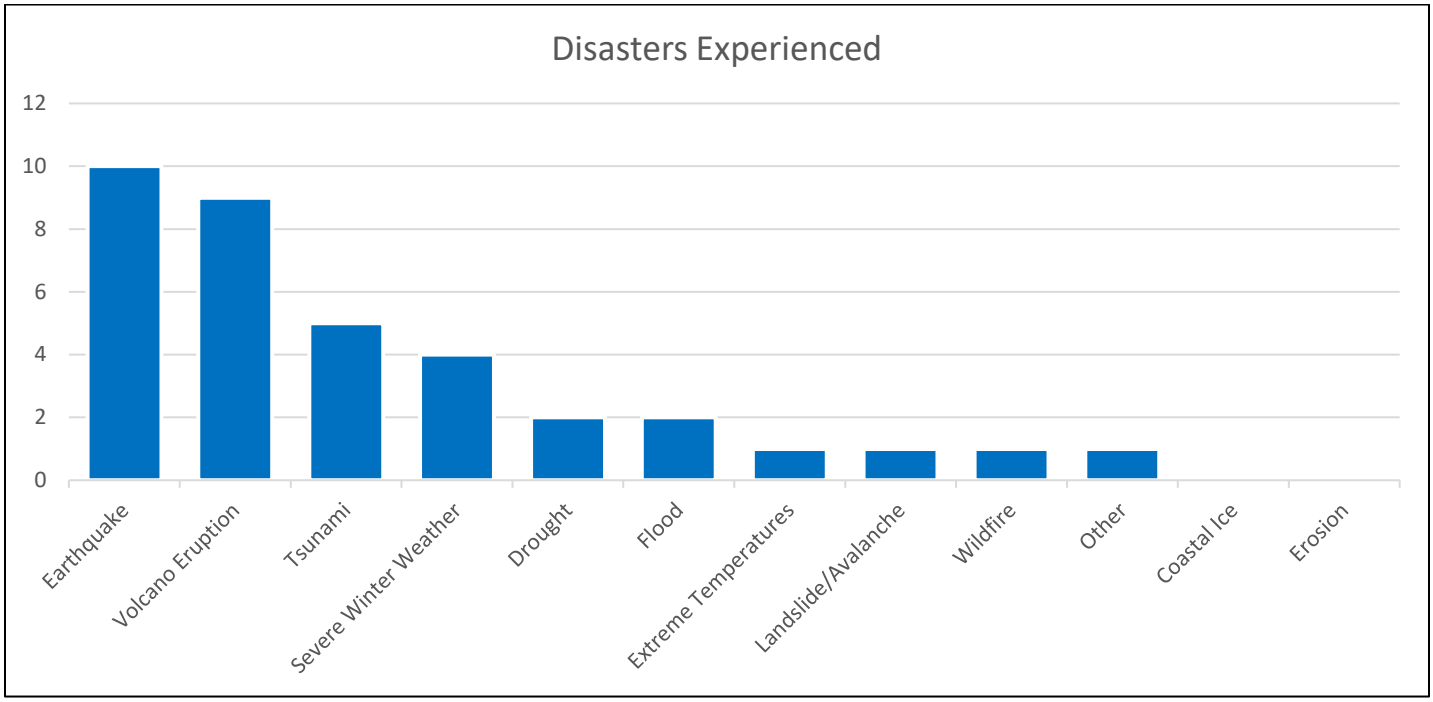

Figure 4: Disasters Experienced (Question #1)

Question #2 identified specific hazards that concerned the community members. The Community is most concerned about Volcanic Eruption. All individuals expressed they were somewhat or very concerned about Volcanos. Other disasters of high concern are Earthquakes and Tsunamis. Figure 5 identifies the concerns for the Community.

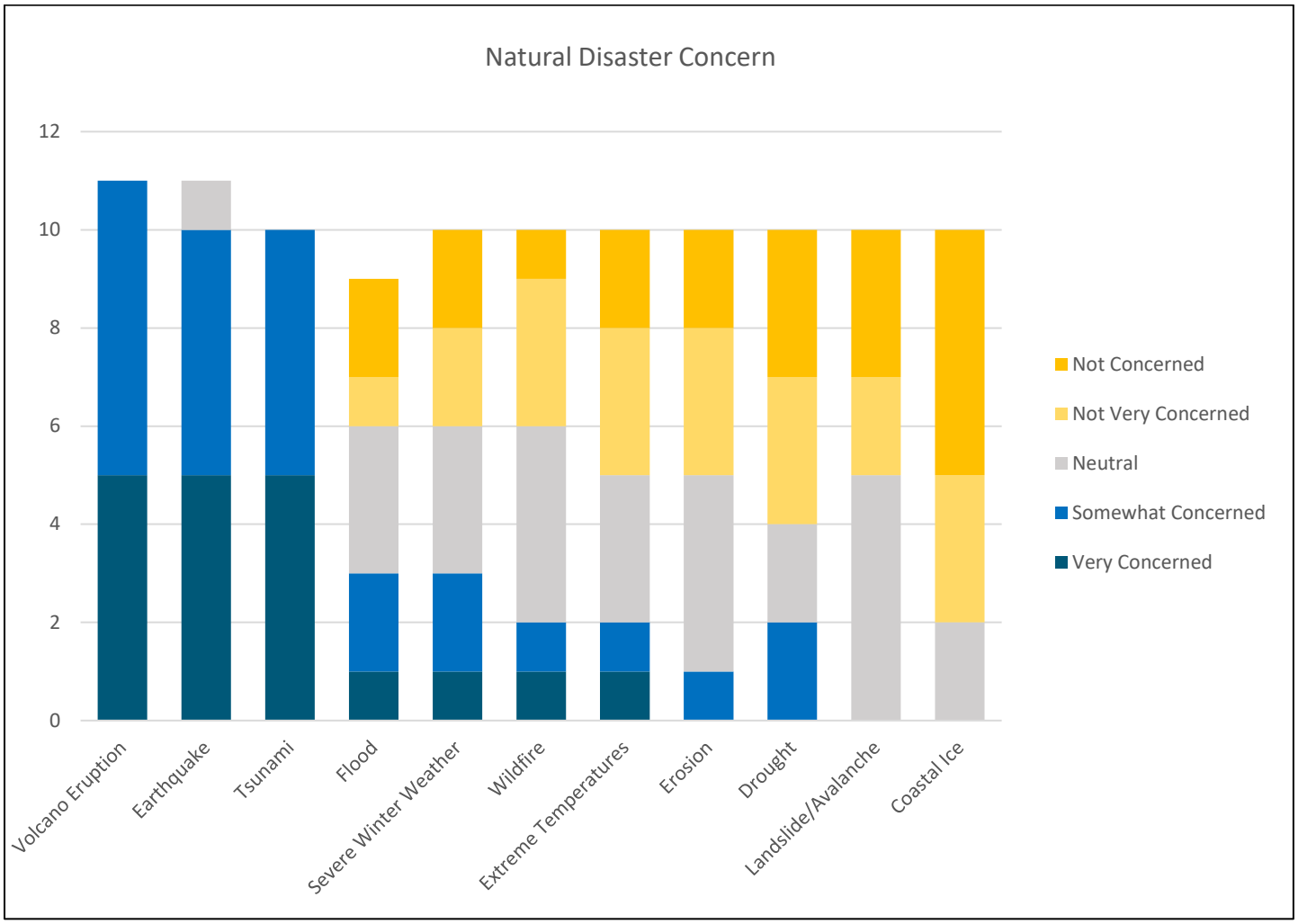

Figure 5: Natural Disaster Concern (Question #2)

The residents were asked if they received any information on how to make their homes and members of their household safe from a natural disaster (Question 3). Four respondents noted that they received information and it was within the last year. Three of those said they received that information from the Tribe.

The residents were asked about the most effective way for them to receive information to protect their household and homes (Question 5). For those that responded to this question, Internet, and Public Workshops/Meetings were considered the two most effective ways of receiving this information. Figure 7 provides the respondents preferred method of receiving information about how to protect their homes and households. One respondent submitted “word by mouth” as the preferred method, another responded with “Community Meetings”.

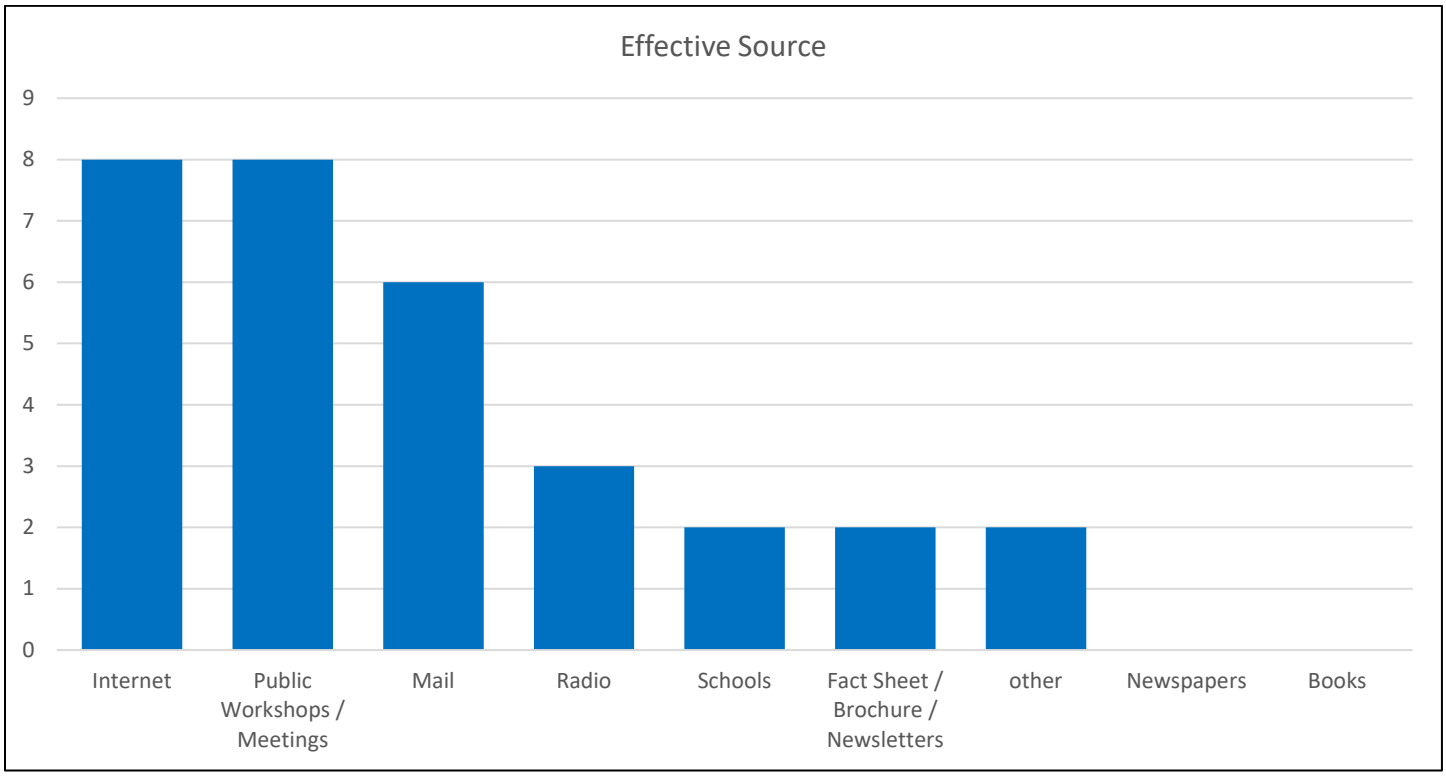

Figure 6: Effective Source (Question #5)

COMMUNITY VULNERABILITIES AND HAZARD MITIGATION STRATEGIES

The residents were asked to identify the categories of community assets that were most vulnerable to natural hazards (Question 6). Figure 8 portrays the opinions of those that responded to the survey.

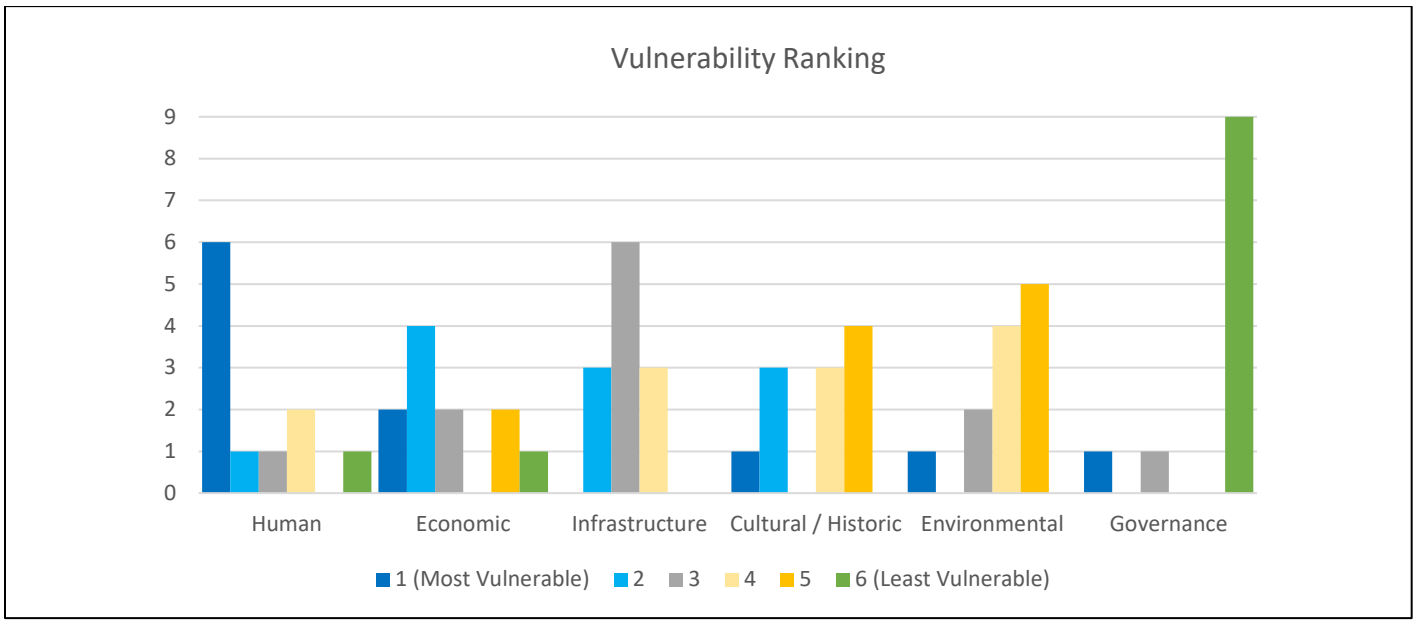

Figure 7: Vulnerability Ranking (Question #6)

Figure 9 shows to respondents' opinion of the importance of specific community assets (Question 7).

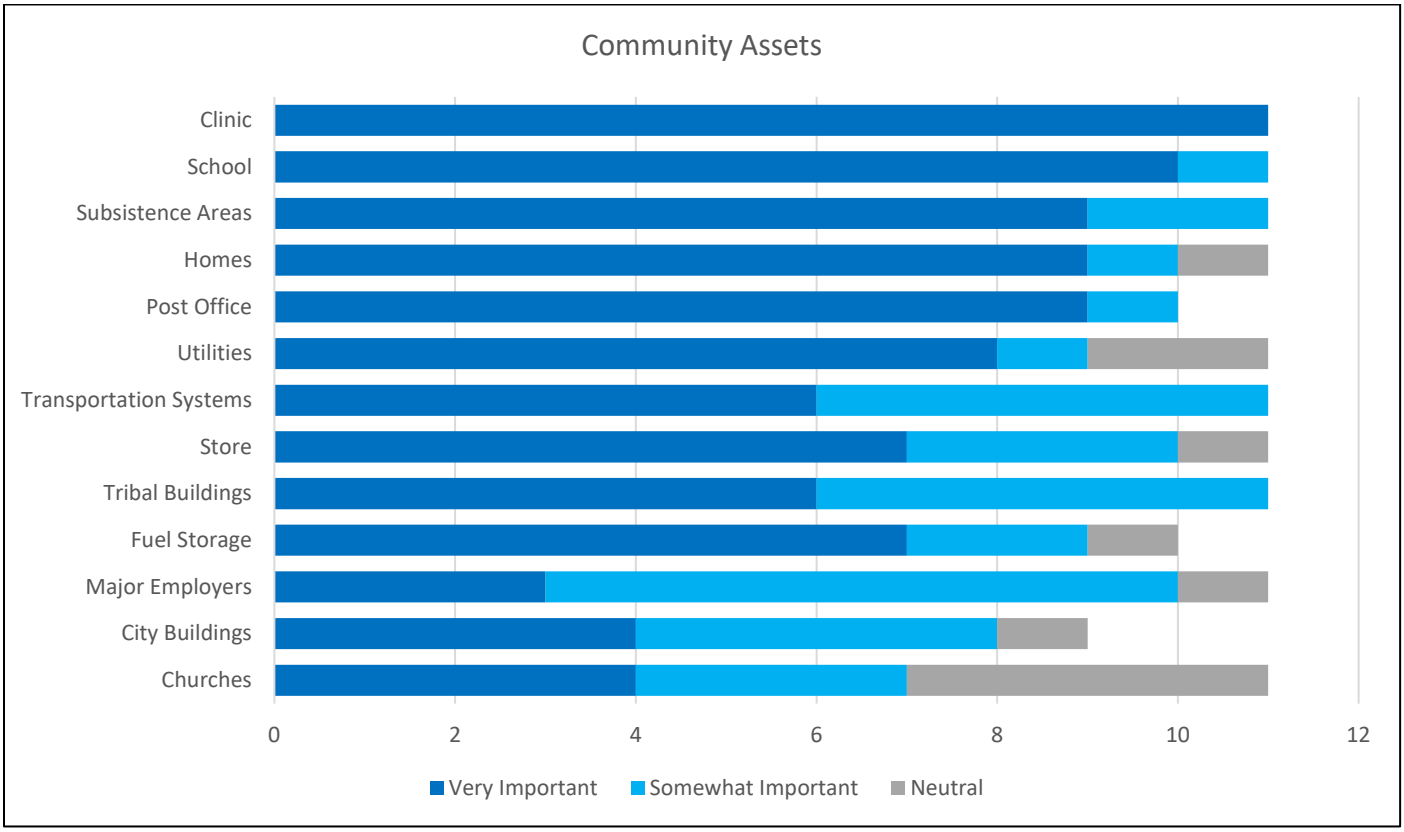

Figure 8: Community Assets (Question #7)

The survey respondents were asked to indicate agreement / disagreement with different mitigation strategies (Question 8). Figure 10 depicts the survey answers.

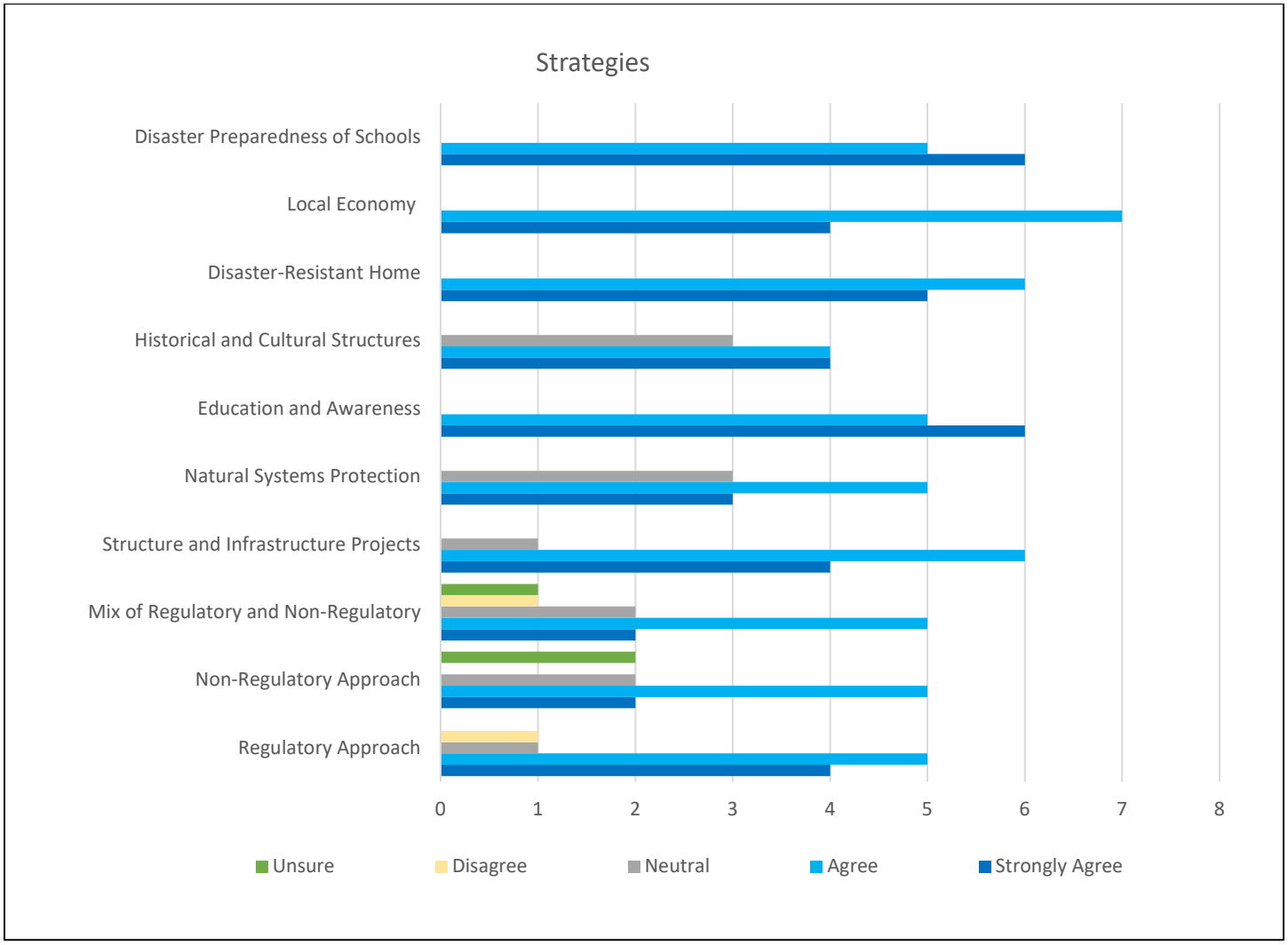

Figure 9: Mitigation Strategies (Question #8)

Question 9 asked community residents to identify community priorities regarding planning for natural hazards in their community (See Figure 11).

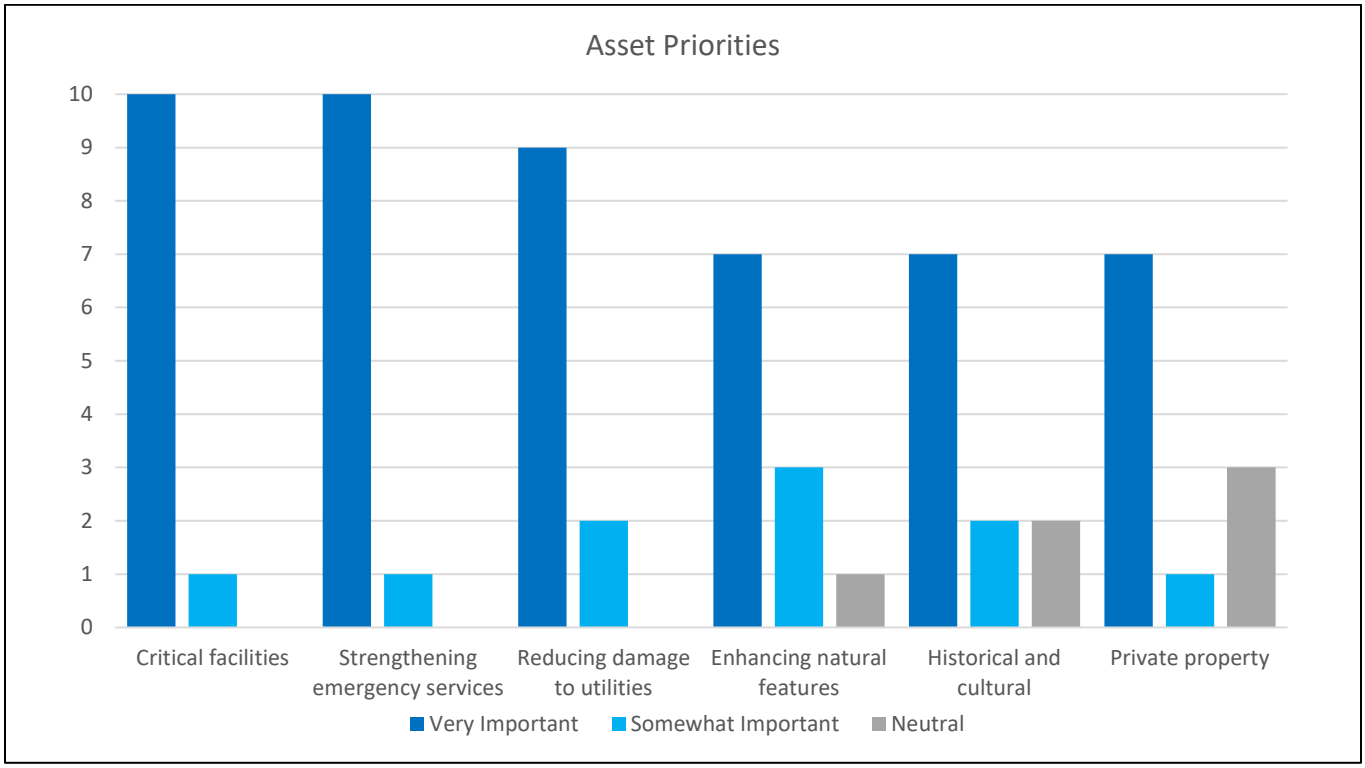

Figure 10: Asset Priorities (Question #9)

MITIGATION AND PREPAREDNESS ACTIVITIES IN THE HOUSEHOLD

Residents can protect themselves, their household members, and their own private property. Question 10 asked residents to identify preparedness activities they have personally done (See Figure 12)

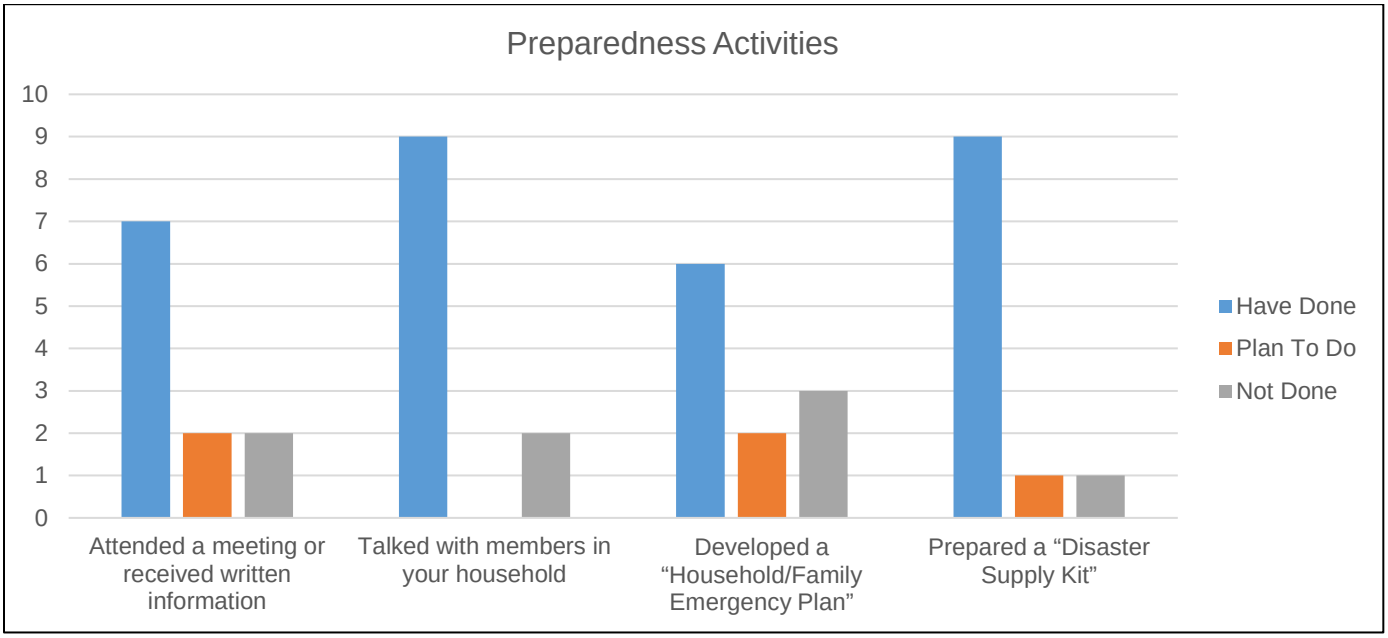

Figure 11: Preparedness Activities (Question #10)

GENERAL COMMENTS

The following is a comment made by one of the respondents.

- Communities should form a committee and hold meetings once a month, prepare for a disaster help those who don't have vehicles and stress the importance of timing to get to higher grounds. Make sure shelters are maintained and cleaned, ask for donations for utensils etc.
- Rain and tidal flooding - late fall
- Strong wind damage - winter 2017
- Heat, hot weather

This newsletter describes the Bristol Bay Native Association Transportation and Infrastructure Department's Tribal Hazard Mitigation Planning project development processes to all interested agencies, stakeholders, and the public and to solicit comments. It can also be viewed on the BBNA's website at www.bbna.com

Bristol Bay Native Association (BBNA) Transportation and Infrastructure Department (DOTID) was awarded a Pre-Disaster Mitigation Program grant from the Federal Emergency Management Agency (FEMA) to prepare your 2019 Tribal Hazard Mitigation Plan (THMP). Bristol Engineering Services Company, LLC (BESC) was contracted to assist the BBNA DOTID with preparing a 2019 FEMA approvable THMP plan.

The TMP will identify all natural hazards, such as earthquake, flood, erosion, severe weather, and wildland/tundra fire hazards, etc. The plan will also identify the people and facilities potentially at risk and ways to mitigate damage from future hazard impacts. We will document the public participation and planning process as part of this project.

What is Hazard Mitigation?
Hazard mitigation projects eliminate the risk or reduce the hazard impact severity to people and property. Projects may include short- or long-term activities to reduce exposure to or the effects of known hazards. Hazard mitigation activities could include relocating or elevating buildings, replacing insufficiently sized culverts, using alternative construction techniques, developing, implementing, or enforcing building codes,or developing, and implementing education programs.

Why Do We Need A Hazard Mitigation Plan?
Communities must have a State, FEMA approved, and community adopted mitigation plan to receive a project grant from FEMA's pre- and post- disaster grants identified in their Hazard Mitigation Assistance and other agency's mitigation grant programs. BBNA DOTID plans to apply for mitigation funds after our plan is complete.

A FEMA approved and community adopted THMP enables the Local government to apply for the Hazard Mitigation Grant Program (HMGP), a disaster related assistance program; the Pre-Disaster Mitigation (PDM), and the National Flood Insurance Program (NFIP) Flood Mitigation Assistance (FMA) grant programs.

The Planning Process
There are very specific federal requirements that must be met when preparing a FEMA approvable THMP. These requirements are commonly referred to as the planning process requirements of 44 CFR 201.7 (c)

The following steps describe the planning process in order to develop the THMP.

1. **Establish the Planning Team**
2. **Education of the Planning Team**
3. **Assess Risks**
4. **Assess Capabilities**
5. **Develop a Mitigation Strategy**
6. **Monitor, Evaluate, and Plan Updates**

We are currently in the very beginning stages of preparing the plan development. We will be conducting a Planning Team Meeting to introduce the project and planning team, to gather comments from community residents, identify hazards, and collect data to refine the vulnerability assessment.

We Need Your Help

BESC has prepared survey packets to begin collecting information for your THMP. Survey packets will be mailed to your village council and sent by email to your village administrator.

Establishing a Planning Team is a very important step. We will need a point of contact (POC)/team leader from your community. This group will consist of 2-5 people that have good knowledge about land use, the transportation system, public facilities, and safety resources within the community. BBNA DOTID will be in contact with your tribe to determine a POC and your planning team.

Once the Planning Team has been developed, they will begin to work on the following items:

- Identifying the hazards that impact your community;
- Determining information about the hazards such as, location, history, extent, and the probability of future events;
- Completing a risk analysis, and;
- Developing problem statements and goals.

BBNA DOTID will be in contact with your tribe to set up an initial teleconference meeting with the Planning Team, BBNA DOTID, and BESC to continue to work on the THMP development.

The BBNA DOTID team will be led by Annie Fritze, DOTID Program Manager or Dan Breeden, Department Director with assistance from Bristol Engineering Service Company, LLC (contracted by BBNA). BESC will be developing materials and lead the planning process with guidance from BBNA DOTID staff.

BBNA Tribal Hazard Planning Team

Team Member	Title	Involvment
Annie Fritze	Program Manager	THMP Team Leader, data gathering and plan review
Dan Breeden	Department Director	THMP Team Leader, data gathering and plan review
Isaac Pearson, P.E.	Senior Engineer	THMP Consultant
Danielle Dance	Civil Engineer	THMP Consultant

Public Participation

The purpose of this newsletter is to keep you informed, and to allow you every opportunity to voice your opinion regarding these important projects. We want to encourage public involvement as a continuous effort throughout the project.

We encourage you to take an active part in the development effort, and preparation of the Tribal Hazard Mitigation Plan.

The goal is to receive comments, identify key issues or concerns, and improve mitigation ideas, and to guide the community.

Please contact BBNA DOTID program staff or BESC if you have any questions, comments, or requests for more information:

Bristol Bay Native Association DOTID **Annie Fritze OR** **Dan Breeden** **PO Box 310** **Dillingham, Alaska 99576** **(907) 842-6219**	**Bristol Engineering Services Company, LLC** **Danielle Dance, Consultant** **111 W. 16th Avenue, Third Floor** **Anchorage, Alaska 99501** **(907)563-0013**

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*** TX REPORT ***
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	819078452217	chignik lake vc
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BRISTOL BAY NATIVE ASSOCIATION
PO BOX 310 DILLINGHAM ALASKA 99576
PHONE:(907) 842-5257
TOLL FREE 1-800-478-5257 FAX: (907) 842-5932

FAX TRANSMISSION COVER SHEET

DATE: August 20, 2018

TO: Vlg Admin

FAX:

SENDER: Annie Fritze

RE: Please Post and Share w/in your community - I will email and follow up with a phone call - Quyana - AF

8/20/2018
All but Chignik Bay faxed - will refax - AF

3 **PAGE (S), INCLUDING THIS COVER SHEET**
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Chignik Bay

BRISTOL BAY NATIVE ASSOCIATION

PO BOX 310 DILLINGHAM ALASKA 99576
PHONE:(907) 842-5257
TOLL FREE 1-800-478-5257 FAX: (907) 842-5932

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DATE: August 20, 2018

TO: Vlg Admin

FAX:

SENDER: Annie Fritze

RE: Please Post and Share w/in your community - I will email and followup with a phone call -

Quyana -
AF

3 **PAGE (S), INCLUDING THIS COVER SHEET**
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PHONE:(907) 842-5257
TOLL FREE 1-800-478-5257 FAX: (907) 842-5932

FAX TRANSMISSION COVER SHEET

DATE: August 20, 2018

TO: Vlg Admin

FAX:

SENDER: Annie Fritze

RE: Please Post and Share w/in your community - I will email and followup with a phone call -

Quyana -

Dance, Danielle

From: Dan Breeden <dbreeden@bbna.com>
Sent: Friday, June 14, 2019 11:31 AM
To: Annie Fritze; Dance, Danielle
Subject: FW: Perryville THMP Public Comment

Follow Up Flag: Follow up
Flag Status: Flagged

[External Email]

Sorry - I thought I included you two too, either way notice has been given. Dan

---

From: Dan Breeden
Sent: Friday, June 14, 2019 10:35 AM
To: 'patkosbruk@gmail.com' <patkosbruk@gmail.com>; 'jmetrokin@bbnc.net' <jmetrokin@bbnc.net>; 'tmase@lpsd.com' <tmase@lpsd.com>; 'jward@lpsd.com' <jward@lpsd.com>; 'nvproads@hotmail.com' <nvproads@hotmail.com>; 'bakelkok@bbha.org' <bakelkok@bbha.org>; 'rclark@bbahc.org' <rclark@bbahc.org>; Gayla Hoseth <ghoseth@bbna.com>; 'strefon@bbahc.org' <strefon@bbahc.org>; 'jkosbruk@bbahc.org' <jkosbruk@bbahc.org>; 'kateconley@lakeandpen.com' <kateconley@lakeandpen.com>; 'manager@lakeandpen.com' <manager@lakeandpen.com>; 'Carla Akelkok'; Kristina Andrew <krandrew@bbna.com>; 'lwoods@gci.com' <lwoods@gci.com>
Subject: Perryville THMP Public Comment

Perryville Community Stakeholders:

Bristol Bay Native Association (BBNA) was awarded a Federal Emergency Management Agency (FEMA) grant to develop Tribal Hazard Mitigation Plans (THMP's) for twenty (20) tribes in the Bristol Bay Region. We would like to take this time to acquaint you to the project, with the BBNA THMP Team, and to welcome your input and participation.

BBNA represents all tribes within the Bristol Bay Region, and as such provides support for the Federal Emergency Management Agency (FEMA) pre-disaster mitigation planning project. On behalf of twenty of the tribes in this region, BBNA contracted Bristol Engineering Services Company, LLC (Bristol) for the development of their Tribal Hazard Mitigation Plan (THMP). The THMP was prepared to meet the requirements of the Stafford Act and Title 44 of the Code of Federal Regulations (CFR). By meeting these requirements, it allows Tribal communities to become eligible for funding through state and federal mitigation grant programs.

We are excited to announce that the draft THMP for the Tribal Council of Perryville will be made available to the Tribal offices for public review and comment June 14-30, 2019. This plan is available on BBNA's web page for public comment at the BBNA Transportation and Infrastructure Development webpage https://www.bbna.com/our-programs/transportation-and-infrastructure-development/ or directly at: https://www.bbna.com/wp-content/uploads/DRAFT-FEMA-THMP-Perryville-June-2019.pdf. For additional information you can read our newsletter at: https://www.bbna.com/wp-content/uploads/BBNA-FEMA-Perryville-Newsletter.pdf

The goal is to receive comments, identify key issues or concerns, and improve ideas for mitigation. When the draft plan is complete, the results will be presented to the community before submitting to FEMA for their preliminary approval and returned back to the Tribal Council for formal adoption.

Public comments should be received no later than June 24, 2019. Comments can be made via email, fax, or phone to Danielle Dance, Bristol Engineering Services Company, LLC at ddance@bristol-companies.com, (907)563-0013 or by fax at (907)563-6713. If no comments are received by the end of the comment period it will be assumed that there were no comments on the draft.

Please contact Annie Fritze should you have any additional questions at afritze@bbna.com, (907)842-6143 or Danielle Dance at ddance@bristol-companies.com, (907)563-0013

Annie Fritze
Transportation and Infrastructure Program Manager
afritze@bbna.com
907-842-6143

Thank You,
Dan Breeden

Bristol Bay Native Association
Transportation and Infrastructure Development

June 2019 Perryville Newsletter 2

This newsletter discusses the Bristol Bay Native Association Transportation and Infrastructure Department's Tribal Hazard Pre-Mitigation Plan for your Tribal Council. This newsletter has been prepared to inform interested agencies, stakeholders, and the public about the project and to solicit comments. This newsletter and the draft mitigation plan can also be viewed on the BBNA's website at www.bbna.com

Bristol Bay Native Association was awarded a Federal Emergency Management Agency (FEMA) grant to develop Tribal Hazard Mitigation Plans (THMP's) for twenty (20) tribes in the Bristol Bay Region. On behalf of the twenty tribes, BBNA contracted Bristol Engineering Services Company, LLC (Bristol) to prepare your THMP.

The THMP identifies all natural hazards that affect the community, including earthquake, flood/erosion, severe weather, and wildland/tundra fire hazards, etc. The plan identifies the people and facilities potentially at risk and ways to mitigate damage from future hazard impacts. The public participation and planning process is documented as part of this project.

Why Do We Need A Hazard Mitigation Plan?
A FEMA approved and community adopted THMP enables your Tribal council's eligibility to apply for funding through state and federal mitigation grant programs.

The purpose of hazard mitigation is to reduce potential losses from future disasters. The intent of mitigation planning is to maintain a process that leads to hazard mitigation actions. This THMP identifies the natural hazards that affect the Tribal communities, identifies actions to reduce losses from those hazards, and develops long-term strategies to reduce the impacts of future events on people, property, and the environment, and establishes a coordinated process to implement the plan.

The THMP establishes goals and objectives and associated actions to reduce and mitigate the threat of natural hazards to life, property, infrastructure, economic stability and emergency response capabilities in the Tribal communities while encouraging the protection and restoration of cultural and natural resources.

We Need Your Help

We are excited to announce that the draft THMP for the Perryville Village Council is available at the Tribal office for public review and comment, June 14-27, 2019. This plan is also available on BBNA's web page at www.bbna.com for public comment. The goal is to receive comments, identify key issues or concerns and improve ideas for mitigation. When the draft plan is complete, the results will be presented to the community before submitting to FEMA for their preliminary approval and returned back to the Tribal Council for formal adoption.

Public comments should be received no later than **June 27, 2019**. Comments can be made via email, fax, or phone to Danielle Dance, Bristol Engineering Services Company, LLC at:
ddance@bristol-companies.com, (907)563-0013 or by fax at (907)563-6713.

Public Participation
Public involvement is important to the planning process of the THMP. This meets the requirements of 44 CFR 201.7(c)(1)(i).

The purpose of this newsletter is to encourage public involvement as a continuous effort throughout the project. The goal is to receive comments, identify key issues or concerns, and improve mitigation ideas from all stakeholders in your community.

We encourage you to take an active part in preparing the Tribal Hazard Mitigation Plan development effort. The purpose of this newsletter is to keep you informed and to allow you every opportunity to voice your opinion regarding these important projects.

If you have any questions, comments or requests for more information, please contact:

Danielle Dance, THMP Consultant
111 W. 16th Avenue, Third Floor
Anchorage, Alaska 99501
(907)563-0013
ddance@bristol-companies.com

Annie Fritze, BBNA DOTID
PO Box 310
Dillingham, Alaska 99576
(907)842-6143
afritze@bbna.com

BRISTOL BAY NATIVE ASSOCIATION
P.O. BOX 310
DILLINGHAM, ALASKA 99576
PHONE (907) 842-5257

Aleknagik
Chignik Bay
Chignik Lagoon
Chignik Lake
Clarks Point
Curyung
Egegik
Ekuk
Ekwok
Igiugig
Iliamna
Ivanof Bay
Kanatak
King Salmon
Kokhanok
Koliganek
Levelock
Manokotak
Naknek
New Stuyahok
Newhalen
Nondalton
Pedro Bay
Perryville
Pilot Point
Port Heiden
Portage Creek
South Naknek
Togiak
Twin Hills
Ugashik

January 9, 2019

The Honorable Bryce Edgmon
State Capitol Room 208
Juneau, AK 99801

RE: Introducing BBNA's Tribal Hazard Mitigation Planning Project

Dear Representative Edgmon:

Bristol Bay Native Association (BBNA) was awarded a Federal Emergency Management Agency (FEMA) grant to develop Tribal Hazard Mitigation Plans (THMP's) for twenty (20) tribes in the Bristol Bay Region. We would like to take this time to acquaint you to the project, with the BBNA THMP Team, and to welcome your input and participation.

BBNA represents all tribes within the Bristol Bay Region, and as such provides support for the Federal Emergency Management Agency (FEMA) pre-disaster mitigation planning project. On behalf of the twenty tribes in this region, BBNA contracted Bristol Engineering Services Company, LLC (Bristol) for the development of their Tribal Hazard Mitigation Plan (THMP). The THMP was prepared to meet the requirements of the Stafford Act and Title 44 of the Code of Federal Regulations (CFR). By meeting these requirements, it makes the Tribal communities eligible for funding through state and federal mitigation grant programs.

The purpose of hazard mitigation is to reduce potential losses from future disasters. The intent of mitigation planning is to maintain a process that leads to hazard mitigation actions. This THMP identifies the natural hazards that affect the Tribal communities, identifies actions to reduce losses from those hazards, and develops long-term strategies to reduce the impacts of future events on people, property, and the environment, and establishes a coordinated process to implement the plan. The THMP establishes goals and objectives and associated actions to reduce and mitigate the threat of natural hazards to life, property, infrastructure, economic stability and emergency response capabilities in the Tribal communities while encouraging the protection and restoration of cultural and natural resources.

It is the goal of the Tribal organizations to create a disaster-resistant community for the Tribal members and the general public. The THMP includes information to assist government leaders and residents with current and future planning efforts to efficiently and effectively mitigate natural hazards in their communities.

We are excited to announce that the draft THMP for the Tribal Councils of **Aleknagik, Chignik Bay, Chignik Lagoon, Chignik Lake, Clarks Point, Egegik, Ekuk, Kanatak, Levelock, Manokotak, New Stuyahok, Nondalton, Perryville, Pilot Point, Port Heiden, Portage Creek, Togiak and Twin Hills** will be made available to their Tribal offices for public review and

comment in the next few months. These plans will also be made available on BBNA's web page for public comment at www.bbna.com. The goal is to receive comments, identify key issues or concerns and improve ideas for mitigation. When the draft plan is complete, the results will be presented to the community before submitting to FEMA for their preliminary approval and returned back to the Tribal Council for formal adoption.

A FEMA approved and community adopted THMP enables the Tribal council's eligibility to apply for funding through state and federal mitigation grant programs.

Sincerely,
Bristol Bay Native Association

Ralph Andersen,
President/Chief Executive Officer

cc: Dan Breeden, BBNA DOTID Director
Annie Fritze, BBNA DOTID Program Manager
Isaac Pearson, BESC Senior Engineer
Danielle Dance, BESC Civil Engineer

BRISTOL BAY NATIVE ASSOCIATION
P.O. BOX 310
DILLINGHAM, ALASKA 99576
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Newhalen
Nondalton
Pedro Bay
Perryville
Pilot Point
Port Heiden
Portage Creek
South Naknek
Togiak
Twin Hills
Ugashik

January 9, 2019

The Honorable Lyman Hoffman
PO Box 886
Bethel, AK 99559

RE: Introducing BBNA's Tribal Hazard Mitigation Planning Project

Dear Senator Hoffman:

Bristol Bay Native Association (BBNA) was awarded a Federal Emergency Management Agency (FEMA) grant to develop Tribal Hazard Mitigation Plans (THMP's) for twenty (20) tribes in the Bristol Bay Region. We would like to take this time to acquaint you to the project, with the BBNA THMP Team, and to welcome your input and participation.

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public comment at www.bbna.com. The goal is to receive comments, identify key issues or concerns and improve ideas for mitigation. When the draft plan is complete, the results will be presented to the community before submitting to FEMA for their preliminary approval and returned back to the Tribal Council for formal adoption.

A FEMA approved and community adopted THMP enables the Tribal council's eligibility to apply for funding through state and federal mitigation grant programs.

Sincerely,
Bristol Bay Native Association

Ralph Andersen,
President/Chief Executive Officer

cc: Dan Breeden, BBNA DOTID Director
Annie Fritze, BBNA DOTID Program Manager
Isaac Pearson, BESC Senior Engineer
Danielle Dance, BESC Civil Engineer

APPENDIX C

Plan Maintenance

- Maintenance Monitoring Form (THMP Form 4-1)
- Plan Update Evaluation Form (THMP Form 4-2)

MAINTENANCE MONITORING FORM

Use this form to track the status of implementation of the identified mitigation actions, once a year. Use the information to provide the Council with a brief status report.

Date	**Evaluator**	**Comments** *(Brief Status Overview of Mitigation Actions)*

Date	**Evaluator**	**Comments** *(Brief Status Overview of Mitigation Actions)*

PLAN UPDATE EVALUATION FORM

Plan Section	Considerations	Explanation
Planning Process	Have any internal or external agencies been invaluable to the mitigation strategy?	
	Can any procedures (e.g., meeting announcements, plan updates) be done differently or more efficiently?	
	Has the Planning Team undertaken any public outreach activities?	
	How can public participation be improved?	
Capability Assessment	Have jurisdictions adopted new policies, plans, regulations, or reports that could be incorporated into this plan?	
	Are there different or additional administrative, human, technical, and financial resources available for mitigation planning?	
	Are there different or new education and outreach programs and resources available for mitigation activities?	

Plan Section	Considerations	Explanation
Plan Maintenance Procedures	Was the plan monitored and evaluated as anticipated?	
	What are needed improvements to the procedures?	
Hazard Profile	Has a natural and/or technical or human-caused disaster occurred?	
	Should the list of hazards addressed in the plan be modified? What hazards need to be addressed? Are there hazards that need to be added or removed? If so, list the hazards.	
	Are there new data sources and/or additional maps and studies available? If so, what are they and what have they revealed? Should the information be incorporated into future plan updates?	
Risk Analysis	Do any new critical facilities or infrastructure need to be added to the asset lists?	
	Have any changes in development trends occurred that could create additional risks?	

Plan Section	Considerations	Explanation
Mitigation Strategy	Are the goals still applicable?	
	Should new mitigation actions be added to the community's Mitigation Action Plan?	
	Do existing mitigation actions listed in the community's Mitigation Action Plan need to be reprioritized?	
	Have elements of the plan been incorporated into other planning mechanisms?	

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APPENDIX D

Funding Sources

CLIMATE RESILIENCE IN ALASKAN COMMUNITIES

Catalog of Federal Programs

PRODUCT OF THE

Coastal Erosion Working Group

OF THE ARCTIC EXECUTIVE STEERING COMMITTEE

September 2, 2015

In February 2015, the newly established Arctic Executive Steering Committee (AESC), in one of its first actions, established a Coastal Erosion Working Group (CEWG). The CEWG, which included representatives from the Executive Office of the President as well as ten Federal agencies, was tasked with examining opportunities for Federal action to address the imminent threats that coastal erosion and flooding pose to Alaskan Arctic coastal communities. Representation on the working group drew from both headquarters and the Alaska region, ensuring good knowledge of State and local stakeholders' needs.

One of the recommendations that the CEWG presented at the June meeting of the AESC, was to catalog Federal programs that could be useful for Alaskan coastal communities seeking to address erosion, flooding, and other resilience challenges. The following "Catalog of Federal Resilience Programs for Alaskan Communities" was developed by the CEWG in response to this recommendation. We hope this resource will support communities in Alaska in identifying Federal resources available to help address some of great challenges they are facing.

Ambassador Mark Brzezinski
Executive Director, Arctic Executive Steering Committee

Overview

According to the U.S. National Climate Assessment, over the past 60 years, climate change has caused the Alaskan Arctic to warm twice as rapidly as the rest of the United States, and accelerated rates of erosion caused by the combination of repeated extreme weather events, thawing permafrost, and decreased arctic sea ice are threatening the way of life in native villages.

Developed under the leadership of the Arctic Executive Steering Committee's (AESC) Coastal Erosion Work Group (CEWG), this catalog of Federal technical assistance programs and funding resources is the result of collaboration across Federal agencies to identify existing programs that may be used to assist coastal communities in Alaska facing challenges associated with climate-related risks. Although a variety of Federal programs are available to provide assistance, lack of information about the full range of resources available can present a barrier to communities securing assistance. This compendium is intended to help Alaskan communities identify Federal resources that can be used to support local efforts to gather and evaluate information about the risks posed by coastal erosion and other hazards; building capacity to mitigate those risks; advance onsite measures; and, if necessary, relocate community assets.

Each program's entry describes its purpose and funding potential, eligible applicants, and activities typically undertaken with its support. The Quick Reference Program Matrix serves to identify which programs can support the following activities:

> **Information Gathering and Evaluation:** Risk assessment and monitoring activities, including assessing hazards like coastal erosion, mapping subsistence patterns, and tracking natural climate variability;
> **Capacity Building:** Training, education, and community planning efforts, including digital access to tools and development of administrative needs to inform resilience planning;
> **On-site Measures:** Maintaining and strengthening infrastructure, land, and livelihoods within a community. Examples include redesigning roads and evacuation routes due to climate change impacts and investing in infrastructure that generates economic returns; and
> **Relocation:** Activities that support the relocation of entire communities or certain community assets, including new site identification and development.

Contributing agencies include the Departments of Agriculture, Energy, Health and Human Services, Housing and Urban Development, the Interior, Transportation, Homeland Security, Commerce, the Environmental Protection Agency, and the U.S. Army Corps of Engineers. While this guide attempts to be as comprehensive as possible in describing relevant Federal grant programs, programs are continually evolving and are subject to change.

About the Arctic Executive Steering Committee

President Obama established the AESC in his January 2015 Executive Order 13689 on *Enhancing Coordination of National Efforts in the Arctic*. The Executive Order directed Federal agencies to strengthen international cooperation to mitigate the greenhouse gas emissions driving climate change, understand more fully and manage more effectively the adverse effects of climate change, protect life and property, develop and manage resources responsibly, enhance the quality of life of Arctic inhabitants, and serve as stewards for valuable and vulnerable ecosystems. The AESC was charged with guiding executive departments and agencies and enhancing coordination of Federal Arctic policies across agencies and offices, and with State, local, and Alaska Native tribal governments and stakeholders.

The CEWG, co-chaired by the Department of Housing and Urban Development (HUD) and the Department of the Interior (DOI), was created to examine opportunities for improving Federal actions to address the imminent threat of coastal erosion and flooding impacting Alaskan Arctic coastal communities.

Quick Reference Programs Matrix

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
			Risk Assessment	Monitoring	Technical Training	Environmental Education	Preserving Traditional Lifestyles	Strategic Planning	Infrastructure Strengthening	Coastal Erosion Control	Recovery of Critical Infrastructure	Economic Development	Site Evaluation	Development	Infrastructure
Department of Homeland Security - Federal Emergency Management Agency	Flood Mitigation Assistance	12						X	X						
	Hazard Mitigation Grant Program	12						X	X	X	X				
	Pre-Disaster Mitigation Grant Program	13						X	X	X	X				
	Risk Mapping, Assessment, and Planning	13	X	X	X			X							
Department of Commerce – Economic Development Authority	Economic Adjustment Assistance Program	14	X					X	X		X	X	X	X	X
	Public Works Program	14							X		X	X		X	X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
Department of Commerce – National Oceanic and Atmospheric Administration	Alaska Center for Climate Assessment and Policy	15	X					X							
	Alaska Ocean Observing System	15	X	X											
	Analyze, Forecast, and Support	16	X	X											
	Integrated Ocean and Coastal Mapping Program	16	X	X											
	National Oil and Hazardous Substances Pollution Contingency Plan	16	X	X				X							
	Climate Program	17	X		X	X									
	Observations	17	X	X											
Department of Energy	Alaska START Program	17			X	X		X	X		X	X			X
	Tribal Energy Program	18			X	X		X	X		X	X			X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
Department of the Interior	Alaska Climate Science Center	19	X	X	X			X					X		
	ANILCA Sec. 1318 Historic Assistance	19					X								
	Landscape Conservation Cooperatives	19	X	X											
	North Slope Science Initiative	20	X	X		X									
	Subsistence – ANLICA Title VIII	20					X	X							
Department of the Interior - Bureau of Indian Affairs	Cooperative Landscape Conservation	20			X			X							
	Indian Energy Resource Development Program	21			X							X			X
	Tribal Transportation Program	21							X			X			X
Department of Transportation	Transportation Investment Generating Economic Return	22						X	X			X			X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
Department of Transportation - Federal Aviation Administration	Airport Improvement Program	22							X						X
Department of Transportation - Federal Highway Administration	Federal-aid Highway Apportioned Funds	23							X			X			X
	Tribal Transportation Program	23						X	X			X			X
Department of Transportation - Federal Transit Administration	Public Transportation on Indian Reservations Program Tribal Transit Program	24						X	X		X				X
Environmental Protection Agency	Alaska Native Villages Grant	24			X				X						X
	Clean Water Act Indian Set-Aside Program	25						X	X						X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
Environmental Protection Agency	Environmental Justice Collaborative Problem-Solving Cooperative Agreement Program	25							X					X	
	Environmental Justice Small Grants	26						X							
	Indian General Assistance Program	26	X	X											
	Office of Water Climate Ready Water Utilities Program	27	X					X							
	Safe Drinking Water Act (SDWA) Tribal Set-Aside Program	27						X	X						X
Health and Human Services	ACF/ANA Environmental Regulatory Enhancement	28			X		X	X				X			
	CDC/NCID/ Arctic Investigations Program	29	X	X		X									

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
Health and Human Services	CDC/NIOSH American Indian/ Alaska Native Program	29			X	X									
	CDC/NIOSH Climate Change Initiative	30	X												
	NIH/NIEHS Alaska Community Action on Toxics	30	X	X	X	X	X	X							
	NIH/NIEHS Research to Action	31	X	X	X	X	X	X							
	NIH/NIEHS The Center for Indigenous Environmental Health Research	31	X	X	X	X	X	X							
Department of Housing and Urban Development	Community Development Block Grant	32	X	X	X						X			X	X
	Emergency Solutions Grants Program	33							X		X				
	Indian Community Development Block Grant	33							X		X	X		X	X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
Department of Housing and Urban Development	Mortgage Insurance for Disaster Victims – 203(h)	34												X	
	Native American Housing and Self-Determination Act - Indian Housing Block Grant Program	34	X	X	X	X		X	X	X	X		X	X	X
	Section 184 Loan Guarantee Program	35												X	
	Title VI Loan Guarantee Program	35							X	X	X			X	X
US Army Corps of Engineers	Continuing Authorities Program	35							X	X					
	International and Interagency Support Services	36	X	X			X	X	X	X	X		X	X	X
	Planning Assistance to States	36	X					X					X		
	Tribal Partnership Program	37	X					X	X	X			X	X	X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
US Department of Agriculture	Business and Industry Loan Guarantee	37										X			
	Community Facilities Loans and Grants	38												X	
	Electric Loans	38							X						X
	Rural Business Development Grant	38										X			
	Rural Energy for America Loans and Grants	39							X						X
	Sewer, Water, Solid Waste Loans and Grants	39							X						X
	Single Family Direct and Guaranteed Loans	40												X	
	Single Family Repair Loans and Grants	40									X				
	Telecom Loans	41							X						X

Department of Homeland Security (DHS) – Federal Emergency Management Agency (FEMA)

Program Name: Flood Mitigation Assistance (FMA)

Purpose: Authorized to reduce or eliminate claims under the National Flood Insurance Program (NFIP) by eliminating the long-term risk of flood damage to structures insured under the NFIP.

Eligible Applicants: States, U.S. territories, Federally-recognized tribes apply on behalf of local communities, who must be participating in the NFIP.

Funding Range: Severe Repetitive Loss structures can be funded at 100% federal cost; repetitive loss structures can be cost-shared at 90% federal cost. Insured structures and planning grants are cost-shared at 75 percent federal, 25 percent non-federal. Maximum Federal share for planning sub-applications per Applicant is $50,000 for State plans and $25,000 for local plans. Technical assistance up to $50,000 is available for states who were awarded FMA grant funds totaling at least $1million in FY 2014.

Program Activities: Projects include the elevation, relocation and acquisition of flood prone structures, and projects to address minor, localized flooding issues, such as upgrading culverts, building detention ponds, and otherwise improving local stormwater management facilities.

Because this program is funded by resources collected from NFIP policyholders, the recent focus of the program has been on mitigating severe repetitive loss structures in order to reduce the drain on the National Flood Insurance Fund (NFIF).

Severe repetitive loss structures and repetitive loss structures are prioritized for funding to maximize cost-effectiveness and reduce claims to the NFIF.

Additional Information: http://www.fema.gov/media-library-data/1432854343618-674f4cfd5dd49813a9aef429e5d49c7d/FMAFactSheetFY2015.pdf

Program Name: Hazard Mitigation Grant Program (HMGP)

Purpose: Provides grants to states, Indian tribal governments and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the recovery from a disaster.

Eligible Applicants: Funds become available only after a disaster is declared. The Governor of the state determines availability, however it is frequently available anywhere within the state or tribe in which the declaration was made.

Funding Range: The amount of assistance available under the HMGP is a percentage of FEMA's assistance made available under the response and recovery programs for the declared major disaster.

HMGP funds are generally 15 percent of assistance under these programs for states with a Standard State Mitigation Plan and 20 percent of assistance under these programs for those with an Enhanced State Mitigation Plans. Small impoverished communities may be eligible for up to a 90% Federal cost share in accordance with the Stafford Act.

Program Activities: Some examples of projects eligible for HMGP and the PDM grant funds include the development of all-hazards mitigation plans at the tribal, state and local levels, the seismic retrofitting of critical public buildings, and acquisition, relocation or elevation of flood-prone properties located in the floodplain.

Additional Information: http://www.fema.gov/hazard-mitigation-grant-program

Program Name: Pre-Disaster Mitigation Grant Program (PDM)

Purpose: Designed to assist States, territories, Federally-recognized tribes, and local communities in implementing a sustained pre-disaster natural hazard mitigation program.

Eligible Applicants: States, U.S. territories, Federally-recognized tribes.

Funding Range: In 2015, each state is eligible to receive a set aside of 1 percent of the total appropriated PDM funding, or $250,000; $5 million is set aside for Federally-recognized Tribal governments to receive a set aside of 1 percent of the total appropriated PDM funding, or $250,000; The balance of PDM Grant Program funds will be distributed on a competitive basis to all eligible applicants.

Program Activities: Elevation, acquisition, or floodproofing structures, seismic or wind retrofit of structures, major or minor flood hazard reduction activities, mitigation planning

Additional Information: http://www.fema.gov/media-library-data/1432847398289-878c470e718239eedcaadc8d52ea1823/PDMFactSheetFY2015.pdf

Program Name: Risk Mapping, Assessment, and Planning (Risk MAP)

Purpose: Not only is flooding one of the most common and costly disasters, flood risk can also change over time because of new building and development, weather patterns and other factors. FEMA is working with federal, state, tribal and local partners across the nation to identify flood risk and help reduce that risk through the Risk Mapping, Assessment and Planning (Risk MAP) program.

Eligible Applicants: State, regional, Tribal, and local communities can use enhanced hazard data to make more informed decisions regarding risk.

Funding Range: Varies.

Program Activities: Risk MAP provides high quality flood maps and information, tools to better assess the risk from flooding and planning and outreach support to communities to help them take action to

reduce (or mitigate) flood risk. Each Risk MAP flood risk project is tailored to the needs of each community and may involve different products and services.

Additional Information: http://www.fema.gov/risk-mapping-assessment-and-planning-risk-map

Department of Commerce (DOC) – Economic Development Administration (EDA)

Program Name: Economic Adjustment Assistance Program

Purpose: Helps communities design and implement strategies to address evolving economic changes that are causing or threaten to cause serious structural damage to the underlying economic base or undermining locally-developed development goals.

Eligible Applicants: (1) District Organization of a designated Economic Development District; (2) Indian Tribe or a consortium of Indian Tribes; (3) State, county, city, or other political subdivision of a State, including a special purpose unit of a State or local government engaged in economic or infrastructure development activities, or a consortium of political subdivisions; (4) institution of higher education or a consortium of institutions of higher education; or (5) public or private non-profit organization or association acting in cooperation with officials of a political subdivision of a State.

Funding Range: Investments range from $100,000 to $1,250,000; the average is approximately $829,000.

Program Activities: Can be used to conduct feasibility or environmental studies, capitalize revolving loan funds, and to fund the construction of publicly-owned infrastructure, such as water and sewer facilities, access roads, rail spurs, and broadband, to support the expansion of area businesses; business incubators; job training facilities; and other infrastructure investments.

Additional Information: http://www.eda.gov/pdf/about/Economic-Adjustment-Assistance-Program-1-Pager.pdf

Program Name: Public Works Program

Purpose: The Public Works Program provides strategic-investments to help communities build or expand access to the infrastructure assets that are the most basic building blocks of an economy and are required to support the growth and economic development of distressed regions.

Eligible Applicants: (1) District Organization of a designated Economic Development District; (2) Indian Tribe or a consortium of Indian Tribes; (3) State, county, city, or other political subdivision of a State, including a special purpose unit of a State or local government engaged in economic or infrastructure development activities, or a consortium of political subdivisions; (4) institution of higher education or a consortium of institutions of higher education; or (5) public or private non-profit organization or association acting in cooperation with officials of a political subdivision of a State.

Funding Range: Investments range from $200,000 to $3,000,000, the average is approximately $1.4 million.

Program Activities: Traditional infrastructure through this program including water and sewer system improvements, industrial parks, business incubator facilities, expansion of port and harbor facilities, skill-training facilities, and the redevelopment of brownfields. Also, technology-based facilities; research and development commercialization centers; facilities for workforce development; wet labs; multi-tenant manufacturing facilities; research, business and science parks with fiber optic cable; and telecommunications infrastructure and development facilities.

Additional Information: http://www.eda.gov/pdf/about/Public-Works-Program-1-Pager.pdf

DOC – National Oceanic and Atmospheric Administration (NOAA)

Program Name: Alaska Center for Climate Assessment & Policy

Purpose: NOAA's Regional Integrated Sciences & Assessments (RISA) program supports research teams that help expand and build the nation's capacity to prepare for and adapt to climate variability and change.

Eligible Applicants: NOAA 5 year funding agreement with ACCAP; ACCAP awards funding to other entities to accomplish its five year goals.

Funding Range: Varies.

Program Activities: Partner with stakeholders to inform realistic community plans and climate adaptation strategies using the most scientifically accurate, reliable, and up-to-date information.

Additional Information: http://cpo.noaa.gov/ClimatePrograms/ClimateandSocietalInteractions/RISAProgram/RISATeams/ACCAP.aspx

Program Name: Alaska Ocean Observing System

Purpose: Address regional and national needs for ocean information, gather specific data on key coastal and ocean variables, and ensure timely and sustained dissemination and availability of these data.

Eligible Applicants: AOOS Funding is based on a five year plan focusing on: safe marine operations; coastal hazard mitigation; tracking ecosystem and climate trends; and monitoring water quality.

Funding Range: $0-$500k.

Program Activities: (1) Enables advances in scientific understanding to support the sustainable use, conservation, management, and understanding of healthy ocean and coastal resources.

(2) Improves the Nation's capability to measure, track, explain, and predict events related directly and indirectly to weather and climate change, natural climate variability, and interactions between the oceanic and atmospheric environments.

Additional Information: http://www.ioos.noaa.gov/regions/aoos.html

Program Name: Analyze, Forecast, and Support

Purpose: Field forecast and warnings, facilities supporting the mission and programmatic leadership in the provision of life saving decision support services.

NWS has initiated Impact Based Decision Support Services (IDSS) to provide better, more useful information to partners, emergency managers, and decision makers to foster an appropriate public response.

Eligible Applicants: None, work is performed by NOAA.

Funding Range: N/A

Program Activities: Provides decision support services, warning coordination, and Arctic environmental intelligence (timely, reliable, and actionable information to help plan for and adapt to economic and ecological impacts, including disasters) to the State of Alaska and Alaska Native partners, industry and community stakeholders, and federal and other local officials.

Addresses mitigation science and technology gaps in the Arctic as well as forecast challenges to improve IDSS), such as: scarcity of in-situ observations (e.g., wave, ocean, and ice buoys, weather observation platforms, river gauge) in the Arctic; performance concerns with weather, water, ocean and wave prediction models in the Arctic region as compared to the rest of the US; and the lack of maturity of tactical and medium range weather and sea ice modeling capabilities.

Additional Information: http://www.weather.gov/organization/afs

Program Name: Integrated Ocean & Coastal Mapping Program

Purpose: Planning, acquiring, integrating, and disseminating ocean and coastal geospatial data and derivative products in a manner that permits easy access to and use by the greatest range of users.

Eligible Applicants: Participation in the IOCM approach (map used many times) is voluntary but coordination with and leveraging of other partner efforts are encouraged.

Funding Range: N/A

Program Activities: Federal mapping coordination.

Additional Information: http://iocm.noaa.gov/

Program Name: National Oil and Hazardous Substances Pollution Contingency Plan (NCP)

Purpose: Area Committees -- composed of federal, state, and local government officials -- must develop detailed, location-specific Area Contingency Plans.

Eligible Applicants: Federal, state, and local government officials serve on the committees. Participation and input by Alaska Native entities to the committees is encouraged.

Funding Range: N/A

Program Activities: Planning, preparedness, and exercises support resiliency to oil spills. Environmental Sensitivity Indices (ESI) maps and other tools assess the risk from oil spills and would also be useful potential species impacts.

Additional Information: http://response.restoration.noaa.gov/

Program Name: Climate Program

Purpose: Fund high-priority climate science, assessments, decision support research, outreach, education, and capacity-building activities designed to advance our understanding of Earth's climate system, and to foster the application of this knowledge in risk management and adaptation efforts.

Eligible Applicants: None, work is performed by NOAA.

Funding Range: Varies.

Program Activities: Varies.

Additional Information: http://cpo.noaa.gov/

Program Name: Observations

Purpose: Collection of space, atmosphere, water, and climate observational data owned or leveraged by National Weather Service. The Office is responsible for the development, acquisition and management of cost-effective observing technologies, hardware and software enhancements, maintenance and repairs, logistics, cost management, technical data verification, and life-cycle replacements of NWS observational platforms.

Eligible Applicants: None, work is performed by NOAA.

Funding Range: N/A

Program Activities: Weather and sea ice observations.

Additional Information: http://www.nws.noaa.gov/om/osd/portal.shtml

Department of Energy (DOE)

Program Name: Alaska Strategic Technical Assistance Response Team (START) Program

Purpose: To provide technical assistance in strategic energy planning to accelerate clean energy and energy efficiency projects and move projects closer to implementation.

Eligible Applicants: Any Indian Tribe, including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.).

Funding Range: Varies.

Program Activities: The START team, which consists of DOE, including its national laboratories, and the Denali Commission, along with DOE's national laboratories and other local and national experts, assists rural Alaska Native communities in developing strategic energy plans to help mitigate the impacts of climate change by conducting energy awareness and training programs, and pursuing new renewable energy and energy efficiency opportunities. As a competitive technical assistance opportunity, Alaska START is aimed at achieving the following goals:

- Reducing the cost and use of energy for rural Alaska consumers and communities
- Increasing local capacity, energy efficiency, and conservation through training and public education
- Increasing renewable energy deployment and financing opportunities for communities and utilities.

Additional Information: http://www.energy.gov/indianenergy/office-indian-energy-start-team

Program Name: Tribal Energy Program

Purpose: To provide financial and technical assistance that enables tribes to evaluate and develop their renewable energy resources and reduce their energy consumption through efficiency and weatherization.

Eligible Applicants: Federally recognized Indian tribes, bands, nations, Alaska Native villages; other organized tribal groups and communities – including Alaska Native regional and village corporations; tribal energy resource development organizations.

Funding Range: Varies.

Program Activities: DOE's Tribal Energy Program promotes tribal energy sufficiency and fosters economic development and employment of energy efficiency on tribal lands through the use of renewable energy and energy efficient technologies through government-to-government partnerships. The Tribal Energy program provides financial opportunities through a competitive process; technical assistance through DOE's national laboratories; and education and training through webinars, student internships, and workshops to help build the knowledge and skills essential to developing, implementing and sustaining energy efficiency and renewable energy efficiency and renewable energy projects.

Additional Information: http://apps1.eere.energy.gov/tribalenergy/

Department of the Interior (DOI)

Program Name: Alaska Climate Science Center

Purpose: The Alaska Climate Science Center (AK CSC) provides scientific information, tools, and techniques that managers and other parties interested in land, water, wildlife and cultural resources can use to anticipate, monitor, and adapt to climate change.

Eligible Applicants: Any

Funding Range: No specific funding levels or deadlines.

Program Activities: The Center and its partners provide expertise in climate science, ecology, environmental impacts assessment, modeling, cultural impacts, and advanced information technology.

Additional Information: https://www.doi.gov/csc/alaska/

Program Name: Alaska National Interest Lands Conservation Act (ANILCA) Sec. 1318 Historic Assistance

Purpose: Technical assistance in preserving cultural resources.

Eligible Applicants: All Tribes and Corporations in Alaska.

Funding Range: No specific funding levels or deadlines.

Program Activities: Wide variety of activities related to cultural resources.

Additional Information: Telephone: (907) 644-3456

Program Name: Landscape Conservation Cooperatives

Purpose: Science and technical assistance.

Eligible Applicants: Any village or other entity.

Funding Range: No specific funding levels or deadlines.

Program Activities: Examples: provide tools to assess coastal hazards, including accelerated coastal erosion associated with climate change. Specific projects include: acquisition and analysis of imagery to quantify historical erosion rates and enable communities to consider the stability of existing and future infrastructure; data and modeling needed to predict the severity of flooding based on the circumstances and magnitude of storms; community vulnerability assessments that incorporate coastal erosion as well as other aspects of coastal change.

These projects are underway or are newly completed. A shared effort is planned by LCCs in Alaska to work with partners and communities to utilize these tools and information during the winter of 2015-16.

Additional Information: Arctic Landscape Conservation Cooperative: http://arcticlcc.org/

Western Alaska Landscape Conservation Cooperative:
https://westernalaskalcc.org/SitePages/Western%20Alaska%20LCC.aspx

Program Name: North Slope Science Initiative

Purpose: To facilitate and improve collection and dissemination of ecosystem information pertaining to the Alaskan North Slope region, including coastal and offshore regions. To improve scientific and regulatory understanding of terrestrial, aquatic, and marine ecosystems for consideration in the context of resource development activities and climate change.

Eligible Applicants: Any.

Funding Range: No specific funding levels or deadlines.

Program Activities: Provide resource managers with the data and analyses they need to help evaluate multiple simultaneous goals and objectives related to each agency's mission on the North Slope. The NSSI uses and complements the information produced under other North Slope science programs. The NSSI also facilitates information sharing among agencies, non-governmental organizations, industry, academia, international programs, and members of the public to increase communication and reduce redundancy among science programs.

Additional Information: http://www.northslope.org/

Program Name: Subsistence – ANLICA Title VIII

Purpose: Technical assistance related to subsistence.

Eligible Applicants: Any Tribe or village in Alaska.

Funding Range: No specific funding levels or deadlines.

Program Activities: Examples: 1) subsistence mapping in coastal communities to document where people go for particular resources at particular times of the year; and 2) document the flow of resources through sharing networks, which could be greatly disrupted if whole communities and groups of families are relocated.

Additional Information: Telephone (907) 644-3596.

DOI – Bureau of Indian Affairs (BIA)

Program Name: Cooperative Landscape Conservation (shifting to Tribal Climate Resilience in FY16)

Purpose: Funding for tribal climate adaptation, and ocean & coastal planning. Engagement and technical support, not operational funds.

Eligible Applicants: Federally Recognized Tribes.

Funding Range: Current administrative limit is $250k per award.

Program Activities: BIA is investing in technical assistance to support adaptation planning, including coordination, training, travel support for relevant training, and digital access to data and tools.

Additional Information: http://www.indianaffairs.gov/WhoWeAre/BIA/climatechange/index.htm

Program Name: Indian Energy Resource Development Program

Purpose: Assist tribes in development of tribal energy resources. This includes the Tribal Energy Development Capacity (TEDC) grant program to build capacity to develop conventional or renewable energy resources on Indian lands.

Eligible Applicants: Federally Recognized Tribes.

Funding Range: Varies depending on appropriations.

Program Activities: The TEDC grant program helps tribes in assessing, developing, or obtaining the managerial, organizational and technical capacity needed to develop energy resources on Indian land and to account properly for resulting energy production and revenues.

Additional Information: http://www.bia.gov/WhoWeAre/AS-IA/IEED/DEMD/TEDCP/index.htm

Program Name: Tribal Transportation Program

Purpose: To provide funding to tribes for access to basic community services that enhance the quality of life in Indian country, such as construction and/or reconstruction of roads, bridges, docks and trails. The TTP replaces the former Indian Reservation Roads (IRR) program. Note that this program is the same as the Department of Transportation's (DOT) TTP, although DOT can additionally provide strategic planning.

Eligible Applicants: Federally Recognized Tribes.

Funding Range: TTP is formula funded.

Program Activities: New roads can be built based on the specific needs for evacuation routes, or redesigning if impacted roads by changes due to climatic variances (flooding, snow fences and road shelters, etc.). TTP funds can also be used for facility preservation, road maintenance and bridge maintenance, as well as "emergency relief for federally owned roads" (this includes tribal or native roads and facilities that are transportation related). Equipment storage, material storage, equipment purchase are other allowable uses.

Additional Information: BIA: http://www.bia.gov/WhoWeAre/BIA/OIS/Transportation/index.htm; DOT: http://flh.fhwa.dot.gov/programs/ttp/

Department of Transportation (DOT)

Program Name: Transportation Investment Generating Economic Return (TIGER)

Purpose: Discretionary grants that focus on capital projects that generate economic development and improve access to reliable, safe and affordable transportation for disconnected communities, while emphasizing improved connection to employment, education, services and other opportunities, workforce development, or community revitalization.

Eligible Applicants: State, local and tribal governments, including U.S. territories, transit agencies, port authorities, metropolitan planning organizations (MPOs), and other political subdivisions of State or local governments.

Funding Range: $500M nationwide funds. Funding cannot exceed $200M and no more than $125M in a single state. TIGER can cover up to 80% in an urban area and 100% in a rural area. Minimum award for urban is $10M and rural is $1M. The annual funding for TIGER changes annually based on the appropriations and authorizations.

Program Activities: Eligible projects for TIGER Discretionary Grants are capital projects that include, but are not limited to: highway or bridge projects eligible, (including bicycle and pedestrian related projects); public transportation projects; passenger and freight rail transportation projects; port infrastructure investments (including inland port infrastructure); and intermodal projects. Eligibility requirements must be satisfied.

Additional Information: http://www.transportation.gov/tiger

DOT – Federal Aviation Administration (FAA)

Program Name: Airport Improvement Program

Purpose: Airport improvement planning and development.

Eligible Applicants: Public-use airports included within the National Plan of Integrated Airport Systems (NPIAS).

Funding Range: State of Alaska: 93.75% Federal, 6.25% cost sharing.

Program Activities: The AIP is authorized to provide grant funding for eligible airport improvements as requested by eligible airport sponsors. This would potentially include measures to safeguard airport infrastructure from erosion.

Additional Information: http://www.faa.gov/airports/aip/

DOT – Federal Highway Administration (FHWA)

Program Name: Federal-aid Highway Apportioned Funds

Purpose: Planning, preventive maintenance, infrastructure preservation, construction of highways and bridges, safety, congestion mitigation, and air quality improvement.

Eligible Applicants: State of Alaska Department of Transportation and Public Facilities.

Funding Range: Alaska receives approximately $480M in apportionment funds annually. Federal share is typically 80%.

Program Activities: In Alaska, Federal-aid highway apportioned funds may be used for roads, pedestrian facilities, and snowmobile trails. Funding may be available to assist villages with improving or repairing roads and boardwalks.

Additional Information: http://www.fhwa.dot.gov/federalaid/projects.cfm

Program Name: Tribal Transportation Program (TTP)

Purpose: To provide funding to tribes for access to basic community services that enhance the quality of life in Indian country, such as construction and/or reconstruction of roads, bridges, docks and trails. The TTP replaces the former Indian Reservation Roads (IRR) program. Note that this program is the same as the DOI BIA TTP, although DOT can additionally provide strategic planning.

Eligible Applicants: Federally recognized Tribes.

Funding Range: In MAP-21, the TTP is authorized at $450 million/year and funds are distributed through a statutory formula. The federal share is 100%.

Program Activities: Eligible uses for TTP funds are identified in 23 USC 202(a). These include transportation planning, design, construction, and maintenance of roads and bridges as well as any other project that would be eligible under Title 23. The project must be on or for a facility that provides access to or is located within tribal land. The planning and construction of emergency escape or relocation routes are eligible activities.

Additional Information: DOT: http://flh.fhwa.dot.gov/programs/ttp/;
BIA: http://www.bia.gov/WhoWeAre/BIA/OIS/Transportation/index.htm

DOT – Federal Transit Administration (FTA)

Program Name: Public Transportation on Indian Reservations Program Tribal Transit Program (TTP)

Purpose: Provide grants to Indian tribes for program activities eligible under FTA's Rural Areas Formula Program, 49 U.S.C. 5311.

Eligible Applicants: Federally recognized Indian Tribes and Alaskan Native villages, groups, or communities.

Funding Range: $25 million formula program and $5 million discretionary program. Discretionary funds are made available annually on a competitive basis.

Program Activities: Operating assistance to enable tribes to start new transit services; capital to enable tribal investment in new or replacement equipment; and funding for tribal transit planning studies. Examples of eligible resilience projects may include elevating or relocating transit assets that are located in a special flood hazard area, protecting transit assets vulnerable to high winds, installing mitigation measures that prevent the intrusion of floodwaters into underground segments of a public transportation system, strengthening systems that remove rainwater from public transportation facilities, and other projects that address identified vulnerabilities. However, relocating non-transit assets would not be considered an eligible resilience project.

Additional Information: http://www.fta.dot.gov/grants/15926_3553.html

Environmental Protection Agency (EPA)

Program Name: Alaska Native Village Grant

Purpose: To assist Alaska Native Villages and Alaska rural communities with the construction of new or improved drinking water and wastewater systems.

Eligible Applicants: The applicant must be an unincorporated community that has between 25 and 600 people; a second-class city (no population limits); or a first class city with not more than 600 residents.

Funding Range: Funding varies.

Program Activities: The program is planning, designing and constructing new and or improved water and wastewater infrastructure in various communities throughout the State of Alaska to improve the health and sanitation conditions in rural Alaska.

The ANV Program provides technical support to communities to design and construct water and wastewater systems. It is meant to assist Alaska Native Villages and Alaska rural communities with the construction of new or improved drinking water and wastewater systems. This funding can also be used to provide training and technical assistance in the operations and maintenance of these systems.

Additional Information: http://water.epa.gov/type/watersheds/wastewater/Alaska-Native-Village-and-Rural-Communities-Grant-Program.cfm

Program Name: Clean Water Act Indian Set-Aside Program

Purpose: Provides funding, 2% of the CWA SRF, for wastewater infrastructure to Indian tribes and Alaska Native Villages. The CWISA Program is administered in cooperation with the Indian Health Service (IHS). EPA uses the IHS Sanitation Deficiency System priority lists to identify and select projects for CWISA program funding. To be considered for CWISA Program funding, tribes must identify their wastewater needs to the IHS Sanitation Deficiency System.

Eligible Applicants: All federally recognized tribes, Alaska Native Villages, and tribes on former reservations in Oklahoma are eligible for CWISA Program funds.

Funding Range: Funding varies.

Program Activities: The program is planning, designing and constructing new and or improved wastewater infrastructure in various communities throughout the State of Alaska to improve the health and sanitation conditions in Alaska Native Villages. EPA issues all or the vast majority of funds to the Indian Health Service for Administration.

Additional Information: http://water.epa.gov/type/watersheds/wastewater/clean-water-indian-set-aside-grant-program.cfm

Program Name: Environmental Justice Collaborative Problem-Solving Cooperative Agreement Program

Purpose: Provides funding for eligible applicants for projects that address local environmental and public health issues within an affected community. The CPS Program is designed to help communities understand and address exposure to multiple environmental harms and risks.

Eligible Applicants: Nonprofit organizations including, but not limited to, environmental justice networks; Federally recognized tribal governments; or Tribal organizations (includes American Indian/Alaska Native groups, cooperatives, partnerships, associations).

Funding Range: Up to $120,000.

Program Activities: Funds enable community-based organizations to partner with stakeholders from across industry, government, academia to develop and implement solutions that will significantly address

environmental and/or public health issues at the local level. Projects must use the CPS Model, comprised of seven elements of a successful collaborative partnership, to address local environmental and/or public health issues.

Additional Information: http://www.epa.gov/environmentaljustice/grants/ej-cps-grants.html

Program Name: Environmental Justice Small Grants

Purpose: The purpose of this grant program is to support activities designed to empower and educate communities to understand environmental and public health issues and to identify ways to address these issues at the local level. EPA anticipates awarding up to 25% of fiscal year 2015 awards to fund projects that support community climate resiliency.

Eligible Applicants: Incorporated non-profit organizations including, but not limited to, environmental justice networks, faith based organizations and those affiliated with religious institutions; federally recognized tribal governments; or tribal organizations.

Funding Range: Varies (up to $30,000).

Program Activities: Supports and empowers communities working on solutions to local environmental and public health issues. The program assists recipients in building collaborative partnerships to help them understand and address environmental and public health concerns in their communities. Successful collaborative partnerships involve not only well-designed strategic plans to build, maintain, and sustain the partnerships, but also working towards addressing the local environmental and public health issues.

Additional Information: http://www.epa.gov/environmentaljustice/grants/ej-smgrants.html

Program Name: Indian General Assistance Program (IGAP)

Purpose: Provide General Assistance Program (GAP) grants to federally recognized tribes and tribal consortia for planning, developing, and establishing environmental protection programs. The GAP program is exempt from competition, therefore, applications that meet the stated requirements in program regulations and guidance will be funded if funds are available.

Eligible Applicants: All federally recognized tribes in Region 10 are eligible to receive funds. Tribal consortia that meet the eligibility requirements may also receive funding, if available.

Funding Range: Typically $75,000 - $125,000 per year per grantee in Alaska (special projects not included).

Program Activities: Funding is provided under GAP for the purposes of planning, developing, and establishing tribal environmental protection programs. For example a tribe could use GAP funds to develop a climate change adaptation plan or to establish environmental protection programs that compliment non-environmental protection programs.

Activities related to establishing education, outreach, public participation, compliance assistance, and coordination programs for tribal environmental staff to work effectively with regulated entities are allowable.

Specific examples of allowable activities: climate change vulnerability/risk assessment; climate change preparedness/adaptation program (e.g., zoning rules and regulations; tax incentives; building codes/design standards; utility rates/fee setting; public safety rules and regulations); outreach and education; emergency management powers; community outreach/education programs; developing voluntary or partial environmental protection programs; participating in environmental policy making; coordinating with EPA or other federal agencies on the implementation of federal environmental protection programs; and entering into joint environmental protection programs with neighboring tribal, state, or local environmental agencies.

Additional Information: http://yosemite.epa.gov/R10/TRIBAL.NSF/Grants/IGAP

Program Name: Office of Water Climate Ready Water Utilities Program (CRWU)

Purpose: Assists drinking water, wastewater, and stormwater utilities, in addressing climate change impacts. Through the development of practical and easy-to-use tools, EPA promotes a clear understanding of climate science and adaptation options by translating complex climate projections into accessible formats. This information helps utility owners and operators better prepare their systems for the impacts of climate change.

Eligible Applicants: All water utilities can ask for assistance.

Funding Range: No direct funding. This is a technical assistance program.

Program Activities: Extreme weather events, sea level rise, shifting precipitation patterns and temperature variability, all intensified by climate change, have significant implications for the sustainability of the water sector. By planning for, assessing and adapting to these challenges, the water sector can fulfill their public health and environmental missions and begin the process of becoming climate ready.

Additional Information: http://water.epa.gov/infrastructure/watersecurity/climate/index.cfm

Program Name: Safe Drinking Water Act (SDWA) Tribal Set-Aside Program

Purpose: Provides grants to Indian Tribes, Alaska Native Villages, and to the State of Alaska for the benefit of the native villages. The grant funds are used to address the most significant threats to public health associated with Public Water Systems that serve Indian Tribes. Most types of projects that improve the health of the public being served by the public water system are eligible for funding, 2% of the SDWA State Revolving Fund.

Eligible Applicants: Any federally recognized Indian tribe is eligible to receive a project grant through the program. Eligible systems must serve tribes or Alaskan Native Villages, though they can be owned by someone other than the tribe. Private systems are also eligible.

Funding Range: Funding varies.

Program Activities: The program is planning, designing and constructing new and or improved drinking water infrastructure in various communities throughout the State of Alaska to improve the health and sanitation conditions in Alaska Native Villages. Funds may also be used to conduct project feasibility studies, engineering design work, and for project administration. EPA issues all or the vast majority of funds to the Indian Health Service for Administration.

Additional Information: http://water.epa.gov/grants_funding/dwsrf/allotments/tribes.cfm

Department of Health and Human Services (HHS)

Program Name: Administration for Children and Families (ACF) / Administration for Native Americans (ANA) Environmental Regulatory Enhancement

Purpose: To provide funding for the costs of planning, developing, and implementing programs designed to improve the capability of tribal governing bodies to regulate environmental quality pursuant to federal and tribal environmental laws.

Eligible Applicants: Federally recognized Indian tribes; Consortia of Indian tribes; Incorporated non-federally recognized tribes; Incorporated state-recognized tribes; Alaska Native villages, as defined in the Alaska Native Claims Settlement Act (ANCSA) and/or non-profit village consortia; Non-profit Alaska Native Regional Corporation/Associations in Alaska with village specific projects; Other tribal or village organizations or consortia of Indian tribes; and Tribal governing bodies (IRA or traditional councils) as recognized by the Bureau of Indian Affairs.

Funding Range: $300,000 per Budget Period.

Program Activities: The ERE program supports the principle that projects must follow tribal cultural preservation and natural resource management priorities in order to achieve environmentally healthy, sustainable Native American and Alaska Native communities. The Administration for Native Americans (ANA) is therefore interested in supporting locally designed projects that strengthen tribal environmental regulatory programs in a manner consistent with the goals of native communities. Program areas of interest for this FOA include, but are not limited to, the following:

Providing training and education to employees responsible for enforcing, or monitoring compliance with, environmental quality laws; Developing laws, regulations, and ordinances to protect the environment; Enforcing and monitoring environmental quality laws, regulations, and ordinances; Establishing baseline condition for regulatory purposes; Informing the community about regulations and environmental

stewardship; Building the technical and program capability of the tribe or organization to perform essential environmental program functions to meet tribal and federal regulatory requirements; Establishing demonstration projects to exhibit technologies, which can lead to compliance with environmental regulations.

Additional Information: http://www.acf.hhs.gov/grants/open/foa/index.cfm?switch=foa&fon=HHS-2014-ACF-ANA-NR-0777

Program Name: Center for Disease Control (CDC) / National Center for Infectious Diseases (NCID) / Arctic Investigations Program (AIP)

Purpose: AIP's mission is the prevention of infectious diseases in people of the Arctic and sub-Arctic. AIP places a special emphasis on diseases of high incidence and concern among the Alaska Native and other northern indigenous peoples. AIP conducts infectious disease surveillance, evaluate prevention services, and conduct applied research in collaboration with our partners.

Eligible Applicants: N/A

Funding Range: Intramural.

Program Activities: AIP focuses its research on priority areas that are of regional importance. These priority areas include: Surveillance in Alaska; Elimination of health disparities; Emerging infectious diseases; Preparedness and response; Circumpolar health; Water and sanitation. Focusing on these priority areas allows AIP to achieve its mission of preventing infectious diseases in the Arctic and sub-Arctic. These research priorities also provide a platform for strong partnerships, which combine CDC subject-matter expertise with local knowledge and community involvement. By working together, AIP has become a national and international research leader.

Additional Information: http://www.cdc.gov/ncezid/dpei/aip/

Program Name: CDC – National Institute for Occupational Safety and Health (NIOSH) American Indian/Alaska Native Program

Purpose: Collaborate with American Indian and Alaska Native (AI/AN) communities, organizations and partners to provide occupational safety and health (OSH) support.

Eligible Applicants: Tribal representatives, tribal employers, or their designees in need of occupational safety and health support can contact CDC/NIOSH directly to access a variety of programs.

Funding Range: N/A

Program Activities: Addresses occupational safety and health in tribal communities. NIOSH provides technical expertise in OSH through field studies and investigations, conducts health hazard evaluations (HHEs) and fatality investigations, and provides resources on specific OSH topics. We can offer technical assistance (tribal representatives, tribal employers/employees, and their designees). These include Health Hazard Evaluations, Fatality Investigations, and safety program support.

Additional Information: http://www.cdc.gov/niosh/

Program Name: CDC –NIOSH Climate Change Initiative

Purpose: Ensure current, emerging, and anticipated worker safety and health issues associated with climate change are appropriately identified and prioritized, and to determine the most important actions that are appropriate for CDC/NIOSH to address. Can provide technical assistance regarding occupational safety and health issues.

Funding Range: No direct funding, no cost for technical assistance.

Program Activities: Promote and coordinate intramural and extramural research, support and help facilitate other CDC/NIOSH initiatives with climate change implications, establish research priorities, recommend appropriate policies to CDC/NIOSH Leadership, interact with other agencies and organizations involved with climate change and participate on standard setting or technology development committees and work groups; Prepare and publish communication products regarding worker safety and health and climate change; Coordinate the provision of occupational safety and health related technical assistance to communities affected by climate change.

Additional Information: http://www.cdc.gov/niosh/topics/climate/default.html

Program Name: National Institute of Health (NIH) / National Institute of Environmental Health Sciences (NIEHS) Alaska Community Action on Toxics - Protecting the Health of Future Generations: Assessing and Preventing Exposures

Purpose: This community-based participatory research project investigates exposures to two classes of emerging endocrine-disrupting chemicals (EDCs) with the Yupik people of St. Lawrence Island (SLI) in the *Alaskan* Arctic. Exposure to POPs from both distant and local sources is a trend in the Arctic that is likely to increase due to increased global use and production of EDCs and climate warming. The aim of this exposure assessment is to provide information, ownership of data, and training for the people of SLI so that they can plan and participate in public health actions to reduce environmental health risks.

Eligible Applicants: Yupik people of St. Lawrence Island (SLI) in the Alaskan Arctic.

Funding Range: N/A

Program Activities: The purpose of this project is to initiate research partnerships that work in collaboration with the two Yupik villages of SLI to assess multiple exposure routes of two emerging EDCs-polybrominated diphenyl ethers (PBDEs) and perfluorinated compounds (PFCs). The project will assess exposures to PBDEs and PFCs in surface waters through analyses of contaminant levels and biomarkers for xenobiotic chemicals in the threespine stickleback fish. The research team will also analyze household dust for PBDEs and PFCs. Because the Yupik people of SLI depend on the harvest of wild foods to sustain them and their way of life, the research team will analyze levels of PBDEs and PFCs in traditional foods which are likely a major exposure pathway due to the biomagnification of POPs in marine mammals and fish that are critical components of the Yupik diet. This study will include a human

biomonitoring component in order to assess levels of PBDEs and PFCs in human blood serum in relation to measures of thyroid health.

Finally, the research team collaborates with the leadership, elders, and youth of SLI to develop measures to prevent and mitigate environmental exposures through community educational programs and public policy actions, including community-based research institutes for college credit, health fairs for all community members, and workshops for health care providers.

Additional Information:
http://tools.niehs.nih.gov/portfolio/index.cfm/portfolio/grantDetail/grant_number/R01ES019620

Program Name: NIH / NIEHS Research to Action

Purpose: Bring together community members and environmental and occupational health researchers to investigate the potential health risks of environmental and occupational exposures that are of concern to the community. The overall goal is to support changes to prevent or reduce exposure to harmful environmental exposures and improve the health of a community.

Eligible Applicants: All projects must include at least one research scientist in environmental or occupational health sciences in addition to at least one member of a community-based organization (CBO) who works directly and regularly with the affected community. The partnership between the research scientist and CBO should be equitable and draw upon the unique strengths that each brings to the partnership. Alaska Native and Native Hawaiian Serving Institutions encouraged to apply.

Funding Range: Direct costs must be less than $500,000 in any year, and need to reflect actual needs of the proposed project. The maximum period is 5 years.

Program Activities: Data collection, translation of research into public health action, and project evaluation are all required. Information collected will be translated into public health action using a variety of strategies; applicants must develop an education, outreach, prevention or intervention program(s) designed to improve overall understanding of the problem amongst community members, healthcare professionals or policymakers and to promote actions that will prevent or reduce harmful environmental / occupational exposures and improve human health. Finally, applicants must implement an evaluation plan to assess project outputs and impacts relevant to the proposed project's goals and objectives.

Additional Information:
http://www.niehs.nih.gov/research/supported/dert/programs/peph/prog/rta/index.cfm

Program Name: NIH/NIEHS The Center for Indigenous Environmental Health Research

Purpose: Partner with American Indian and Alaskan Native communities to build capacity to evaluate environmental health exposures, increase environmental health literacy and resilience, and inform program and policy development. The Center's Community Engagement Core will collaborate with

American Indian and Alaska Native (AI/AN) communities to develop culturally-relevant policies and assets-based programs that reinforce resilience to mitigate adverse health effects.

Eligible Applicants: N/A

Funding Range: N/A

Program Activities: The specific aims of the CEC are: 1) Dialogue: To equitably engage AI/AN stakeholders and CIEHR members for the ethical and culturally-appropriate translation and application of Center findings; 2) Knowledge: To strengthen the environmental health literacy (EHL) of AI/AN leaders, policy-makers and community members; 3) Action: To strengthen community resilience and capacity to promote environmental health in AI/AN communities on tribal lands and in urban settings; and 4) Evaluation: To assess the effectiveness of the CEC activities and contributions to the mission of the Center. The CEC will achieve the aims by utilizing long-term partnerships with tribal, rural, and urban AI/AN communities. The CEC will also build on the knowledge, lessons learned, strategies, and resources from the two established Centers located at the same institution: the Southwest Environmental Health Sciences Center and Center for American Indian Resilience. All CEC strategies and activities will be informed by community-based participatory research (CBPR) principles, which have been shown to be effective in AI/AN communities. Major strategies will include: 1) guiding the development of Community Advisory Boards (CABs) for each proposed research project and pilot projects; 2) giving presentations at tribal meetings, AI/AN health events, regional forums and national conferences; 3) conducting baseline assessments of EHL, implementing EHL community interventions and testing effectiveness; 4) developing and administering CBPR training to tribal leaders, community members, and researchers; 5) identifying and implementing strategies for enhancing community assets and resilience that improve health, build community capacity, and foster policy change; and 6) conducting short, mid, and long-term evaluation of CEC activities. The CEC will collaborate with the CABs and AI/AN partners to disseminate and translate successful research outcomes to tribal leadership, local communities, regional and national AI/AN forums, and scientific audiences to reduce environmental health risks and build AI/AN resilience across the U.S.

Additional Information:
http://projectreporter.nih.gov/project_info_description.cfm?aid=8994391&icde=25964664&ddparam=&ddvalue=&ddsub=&cr=3&csb=default&cs=ASC

Department of Housing and Urban Development (HUD)

Program Name: Community Development Block Grant

Purpose: To provide funding to metropolitan cities, urban counties and states to support their housing and community development strategies to develop viable urban communities.

Eligible Applicants: Funds are allocated by formula to metropolitan cities, urban counties and States.

Funding Range: Annual formula grants are provided to Alaska's two CDBG grantees – the State of Alaska and the Municipality of Anchorage.

Program Activities: Develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low-and moderate-income persons.

Additional Information:
http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment

Program Name: Emergency Solutions Grants Program

Purpose: To provide grant funds to State and local governments for the rehabilitation or conversion of buildings for use as emergency shelter for the homeless, for the payment of certain expenses related to operating emergency shelters, for essential services related to emergency shelters and street outreach for the homeless, and for homelessness prevention and rapid rehousing.

Eligible Applicants: The homeless, homelessness prevention and rapid re-housing.

Funding Range: Annual formula grants for the State of Alaska and the Municipality of Anchorage.

Program Activities: Rehabilitation or conversion of buildings for use as emergency shelter for the homeless, for the payment of certain expenses related to operating emergency shelters, for essential services related to emergency shelters and street outreach for the homeless, and for homelessness prevention and rapid re-housing.

Additional Information: portal.hud.gov/hudportal/HUD?src=/hudprograms/esg

Program Name: Indian Community Development Block Grant

Purpose: Development of viable Indian and Alaska native communities, including decent housing, a suitable living environment, and economic opportunities, principally for persons of low and moderate income.

Eligible Applicants: Federally-recognized Tribes or Indian Organizations on behalf of Federally-recognized Tribes. For the standard ICDBG program, applicant must submit an application under the annual Notice of Funding Availability (NOFA). Applications for imminent threat grants are processed on a first come, first serve basis.

Funding Range: The Alaska Office of Native American Programs has an estimated ICDBG allocation for FY2015 of $6,500,000 for grant awards. The ICDBG program also has a national set-aside of approximately $3,500,000 to fund Imminent Threat applications.

Program Activities: The competitive ICDBG program may be used for new construction, rehabilitation, and acquisition of residential units and public facilities as well as housing services, economic development projects. There is also a national set-aside for ICDBG Imminent Threat (IT) grants that are intended to alleviate or remove threats to health or safety as described at 24 CFR Part 1003, subpart E.

These grants provide a solution to problems of an urgent nature that were not evident at the time of the ICDBG Single Purpose funding grant cycle or require immediate action. These are non-competitive grants up to $450,000 ($900,000 for Presidentially-Declared Disasters) on a first come first serve basis. 70 percent of each grant must support activities that benefit low and moderate income persons.

Additional Information:
http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih/codetalk/fundingprogram#IHBG

Program Name: Mortgage Insurance for Disaster Victims – 203(h)

Purpose: This program provides mortgage insurance to protect lenders against the risk of default on mortgages to qualified disaster victims.

Eligible Applicants: Eligible customers are anyone whose home has been destroyed or severely damaged in a Presidential declared disaster area.

Funding Range: No down payment is required. The borrower is eligible for 100 percent financing. Closing costs and applicable fees must be paid according to program requirements.

Program Activities: Insure mortgages.

Additional Information: portal.hud.gov/hudportal/HUD?src=/hudprograms/mifdv_section203h

Program Name: Native American Housing and Self-Determination Act (NAHASDA) - Indian Housing Block Grant Program

Purpose: Supports a range of affordable housing activities on Indian reservations and Indian areas.

Eligible Applicants: Federally-recognized Tribes and their Tribally Designated Housing Entities are eligible to participate in this program.

Funding Range: Annual formula block grant to Indian Tribes and/or TDHEs. Alaska recipients received $94,588,589 State-wide in FY 2015 for the Indian Housing Block Grant program.

Program Activities: IHBG funding can be used for a variety of activities including new construction, rehabilitation, acquisition, housing services, and crime prevention. The Title VI loan guarantee program can be used to leverage all the above activities with a private market loan.

Additional Information:
http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih/codetalk/fundingprogram#IHBG

Program Name: Section 184 Loan Guarantee Program

Purpose: Provides homeownership opportunities to Native American living on trust, restricted, and simple fee land.

Eligible Applicants: Native Americans, Tribes, or Tribally Designated Housing Entities.

Funding Range: Varies.

Program Activities: This program offers HUD approved loan guarantees to private sector lenders who make home mortgage loans to eligible participants.

Additional Information:
http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih/codetalk/fundingprogram#IHBG

Program Name: Title VI Loan Guarantee Program

Purpose: To obtain financing for up to five times the amount of the Tribe's annual NAHASDA IHBG.

Eligible Applicants: Federally Recognized Tribes and their Tribally Designated Housing Entities are eligible to participate in this program.

Funding Range: Varies.

Program Activities: Financing can be used for any affordable housing purpose in accordance with an approved Indian Housing Plan.

Additional Information:
http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih/codetalk/fundingprogram#IHBG

US Amy Corps of Engineers (USACE)

Program Name: Continuing Authorities Program (CAP)

Purpose: Plan, design, and construct certain flood risk management and navigation improvements without specific congressional authorization. The basic objective of this program is to allow the Corps to respond more quickly to problems or needs where the apparent project scope and costs are small.

Eligible Applicants: State, Local, and Tribal Governments and ANCSA Corporations.

Funding Range: The amount of Federal participation is limited by Congress, and varies for each individual authority, however it is typically $5 million Federal, cost shared 65% Federal, 35% Non-Federal.

Program Activities: Several authorities exist under CAP which allow the Corps to assist communities with aquatic ecosystem, flood damage reduction, small navigation, and emergency streambank and shoreline protection projects. An example of the type of work supported by this program is the construction of a small revetment at Shishmaref to reduce risks of coastal erosion.

Additional Information:
http://planning.usace.army.mil/toolbox/agree.cfm?Id=229&Option=Continuing%20Authorities%20Program%20(CAP)&List=Process

Program Name: International and Interagency Support Services

Purpose: Planning, design, and/or construction for others.

Eligible Applicants: Federal State, Local, and Tribal Governments.

Funding Range: No per-project limit, all costs are born by the supported entity.

Program Activities: Interagency and International Services (IIS) is the U.S. Army Corps of Engineers (Corps) program providing technical assistance to non-Department of Defense (DoD) federal agencies, state and local governments, tribal nations, private U.S. firms, international organizations, and foreign governments. Most IIS work is funded on a reimbursable basis. The Corps provides engineering and construction services, environmental restoration and management services, research and development assistance, management of water and land related natural resources, relief and recovery work, and other management and technical services. An example of the type of work provided by this 100% stakeholder-funded program is the initiation of an adaptation study for Denali Commission looking at protect in place versus relocation for 31 communities identified by the GAO.

Additional Information:
http://www.usace.army.mil/Missions/MilitaryMissions/InteragencyInternationalSupport.aspx

Program Name: Planning Assistance to States

Purpose: This program permits the Corps to use its technical planning expertise to supplement and support state and Indian tribe efforts to undertake broad, statewide, comprehensive water resources planning. Upon request, the Corps will cooperate with a state or tribe in the preparation of plans for the development, use and conservation of water and related land resources located within the state or tribal boundaries.

Eligible Applicants: State, Local, and Tribal Governments and ANCSA Corporations.

Funding Range: Cost shared at 50 percent federal, 50 percent non-federal. Limited to $2 million per state or tribe annually. Individual studies generally range from $25,000 to $100,000.

Program Activities: Provides assistance to states, local governments, tribes and other non-federal entities for preparation of comprehensive plans for development and conservation of water and related land

resources. Studies are planning level of detail; they do not include detailed design for project construction.

Additional Information:
http://www.poa.usace.army.mil/Portals/34/docs/civilworks/CAP/Section22PlanningAssistancetoStatesandTribes.pdf (note: each Corps District has information about this program on their website).

Program Name: Tribal Partnership Program

Purpose: Secretary of the Army, in cooperation with Indian tribes and the heads of other Federal agencies, to study and determine the feasibility of carrying out projects that will substantially benefit Indian tribes.

Eligible Applicants: Tribal Governments and ANCSA Corporations.

Funding Range: No per-project limit, cost shared based on project purpose.

Program Activities: The U.S. Army Corps of Engineers can conduct studies that will substantially benefit Indian tribes. Topics that could be studied include flood damage reduction, environmental restoration and protection, preservation of natural and cultural resources, and, other projects the Secretary of the Army, in cooperation with Indian tribes and the heads of other Federal agencies, determines to be appropriate. This program provides an opportunity to assist with water resources projects that address economic, environmental and cultural resources needs.

Additional Information: http://www.usace.army.mil/Missions/CivilWorks/TribalNations.aspx

US Department of Agriculture (USDA)

Program Name: Business and Industry Loan Guarantee

Purpose: Can assist rural business with construction, repairs, equipment, machinery, inventory and supplies.

Eligible Applicants: For-profit businesses, Nonprofits and cooperatives, Federally-recognized Tribes, Public bodies and Individuals in rural areas of 50,000 people or less.

Funding Range: $5 – $10 million loan limit with certain exceptions.

Program Activities: Eligible activities include but are not limited to: (1) business conversion, enlargement, repair, modernization, or development; (2) purchase and development of land, easements, rights-of-way, buildings, or facilities; (3) purchase of equipment, leasehold improvements, machinery, supplies, or inventory; (4) debt refinancing when new jobs will be created and other conditions are met;

(5) business and industrial acquisitions when the loan will keep the business from closing and/or save or create jobs.

Additional Information: http://www.rd.usda.gov/programs-services/business-industry-loan-guarantees/ak

Program Name: Community Facilities Loans and Grants

Purpose: Finance essential rural community facilities.

Eligible Applicants: Public bodies, non-profits, Tribes.

Funding Range: Grants are limited to 75% of project cost but average about $30,000 due to limitation of funding. No loan limit.

Program Activities: Funds can be used to purchase, construct, and / or improve essential community facilities, purchase equipment and pay related project expenses.

Additional Information: http://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program/ak

Program Name: Electric Loans

Purpose: Build and repair electric infrastructure.

Eligible Applicants: Electric co-ops and other utilities (primarily).

Funding Range: No loan limit.

Program Activities: Funds may be used to finance electric infrastructure for: maintenance; upgrades; expansion; replacement of distribution, sub transmission and headquarters (service and warehouse) facilities; energy efficiency; and renewable energy systems.

Additional Information: http://www.rd.usda.gov/programs-services/electric-infrastructure-loan-loan-guarantee-program

Program Name: Rural Business Development Grant

Purpose: Facilitate the development of small and emerging business.

Eligible Applicants: Public bodies, non-profits and tribes.

Funding Range: $50,000 - 100,000 maximum grant (depending on activity type).

Program Activities: Congress historically has mandated a portion of this program's funding specifically for Federally Recognized Tribes.

Additional Information: http://www.rd.usda.gov/programs-services/rural-business-development-grants/ak

Program Name: Rural Energy for America Loans and Grants

Purpose: Purchase or install renewable energy systems or make energy efficiency improvements.

Eligible Applicants: Agricultural producers and rural small businesses.

Funding Range: Loan guarantees to $25M; Grants to $250,000 for energy efficiency improvements or $500,000 for renewable energy systems.

Program Activities: Funds may be used for the purchase, installation and construction of renewable energy systems, such as: Biomass (for example biodiesel and ethanol, anaerobic digesters, and solid fuels); Geothermal for electric generation or direct use; Hydropower below 30 megawatts; Hydrogen; Small and large wind generation; Small and large solar generation; Ocean (tidal, current, thermal) generation.

Funds may also be used for the purchase, installation and construction of energy efficiency improvements, such as: High efficiency heating, ventilation and air conditioning systems (HVAC); Insulation; Lighting; Cooling or refrigeration units; Doors and windows; Electric, solar or gravity pumps for sprinkler pivots; Switching from a diesel to electric irrigation motor; Replacement of energy-inefficient equipment.

Additional Information: http://www.rd.usda.gov/programs-services/rural-energy-america-program-renewable-energy-systems-energy-efficiency/ak

Program Name: Sewer, Water, Solid Waste Loans and Grants

Purpose: Provides funding for clean and reliable drinking water systems, sanitary sewage disposal, sanitary solid waste disposal, and storm water drainage to households and businesses in eligible rural areas.

Eligible Applicants: This program assists qualified applicants that are not otherwise able to obtain commercial credit on reasonable terms. Eligible applicants include: Most State and local governmental entities, Private non-profits and Federally-recognized Tribes.

Funding Range: Grants are limited to 75% of project cost. No loan limit.

Program Activities: Funds may be used to finance the acquisition, construction or improvement of: drinking water sourcing, treatment, storage and distribution; sewer collection, transmission, treatment and disposal; solid waste collection, disposal and closure; and storm water collection, transmission and disposal.

Additional Information: http://www.rd.usda.gov/programs-services/water-waste-disposal-loan-grant-program/ak

Program Name: Single Family Direct and Guaranteed Loans

Purpose: Finance the purchase of homes for rural residents.

Eligible Applicants: Low and very low income individuals in rural areas of 35,000 people or less.

Funding Range: The maximum loan amount an applicant may qualify for will depend on the applicant's repayment ability. The applicant's ability to repay a loan considers various factors such as income, debts, assets and the amount of payment assistance applicants may be eligible to receive. Regardless of repayment ability, applicants may never borrow more than the Area's Loan Limits (plus certain costs allowed to be financed) for the county in which the property is located.

Program Activities: Funds can be used to build, repair, renovate or relocate a home, or to purchase and prepare sites, including providing water and sewage facilities.

Additional Information:
Single Family Direct Loan: http://www.rd.usda.gov/programs-services/single-family-housing-direct-home-loans/ak
Single Family Guaranteed Loan: http://www.rd.usda.gov/programs-services/single-family-housing-guaranteed-loan-program/ak

Program Name: Single Family Repair Loans and Grants

Purpose: Finance repair of homes.

Eligible Applicants: Very low income homeowners in rural areas. Grants are only available to very-low income homeowners in rural areas that are at least 62 years old.

Funding Range: Loans up to $20,000 at 1%, grants up to $7,500. Loan grant combinations up to $27,500 in certain circumstances.

Program Activities: Loans may be used to repair, improve or modernize homes or remove health and safety hazards. Grants must be used to remove health and safety hazards.

Additional Information: http://www.rd.usda.gov/programs-services/single-family-housing-repair-loans-grants

Program Name: Telecom Loans

Purpose: This program provides financing for the construction, maintenance, improvement and expansion of telephone service and broadband in rural areas.

Eligible Applicants: Most entities that provide telecommunications in qualified rural areas including: State and local governmental entities, Federally Recognized Tribes, Non-profits, including Cooperatives and limited dividend or mutual association and For-profit businesses (must be a corporation or limited liability company).

Funding Range: No loan limit.

Program Activities: Funds may be used to finance broadband capable telecommunications service: Improvements; Expansions; Construction; Acquisitions (in certain cases); Refinancing (in certain cases).

Additional Information: http://www.rd.usda.gov/programs-services/telecommunications-infrastructure-loans-loan-guarantees

APPENDIX E

Mitigation Tracking

- Mitigation Action Implementation Worksheet (Form 6-1)
- Mitigation Action Progress Report (Form 6-2)

MITIGATION ACTION IMPLEMENTATION WORKSHEET

Complete a mitigation action implementation worksheet for each identified mitigation action.

Mitigation Action / Project Title:	
Background / Issues:	
Ideas for Integration:	
Responsible Agency:	
Partners:	
Potential Funding:	
Cost Estimate:	
Benefits (Losses Avoided):	
Timeline:	
Priority:	
Worksheet Completed By:	*(Name / Department)*

MITIGATION ACTION PROGRESS REPORT

Progress Report Period:	*From Date:*	*To Date:*
Action / Project Title:		
Responsible Agency:		
Contact Name:		
Contact Phone / Email:	*Phone:*	*Email:*
Project Status:	❑ Project Completed ❑ Project Canceled ❑ Project on Schedule Anticipated completion date: _____ ❑ Project Delayed Explain:_____	

Summary of Project Progress for this Report Period

1. What was accomplished for this project during this reporting period?

_____

_____

2. What obstacles, problems, or delays did the project encounter, if any?

_____

_____

3. If uncompleted, is the project still relevant? Should the project be changed or revised?

_____

_____

4. Other Comments:

_____

_____

Next Step: What is / are the next step(s) to be accomplished over the next reporting period?

_____

_____

_____

_____

APPENDIX F

Adoption Resolution

Native Village of Perryville

Resolution No. _____
Tribal Hazard Mitigation Plan Adoption Resolution

WHEREAS, the Native Village of Perryville hereafter "Tribe" is a federally recognized tribe; and

WHEREAS, the Native Village of Perryville is the governing body of the Tribe; and

WHEREAS, the Tribe recognizes the threat that natural hazards pose to people and property; and

WHEREAS, the Tribe has prepared a tribal hazard mitigation plan, hereby known as Native Village of Perryville Tribal Hazard Mitigation Plan [2019 – 2024] hereafter "Plan", dated [DATE] in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Perryville from the impacts of future hazards and disasters; and

WHEREAS adoption by the Tribe demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the Plan.

NOW, THEREFORE, BE IT RESOLVED, that the Tribe, hereby adopts the Plan as an official plan.

CERTIFICATION

The Native Village of Perryville has adopted this resolution during a meeting held on _____, 2019, in _____, Alaska, with a quorum present.

For ____ Against ____ Abstain ____ Present____ Absent ____

_____ _____
Signature Date

_____
Print Name / Title

_____ _____
Signature Date

_____
Print Name / Title

APPENDIX G

FEMA Approval & THMP Plan Review Tool

FEMA Region 10 Tribal Mitigation Plan Review Tool

The *Tribal Mitigation Plan Review Tool* records how the tribal mitigation plan meets the regulations in 44 CFR §§ 201.7 and 201.5 (if applicable) and offers FEMA plan reviewers an opportunity to provide feedback to the tribal government.

- **Section 1**: The Regulation Checklist documents FEMA's evaluation of whether the plan has addressed all requirements. If plan requirements are not met, FEMA uses each Required Revisions section to indicate necessary changes.
- **Section 2**: The Strengths and Opportunities for Improvement summary identifies plan's strengths as well as areas for improvement as part of the next plan update.

The FEMA mitigation planner must reference the *Tribal Mitigation Plan Review Guide* when completing the *Tribal Mitigation Plan Review Tool*.

Tribal Jurisdiction:	**Title of Plan:**	**Date of Plan:**
Native Village of Perryville	Native Village of Perryville Hazard Mitigation Plan [2019 – 2024]	November 2019

Tribal Point of Contact: Gerald Kosbruk	**Address:** Native Village of Perryville PO Box 89 Perryville, AK 99648
Title: President	
Agency: Native Village of Perryville	
Phone Number: 907-853-2203	**Email:** nativevillageofperryville@outlook.com

State Reviewer (if applicable):	**Title:**	**Date:**

FEMA Reviewer:	**Title:**	**Date:**
Sarah Halle Kate Skaggs John Schelling John.Schelling@fema.dhs.gov	CERC Mitigation Champion Regional Hazard Mitigation Planning Manager	08/30/19 09/09/19 09/12/19
Date Received in FEMA Region 10	August 16, 2019	
Plan Not Approved	September 12, 2019	
Plan Approvable Pending Adoption		
Plan Approved		

Section 1: REGULATION CHECKLIST

1. Standard Regulation Checklist **Regulation** (44 CFR § 201.7 Tribal Mitigation Plans)	Location in Plan (section and/or	Met	Not Met
ELEMENT A. PLANNING PROCESS			
A1. Does the plan document the planning process, including how it was prepared and who was involved in the process? [44 CFR § 201.7(c)(1)]	Section 3.1, PDF pp. 16-17; Section 3.2, PDF p. 17; Appendix A, PDF pp. 90-132; Appendix B, PDF pp. 134-174	X	
A2. Does the plan document an opportunity for public comment during the drafting stage and prior to plan approval, including a description of how the tribal government defined "public"? [44 CFR § 201.7(c)(1)(i)]	Section 3.3, PDF pp. 18-21 Appendix A, PDF pp. 90-132; Appendix B, PDF pp. 134-174	X	
A3. Does the plan document, as appropriate, an opportunity for neighboring communities, tribal and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? [44 CFR § 201.7(c)(1)(ii)]	Section 3.3.1, PDF pp. 20-21 Appendix A, PDF pp. 90-132; Appendix B, PDF pp. 134-174	X	
A4. Does the plan describe the review and incorporation of existing plans, studies, and reports? [44 CFR § 201.7(c)(1)(iii)]	Section 3.4, PDF pp. 21-22	X	
A5. Does the plan include a discussion on how the planning process was integrated to the extent possible with other ongoing tribal planning efforts as well as other FEMA programs and initiatives? [44 CFR § 201.7(c)(1)(iv)]	Section 3.5, PDF p. 22	X	
A6. Does the plan include a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within the plan update cycle)? [44 CFR § 201.7(c)(4)(i)]	Section 4.0-4.3, PDF pp. 24-26; Appendix C, PDF pp. 176-180; Appendix E, PDF p. 226	X	
A7. Does the plan include a discussion of how the tribal government will continue public participation in the plan maintenance process? [44 CFR § 201.7(c)(4)(iv)]	Section 4.4, PDF p. 26 Appendix C, PDF pp. 176-180	X	
ELEMENT A: REQUIRED REVISIONS			

1. **Standard Regulation Checklist** **Regulation** (44 CFR § 201.7 Tribal Mitigation Plans)	**Location in Plan** **(section and/or**	**Met**	**Not Met**
ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT			
B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect the tribal planning area? [44 CFR § 201.7(c)(2)(i)]	**Description** Section 2.1-2.5, PDF pp. 14-15; Section 5.0, PDF p. 28 **Hazard Analysis** Table 5-5, PDF pp. 31-32; Section 5.1, PDF p. 33 **Earthquake** Section 5.1.1, PDF pp. 32-37 **Extreme Temperatures** Section 5.1.2, PDF pp. 37-41 **Flooding** Section 5.1.3, PDF pp. 42-43; Figures, PDF pp. 89-90 **Severe Wind** Section 5.1.4, PDF pp. 43-45 **Severe Winter Weather** Section 5.1.5. PDF pp. 46-47 **Subsidence** Section 5.1.6, PDF pp. 47-48 **Tsunami** Section 5.1.7, PDF pp. 48-49 **Volcano** Section 5.1.8, PDF pp. 49-51 **Wildfire** Section 5.1.9, PDF pp. 51-56	X	

1. Standard Regulation Checklist **Regulation** (44 CFR § 201.7 Tribal Mitigation Plans)	Location in Plan (section and/or	Met	Not Met
B2. Does the plan include information on previous occurrences of hazard events and on the probability of future hazard events for the tribal planning area? [44 CFR § 201.7(c)(2)(i)]	**Earthquake** Section 5.1.1, PDF pp. 32-37 **Extreme Temperatures** Section 5.1.2, PDF pp. 37-41 **Flooding** Section 5.1.3, PDF pp. 42-43 **Severe Wind** Section 5.1.4, PDF pp. 43-45 **Severe Winter Weather** Section 5.1.5. PDF pp. 46-47 **Subsidence** Section 5.1.6, PDF pp. 47-48 **Tsunami** Section 5.1.7, PDF pp. 48-49 **Volcano** Section 5.1.8, PDF pp. 49-51 **Wildfire** Section 5.1.9, PDF pp. 51-56	X	

1. Standard Regulation Checklist **Regulation** (44 CFR § 201.7 Tribal Mitigation Plans)	Location in Plan (section and/or	Met	Not Met
B3. Does the plan include a description of each identified hazard's impact as well as an overall summary of the vulnerability of the tribal planning area? [44 CFR § 201.7(c)(2)(ii)]	**Earthquake** Section 5.1.1, PDF pp. 32-37 **Extreme Temperatures** Section 5.1.2, PDF pp. 37-41 **Flooding** Section 5.1.3, PDF pp. 42-43 **Severe Wind** Section 5.1.4, PDF pp. 43-45 **Severe Winter Weather** Section 5.1.5. PDF pp. 46-47 **Subsidence** Section 5.1.6, PDF pp. 47-48 **Tsunami** Section 5.1.7, PDF pp. 48-49 **Volcano** Section 5.1.8, PDF pp. 49-51 **Wildfire** Section 5.1.9, PDF pp. 51-56 **Community Assets** Section 5.2, PDF pp. 57-58 **Risk Analysis** Section 5.3, PDF pp. 58-63	X	
ELEMENT B: REQUIRED REVISIONS			
ELEMENT C. MITIGATION STRATEGY			
C1. Does the plan include a discussion of the tribal government's pre- and post-disaster hazard management policies, programs, and capabilities to mitigate the hazards in the area, including an evaluation of tribal laws and regulations related to hazard mitigation as well as to development in hazard-prone areas? [44 CFR §§ 201.7(c)(3) and 201.7(c)(3)(iv)]	Section 6.1, PDF pp. 66-68	X	
C2. Does the plan include a discussion of tribal funding sources for hazard mitigation projects and identify current and potential sources of Federal, tribal, or private funding to implement mitigation activities? [44 CFR §§ 201.7(c)(3)(iv) and 201.7(c)(3)(v)]	Section 6.2, PDF pp. 68-69; Appendix D, pp. 183-223	X	
C3. Does the Mitigation Strategy include goals to reduce or avoid long-term vulnerabilities to the identified hazards? [44 CFR § 201.7(c)(3)(i)]	Section 6.3, PDF p. 70	X	

1. Standard Regulation Checklist **Regulation** (44 CFR § 201.7 Tribal Mitigation Plans)	Location in Plan (section and/or	Met	Not Met
C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with emphasis on new and existing buildings and infrastructure? [44 CFR § 201.7(c)(3)(ii)]	Section 6.4-6.5, PDF pp. 70-76	X	
C5. Does the plan contain an action plan that describes how the actions identified will be prioritized, implemented, and administered by the tribal government? [44 CFR § 201.7(c)(3)(iii)]	Section 6.4, PDF p. 71; Table 6-4, PDF pp. 74-76; Appendix A, PDF p. 129		X
C6. Does the plan describe a process by which the tribal government will incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate? [44 CFR § 201.7(c)(4)(iii)]	Section 6.6, PDF p. 78	X	
C7. Does the plan describe a system for reviewing progress on achieving goals as well as activities and projects identified in the mitigation strategy, including monitoring implementation of mitigation measures and project closeouts? [44 CFR §§ 201.7(c)(4)(ii) and 201.7(c)(4)(v)]	Table 6-4, PDF pp. 74-76; Section 6.7, PDF p. 79; Appendix E, PDF pp. 225-226		X

ELEMENT C: REQUIRED REVISIONS

C5-b: Table 6-4 is incomplete. To meet this requirement, fill in the boxes in the table to show the priority of each action, the coordinating departments, the department responsible for completing the action, potential funding source, and timeframe for each of the mitigation actions identified.

C7-b: The system for reviewing progress does not include a department, agency, or office responsible for coordination and does not provide the agencies/offices responsible for the implementation of actions. To meet this requirement, include the missing information.

ELEMENT D. PLAN UPDATES			
D1. Was the plan revised to reflect changes in development? [44 CFR § 201.7(d)(3)]	N/A. This is a new plan	X	
D2. Was the plan revised to reflect progress in tribal mitigation efforts? [44 CFR §§ 201.7(d)(3) and 201.7(c)(4)(iii)]	N/A. This is a new plan	X	
D3. Was the plan revised to reflect changes in priorities? [44 CFR § 201.7(d)(3)]	N/A. This is a new plan	X	

ELEMENT D: REQUIRED REVISIONS

1. Standard Regulation Checklist **Regulation** (44 CFR § 201.7 Tribal Mitigation Plans)	Location in Plan (section and/or	Met	Not Met
ELEMENT E. ASSURANCES AND PLAN ADOPTION			
E1. Does the plan include assurances that the tribal government will comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding, including 2 CFR Parts 200 and 3002, and will amend its plan whenever necessary to reflect changes in tribal or Federal laws and statutes? [44 CFR § 201.7(c)(6)]	Section 7.0		
E2. Does the plan include documentation that it has been formally adopted by the governing body of the tribal government requesting approval? [44 CFR § 201.7(c)(5)]	Section 7.0		
ELEMENT E: REQUIRED REVISIONS			

SECTION 2: STRENGTHS AND OPPORTUNITIES FOR IMPROVEMENT

A. Plan Strengths and Opportunities for Improvement

This section provides a discussion of the strengths of the plan document and identifies areas where these could be improved beyond minimum requirements.

Element A: Planning Process

Plan Strengths

- A survey was used during the planning process to garner feedback from the public and from stakeholders. Additionally, the plan provides presentations, meeting minutes, and other relevant materials that support the planning process.
- The plan lists out the stakeholders with the organization, the type, the contact person, and their email.
- The table of existing plans, studies, and reports that were reviewed includes how each was reviewed for inclusion into the plan.

Opportunities for Improvement

- For plan maintenance, consider including the name of any specific events or opportunities where the public could be included.

Element B: Hazard Identification and Risk Assessment

Plan Strengths

- The plan clearly details why each hazard was chosen, and why not for those that were not included in the Risk Assessment.
- Where hard data on hazard occurrences is not available, short quotes or narratives are provided by locals. This helps to show the impacts that hazards can have on the community.

Opportunities for Improvement

- Are there other hazards that were omitted from the hazard profiles? The plan identifies that tornadoes were omitted, but references that there may be other hazards that were not profiled. Be very clear about what hazards were included and omitted and why they were omitted.
- The hazard profiles are relatively short and don't relate well back to other information in the plan, such as the community profile or mitigation strategy. Be sure to link the information more closely.
- Extent for subsidence and tsunamis can be improved as they are currently weak. Extent refers to the strength or magnitude of the hazard. These hazard profiles can be improved in the next draft.

Element C: Mitigation Strategy

Plan Strengths

- The project implementation worksheets in the appendix provide a quick and efficient way to keep track of projects during the plan's lifetime.

- The mitigation actions are rational and achievable.

Opportunities for Improvement

- Consider moving the Potential Mitigation Actions table into the body of the plan. This will make it easier for the reader to be able to reference goals and actions.
- As mitigation actions are implemented, consider adding a section to the plan that talks about their relative successes or lessons learned during the implementation process.
- While the mitigation action table was not complete, be as detailed as possible regarding responsible individuals and agencies, timeframes, and funding options. These help to ensure that the mitigation action is implemented.

Element D: Plan Update, Evaluation, and Implementation (*Plan Updates Only*)

Plan Strengths

- N/A. This is a new plan.

Opportunities for Improvement

- N/A. This is a new plan.